MONITORING *the* FUTURE

NATIONAL SURVEY RESULTS
ON DRUG USE
1975–2022

2022 Overview

Key Findings on Adolescent Drug Use

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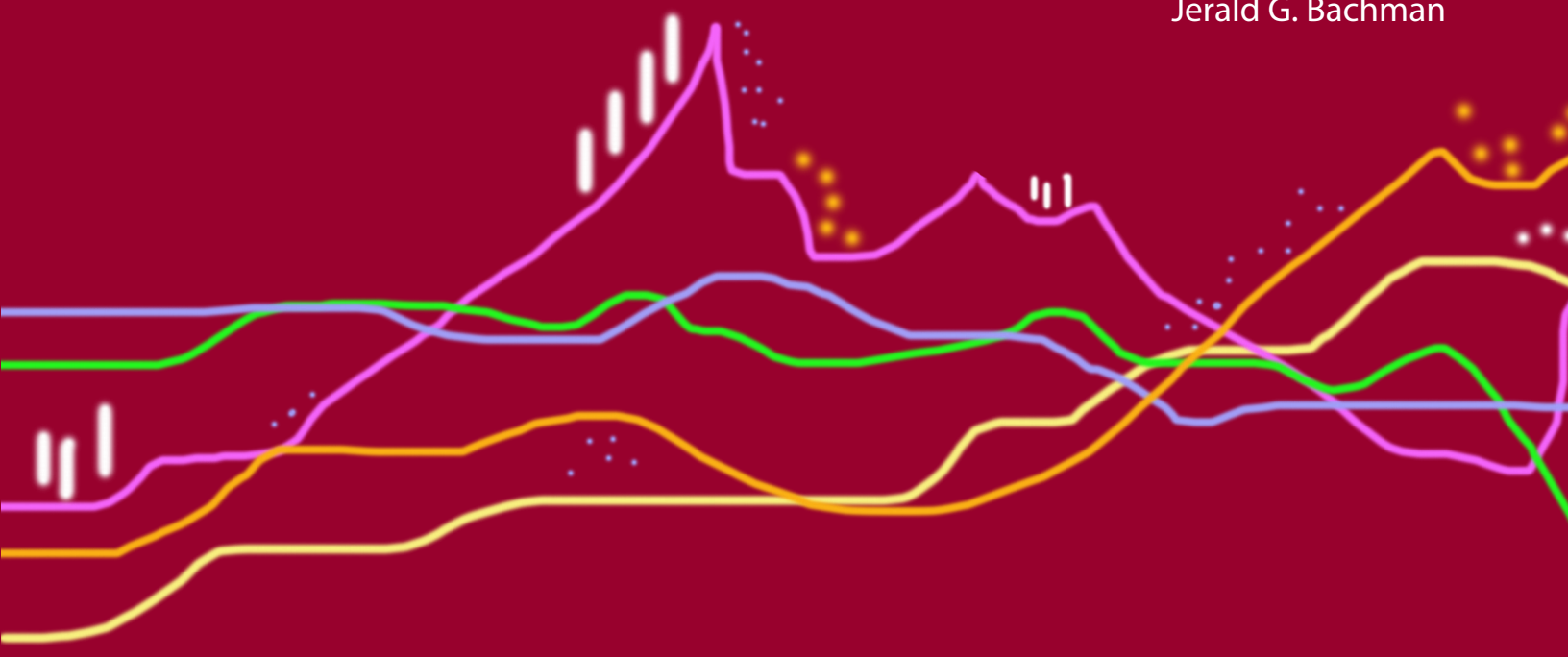

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KEY FINDINGS IN 2022

Monitoring the Future (MTF), now having completed its 48th year of data collection, has become one of the nation's most relied upon scientific sources of valid information on trends in use of licit and illicit psychoactive drugs by U.S. adolescents, college students, young adults, and adults up to age 60. During the last four decades, the study has tracked and reported on the use of an ever-growing array of such substances in these populations of adolescents and adults.

The annual MTF series of monographs is one of the primary mechanisms through which the new epidemiological findings are reported. Findings from the inception of the study in 1975 through 2022 are included—the results of 48 national in-school surveys and 46 national follow up surveys.

MTF has conducted in-school surveys of nationally representative samples of (a) 12th grade students each year since 1975 and (b) 8th and 10th grade students each year since 1991. In addition, beginning with the class of 1976, the study has conducted follow up surveys of representative subsamples of the respondents from each previously participating 12th grade class. These follow up surveys now continue well into adulthood, currently up to age 60. This monograph focuses on the results from the in-school surveys of 8th, 10th, and 12th grade students; a companion report on the panel study results[1] focuses on the follow up surveys from ages 19 to 60.

MTF is designed to detect age, period, and cohort effects in substance use and related attitudes. Age effects are similar changes at similar ages seen across multiple class cohorts; they are common during adolescence. Period effects are changes that are parallel over a number of years across multiple age groups (in this case, all three grades under study—8, 10, and 12). Cohort effects are substance use behaviors or attitudes that distinguish a class cohort from others that came before or after them and are maintained as the cohort ages.

Below we summarize key findings for use of various substances by U.S. 8th, 10th, and 12th graders in 2022. In addition, the text below also refers to analyses for all three grades combined, the results of which are presented with tables at the end.

The survey results divide cleanly into the time periods before and after the onset of the COVID-19 pandemic. All surveys in 2020 were completed before March 15, when data collection was halted due to pandemic concerns. Consequently, results from 2020 and previous years are pre-pandemic, while results from 2021 and 2022 took place after the onset of the pandemic and the associated national response.

[1] Patrick, M. E., Schulenberg, J. E., Miech, R. A., Johnston, L. D., O'Malley, P. M., & Bachman, J. G. *Monitoring the Future Panel Study annual report: National data on substance use among adults ages 19 to 60, 1976-2021*. Monitoring the Future Monograph Series. University of Michigan Institute for Social Research: Ann Arbor, MI. Prior year versions are available at the MTF website.

EXECUTIVE SUMMARY

Lowered Levels after Pandemic Onset Continued for Some Substances While Others Bounced Back in 2022

Back 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, both significant ($p<.001$). They amount to relative declines from the prevalence levels in 2020 of 22% and 27% in just one year, almost certainly due to the impact of COVID-19.

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 21%. These substantial one-year declines for the three grades combined are highly significant ($p<.001$). Indeed, these declines are the largest and broadest to be seen by the study over its 48 year history.

Then, in the 2022 MTF survey the general decline in these two indexes ended and they exhibited a modest rebound. Lifetime prevalence and annual prevalence of using **any illicit drug** rose 1.4 percentage points, while the lifetime and annual prevalence of using **any illicit drug other than marijuana** rose 0.5 percentage points each that year (both nonsignificant). There are differences among the various drugs, with some showing a larger rebound in use in 2022 and some showing little or none, as will be discussed next.

Levels of adolescent **cannabis use** and **nicotine vaping** decreased after the onset of pandemic in 2021, and these lowered levels of use continued into 2022. In contrast, levels of **alcohol use** significantly increased between 2021 and 2022, returning to pre-pandemic levels. These three substances have the highest levels of use among adolescents.

The percentage of 12th grade students who used **cannabis** (or marijuana) in the past 12 months in 2022 was 31%, as it was in 2021. In both these years the survey took place after the onset of the pandemic. These levels are significantly lower than they were during the pre-pandemic years of 2020 and 2019, when prevalence levels were 35% and 36%, respectively. The decline from 35% in 2020 to 31% in 2021 is the largest one-year decline among 12th grade students ever recorded in the 48 years of the survey for this measure.

While overall cannabis levels did not significantly change from 2021 to 2022, **cannabis vaping** in the past 12 months increased significantly in 10th grade although prevalence did not return back to 2020 levels. In 8th and 12th grade past 30 day marijuana vaping increased significantly from 2021 to 2022, returning to 2020 levels. The findings of both significant increases in marijuana vaping—and no change in prevalence of overall marijuana use from 2021 to 2022—suggests marijuana vaping serves as a supplement or substitute to the traditional smoking method.

The percentage of 12th grade students who **vaped nicotine** within the last 12 months in 2022 was 27%, as it was in 2021. In both these years the survey took place after the onset of the pandemic. These levels are significantly lower than they were during pre-pandemic years of 2020 and 2019, when the prevalence level was 35% in both years. The decline from 35% in 2020 to 27% in 2021

is the largest one-year decline recorded for 12th grade students since the survey began tracking nicotine vaping in 2017.

The percentage of 12th grade students who used **alcohol** within the last 12 months in 2022 was 52%. This is a statistically significant increase from the 2021 level of 47%. With this increase, prevalence in 2022 returned to pre-pandemic levels and does not significantly differ from the 55% level recorded in 2020 (or the 52% level of 2019).

All of these trends were similar in MTF's nationally-representative samples of 8th and 10th grade students.

The results for cannabis and nicotine vaping suggest at least two different scenarios. First, it is possible that the factors that disrupted and lowered drug use during the pandemic in 2021 continued into 2022. These include disruptions in adolescents' ability to use drugs outside of parental supervision, to obtain drugs, and to interact with friends who use drugs and may encourage drug use. Second, an alternative scenario is that a one-year delay or halt in drug use during adolescence may lower adolescents' drug use levels for their years ahead. This could occur if absence of drug use reduces longer term involvement with peer groups that encourage the use of drugs, and/or these adolescents have been spared psychological or neurological changes that increased their susceptibility for future drug use. In future years we will be able to see which of these two scenarios plays out.

The results for alcohol indicate that the dip in prevalence last year was fleeting and that alcohol use is back to where it was before the pandemic. For alcohol use, a one-year delay in use appears to have little long term effect on adolescent alcohol use prevalence, at least at the population level.

Additional, notable changes in adolescent substance use took place in 2022. Among 12th grade students, significant increases in 12th grade took place for past 30-day use of **cocaine**, **hallucinogens**, and **heroin**, as well as past 12 month use of **prescription opioids**. With these increases, levels of use for these substances returned to pre-pandemic levels, but did not surpass them. There were also some significant increases that did not return to pre-pandemic levels, including for **MDMA** (ecstasy), **crack**, and **tranquilizers**.

Use of **anabolic steroids** outside of a doctor's supervision in the past 30 days significantly increased in 2022 for 8th, 10th, and 12th graders. In addition, past 12 month use of **creatine**—a nutrient used to reduce recovery time of muscles and increase muscle mass—also increased in 10th and 12th grade. Use of **androstenedione** (a controlled, performance-enhancing substance) without a doctor's orders in the past 12 months also significantly increased among 12th grade students. Taken together, these findings suggest some adolescents have increased their involvement in fitness and weightlifting since the pandemic, and with this increase has come an increased need to prevent adolescents from unsupervised use of these substances, which can potentially lead to serious harm and even death.

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. The drugs included in this index are amphetamines, tranquilizers, sedatives, and narcotics other than heroin.

Fortunately, the use of most of these drugs by youth have been in decline. The proportion of 12th graders misusing *any* of these prescription drugs in the prior year continued to 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. There was a small, nonsignificant increase in this measure in 2022, leaving annual prevalence at 5.0%.

Among 12th grade students, prescribed use of **medications for ADHD** (attention deficit/hyperactivity disorder) significantly increased in 2022. The percentage who had taken these drugs under a doctor's supervision in their lifetime increased from 11% in 2021 to 15% in 2022. It is possible that the need for treatment of ADHD increased during the pandemic due to adolescents experiencing more stress. Another possibility is that sheltering at home during the pandemic may have made any attention issues of adolescents more salient to their parents, who then sought out medical care for their children.

Introduction

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 different 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 48 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 2022 MTF surveyed 31,438 students in 8th, 10th, and 12th grades enrolled in 308 public and private schools nationwide. This volume presents results of adolescent substance use across the major drugs based on the 2022 data collection and earlier annual surveys. 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.

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 in related attitudes and beliefs. Age effects (similar changes at similar ages observed across multiple class cohorts) are common during adolescence, and we typically find that use of a drug, as well as positive attitudes and beliefs about the use of that drug, increase across 8th, 10th, and 12th 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 8th, 10th, and 12th graders relative to each other. Often 8th grade substance use is a bellwether, and

year to year changes that are unique to 8th grade can signify an emerging increase or decrease in substance use at later grade levels with some time lag as the cohorts in 8th grade pass through the upper grades.

Tables and Figures in This Volume

The analyses and associated tables and figures 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 summary of key findings related to many of the drugs under study is included next, and it is followed by a section on the design and methods used in the study. 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 12th graders, annual data are available since 1975, when the study began. Data for 8th and 10th graders begin in 1991, the first year the study expanded to include those grades.

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.[1] For the sake of brevity, we present these prevalence statistics here in tabular form only for the 1991–2022 interval, but statistics on 12th graders going back to 1975 are available on the MTF website. For each prevalence period, the tables indicate which one-year changes between 2021 and 2022 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 significant 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 our annual volume on adolescent drug use.[2] It 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, under Results, on the MTF website.

MTF's findings on U.S. 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 a separate monograph in our annual series, published at the end of July each year.[3]

MTF occasional papers have been published each year in conjunction with our other annual reports. One deals with demographic subgroup trends among adolescents and was published through 2022. A second deals with demographic subgroup trends among young adults and was published through

[1] 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.

[2] The most recent publication of *Volume I* is Miech, R. A., Johnston, L. D., Patrick, M.E.,O'Malley, P. M., Bachman, J. G., & Schulenberg, , J. E.(2023). Monitoring the Future national survey results on drug use, 1975–2022: Secondary school students (PDF). Monitoring the Future Monograph Series. Ann Arbor,: Institute for Social Research, The University of Michigan, c. 596 pp.

[3] The most recent such publication is Patrick, M. E., Schulenberg, J.E., Miech, R.A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., &Miech, R. A, (2022). *Monitoring the Future Panel Study annual report: national data on substance use among adults ages 19 to 60, 1976-2021. Monitoring the Future Monograph Series.* Ann Arbor: Institute for Social Research, The University of Michigan.

2021. More recent such data may be found in the 2022 Panel Report in Chapter 5.[4]

Another 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.[5] It has been published in October of each year through 2021. From 2005 to 2009, this series of 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. 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).

[4]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 through 2021 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.

[5]The most recent publication in the *HIV/AIDS monograph series* is Johnston, L. D., Schulenberg, J.E., O'Malley, P. M., Patrick, M. E., Miech, R. A.. & Bachman, J. G., (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.

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 contiguous United States. Every year since 1975, such samples of 12th graders have been surveyed. In 1991, the study was expanded to include comparable, independent national samples of 8th and 10th graders. The year 2022 marked the 48th survey of 12th graders and the 32nd survey of 8th and 10th graders.

Sample Sizes

In 2022 31,438 students in 308 public and private secondary schools participated in the study, with sample sizes of 9,889 in 8th grade, 11,950 in 10th grade, and 9,599 in 12th 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 12th grade and four forms are used at both 8th and 10th 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 in this volume contain notes on the number of forms used for each statistic if less than the total sample is used.

Survey Mode

This monograph reports results for the 8th, 10th, and 12th grade students in the United States. In 2022 MTF used an electronic questionnaire format for the fourth consecutive year. In both 2021 and 2022 students in 8th, 10th, and 12th grades completed a web-based questionnaire on their own electronic devices during class time (which may have been at home if they were schooling remotely, for example as a result of the pandemic). In both 2019 and 2020 students also completed an electronic questionnaire that was connected to the internet, although they completed the survey on electronic tablets that MTF brought to schools. It is no longer necessary for MTF to bring tablets to schools because practically all schools now have internet access, and almost all students have electronic devices to complete the MTF questionnaires. In rare cases when these resources are not available at a school, MTF brings electronic devices for students, as well as a mobile server to collect survey responses.

2019 Estimates

The project's use of two different survey modes in 2019—electronic tablets and paper and pencil—addressed the possibility that differences in 2019 estimates in comparison to other years may have stemmed in part from survey mode effects. We examined this possibility in detail, and for drug prevalence estimates we found no evidence of mode effects.[1] Consequently, for all 2019 drug prevalence estimates we report results from the pooled sample of paper and pencil and electronic tablet responses.

2020 Estimates

In-school data collection in 2020 was halted on March 15, 2020 as a result of the COVID-19 pandemic. This halt resulted in a sample size about one-quarter the size of a typical data collection. The 2020 in-school data collection was also unique because it was the first year all students recorded their answers on electronic tablets, which MTF brought to the schools. This transition to electronic data collection was part of a plan that included a 2019 MTF administration in which a randomly selected half of schools used traditional paper and pencil questionnaires and the other half used electronic tablets. This allowed assessment of potential survey mode effects, and in 2020 and all future years the project will no longer use paper and pencil questionnaires.

Detailed analyses of the 2020 results indicated that the curtailed MTF 2020 sample did not differ significantly from the nationally representative results from previous years in terms of sociodemographics and prevalence of use of substances that had stable prevalence in recent years.

2021 Estimates and Beyond

The year 2021 was the first full school year affected by the COVID-19 pandemic and its associated social distancing policies. Anticipating that many students would be schooling remotely, MTF switched to an

[1] Miech, R. A., Couper, M. P., Heeringa, S. G., & Patrick, M. E. (2020). The impact of survey mode on US national estimates of adolescent drug prevalence: Results from a randomized controlled study. Addiction, 116(5), 1144–1151.

online questionnaire that students completed on their own electronic devices, either at school or at home (if in remote school).

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. For two reasons we expect that such a test would have shown little to no differences in drug prevalence across the two modes, given that they are similar and both involve electronic devices connected to the internet. First, a 2019 MTF experiment that tested a much more substantial mode difference found no significant effect on drug prevalence estimates. In the 2019 administration, MTF surveyed a randomly selected half of the schools using electronic tablets and the other half using paper and pencil questionnaires and found no mode differences in drug use prevalence.[2] Second, 2021 trends were similar in analyses that used all participants and in analyses that restricted the analysis pool to the 46% of students who had all their classes in their school building. This suggests that at home and in school administrations produced similar results (analyses not shown here). Consequently, in this report we directly compare drug prevalence estimates in 2022 and 2021 with previous years.

However, we cannot rule out possible mode effects for some of the attitudes and beliefs estimates after 2020. Consequently, we do not directly compare these results from 2022 and later years with results from 2020 and beforehand. We note that our cautiousness in comparing to previous years does not necessarily mean that the results are incomparable, but only that comparability is not known at this point.

In 2023 and in all future years MTF will continue to use a web based questionnaire that students answer with their own electronic devices at school.

Because of the early termination of the field efforts in 2020 due to the COVID-19 pandemic, 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 much as in 2020. The samples sizes obtained in 2022 are listed in the Sample Sizes section (above) of this chapter.

Sampling

As in previous years, schools were sampled from a target list of all schools containing 8th, 10th, or 12th grades in the contiguous U.S. Randomly selected schools from this list were recruited to participate in the survey, and students were randomly sampled within a school by classroom or some equivalent procedure. 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.

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 and 2022—because the COVID-19 pandemic arrived early in 2020, and as a result the University of Michigan halted research studies involving face to face contact on March 15 of that year.

This amounted to a halt in data collections well before the usual halfway point in the study's annual data collection cycle. A careful analysis showed that the students in the 112 secondary schools in the attained sample were quite representative after weighting. 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 diffferent 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

[2] Miech, R. A., Leventhal, A., Johnston, L., O'Malley, P. M., Patrick, M. E., & Barrington-Trimis, J. (2021). Trends in Use and Perceptions of Nicotine Vaping Among US Youth From 2017 to 2020. JAMA pediatrics, 175(2), 185–190.

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 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 only one form, one-sixth of the sample for 12th graders and as little as one-sixth for 8th and 10th graders (though two of their four forms contain one-third of the total 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 valid estimate. As more detailed analyses were completed for the main volume reporting on secondary school students,[3] we came to the conclusion that the diminished number of cases obtained in 2020 may still have some validity 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 monograph. 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. In this Overview of Key Findings those data are omitted.

Measures

The 8th and 10th grade questionnaires are completely anonymous, and in 12th grade they are confidential (name and address information is gathered separately from the 12th 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.

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 only report 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

[3] Miech, R. A., Johnston, L. D., Patrick, M. E., O'Malley, P. M., Bachman, J. G., & Schulenberg J. E. (2023). Monitoring the Future National Survey Results on Drug Use, 1975-2022: Secondary School Students. Monitoring the Future Monograph Series. Ann Arbor: Institute for Social Research, The University of Michigan.

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 12th graders with similar questions about consuming 10 or more and 15 or more drinks in a row in the past two weeks. Among 8th and 10th 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 on two randomly selected half-samples for at least one year to permit an assessment of whether the change (usually a wording change) had 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", and "great risk". Parallel questions then ask about risk in using the same drug "occasionally" and "regularly". In the 8th and 10th grade questionnaires, a fifth answer 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 12th grade "…people 18 or older"…is specified in the question stem.) Answer categories are "don't disapprove", "disapprove", and "strongly disapprove". In the 8th and 10th 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 8th and 10th graders, an additional answer category—"can't say, drug unfamiliar"—is provided and included in the denominator 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 12th grade 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. See the Study Design and Methods section for more detail.

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 surveyed students 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. (See the Design and Methods section for more detail.)

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.

MTF routinely reports three different indexes of illicit drug use: *any illicit drug*,[1] *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 2022. The first four tables present data based on the three grades combined and show the significance of the change from 2021–2022. As will become clear in the following sections, the COVID-19 pandemic had a substantial impact on nearly all forms of drug use in 2021 and 2022.

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 20th 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.[2] In 1975, when MTF began its annual reporting, 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 12th 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, the last year before the pandemic hit. 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-eight years ago.

Trends for *annual prevalence* (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, of course. Among 8th graders, a gradual and continuing falloff occurred after their peak rate in 1996. Peak rates since 1991 were reached in1997 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 10th and 12th graders, which was followed after 2016 by a period of increasing use in 8th and 10th grades but some decline in 12th. 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, amounting to a relative decline in a single year of 22% ($p<.001$). In 2022 there was a slight rebound in all of the indexes from these large declines in use in 2021, although in all grades the 2022 levels were substantially lower than they had been pre-pandemic in 2020.

Over the last five years (2017–2022), *any illicit drug other than marijuana* (third panel) declined ignificantly in 10th and 12th grades . .

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 just 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

[1] Footnote 'a' to Tables 5 through 8 provides the exact definition of "any illicit drug".

[2] 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.

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

12th graders had used used some illicit drug in their lifetime and that proportion increased to a high of 43% by 1981, then declined for 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 in what we have called the "relapse phase" of the long term drug epidemic, and it reached 30% by 1997 among 12th graders. (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.[3]) *Lifetime* prevalence among 12th 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% where it remained in 2022.

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 $p < .001$. There was only a slight rebound in 2022 from 2021 of 0.5 percentage points.

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 12th graders continuing to decline in use.

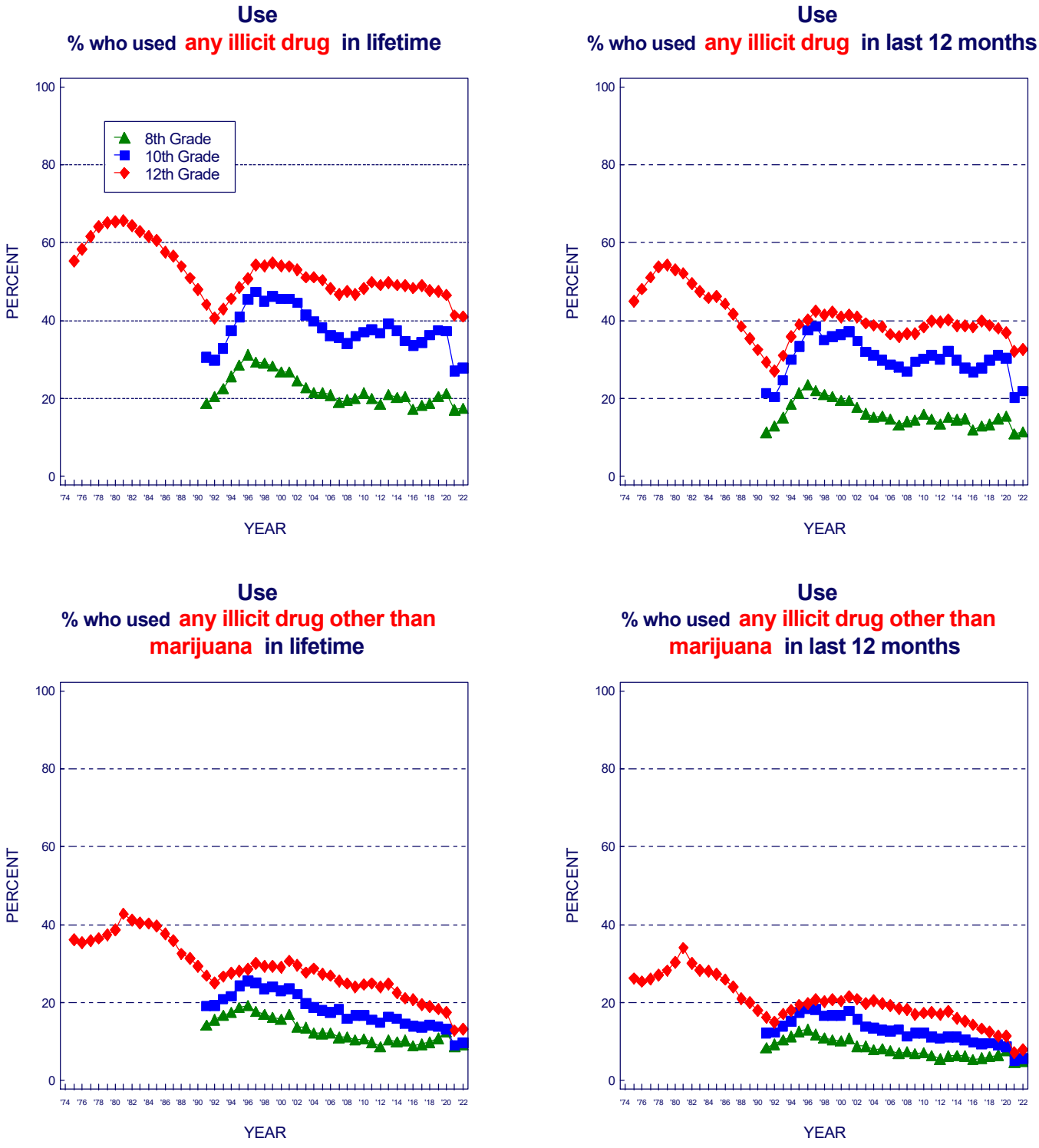
Overall, these data reveal that while use of individual drugs (other than marijuana) may fluctuate widely, the proportion using *any* of them is more stable. In other words, the proportion of students prone to using any such drugs and willing to cross the normative barriers to their use changes more 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-19 pandemic, where a major shift in the environment caused a downturn in substance use almost across the board.

[3] 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

Marijuana has been the most widely used illicit drug throughout MTF's 48 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. over the years 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 ("edibles") 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 12th 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 8th grade and in 1997 at 10th and 12th grades. Use levels 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 percentages points in grades 8, 10, and 12, respectively. The largest 1-year decline was in 10th grade, as is true for many drugs. In 2022 annual prevalence rebounded slightly and nonsignificantly by 1.2%, 2.2%, and 0.2%, respectively, but remained substantially below the pre-pandemic level in 2020.

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 8th graders, daily use showed rather little change between 1996 and 2018. 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 ($p < .001$), and in 2022 their daily use showed almost no change (+0.1%).

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 10th and 12th 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 8th grade, but our data do not start early enough to show it.) The decline in perceived risk halted in 1996 in 8th and 10th grades; the increases in use in 10th and 12th 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 8th grade, 2005 in 12th grade, and 2008 in 10th grade, perceived risk has fallen substantially, presaging some resurgence in marijuana use lasting 3 to 5 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 2022 only 12th grade showed much rebound in perceived risk, though the lower grades showed a little increase that year. 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,[4] and this may explain its recent lack of expected 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 8th and 10th grades, respectively, though somewhat lower at 58% in 12th

[4] 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).

grade, while 12th graders showed a lower level of disapproval in 2022. 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 2021 the 12th grade seemed to continue the decline, and it showed a slight rebound in the lower grades in 2022. Since about 2007 disapproval of regular marijuana use has fallen most among 12th graders and least among 8th graders but it has fallen considerably in all grades.

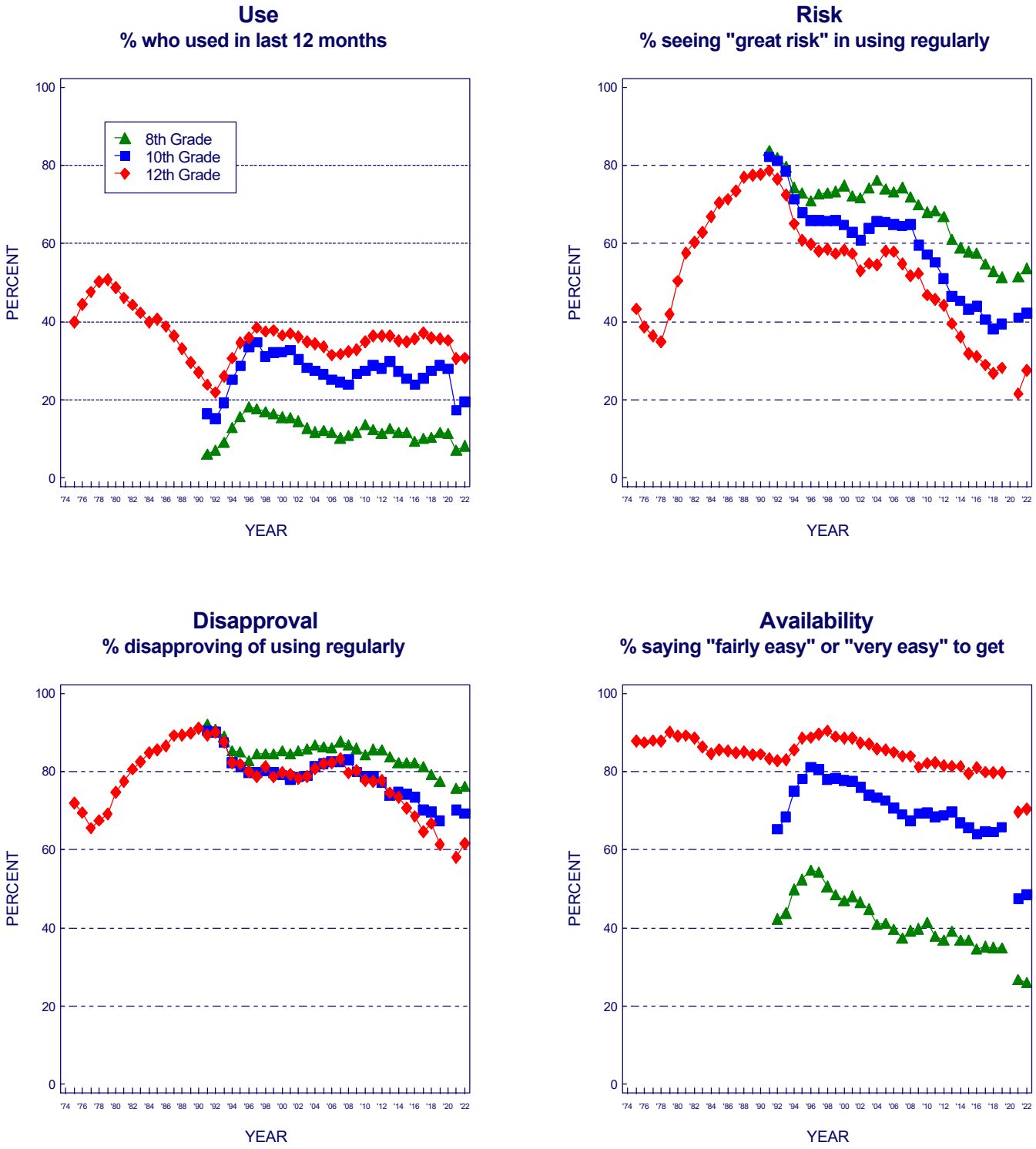
Availability

From 1975–2019, between 78% and 90% of 12th 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 12th grade a couple of years later. After about 2009 the declines in availability began to level off—with the 12th grade figure at 78% in 2019 but at 70% in 2022, very likely as a result of a sharp drop in 2021. In all years availability has been highest in 12th grade, substantially lower in 10th grade, and substantially lower still in 8th grade, with the differences enlarging. By far the sharpest decline occurred between 2021 and 2022 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

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 component 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 12th graders about their use in the prior 12 months. Annual prevalence was found to be 11.4%, making synthetic marijuana the second most widely used class of illicit drug after marijuana itself among 12th graders at that time. Despite the DEA's intervention, use among 12th 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, 8th and 10th 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 12th graders, as well as a significant declines for both 10th and 12th 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. In 2022, in 12th grade annual synthetic marijuana use increased significantly by 1.4 percentage points to 3.2%. In 10th grade prevalence was 2.2% (+0.5%) and 1.5% (+0.2%) in 8th grade, so there was some rebound in the use of this class of drugs much like there was for others.

Perceived Risk

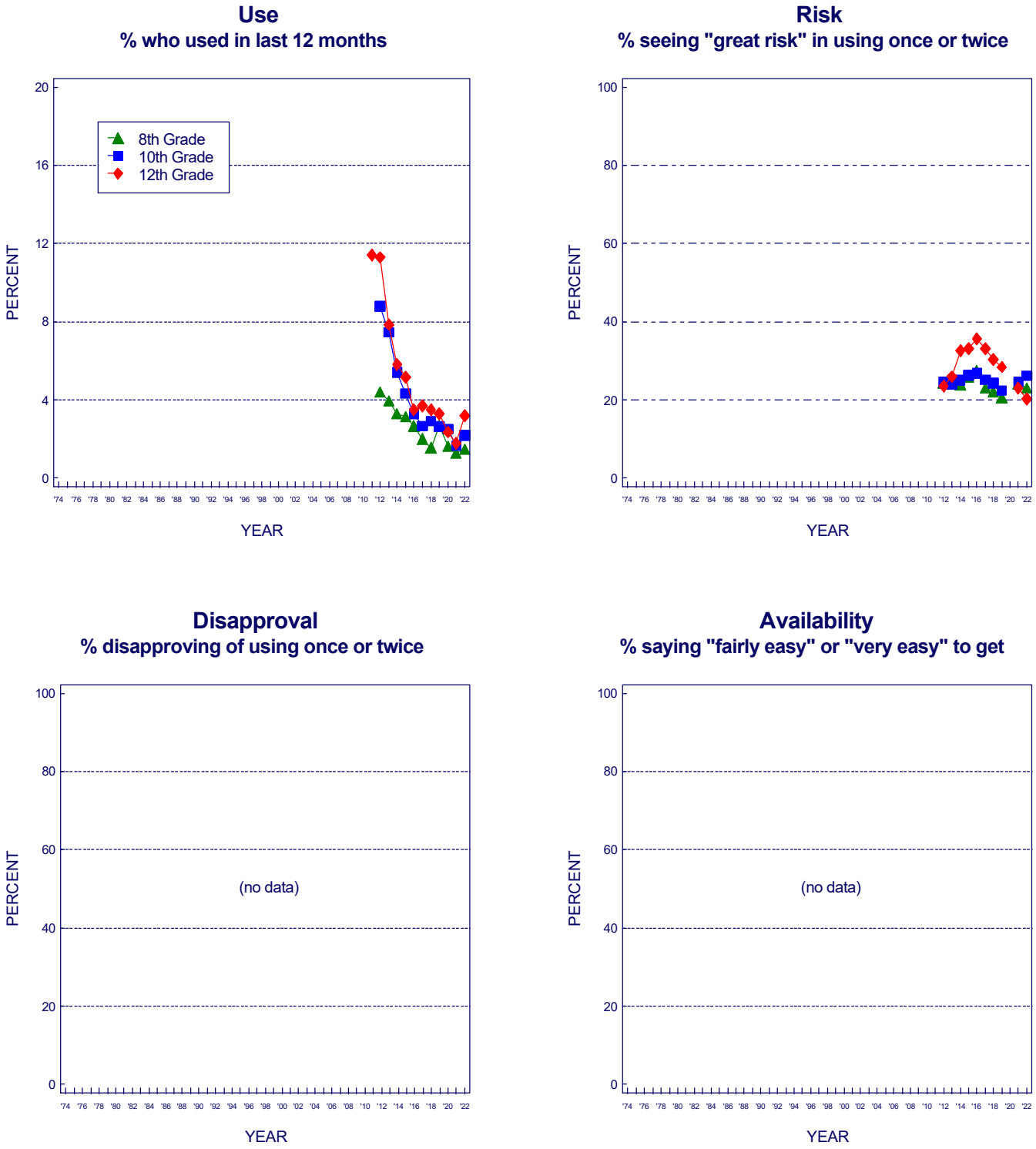
All three grades were asked whether they associated "great risk" with trying synthetic marijuana once or twice. As can be seen in Figure 3, the level of perceived risk for experimental use was quite low in 2012 (between 24% and 25%). The availability of these drugs over the counter probably had the effect of communicating to teens that they must be safe, though in fact they are not. Perceived risk rose some—particularly among 12th 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 2022 perceived risk for trying synthetic marijuana once or twice was 23%, 26%, and 20% for 8th, 10th, and 12th 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

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 dimished 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 12th graders rose gradually for two decades, 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 8th and 10th graders from 1991 (when those grades were first included in the study) through 1995, and it rose among 12th graders from 1992 to 1995. All grades then exhibited a fairly steady and substantial decline in use through 2016 before leveling. The 8th graders then showed some increase in use, while the upper grades remained level. Then the 8th graders' use declined farily sharply from 2020 to 2022, while use among 10th and 12th graders dipped for a year but then rebounded in 2022. In the ensuing years slight variablility in prevalence took place, although in the end, 2022 levels were about that same as they had been in 2016.

Perceived Risk

Only 8th and 10th 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 2022 both grades appeared to show 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 8th and 10th grades—probably due to an anti-inhalant advertising initiative launched by The Partnership for a Drug-Free America that year. 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 8th and 10th graders, perhaps explaining the increase in use in 2003 among 8th 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 8th 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 both 2021 and 2022 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 administation.[5]

Disapproval

Until 2016, over 80% of 8th and 10th 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—perhaps as a result of the anti-inhalant campaign, which received considerable media coverage—with a 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

[5] 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.

effects rather than to a real decline, since in 2021 students completed a web based survey for the first time. There was little change in 2022, but the pattern of change that year was very similar to change in perceived risk.

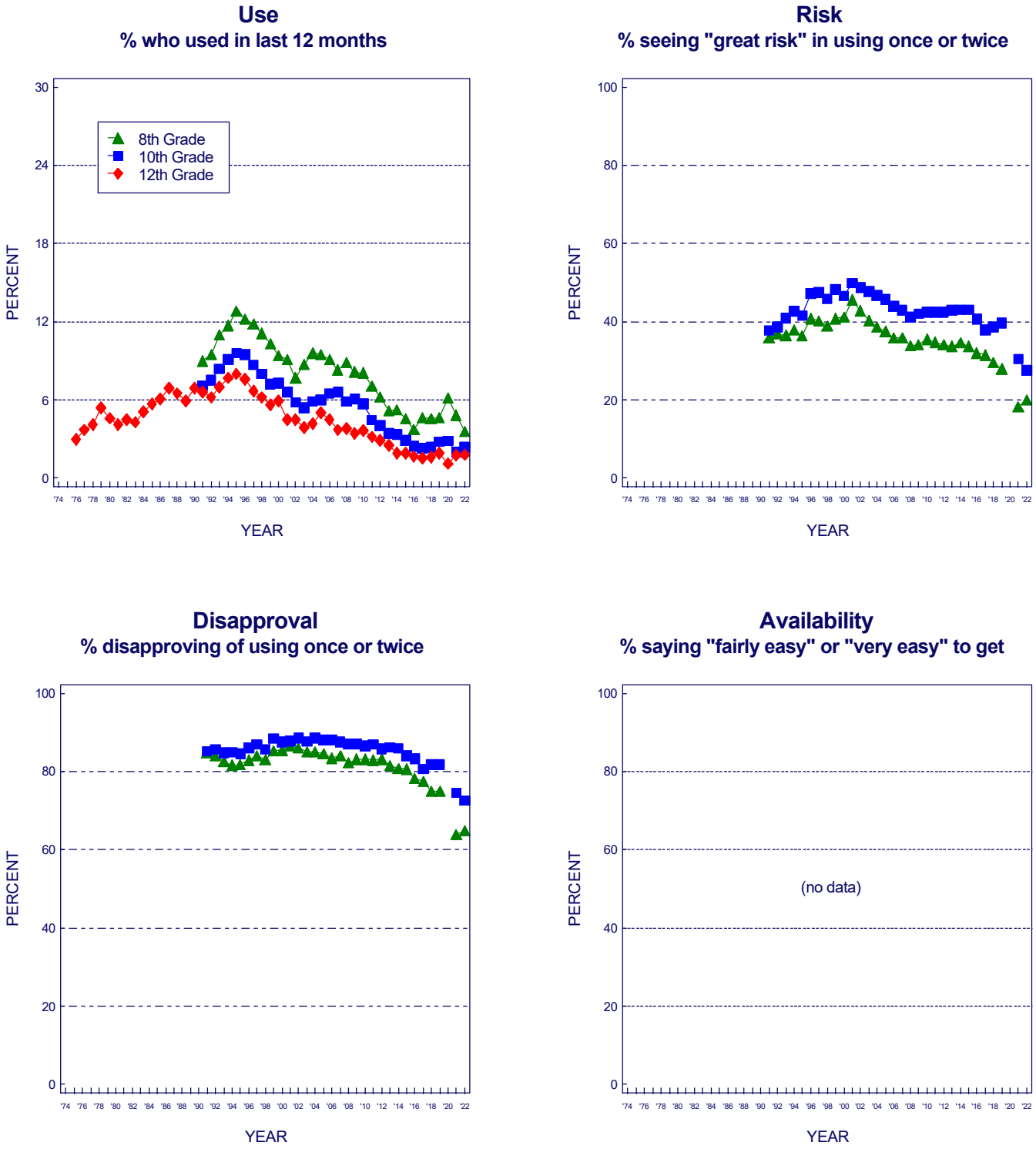
Availability

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 ("shrooms" or "magic mushrooms"). (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 12th graders has been below 10% since MTF began. Use declined some for the first 10 years among 12th 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 (during the "relapse phase" in the larger drug epidemic). 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 after 2013, particularly at 12th grade, which continued into 2020. In 2021 use declined in all three grades with only the 1.1 percentage point decline in 10th grade being significant. In 2022 there was very little rebound in prevalence.

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 12th 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 8th graders until 2009 before leveling, quite possibly due to generational forgetting of the risks; it declined considerably among 10th graders before leveling around 2002, dropping through 2007, and then leveling after that. Since 2014 and 2015 risk has declined once again in both 10th and 12th grades. Among 12th graders, a decline in perceived risk that began in 2014 appeared to mark the end of a levelling that had been in place since 2002, but there was some further decline in 2014 at least until 2019.[6] The greater decline in 8th grade suggests that younger teens may be less knowledgeable about this drug's effects than their predecessors making them 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".) It appears that the declines continued into 2022, though there was a mode effect which may have contributed to the change.

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 but 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 12th 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 12th graders. After 1996 came a divergence among the three grades, with a substantial increase in disapproval among 12th graders, accompanied by more of a leveling among 10th graders and a considerable decline among 8th graders. Note, however, that the percentages of 8th and 10th 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

[6] 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 declining for 12th grade students, staying fairly level for 10th graders, and increasing some for 8th graders. In 2022 disapproval rates appear somewhat lower in each grade than they had been earlier.[6]

Availability

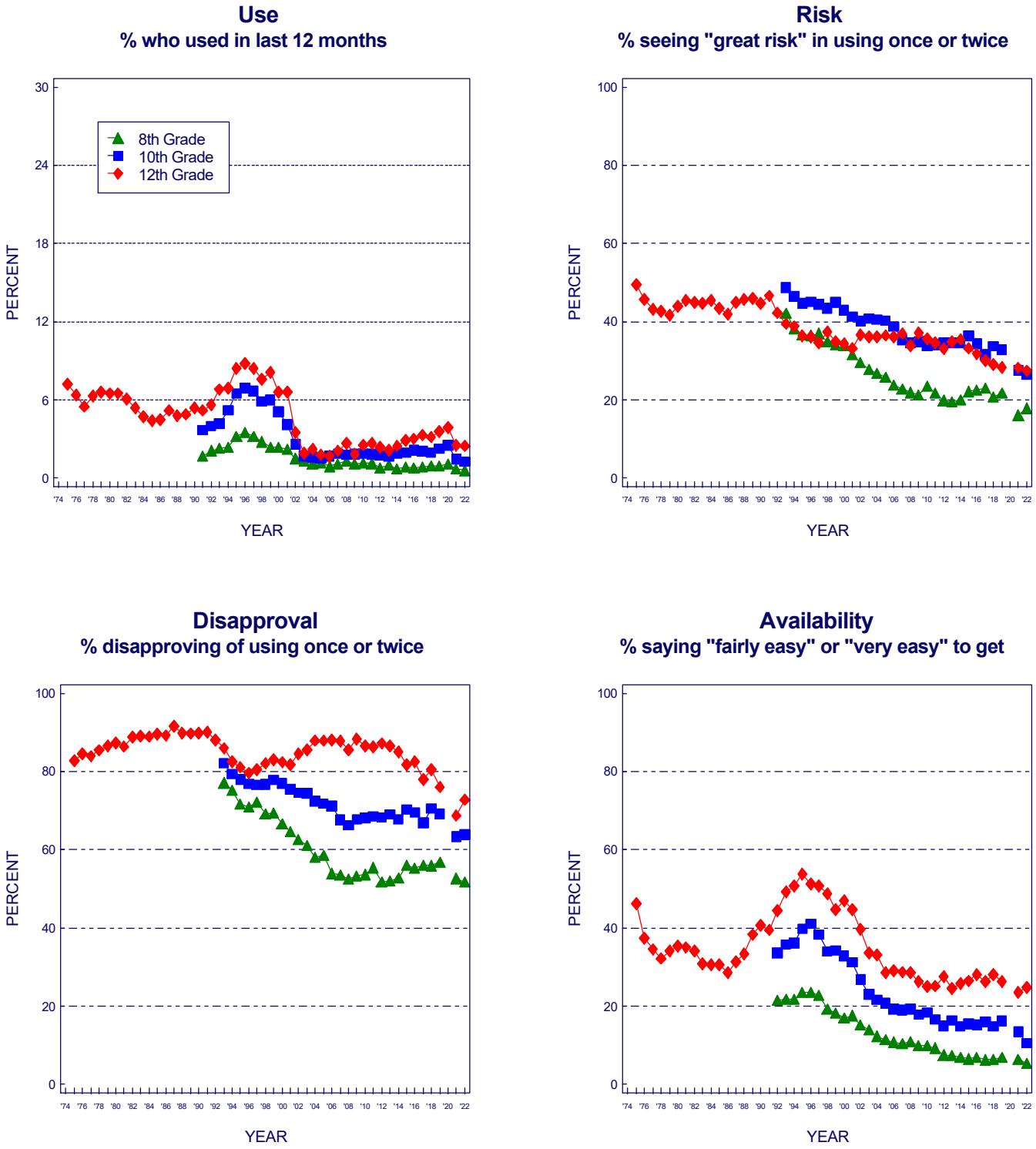
Reported availability of LSD by 12th graders fell considerably from 1975 to 1979, declined a bit further until 1986, and then began a substantial rise, reaching a peak in 1995 during the "relapse phase" of the drug epidemic. LSD availability also rose somewhat among 8th and 10th graders in the early 1990s, reaching a peak in 1995 or 1996. After those peak years there was a sharp falloff in the reported availability of LSD 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. The profile of availability over time tracks most closely to the profile in use in Figure 5. Availability finally leveled in all three grades after about 2013. Availability finally leveled in all three grades after about 2013, and in the ensuing years has declined somewhat in 8th and 10th grade, and has not trended in 12th grade.

[6] 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 quite important changes in the levels of overall cocaine use over the life of MTF. Use among 12th graders originally burgeoned in the late 1970s and remained fairly stable at quite a high level through the first half of the 1980s before starting a precipitous decline after 1986. Annual prevalence among 12th 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 8th and 10th 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 12th grade in 2017 and 2020; annual 12th grade use stood at 1.2% in 2021—one fifth the recent peak level of 5.7% in 2006—with use by 8th and 10th graders still lower, at 0.2% and 0.6%, respectively. In 2021 annual prevalence declined by more than one half in 12th grade ($p<.05$) and by nearly half in the two lower grades. In 2022 the changes were small, with annual prevalence rising 0.3 percentage points in 8th ($P<05$) and in 12th grade (ns) and declining 0.3 percentage points in 10th grade (ns).

Perceived Risk

Questions about the dangers of cocaine use in general (without specifying any particular form of cocaine) have been asked only of 12th 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 a very 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.[7]

Perceived risk continued to rise through 1991 in 12th grade as the decline in use continued. Perceived risk then declined modestly in all grades from 1991 to 2000, and use rose from 1992 to 1997. Perceived risk then leveled for a number of years in all grades, at far higher levels than existed prior to 1987. After about 2009 there was a gradual upward drift for about six years in grades 10 and 12, before a rise began at grade 10 and some decline occurred at grade 12 beyond 2013, specifically in 2022. (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.) There is as yet little evidence of generational forgetting of cocaine's risks. For 12th 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 8th and 10th graders. In 2022 percived risk of trying cocaine increased slightly in the lower grades and decreased by 3.9 percentage points (ns) in 12th grade to 48%.[8]

Disapproval

Disapproval of cocaine use by 12th 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

[7] Among 12th 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.

[8] Starting in 2021 the question was changed from disapproval of cocaine powder to disapproval of cocaine.

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 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 8th, 10th, and 12th grades through 2019. In 2020 a new question was introduced asking simply about disapproval of trying cocaine (not "cocaine powder") and in 2022 the rates in the lower grades changed little—they were 823%, and 845% in grades 8 and 10—but in 12th grade the rate bounced back by 7.1 percentage points ($p<.05$) to 88.7% the level it had been in 2019.

Availability

The proportion of 12th 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 12th graders it stood at 18% in 2022—less than a third of its peak level in 1989. By 2022 all three grades were at lower levels.[9] 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.[10]

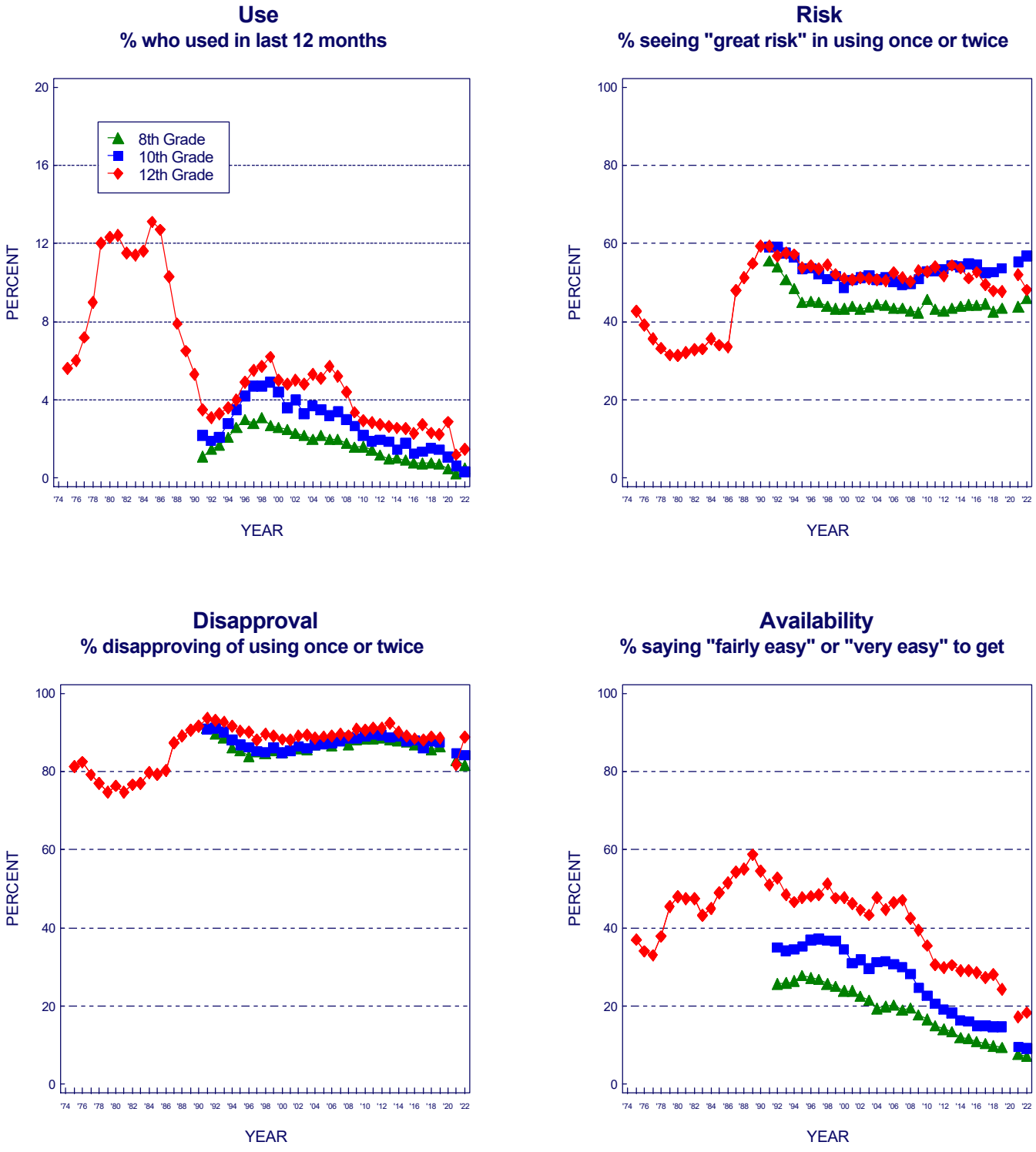
[9] Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

[10] 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 12th 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 12th graders—the drop continued through 1991. After 1991 for 8th and 10th graders (when data were first available) and after 1993 for 12th 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 8th and 10th grades and nearly two thirds in 12th 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 12th grade lagged behind those in the lower grades due to a cohort effect. In 2022 the annual prevalence of crack use was at 0.4%, 0.2%, and 0.9% 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 12th 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 12th 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 visible (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 8th and 10th grades and had been declining for six years among 12th 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 12th 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 through 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 8th graders, after 1999 among 10th graders, and after 2000 among 12th graders. Since 2000, availability has declined considerably, reaching historic lows in 2019 in 8th, 10th, and 12th grades. The 2021 estimates are lower still, but that may be partly due to mode effects.[11] In 2022 the perceived availability of crack was lower than it had been in 2019.

[11] 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.

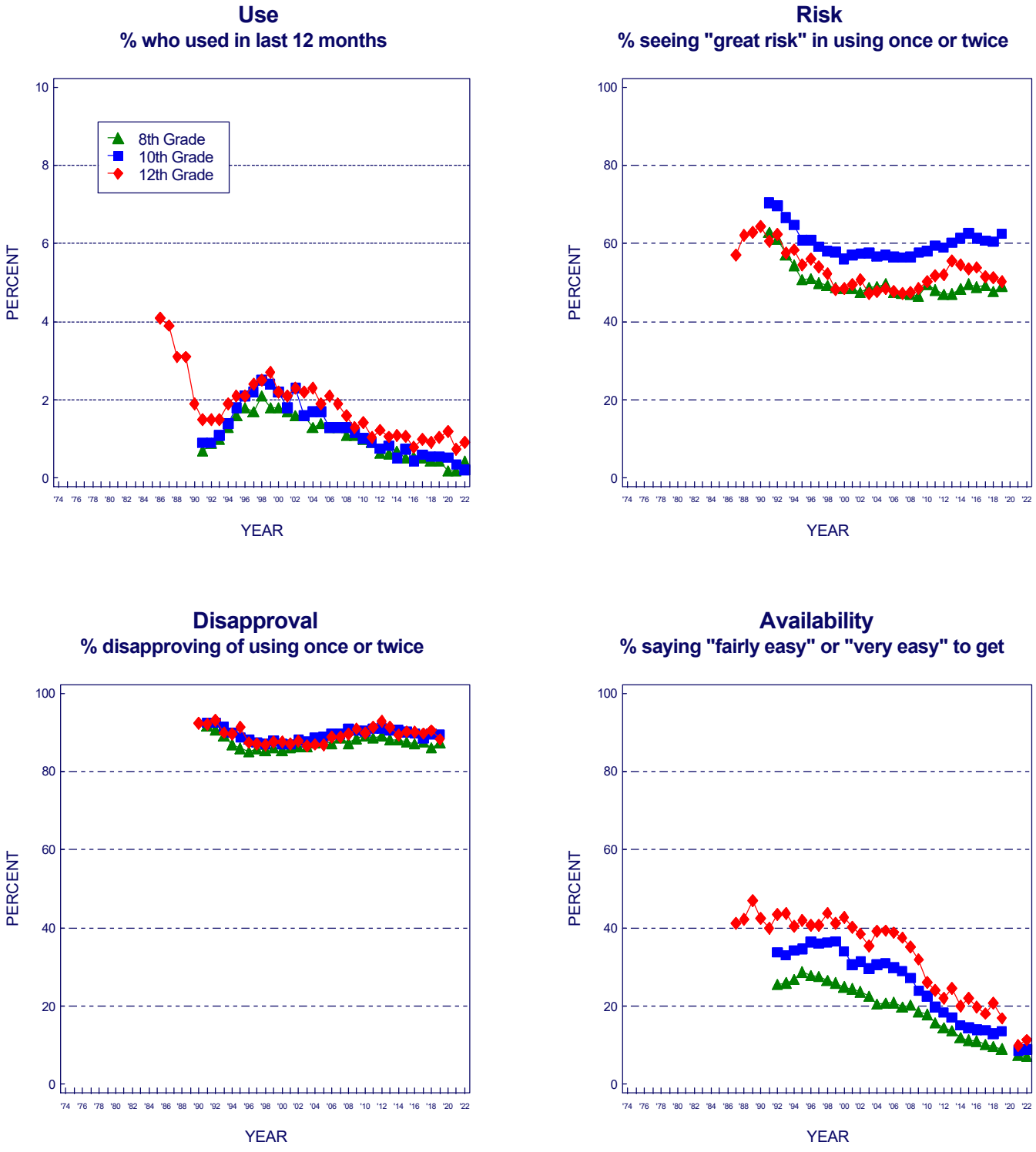
NOTE: The distinction between crack cocaine and other forms of cocaine (mostly powder) was made several years after the study's inception. The trend lines in Figure 7 begin when these distinctions were introduced. Figures are not presented here for the "other forms of cocaine" measures, simply because 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 9–14).

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, 12th graders showed a steady and very substantial decline in stimulant use, reaching 7%.

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 8th grade and sporadically in 10th grade. Only in 2003 did use begin to decline in 12th grade—likely reflecting a cohort effect. The decline paused briefly in 2008 for 10th graders and 2008/2009 for 12th graders, rose for awhile in both grades through 2013, and then resumed their decline. The 10th and 12th 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 by students intended to assist with their academic performance in high school. Since 2013 there has been a downward trending in annual prevalence in grades 10 and 12. In 2021 large and highly significant declines in annual pervalence were observed in all three grades, as occurred for many drugs, followed by very modest rebounds in 2022 .[12]

See Table 6 for the trends in annual use of two specific stimulant drugs: ***Ritalin*** and ***Adderall***. Since it was first measured in 2001, nonmedical ***Ritalin*** use has declined by 75% to 94% in all three grades before a sharp further decline in the upper grades in 2021, followed by some rebound in use in 2022 in those same grades. Nonmedical ***Adderall*** use showed an irregular decline in the upper grades since it was first measured in 2009, but annual prevalence increased significantly in 12th grade between 2009 (5.4%) and 2013 (to 7.4%) where it remained in 2015 before falling to 1.7% by 2020, reflecting declines of one-tenth to two-thirds. Rates fell in all grades in 2021 and mostly recovered in 2022.[13]

Perceived Risk

Only 12th 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 12th 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 were loweras a result.) Based on the

[12] 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.

revised question, some small decrease was occurring in perceived risk from 2013 to 2018. The 2022 value was substantially above the 2019 reading, likely due to a mode effect, but for disapproval there appeared to be no mode effect.[13]

Disapproval

Disapproval of amphetamine/stimulant use also is asked in 12th grade only. Relatively high proportions of 12th 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 they both 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.[13] In 2022, however, disapproval rose sharply among 12th graders.

Availability

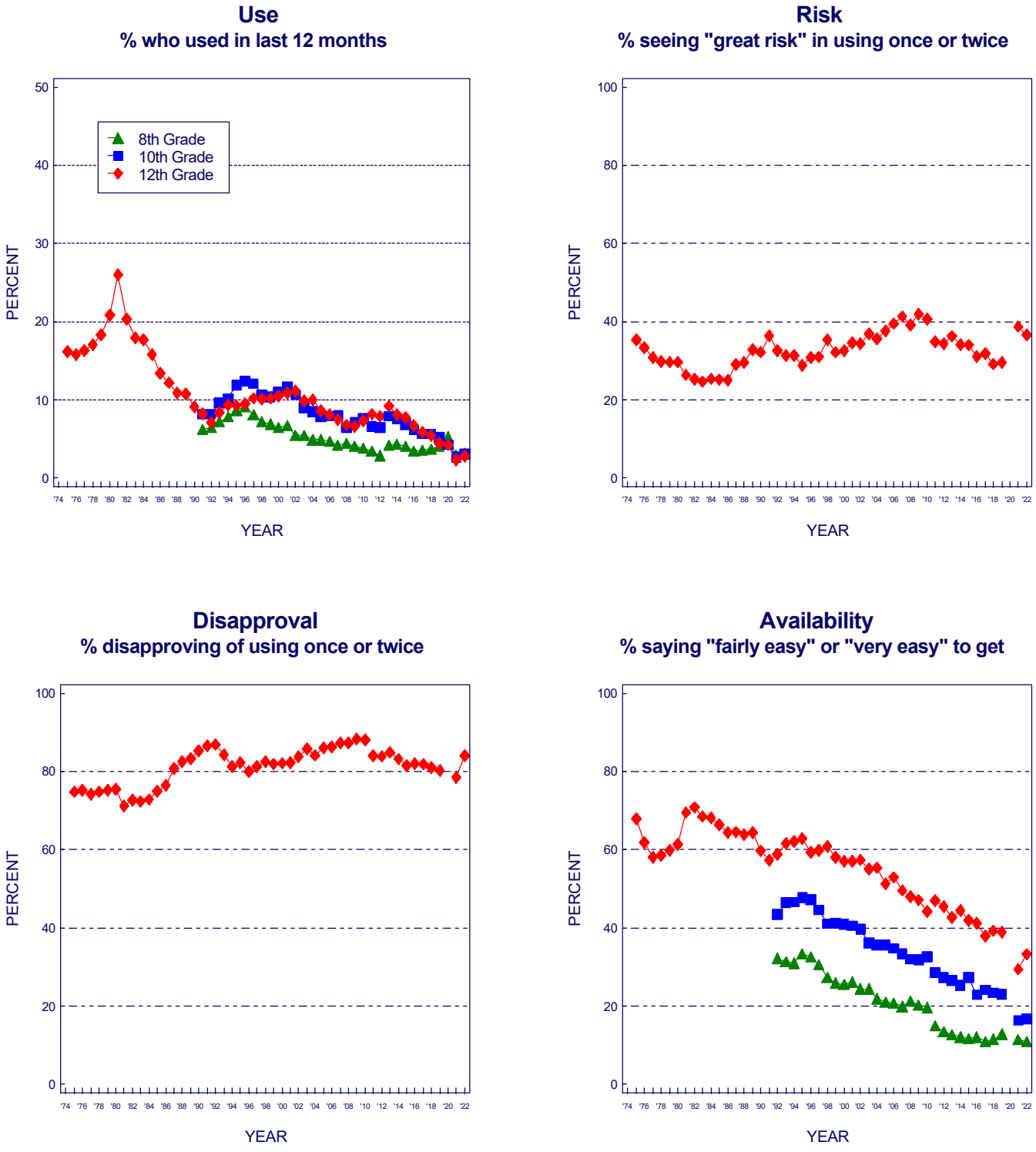
In 1975, amphetamines/stimulants had a high level of reported availability. The level fell by about 10 percentage points among 12th graders by 1977, drifted up a bit through 1980, jumped sharply in 1981, and then began a long, gradual decline through 1991. There was a modest increase in availability at all three grade levels in the early 1990s as use rose, followed by a very large, long term decline reaching 39% among 12th graders through 2019. There followed a substantial drop to 2021 in the upper grades and a smaller drop in 8th grade. In 2022 12th graders showed some rebound (of 3.8 percentage points, ns) with little change in the lower grades.

[13] 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/Stimulants : 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.

One subclass of amphetamines is called meth-amphetamine ("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 12th 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 12th 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 12th 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 12th graders in 1999, 4.7% indicated any use in the prior year; their use then declined to 1.4% by 2020, before dropping to 0.5% in 2022 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 12th graders since 1990 when annual prevalence was 1.3 (Table 6). It then climbed to 3.0% in 1998, before falling to 0.6% in 2019 and reached a level of 3.0% again in 2002, but it has since declined to 0.3% in 2022. In sum, use of this drug has nearly disappeared from this population of 12th 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 declined from 1991 to 2001 as use was increasing. Then it 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 without any concurrent increase in use.

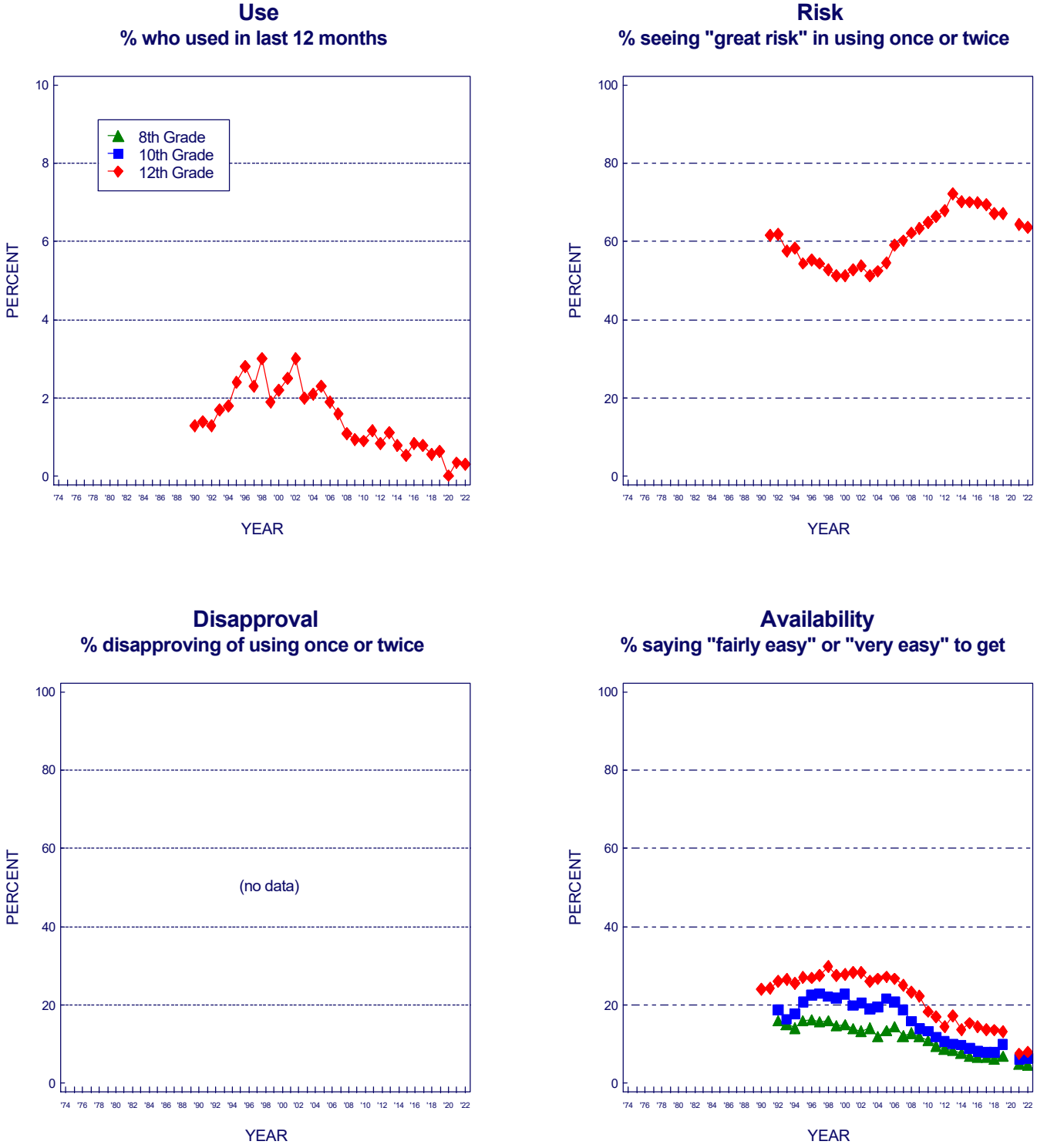
Perceived availability generally has been falling in all three grades since about 2006, perhaps in part because there are many fewer crystal methamphetamine users from whom to get the drug. This downward trend continued in all three grades until about 2018. Availability was flat and very low in 2021 and 2022, possibly reflecting the impact of the pandemic.[6]

[6] 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 table in Tables 5–7 at the end of this report.

Trends in Use

The *annual prevalence* of heroin use among 12th 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 8th graders (1.6%), in 1997 among 10th graders (1.4%), and in 2000 among 12th graders (1.5%), suggesting a cohort effect. Following those peak levels, use declined through 2005, with annual prevalence in all three grades then fluctuating between 0.7% and 0.9% from 2005 through 2010. 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, as did many drugs, but only in the upper grades and not significantly (Table 6); but in 2022 it bounced back to 2020 levels in those grades.

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 8th grade users were taking heroin by each method of ingestion and some—nearly a third of users—were using both means (Table 6). At 10th grade, a somewhat higher proportion of all users took heroin *without a needle* than with, and at 12th 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 8th and 12th graders and very slight declines since then in 8th and 10th 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 2). 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. The question asking separately about use with and without a needle was dropped in 2022.

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. The cocaine scare may well explain the increased risk seen for heroin that year. 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 12th grade was still rising through 2016 but then declined some for three years; it has also fallen some after 2017 among 8th graders. During the period from 1998–2017 perceived risk without a needle has been relatively stable in the lower grades and at particularly high levels among 10th graders. In 2022 it declined significantly among 10th graders.

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.[7]

Availability

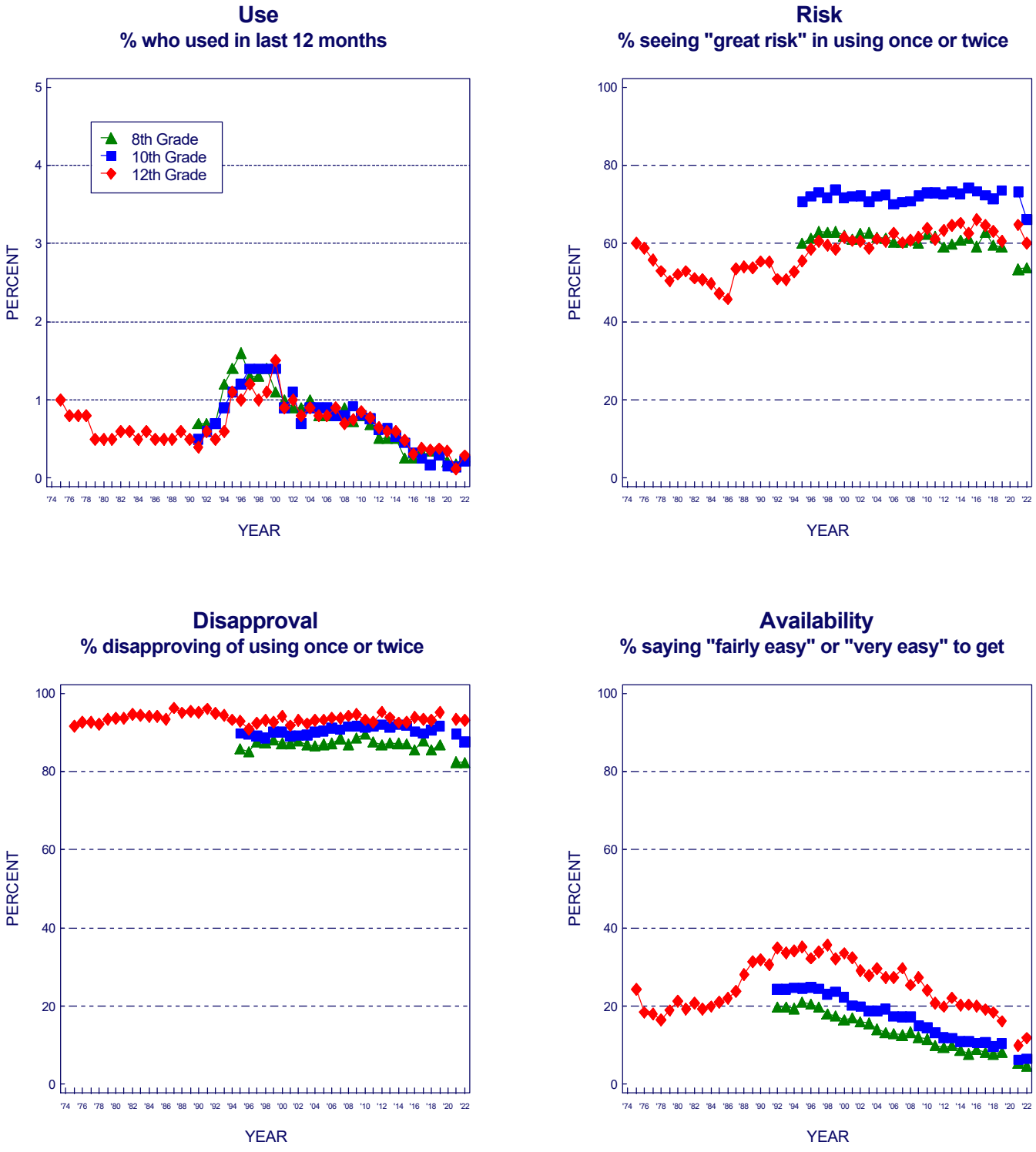
The proportion of 12th grade students saying they could get heroin fairly or very easily if they wanted some remained around 20% through the mid 1980s. It then increased considerably from 1986 to 1992 before stabilizing at about 35% from 1992 through 1998. Since then, perceived availability of heroin has declined gradually but substantially in all three grades through 2020. Reported availability dropped in all three grades in 2021, quite possibly due in part to the pandemic. Only 12th graders showed any rebound in availability in 2022, and it was small.

[7] 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 synthetic narcotic drug which has been used in combination with other drugs, often without the knowledge of the user, sometimes resulting in overdoses and overdose deaths.

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 12th 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 the 2023 MTF monograph on secondary school students provides trends in their annual prevalence.[8] 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 12th graders only, because we considered the data from 8th and 10th graders to be of questionable validity. As shown in the first panel of Figure 11, 12th 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 2020. From 2020–2021 it fell an additional 1.1 percentage points to 1.0% ($p<.01$) but then rebounded to 1.7% in 2022 ($p<.001$).

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. 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 12th grade data on perceived risk (since 2010); since 2010 perceived risk of trying the drugs has increased slightly from 40% in 2010 to 43% in 2022 (see Table 11).

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 substantially in all grades since then. In 2021 it was down to 0.8% or 0.9% in all grades, with a nonsignificant 1.5 percentage point decline among 12th graders in 2021, likely due to the onset of COVID-19 and the associated restrictions on social interaction, but that was followed by a rebound to1.9% in 2022 ($p<.01$).

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 also declined substantially in all grades (Table 6). It declined in all grades in 2021,

[8] Miech, R. A., Johnston, L. D., Patrick, M. E., O'Malley, P. M., Bachman, J. G., & Schulenberg J. E. (2023). Monitoring the Future National Survey Results on Drug Use, 1975-2022: Secondary School Students. Monitoring the Future Monograph Series. Ann Arbor: Institute for Social Research, The University of Michigan.

but annual prevalence rates rebounded some in 2022.

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 12th 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 12th 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 declined further in all three grades from 2010–2019, particularly among 12th graders. There was a large drop from 2019–2021 in all grades. While a change in the mode of data collection and the advent of COVID-19 may account for some of that drop, it seems likely that there was a real change in availability during the pandemic. In 2022 there was little change from 2021.

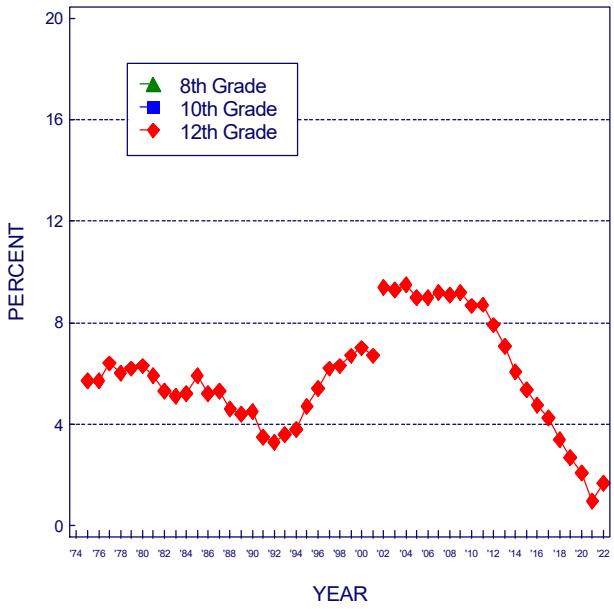
Figure 11

Narcotics other than Heroin, including OxyContin, and Vicodin Specifically : Trends in Annual Use and Availability

Grades 8, 10, 12

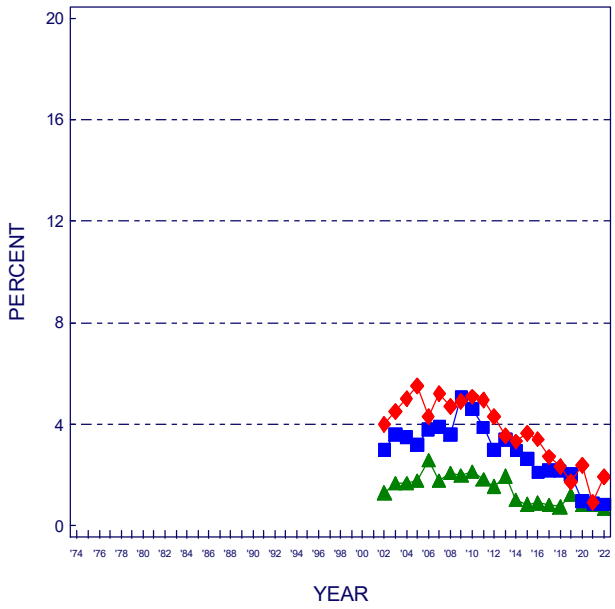
Use of Narcotics other than Heroin

% who used any narcotics other than heroin in last 12 months



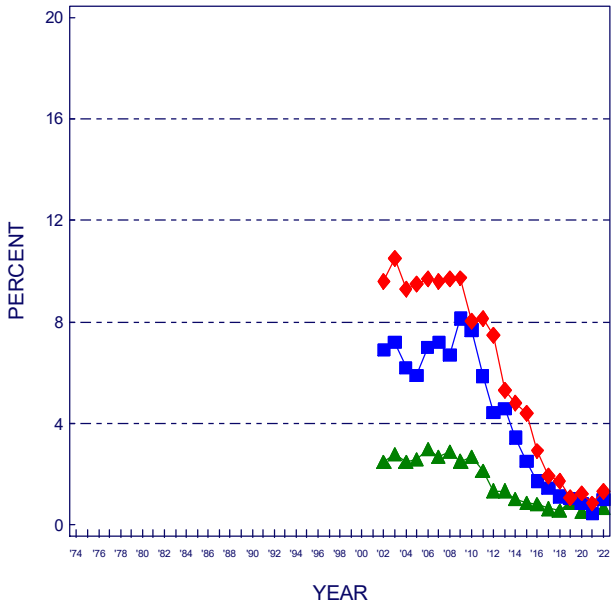
OxyContin Use

% who used OxyContin in last 12 months



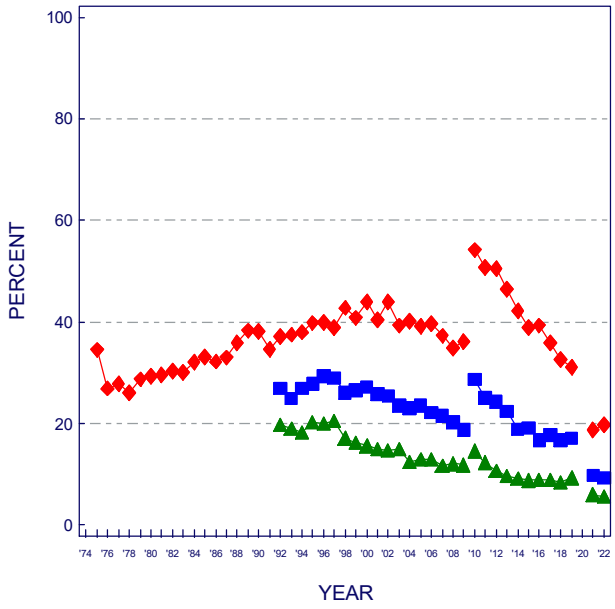
Vicodin Use

% 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

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 non-benzodiazepines 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 12th graders (only 12th graders are asked to indicate which specific tranquilizers they used). (See Table C-3 in Appendix C of Volume I[9] 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 12th 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 12th graders, rising steadily through 2002, before leveling. Use also rose steadily among 10th graders but began to decline some in 2002. Use peaked much earlier among 8th graders in 1996 and then declined slightly for two years. Since then, in 8th 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 10th 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 in 2021 was sharp in all three grades, as has been true for most drugs, and highly significant in grades 10 and 12 ($p<.001$), very likely as a result of the pandemic. Among 12th graders, there was a very gradual decline from 2002 through 2007 before leveling and then decreasing in 2013 before another leveling. In 2021, annual prevalence of these prescription drugs was down sharply (by half or more) with only a small rebound in use at each grade in 2022.

Perceived Risk and Disapproval

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

Availability

As the number of 12th 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, 12th graders' perceived availability has continued to fall steadily and substantially 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 12th 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.[10] In 2022 reported availability dropped slightly in all grades.

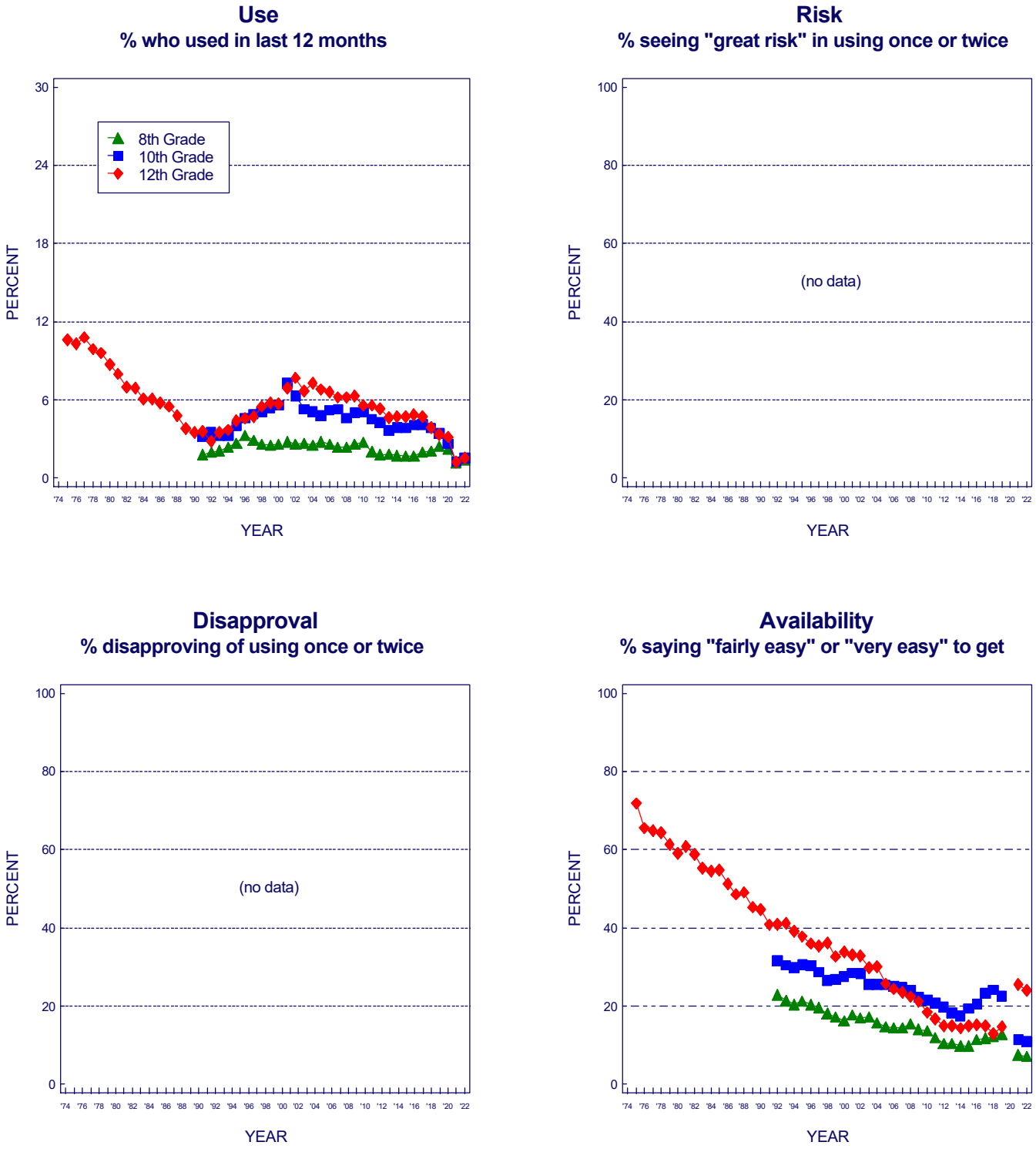
[9] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2022). Monitoring the Future national survey results on drug use, 1975-2021: Volume I, Secondary school students. Ann Arbor: Institute for Social Research, The University of Michigan, 596 pp.

[10] 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)

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 12th graders because we believe that 8th and 10th 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 12th 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 during the relapse period in the larger epidemic, 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 2019 the annual prevalence rate was down by about two-thirds from its recent peak, falling to 2.5%—a record low for this drug until it declined further in 2021 to 1.8%. In 2022 there was a very small rebound in use. The sedative methaqualone (known as ***Quaalude***) was included in the MTF study from the very beginning and was never as popular among 12th 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.

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, when most of the illicit drugs did not. 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.[11] Perceived risk in 12th 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 perceived risk in 2022 was at a higher level at 34%, possibly due to a mode effect.[12]

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.)

[11] Risk of regular use actually shifted up in 2004.

[12] 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.

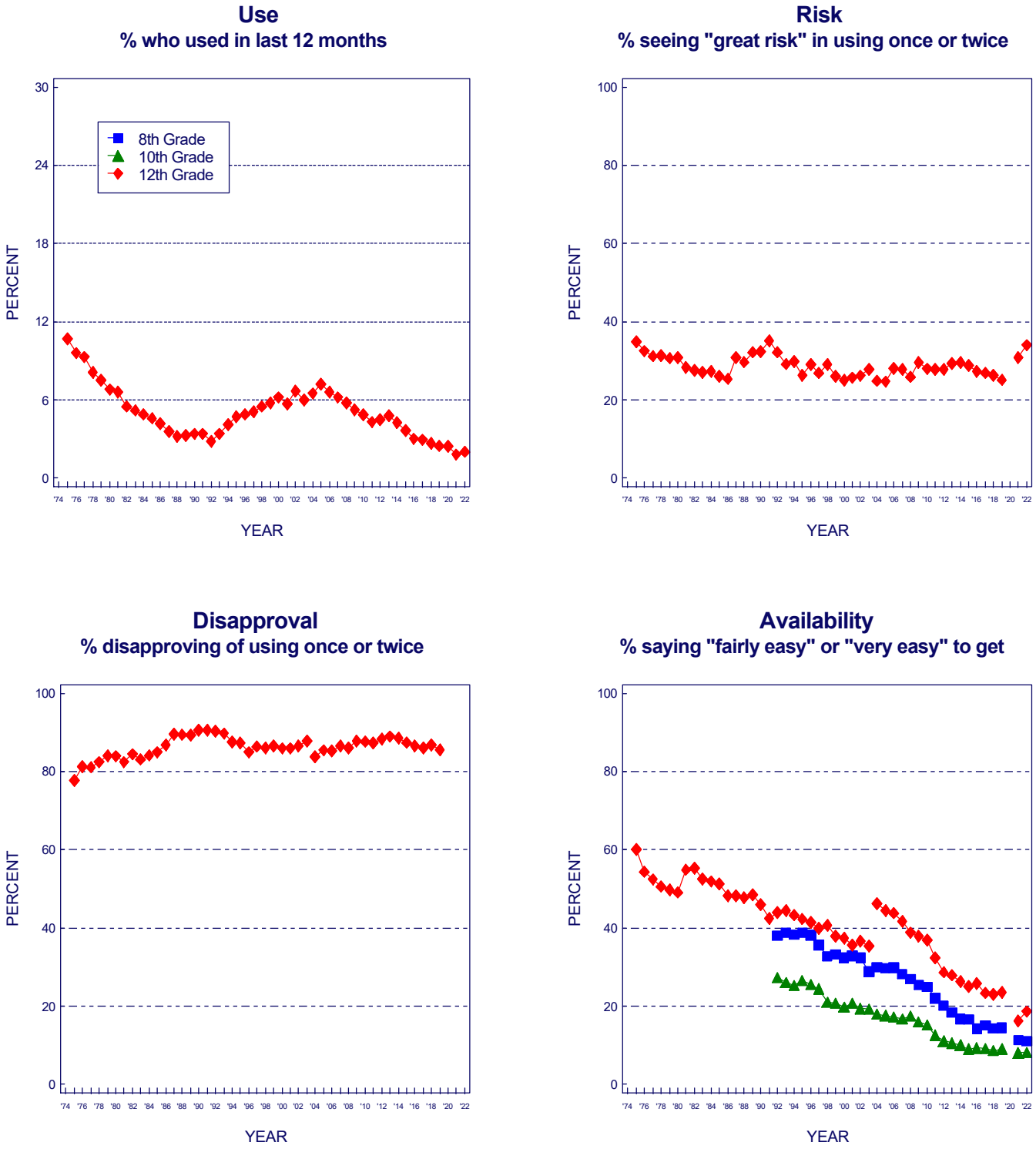
Availability

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 12th 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 12th graders but not among students in the lower grades.) Perceived availability for sedatives/barbiturates continued to decline until it leveled after about 2016 in all three grades. From 2019–2020 there was no change and only the 12th graders showed any rebound in use in 2022.

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.

"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 10th and 12th 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 8th, 10th, and 12th 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 8th grade (to 0.9%) and 10th grade (to 2.3%) and up slightly in 12th 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.[13] In 2022 there was no bounce back in the lower grades and only a slight increase in grade 12.

Perceived Risk

In 2001, 12th 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 8th and 10th graders, and then among 12th 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 12th 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. It is clear that 8th graders have seen MDMA as less dangerous than students in the upper grades since they were first asked this question in 2000. In 2022 there was some increase in perceived risk in grades 8 and 12, but some decline in grade 10. [12]

Disapproval

Disapproval of MDMA use declined some in 12th 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 8th, 2004 for 10th, and 2006 for 12th graders, suggesting some cohort effect in this attitude. After those peaks, disapproval dropped sharply among 8th graders and less among 10th graders before leveling, and it did not drop among 12th 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 8th graders for disapproval—could have left these groups more vulnerable to a possible rebound in use, and while some rebound appears to

[13] 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.

have occurred in the 2005 to 2011 period, use since has leveled among 8th graders and declined some among 10th graders. From 2021–2022 disapproval of ecstasy remained unchanged in all three grades.[14]

Availability

This figure shows a dramatic rise in 12th 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 10th and 12th 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 through 2018; then it paused in 2019 in the lower two grades. Between 2021 and 2022 there was further decline in availability in all grades. 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-19 pandemic.[13]

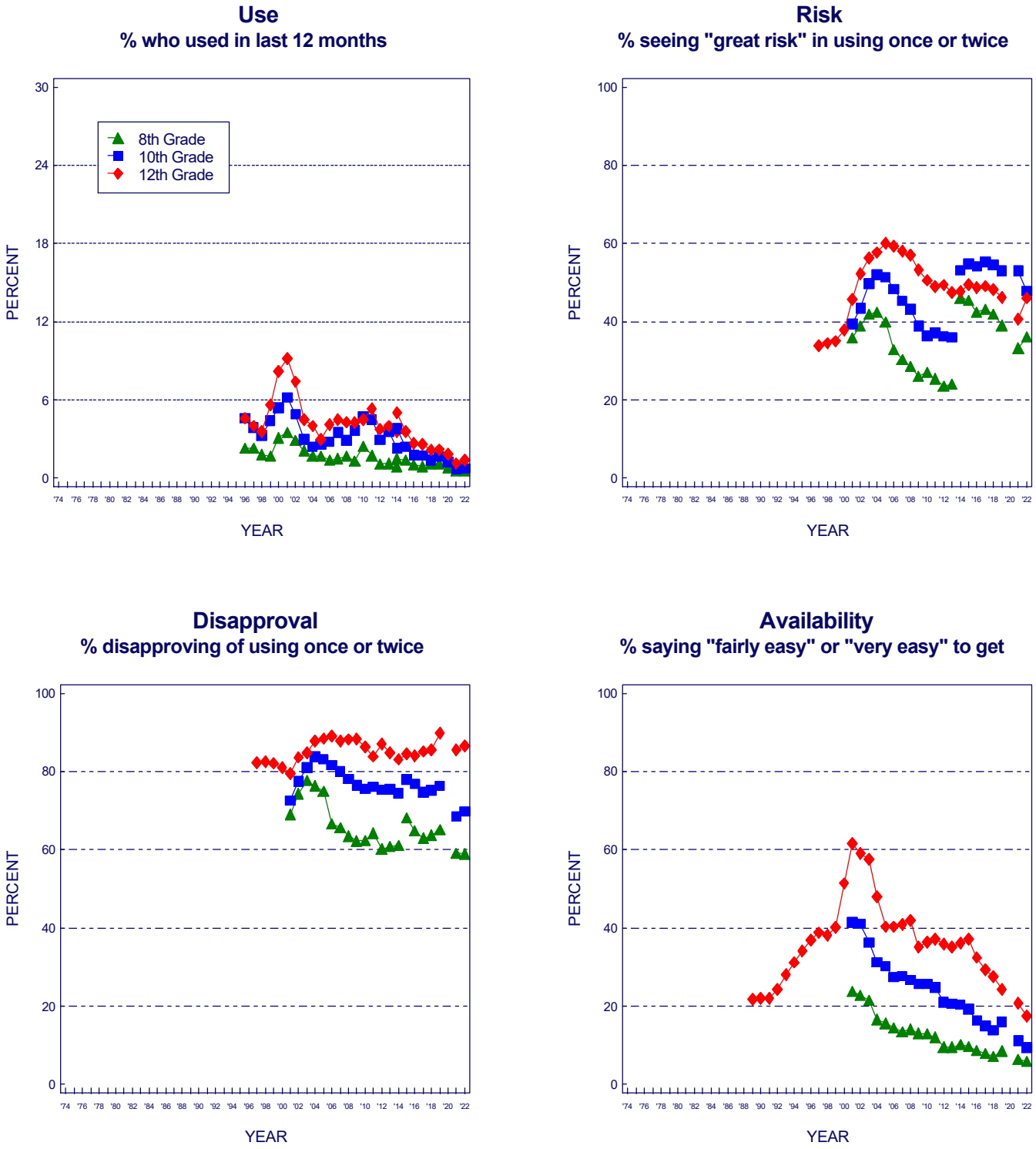
Rohypnol, GHB, and ketamine (Tables 2 and 6) are called "date rape drugs" because they can have amnesiac effects, can be added to food or drink without a victim's knowledge, and are sometimes used in the commission of sexual assaults. By 2018 annual prevalence of Rohypnol for the three grades combined had declined by at least half since 1996 when it was 1.1%, reaching 0.5% in 2019 (Table 2). In 2022, only 0.3% 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 grades 8 and 10 after 2011 due to very low prevalence. At 12th grade they were retained and have shown some decline in use since, with GHB reaching 0.5% in 2022 and ketamine reaching 1.2% in 2022 (Table 6). There were insufficient data in 2020 to make estimates.

[14] 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 Use and Heavy Drinking

Alcohol has been widely used by young people in the U.S. for a very long time. In 2022, the proportions of 8th, 10th, and 12th graders who reported drinking an alcoholic beverage in the *30 day period* prior to the survey were 6%, 14%, and 28%, 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.[15,16,17]

Trends in Use

Among 12th 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 and Table 8.) Although illicit drug use rose sharply in the 1990s, binge drinking rose by only a relatively small fraction, and that rise was followed by a long term 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. It then declined significantly and more sharply in all grades in 2021 consistent with the notion that COVID-19 had a substantial effect on binge drinking by teens in 2021 (Table 8). Only 12th grade showed any rebound in binge drinking in 2022, and it was a fairly small one, with an increase of 0.8% to 12.6% (ns).

In 2005 two measures of *extreme binge drinking* (also called high intensity drinking) were introduced at 12th grade—one based on having 10 or more drinks in a row in the past two weeks, which was later added to 8th and 10th 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 12th grade. The prevalence of these behaviors has declined substantially since these questions were first introduced. For 10+ drinks the effects of the pandemic in 2021 showed, as all three grades showed significant declines to 1.0%, 2.1%, and 3.2% for the three grades, respectively, in 2021. For 15+ drinks prevalence declined to 1.3% among 12th graders in 2021, which is a relative decline of 77% since 2005. They showed a partial rebound in 2022 on this measure as well, to 2.4%.

Perceived Risk

Across the past four decades, since the MTF study began, the majority of 12th graders have not viewed weekend binge drinking 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, and then risk stabilized. After 2003, perceived risk rose gradually 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 12th 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.[18] Between 2019 and 2021 a large drop in perceived risk occurred among 12th graders, but not in the lower two grades. Such a large drop specific to a single grade likely indicates a mode effect for the 12th grade results in 2021. In

[15] Patrick, M. E., & Azar, B. (2018). High-intensity drinking. *Alcohol Research: Current Reviews, 39*(1), 49-55.
[16] 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.
[17] 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.
[18] 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.

2022 risk assessments remained quite stable with 2021.

Disapproval

Disapproval of weekend binge drinking moved in 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

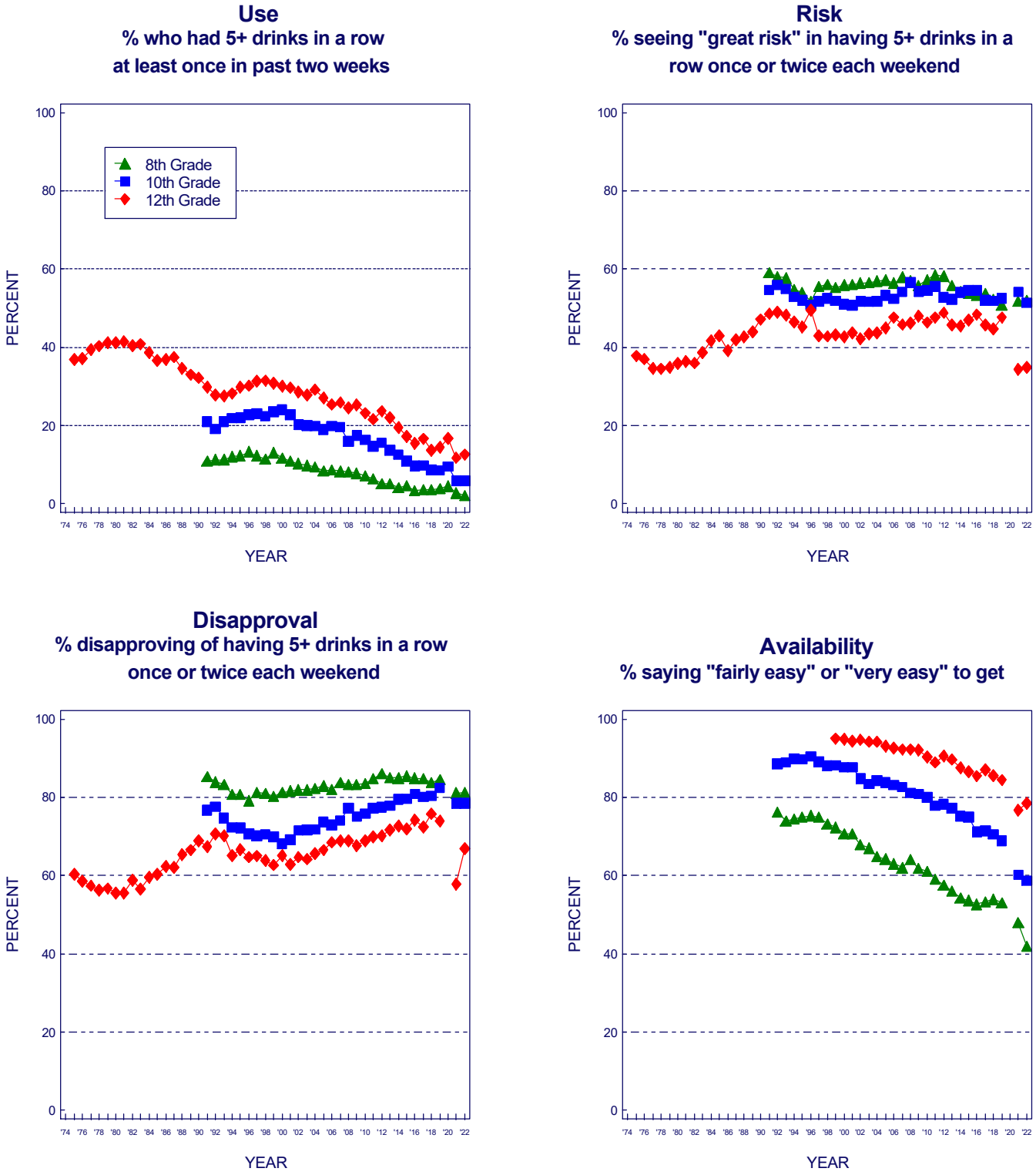
Availability

Perceived availability of alcohol, which until 1999 was asked only of 8th and 10th graders, was very high and mostly steady in the early to mid 1990s. Since 1996, however, there have been very substantial declines in 8th and 10th grades. For 12th grade, availability has declined more modestly to 77% in 2021 and 78% in 2022 still saying that alcohol would be fairly or very easy to get, but all grades showed a sharp increase from 2019 to 2021, very likely as a result of the effects of the pandemic and possibly mode effects. In 2022 there was a significant further decline among 8th graders. 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.

Cigarettes

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.[19] In addition, 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 12th 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 12th 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 8th and 10th graders and after 1992 among 12th 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 the relapse period of the 90s. Smoking peaked in 1996 for 8th and 10th graders and in 1997 for 12th graders before beginning a fairly steady and substantial decline that levelled from 2017–2019 for 8th graders but continued through 2021 for 10th and 12th graders. In 2022 prevalence declined in all three grades. By 2022, 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 8th graders (as measured by lifetime use) declined by more than three fourths from a peak of 49% in 1996 to 6% by 2022. These changes are of tremendous importance to the eventual health and longevity of this generation of adolescents. (The rapid rise in the vaping of nicotine is addressed in a section below.)

Perceived Risk

Among 12th 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 in perceived risk followed, which plateaued in all three grades around 2014 or 2015 before trending down in the upper grades. But perceived risk dropped sharply by 2021 among 12th graders, while the lower grades showed little change on that dimension, suggesting that there may have been a mode effect—but only at 12th grade. In 2022 perceived risk among 12th graders rebounded by 5.6 percentage points, offsetting most of the previous year's decline. Note the differences in the extent of perceived risk between the grade levels. There is a clear age effect: by the time most adolescents 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 12th graders, there was a gradual increase in

[19] See: https://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm

disapproval of smoking from 1976 to 1986, followed by some erosion over the next decade through 1997, as use rose. After 1997, disapproval rose for some years in all three grades but leveled briefly after 2006 or 2007 before rising even more. Disapproval of pack-a-day smoking is now very high among adolescents, ranging from 85% to 88% in each grade.

We measure a number of other smoking related attitudes, which became increasingly negative but leveled off nine or ten years ago (see the 2016 MTF press release on teen tobacco use). Disapproval has leveled in the lower grades, perceived risk is declining some 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 8th and 10th graders. Some 38% of 8th graders and 50% of 10th graders now say that cigarettes would be very easy or fairly easy to get, down from 78% in 1992 among 8th graders and 91% in 1996, the peak year for availability among 10th graders. All three grades showed further declines from 2019–2021.[20] An availability measure was added for 12th graders in 2017, and it has declined from 78% in 2017 to 54% in 2022. The very large declines in perceived availability 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.[21] In addition, it seems likely that for many teens availability was reduced as a result of the COVID-19 pandemic. The decline continued in 2022 in all three grades.

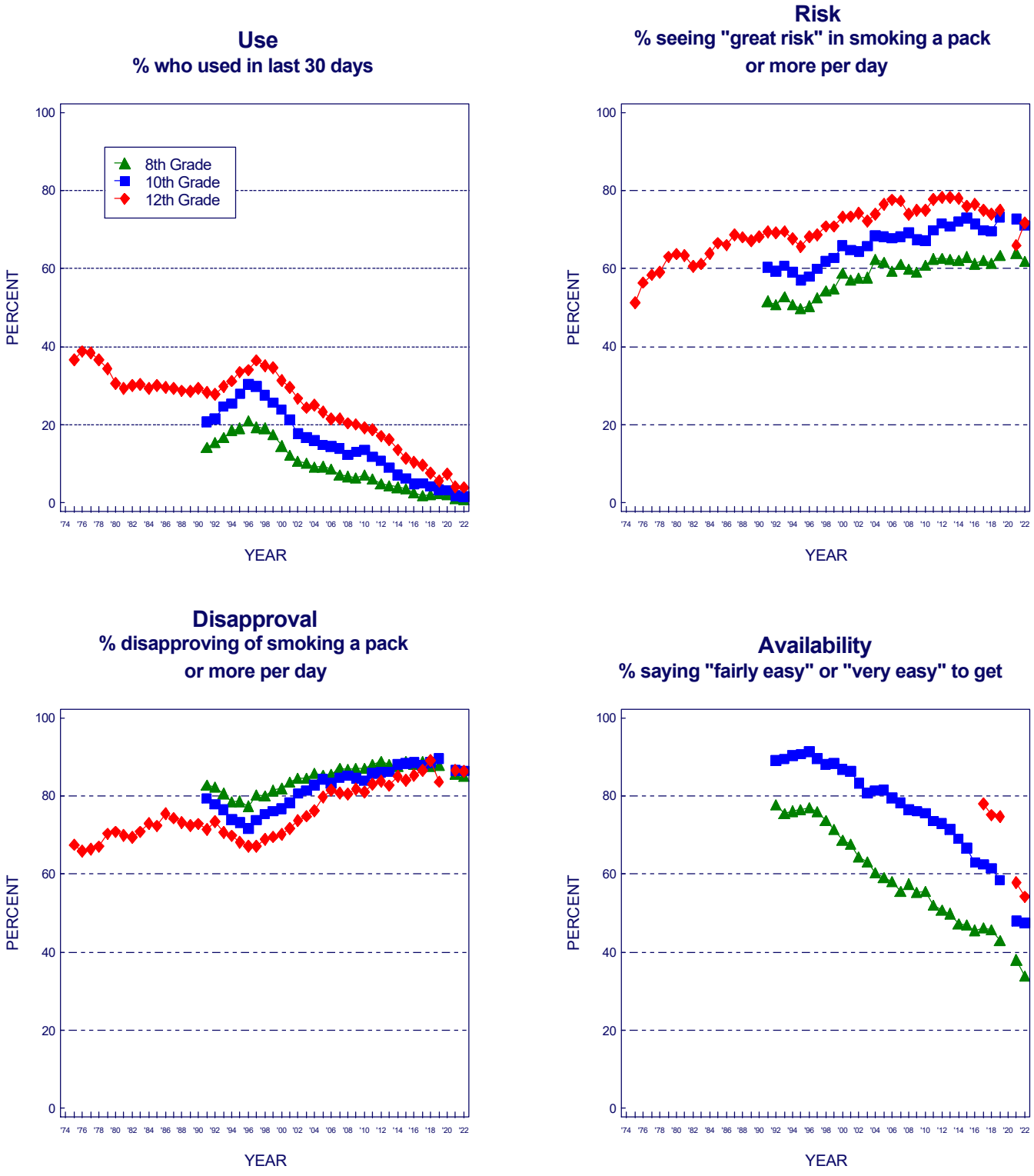
[20] Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

[21] 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.

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 popularity, separate items regarding *past year use* of snus and dissolvable tobacco were added to the 12th grade surveys in 2011 and to the 8th and 10th 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 decreased dramatically since peak levels were reached in the early to mid 1990s. 8th grade reached a peak in 1996, 10th grade in 1994, and 12th grade in 1992. There followed a decrease in all grades through 2002–2004. Use then increased in the upper grades through 2010, while leveling in grade 8. After 2020 there was a long decline among 10th graders and a more gradual one at 8th grade through 2021. 12th graders held steady through 2014 and then showed a long and sharper decline through 2021, by which time all three grades had about the same prevalence. *Thirty-day prevalence* is now about one-fourth or less of the recent peak levels for each grade in the early 1990s. In 2022 only the 10th and 12th graders showed some small rebound in use of 0.8% ($p<05$) and 0.8 percentage points respectively.

Smokeless tobacco use among young people in the U.S. is predominantly by males. For example, 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 2022 for **snus** was 1.0% and 1.5% among 8th and 10th graders, respectively, and 2.4% for 12th graders, reflecting a decline since 2012 in all three grades. (See Table 6 for trends.)

For **dissolvable tobacco**, the corresponding figures were 0.8%, 0.9%, and 1.7%, 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 12th 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 12th grade, and it then eventually 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 12th grade.[22] In the other two grades there was relatively little change after 2019.

Disapproval

Only 8th and 10th 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 8th graders from 74% in 1996 to 82% in 2005, about where it was in 2019

[22] 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.

(78%). For 10th graders, disapproval rose from 71% in 1996 to 82% in 2008, also about where it was in 2019 (81%).[27] In 2022 disapproval was at 78% among 8th graders and 79% at 10th—just a few percent lower than in 2019.

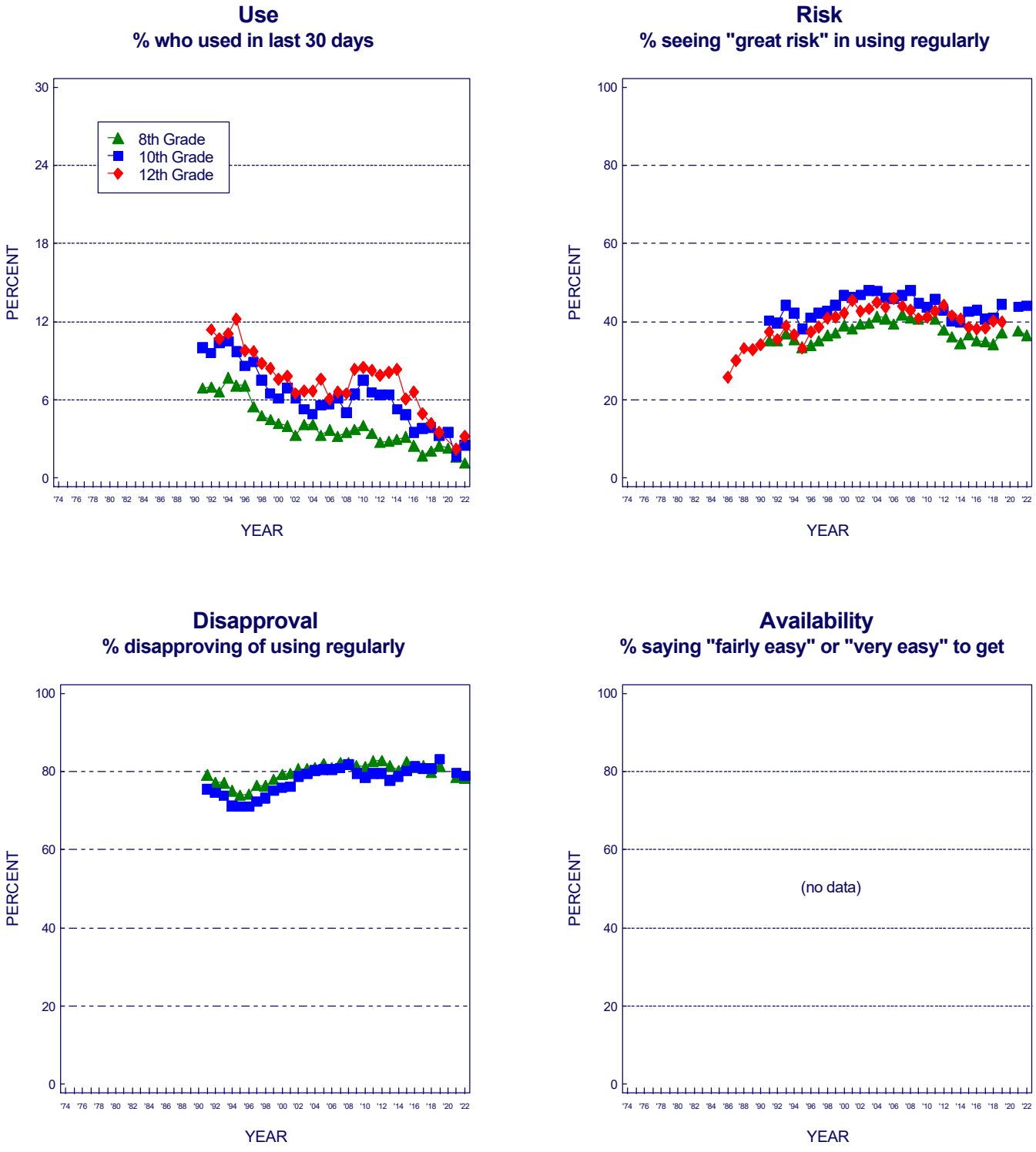
Availability

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 Breeze, Puff Bars, Vuse, JUUL, 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". These three are differentiated in the four panels in Figure 18. Questions in previous years asked only about vaping in general and then asked about the substance vaped at last use.

Trends in Use

Levels of **nicotine vaping** in the *prior 30 days* 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 8th, 10th, and 12th grades, respectively—which are among the largest increases ever recorded for any substance in the 48 years that MTF had tracked adolescent drug use. These increases yielded 2019 annual prevalence rates for nicotine vaping of 16.5%, 30.7%, and 35.5%, respectively.[23] (Additionally, some students may get nicotine in what they vape without being aware of it, so these prevalence levels should be considered conservative.[24]) 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 8th 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. In 2022 there was a very slight rebound in use and only in the upper grades.

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 8th, 10th, and 12th 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 halted and declined slightly, with no significant differences in prevalence from 2019 to 2020. In 2021 *annual prevalence* declined in all three grades (significantly so in both 8th and 10th grade); but in 2022 all three grades showed a rebound in use (significant in 10th at the $p<.05$ level).

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* in 2022 reaching 4.9%, 7.4%, and 7.4% in the three grades. All three grades showed a slight rebound in annual prevalence in 2022 (all ns).

Perceived Risk

In 2021 perceived risk continued a sharp, upward trend that started in 2019 (Tables 9–11). The percentage of students who saw "great risk" in *vaping nicotine regularly* was 55% (+9.5 sss) in 8th grade, 53% (+9.4 sss) in 10th grade, and 44% (+9.3 sss) in 12th grade, with relatively little change in 2022.[25] The percent seeing a great risk in *vaping marijuana regularly* in 2021 was 53% in both 8th and 10th grades and 31% in 12th grade, with a large increase in 2022 in grade 12 (+ 5.0%, $p<.05$) and little change in the lower grades.

Disapproval

Disapproval of regular vaping e-cigarettes also was rising (not charted; see Tables 11–13). In 2017 these questions were replaced with questions about disapproval of vaping an e-liquid with nicotine on a

[23] 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.*

[24] 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.*

[25] 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.

regular basis, and in 2022 showed 78%, 77%, and 76% of 8th, 10th, and 12th graders disapproving of regular use.[26]

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. Availability of nicotine e-liquid was also lower in 2022 at 33%, 51%, and 67% in 8th, 10th, and 12th grades, 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.

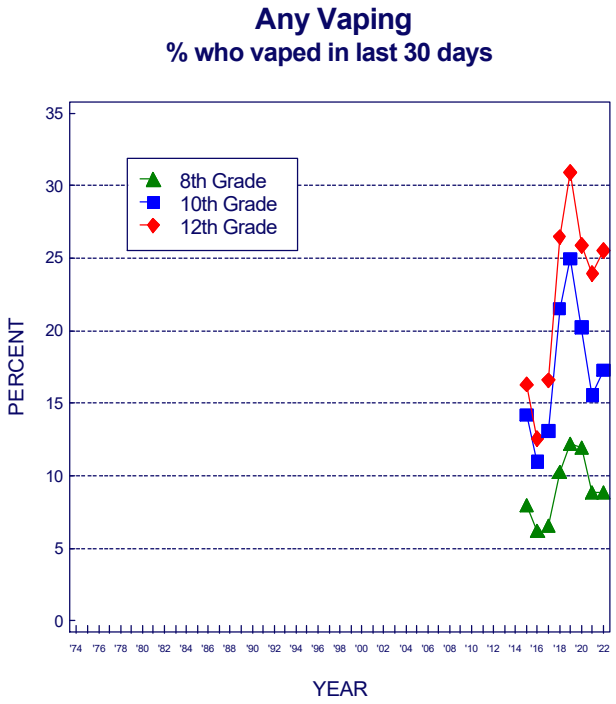
In 2022 vaping devices were seen as fairly easy or very easy to get by 33% of 8th graders, 51% of 10th graders, and 67% of 12th graders with further declines occurring all grades.[32]

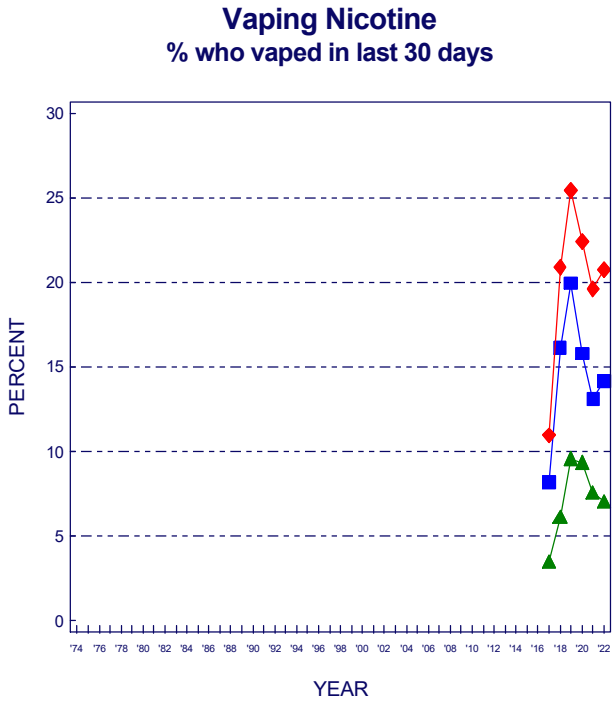
[26] Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

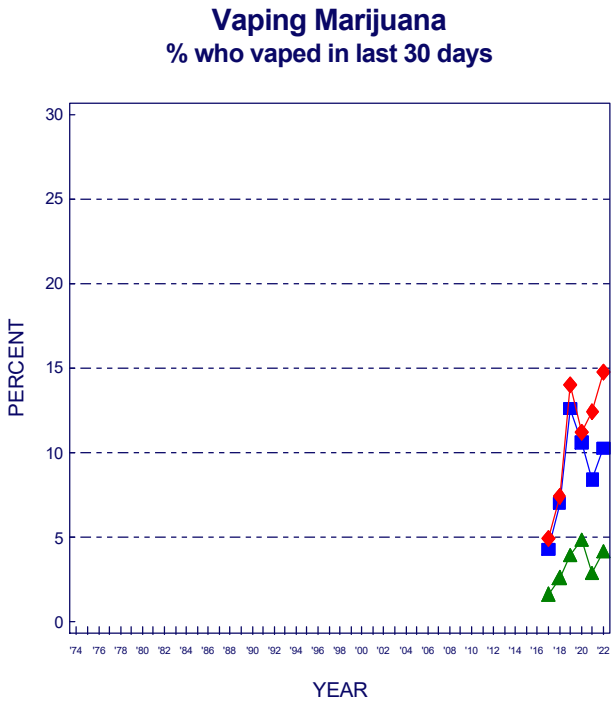
Figure 18

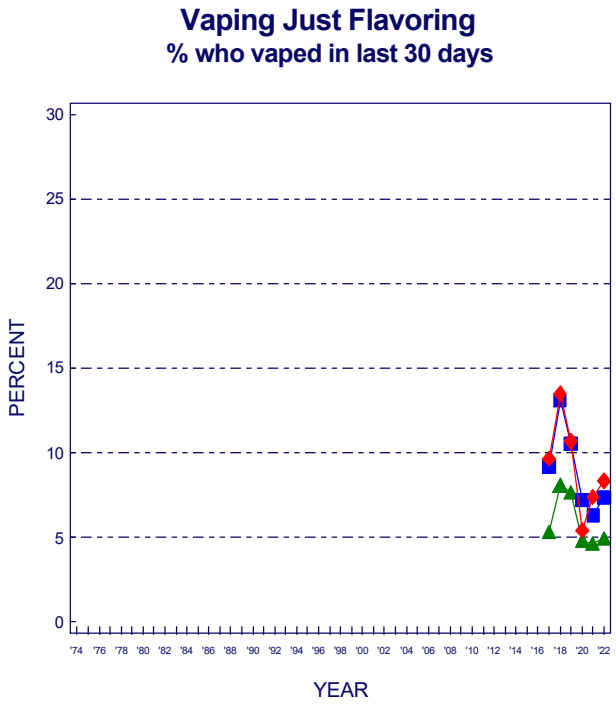
Vaping: Trends in 30-Day Use

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.

12th graders were first asked about smoking small cigars and smoking tobacco using a hookah (water pipe) in 2010. These questions were not asked of 8th and 10th 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 12th grade.

Smoking Tobacco Using a Hookah. The past 12 month prevalence of hookah use rose among 12th graders 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. In 2022, annual hookah prevalence rose by 1.2 percentage points to 3.3% among 12th graders; but only about 1% of the 12th grade students in 2022 indicated use on more than three 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). The 30 day prevalence of both flavored and regular little cigars dropped substantially in all grades between 2014, when first measured, and 2019. Use fell further in 2021 and showed no rebound in 2022 with the single minor exception of flavored little cigars at 12th grade (+0.2%, ns). In 2022 for flavored little cigars *30 day prevalence* was 0.7% and 1.4% in grades 8 and 10, respectively, and for regular little cigars or cigarillos it was 0.8% and 1.1%. Overall, use of both types has been in sharp decline.

Using longer term annual data on 12th graders only of smoking small cigars of any type (not distinguishing between flavored and unflavored), we found that *annual prevalence* has been in steep decline at least since 2010 (Table 6). Annual prevalence in 12th grade was 23% in 2010 and fell to 7.8% in 2019. In 2021 it was down to 3.4%, likely due to the changes that came with the COVID-19 pandemic, but in 2022 there was some rebound in use (+2.3%, $p<.05$). 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 then current law. Two percent of 12th graders indicated having used small cigars on three or more occasions during the past year in 2022, so they tend to be smoked much less frequently than regular cigarettes. A concern in the public health community was that these products would 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), when prevalence was 1.9%, 3.9%, and 6.4% in grades 8, 10, and 12. By 2019 these levels were down to 1.3%, 2.1%, and 5.3%; and by 2021 they were down to only 1.1%, 1.3%, and 2.3%. Of importance, there was no rebound in their use in 2022 to pre-pandemic levels.

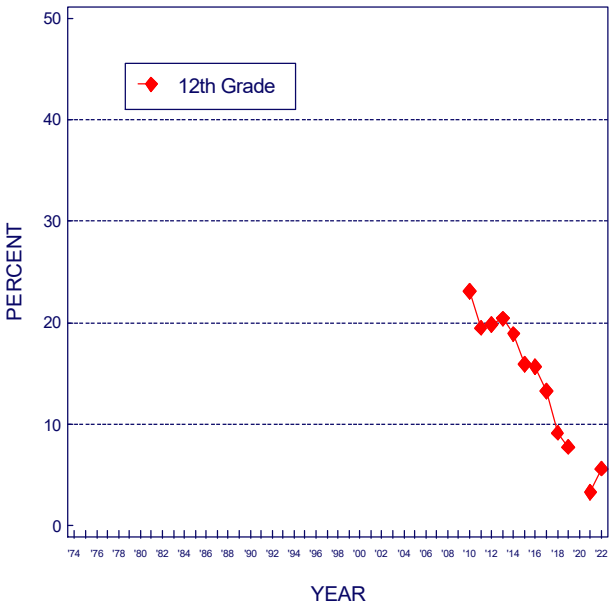
Figure 19

Other Tobacco Products : Trends in Annual Use

Grade 12

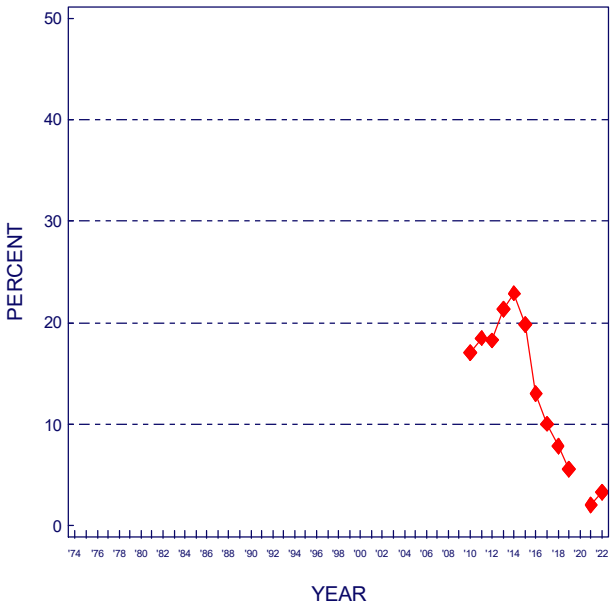
Small Cigar Use

% who used in last 12 months



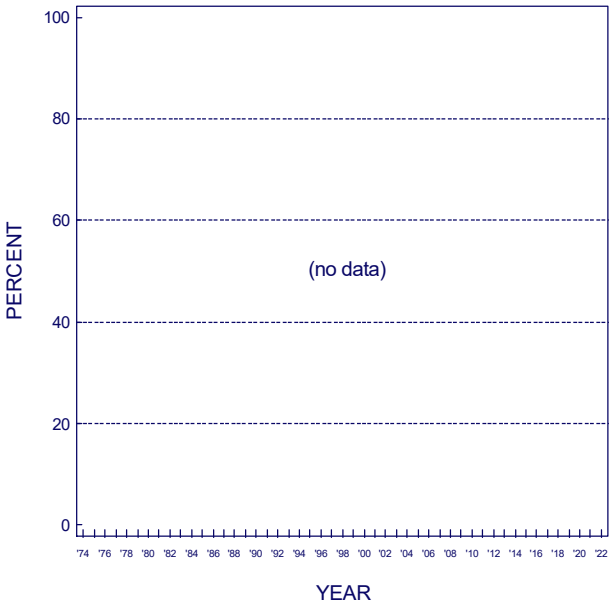
Use of Tobacco with a Hookah

% who used in last 12 months



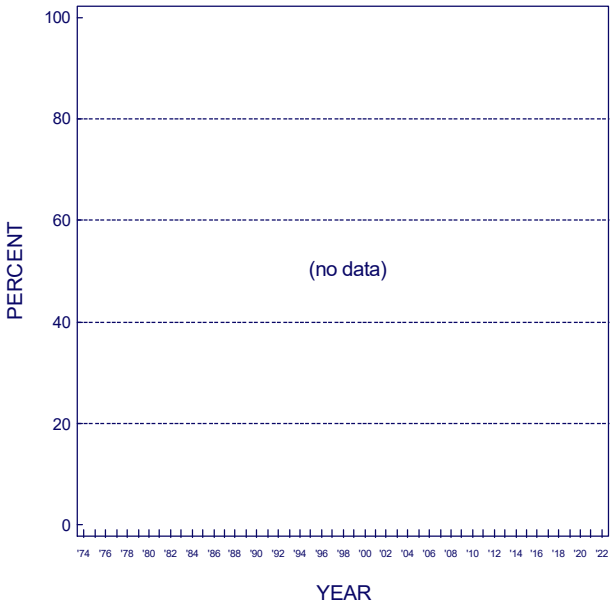
Disapproval

% 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

In the past, anabolic steroids have been used predominately by males; therefore, data based on all respondents can mask the higher levels and larger fluctuations that occur among males. (For example, in 2013 *annual prevalence* levels were 0.7%, 1.3%, and 2.2% for boys in grades 8, 10, and 12, compared with 0.4%, 0.5%, and 0.7% for girls.) Between 1991 and 1998, the overall annual prevalence level was fairly stable among 8th and 10th graders, ranging between 0.9% and 1.2% (as use among 12th graders increased). In 1999, however, among both 8th and 10th 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 8th grade and from 1.9% to 2.8% in 10th 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 2019 among 8th graders, annual prevalence of steroid use had declined to 0.80%, from a high of 1.7% in 1999, which is a relative decline of 53%. Among 10th graders, annual prevalence declined from a high of 2.2% in 2002 to 0.8% in 2019—a relative decline of 64%. 12th grade also reached a peak rate in 2002, with prevalence at 2.5%, and declined to 1.0% in 2019 for a relative decline of 60%. The levels in 2021, when the brunt of the pandemic was being felt, were lower than in previous years; however, there was some rebound in steroid use in 2022 (significantly so in 8th and 12th grades, $p<.05$ and .01, respectively). Indeed, all of the performance enhancing substances we cover (steroids, Androstenedione, and Creatine) had significant increases in use in 2022. This makes some sense in light of the reduction in sports events and the closure of many gyms in 2020 and 2021, with some reopening in 2022. (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 8th and 10th graders for only a few years. All grades seemed to have a peak in perceived risk around 1993. The longer term data from 12th 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 12th graders was at 60%, with little change until 2013 when it showed a significant 4.4 percentage point decline. In 2019 it stood at 51% among 12th graders, and in 2021, when the pandemic was particularly salient, it was at 46%. In 2022, there

was some rebound in perceived risk, to 48.6%, (ns).[27]

Disapproval

Among 12th 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 disapproval was at 81%. In 2021 it was at 89% but by 2022 it had rebounded some to 85%.

Availability

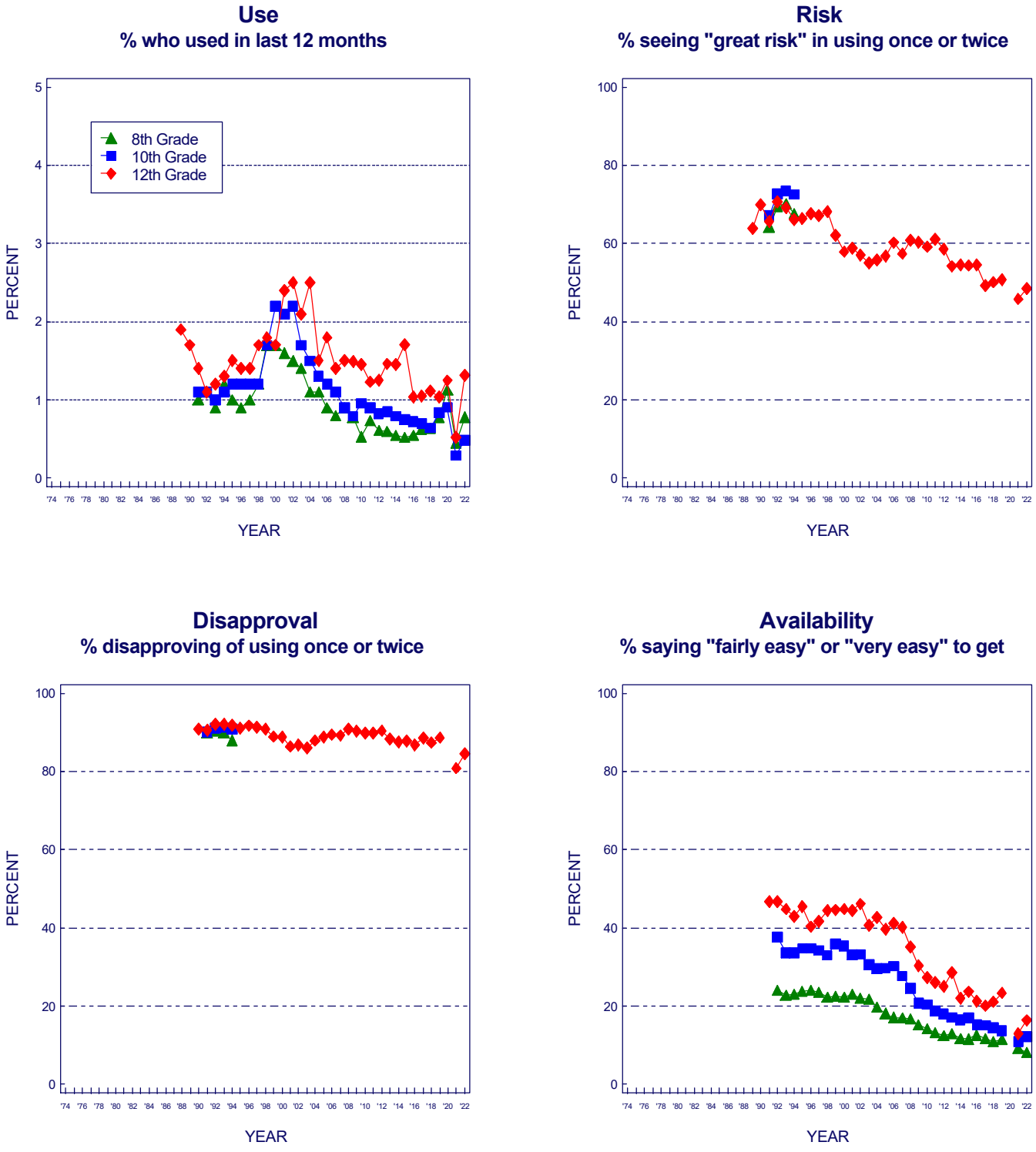
Perceived availability of steroids was first measured in 12th grade in 1991 and in 8th and 10th in 1992. Availability was relatively high in 2001 or 2002 but then about a decade later declined appreciably at all grades, and in 2019 it was at the lowest levels recorded by the study up to that point. In 2021 availability looked appreciably lower in the upper grades and only somewhat lower in grade 8. In 2022 there was a little rebound in availability in the upper grades, but they were at appreciably lower levels than in 2019. A number of steroids have been scheduled by the DEA, likely contributing to the considerable declines in availability in recent decades.

[27] 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

[a] 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

[b] 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.

[c] In 2011, the list of examples was changed to include Adderall, Ritalin, etc. This likely explains the discontinuity in the 2011 results.

[d] 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.

[e] Prior to 1995, the questions asked about heroin use in general. Since 1995, the questions have asked about heroin use without a needle.

[f] Beginning in 2001, a revised set of questions on tranquilizer use was introduced in which Xanax replaced Miltown in the list of examples.

[g] 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.

[h] 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.

[l] 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.

[j] 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.

[k] Estimates not presented in 2020 due to insufficient data this year.

[l] 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.

[m] Question discontinued in 8th- and 10th-grade questionnaires in 1995.

[n] 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 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.

[o] In 2019 and previous years the survey question asked about ‘cocaine powder’ and in 2021 forward it asked about ‘cocaine’.

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 vaping products, 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 saw in 2021. However, different drugs have different historical trends 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, disease, overdose, addiction, death) 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 in recent years, but evidence of adverse consequences is cumulating quickly and may have reversed the sharp upward trends in both nicotine vaping and marijuana vaping that took place in 2021 and 2022.

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, nor will their availability necessarily co-vary. 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.

Cannabis (marijuana) is one drug that may 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 12th graders of 31% 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 that were used widely

in the 1960s; after their initial popularity faded as a result of extensive media coverage of potential adverse consequences, they made a comeback in the 1990s. 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 for a resurgence in use. In the case of LSD, perceived risk declined substantially in all grades from about 1995 or 1996 to 2011 before leveling, and more students were 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 just 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 federal and state 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 extemely 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 result from their use. If young people understood this, they might be less likely to use drugs on the illicit market.

The most tragic consequence of drug use is death, obviously, and there has been a sharp increase in overdose deaths in recent years, largely due to drugs having fentanyl or a fentanyl analogue added to them. Fentanyl is an extremely powerful synthetic opioid that is up to 50 times stronger than heroin and 50–100 times stronger than morphine.[1] According to the National Center for Health Statistics, drug overdose deaths in the United States from synthetic opiods other than methadone (this category includes fentanyl, fentanyl analogues, and tramadol) rose from under 1 per 100,000 in the standard population in 1999 to about 17 in 2020—an enormous increase, far exceeding the increase of deaths from heroin or from natural and semisynthetic opiods.[2]

The fact that fentanyl is added to so many other drugs—undisclosed to users—helps to explain the dramatic increase in drug-related deaths. Young people should be informed of this fact and warned that using many drugs that may seem safe is, in fact, quite dangerous. They need to understand that people who make and sell illegal drugs are not really concerned with their safety and health—and even if they were, they are not knowledgeable about the amount of fentanyl that would be unsafe to add.

[1] National Center for Injury Prevention and Control. (2022). Fentanyl facts. Centers for Diseas Control and Prevention.

[2] Hedegaard, H., Minino, A.M., Spencer, M.R. & Warner, M. (2021). Drug Overdose Deaths in the United States, 1999-2020. National Center for Health Statistics, Data Brief no. 428. Hyattsville, MD: National Center for Health Statistics.

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[b]	30.4	29.8	32.1	35.7	38.9	42.2	*43.3*	42.3	41.9	41.0	40.9	39.5	37.5	36.4	35.7	34.0
Any Illicit Drug other than Marijuana[b]	19.7	19.7	21.2	22.0	23.6	*24.2*	24.0	23.1	22.7	22.1‡	*23.2*	21.1	19.8	19.3	18.6	18.2
Any Illicit Drug including Inhalants[b]	36.8	36.3	38.8	41.9	44.9	47.4	*48.2*	47.4	46.9	46.2	45.5	43.7	41.9	41.3	41.0	39.3
Marijuana/Hashish	22.7	21.1	23.4	27.8	31.6	35.6	**37.8**	36.5	36.4	35.3	35.3	34.0	32.4	31.4	30.8	28.9
Inhalants	17.0	16.9	18.2	18.6	**19.4**	19.1	18.6	18.1	17.5	16.4	15.3	13.6	13.4	13.7	14.1	13.7
Hallucinogens	6.1	6.3	7.0	7.7	8.9	10.0	*10.2*	9.5	9.0	8.5‡	**9.2**	7.6	6.9	6.3	5.9	5.7
LSD	5.5	5.7	6.5	6.9	8.1	8.9	**9.1**	8.3	7.9	7.2	6.5	5.0	3.7	3.0	2.6	2.5
Hallucinogens other than LSD	2.4	2.5	2.7	3.6	3.9	4.8	*4.9*	4.8	4.4	4.5‡	**6.7**	6.0	5.8	5.6	5.4	5.2
Ecstasy (MDMA)[c]	—	—	—	—	—	4.9	5.2	4.5	5.3	7.2	**8.0**	6.9	5.4	4.7	4.0	4.3
Cocaine	4.6	4.0	4.1	4.5	5.1	6.0	6.6	7.0	**7.2**	6.5	5.9	5.7	5.3	5.5	5.5	5.3
Crack	2.0	1.9	2.0	2.5	2.8	3.2	3.4	3.8	**3.8**	3.5	3.2	3.2	2.9	2.9	2.8	2.6
Other cocaine	4.1	3.5	3.6	3.9	4.2	5.2	5.9	6.1	**6.3**	5.6	5.1	4.8	4.5	4.7	4.7	4.7
Heroin	1.1	1.3	1.3	1.6	1.9	2.1	2.1	2.2	**2.2**	2.1	1.7	1.7	1.5	1.5	1.5	1.4
With a needle	—	—	—	—	1.1	1.2	1.1	1.1	**1.3**	1.0	0.9	0.9	0.9	0.9	0.9	0.9
Without a needle	—	—	—	—	1.3	1.7	1.7	1.6	1.6	**1.8**	1.3	1.3	1.3	1.2	1.1	1.0
Amphetamines[b]	12.9	12.5	13.8	14.3	15.2	*15.5*	15.2	14.5	14.0	13.5	13.9	13.1	11.8	11.2	10.3	10.1
Methamphetamine	—	—	—	—	—	—	—	—	**6.5**	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‡	**7.9**	7.9	7.3	7.1	6.8	7.0
Alcohol	*80.1*	79.2‡	68.4	68.4	68.2	68.4	**68.8**	67.4	66.4	66.6	65.5	62.7	61.7	60.5	58.6	57.0
Been drunk	**46.3**	44.9	44.6	44.3	44.5	45.1	45.7	44.0	43.7	44.0	43.4	40.5	38.9	39.4	38.4	37.6
Flavored alcoholic beverages	—	—	—	—	—	—	—	—	—	—	—	—	—	**54.7**	54.7	53.1
Cigarettes	53.5	53.0	54.0	54.6	55.8	**57.8**	57.4	56.0	54.5	51.8	49.1	44.2	40.8	39.6	37.4	35.0
Smokeless tobacco	—	26.2	25.6	**26.3**	26.0	25.7	22.7	21.1	19.4	17.9	16.6	15.2	14.1	13.6	13.8	13.3
Any Vaping[d]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	**3.3**	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 [e]	2020	2021	2022	2021–2022 change	Peak year–2022 change: Absolute change	Peak year–2022 change: Proportional change (%) [a]	Low year–2022 change: Absolute change	Low year–2022 change: Proportional change (%) [a]
Any Illicit Drug[b]	32.7	32.6	33.2	34.4	34.7	34.1	36.0‡	**34.9**	34.3	32.6	33.4	33.9	34.8	34.7	27.0	28.4	+1.4	-6.5 sss	-18.7	+1.4	+5.3
Any Illicit Drug other than Marijuana[b]	17.7	16.8	16.5	16.8	16.1	15.5	16.8‡	**15.8**	15.1	14.3	14.0	14.2	14.2	14.3	10.1	10.7	+0.5	-5.2 sss	-32.7	+0.5	+5.1
Any Illicit Drug including Inhalants[b]	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	**38.3**	31.0	31.9	+1.0	-16.6 sss	-43.3	+1.0	+3.1
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	23.1	24.4	+1.3	-13.3 sss	-35.3	+1.3	+5.7
Inhalants	13.5	13.1	12.5	12.1	10.6	10.0	8.9	8.8	7.5	6.5	6.7	6.6	7.3	8.1	7.9	7.7	-0.1	-11.7 sss	-60.1	+1.3 ss	+19.5
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	4.0	4.1	0.0	-5.1 sss	-55.8	0.0	—
LSD	2.6	2.7	2.5	2.8	2.7	2.5	2.6	2.4	2.8	3.1	3.1	3.0	3.5	3.9	2.8	2.4	-0.4	-6.7 sss	-73.3	0.0	+0.5
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	2.8	3.1	3.3	3.0	3.2	+0.3	-3.4 sss	-51.6	+0.4	+14.2
Ecstasy (MDMA)[c]	4.5	4.1	4.6	5.5	5.5	4.6	4.7‡	**5.0**	4.0	3.1	3.0	2.7	2.7	2.6	1.7	1.8	+0.1	-3.2 sss	-64.0	+0.1	+6.6
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	1.4	1.3	-0.1	-5.9 sss	-81.8	—	—
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	0.9	0.8	-0.1	-3.1 sss	-80.0	—	—
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	1.2	1.0	-0.2	-5.2 sss	-83.3	—	—
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	0.4	0.4	0.5	+0.1	-1.8 sss	-78.6	+0.1	+21.0
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	0.2	0.3	—	—	—	—	—	—
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	0.2	—	—	—	—	—	—
Amphetamines[b]	9.5	8.6	8.6	8.9	8.6	8.3	10.5‡	**9.7**	9.1	8.1	7.7	7.7	7.6	7.8	5.3	5.6	+0.3	-4.1 sss	-42.5	+0.3	+5.2
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	0.4	0.7	+0.3 s	-5.8 sss	-89.0	+0.3 s	+81.2
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	2.8	3.0	+0.2	-4.8 sss	-61.0	+0.2	+8.5
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	36.3	41.3	+5.1 sss	-27.4 sss	-39.9	+5.1 sss	+13.9
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	21.1	21.0	-0.1	-25.3 sss	-54.6	—	—
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	26.9	30.0	+3.1 ss	-24.6 sss	-45.1	+3.1 ss	+11.4
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	11.4	10.9	-0.5	-46.9 sss	-81.2	—	—
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	6.0	6.6	+0.6	-19.7 sss	-75.0	+0.6	+10.6
Any Vaping[d]	—	—	—	—	—	—	—	—	*29.9*	26.6‡	28.2	33.4	36.7	**37.2**	28.9	29.1	+0.2	-8.1 sss	-21.7	+0.9	+3.2
Vaping nicotine	—	—	—	—	—	—	—	—	—	—	18.9	25.2	32.3	**35.0**	27.6	27.7	+0.1	-7.3 sss	-20.9	+8.8 sss	+46.7
Vaping marijuana	—	—	—	—	—	—	—	—	—	—	8.5	11.7	18.1	**20.1**	15.9	17.6	+1.7	-2.5 sss	-12.2	+9.1 sss	+107.7
Vaping just flavoring	—	—	—	—	—	—	—	—	—	—	24.9	**28.3**	25.3	25.0	18.8	18.2	-0.6	-10.1 sss	-35.7	—	—
JUUL	—	—	—	—	—	—	—	—	—	—	—	—	**28.1**	27.7	19.3	—	—	—	—	—	—
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	0.9	1.3	+0.4 ss	-1.9 sss	-58.9	+0.4 ss	+45.1

(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.

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

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

[c]In 2014, 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.

[d]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.

[e]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[c]	20.2	19.7	23.2	27.6	31.0	33.6	*34.1*	32.2	31.9	31.4	31.8	30.2	28.4	27.6	27.1	25.8
Any Illicit Drug other than Marijuana[c]	12.0	12.0	13.6	14.6	16.4	*17.0*	16.8	15.8	15.6	15.3‡	*16.3*	14.6	13.7	13.5	13.1	12.7
Any Illicit Drug including Inhalants[c]	23.5	23.2	26.7	31.1	34.1	36.6	*36.7*	35.0	34.6	34.1	34.3	32.3	30.8	30.1	30.1	28.7
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)[d]	—	—	—	—	—	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[c]	7.5	7.3	8.4	9.1	10.0	10.4	10.1	9.3	9.0	9.2	9.6	8.9	8.0	7.6	7.0	6.8
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[b]	—	—	—	—	—	—	—	—	—	**1.4**	1.2	1.2	1.2	1.1	0.8	0.9
Ketamine [b]	—	—	—	—	—	—	—	—	—	**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	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 [e]	2020	2021	2022	2021–2022 change	Peak year–2022 change: Absolute change	Peak year–2022 change: Proportional change (%) [a]	Low year–2022 change: Absolute change	Low year–2022 change: Proportional change (%) [a]
Any Illicit Drug[c]	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	21.7	+1.7 s	-6.0 sss	-21.8	+1.7 s	+8.7
Any Illicit Drug other than Marijuana[c]	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	6.1	+0.5	-4.8 sss	-44.1	+0.5	+9.1
Any Illicit Drug including Inhalants[c]	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	23.0	+1.5 s	-6.3 sss	-21.4	+1.5 s	+7.0
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	19.4	+1.5 s	-10.6 sss	-35.3	+1.5 s	+8.4
Synthetic marijuana	—	—	—	—	—	**8.0**	6.4	4.8	4.2	3.1	2.8	2.6	2.9	2.2	1.6	2.3	+0.7 sss	-5.7 sss	-71.9	+0.7 sss	+43.1
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	2.6	-0.3	-7.6 sss	-74.4	—	—
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	2.5	+0.1	-3.5 sss	-58.3	+0.1	+5.2
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	1.4	-0.1	-4.9 sss	-77.7	0.0	+0.5
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	2.0	+0.3	-2.1 sss	-51.3	+0.3	+16.8
Ecstasy (MDMA)[d]	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	0.9	+0.1	-2.5 sss	-74.0	+0.1	+8.0
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	0.8	+0.2 ss	-2.8 sss	-78.4	+0.2 ss	+45.1
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	0.7	+0.1	-3.7 sss	-83.4	+0.1	+10.7
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	0.5	+0.1	-1.9 sss	-78.9	+0.1	+21.2
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	0.6	+0.1	-3.4 sss	-84.5	+0.1	+15.7
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	0.3	+0.1 s	-1.0 sss	-77.3	+0.1	+71.5
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	—	—	—	—	—	—
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	—	—	—	—	—	—
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	1.1	+0.2	-2.8 sss	-71.2	+0.2	+26.8
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	1.0	+0.4	-5.6 sss	-84.9	+0.4	+60.1
Amphetamines[c]	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	3.1	+0.4	-3.5 sss	-53.8	+0.4	+14.0
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	0.8	+0.3	-3.4 sss	-80.3	+0.3	+68.1
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	2.9	+1.1 sss	-1.6 sss	-36.2	+1.1 sss	+66.0
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	0.3	+0.2 s	-3.8 sss	-91.5	+0.2 s	+116.5
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	1.5	+0.3	-4.0 sss	-72.9	+0.3	+22.0
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	3.2	+0.5 s	-2.2 sss	-40.3	+0.5 s	+20.1
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	0.3	+0.1	-0.6 sss	-65.9	+0.1	+21.0
GHB[b]	0.7	0.9	0.9	0.8	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ketamine [b]	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	32.2	+2.0 ss	-29.1 sss	-47.5	+2.0 ss	+6.6
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	15.9	+0.3	-21.0 sss	-57.0	+0.3	+2.1
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	22.8	+2.8 ss	-21.7 sss	-48.8	+2.8 ss	+13.8
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	7.7	-0.1	-12.0 sss	-60.9	—	—
Any Vaping	—	—	—	—	—	—	—	—	—	—	21.5	28.9	**31.9**	30.7	22.1	23.0	+0.9	-9.0 sss	-28.0	+1.5 s	+6.8
Vaping nicotine	—	—	—	—	—	—	—	—	—	—	13.9	21.6	**27.3**	27.1	19.2	19.7	+0.5	-7.6 sss	-27.7	+5.8 sss	+41.6
Vaping marijuana	—	—	—	—	—	—	—	—	—	—	6.8	9.9	15.6	**16.3**	11.6	13.6	+2.0 s	-2.7 ss	-16.3	+6.8 sss	+99.6
Vaping just flavoring	—	—	—	—	—	—	—	—	—	—	17.2	**21.8**	18.6	15.8	10.0	10.4	+0.5	-11.4 sss	-52.2	+0.5	+4.6
JUUL	—	—	—	—	—	—	—	—	—	—	—	—	**23.8**	20.6	9.1	—	—	—	—	—	—
Dissolvable tobacco products	—	—	—	—	—	**1.4**	1.4	1.2	1.1	0.9	0.9	1.0	1.0	0.9	0.7	1.1	+0.4 s	-0.3	-19.5	+0.4 s	+56.9
Snus	—	—	—	—	—	**5.6**	4.8	4.1	3.8	3.6	2.6	3.0	2.2	2.7	1.6	1.6	0.0	-4.0 sss	-71.8	0.0	+0.8
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	0.8	+0.4 sss	-1.2 sss	-58.5	+0.4 sss	+102.7

(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.

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

[b]Question was discontinued among 8th and 10th graders in 2012.

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

[d]In 2014, 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.

[e]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[b]	10.9	10.5	13.3	16.8	18.6	*20.6*	20.5	19.5	19.5	19.2	19.4	18.2	17.3	16.2	15.8	14.9
Any Illicit Drug other than Marijuana[b]	5.4	5.5	6.5	7.1	*8.4*	*8.4*	*8.4*	8.2	7.9	8.0‡	*8.2*	7.7	7.1	7.0	6.7	6.4
Any Illicit Drug including Inhalants[b]	13.0	12.5	15.4	18.9	20.7	*22.4*	22.2	21.1	21.1	21.0	20.8	19.5	18.6	17.5	17.5	16.5
Marijuana/Hashish	8.3	7.7	10.2	13.9	15.6	17.7	**17.9**	16.9	16.9	16.3	16.6	15.3	14.8	13.6	13.4	12.5
Inhalants	3.2	3.3	3.8	4.0	**4.3**	3.9	3.7	3.4	3.3	3.2	2.8	2.7	2.7	2.9	2.9	2.7
Hallucinogens	1.5	1.6	1.9	2.2	*3.1*	2.7	3.0	2.8	2.5	2.0‡	**2.3**	1.7	1.5	1.5	1.5	1.3
LSD	1.3	1.5	1.6	1.9	**2.8**	2.1	2.4	2.3	2.0	1.4	1.5	0.7	0.6	0.6	0.6	0.6
Hallucinogens other than LSD	0.5	0.5	0.7	1.0	1.0	*1.2*	*1.2*	*1.2*	1.1	1.1‡	**1.4**	1.4	1.2	1.3	1.2	1.1
Ecstasy (MDMA)[c]	—	—	—	—	—	1.5	1.3	1.2	1.6	**2.4**	2.4	1.8	1.0	0.9	0.9	1.0
Cocaine	0.8	0.9	0.9	1.2	1.5	1.7	1.8	**1.9**	1.9	1.7	1.5	1.6	1.4	1.6	1.6	1.6
Crack	0.4	0.5	0.5	0.7	0.8	0.9	0.8	**1.0**	0.9	0.9	0.9	1.0	0.8	0.8	0.8	0.7
Other cocaine	0.7	0.7	0.8	1.1	1.2	1.3	1.5	1.6	**1.7**	1.4	1.3	1.3	1.2	1.4	1.3	1.4
Heroin	0.2	0.3	0.3	0.4	0.6	0.6	0.6	**0.6**	0.6	0.6	0.4	0.5	0.4	0.5	0.5	0.4
With a needle	—	—	—	—	0.3	**0.4**	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Without a needle	—	—	—	—	0.4	0.4	**0.5**	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3
Amphetamines[b]	3.0	3.3	3.9	4.0	4.5	*4.8*	4.5	4.3	4.2	4.5	4.7	4.4	3.9	3.6	3.3	3.0
Methamphetamine	—	—	—	—	—	—	—	—	1.5	**1.5**	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	**2.4**	2.2	2.1	2.1	2.1
Alcohol	*39.8*	38.4‡	36.3	37.6	37.8	**38.8**	38.6	37.4	37.2	36.6	35.5	33.3	33.2	32.9	31.4	31.0
Been drunk	19.2	17.8	18.2	19.3	20.3	20.4	**21.2**	20.4	20.6	20.3	19.7	17.4	17.7	18.1	17.0	17.4
Flavored alcoholic beverages	—	—	—	—	—	—	—	—	—	—	—	—	—	**23.0**	21.6	21.7
Cigarettes	20.7	21.2	23.4	24.7	26.6	28.3	**28.3**	27.0	25.2	22.6	20.2	17.7	16.6	16.1	15.3	14.4
Smokeless tobacco	–	9.2	9.1	**9.7**	9.6	8.5	8.0	7.0	6.3	5.8	6.1	5.2	5.3	5.1	5.3	5.1
Any Vaping[d]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	**1.0**	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 [e]	2020	2021	2022	2021–2022 change	Peak year–2022 change: Absolute change	Peak year–2022 change: Proportional change (%) [a]	Low year–2022 change: Absolute change	Low year–2022 change: Proportional change (%) [a]
Any Illicit Drug[b]	14.8	14.6	15.8	16.7	17.0	16.8	17.3‡	**16.5**	15.9	15.5	16.1	16.3	17.2	16.2	12.2	13.6	+1.4 ss	-2.9 sss	-17.5	+1.4 ss	+11.4
Any Illicit Drug other than Marijuana[b]	6.4	5.9	5.7	5.7	5.7	5.2	5.4‡	**5.4**	5.1	4.6	4.4	4.4	4.3	4.0	2.6	2.8	+0.2	-2.6 sss	-48.4	+0.2	+9.4
Any Illicit Drug including Inhalants[b]	16.5	16.1	17.3	18.0	18.3	17.6	18.4‡	17.3	16.8	16.0	17.2	17.1	**17.9**	17.4	12.8	14.5	+1.6 ss	-3.4 sss	-19.1	+1.6 ss	+12.8
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	11.0	12.3	+1.3 s	-5.7 sss	-31.6	+1.3 s	+12.0
Inhalants	2.6	2.6	2.5	2.4	2.1	1.7	1.5	1.4	1.3	1.2	1.3	1.1	1.4	1.6	1.1	1.3	+0.1	-3.1 sss	-70.9	+0.1	+10.9
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	0.7	0.8	+0.1	-1.4 sss	-62.8	+0.1	+21.2
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	0.4	0.5	+0.1	-2.3 sss	-83.2	+0.1	+26.0
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	0.5	0.6	+0.1	-0.8 sss	-55.5	+0.1	+16.1
Ecstasy (MDMA)[c]	1.1	1.2	1.2	1.5	1.4	0.8	1.0‡	**1.1**	0.8	0.6	0.6	0.5	0.6	0.5	0.2	0.5	+0.3 sss	-0.6 s	-55.9	+0.3 sss	+178.4
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	0.3	0.4	+0.2 s	-1.5 sss	-75.0	+0.2 s	+59.2
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	0.2	0.3	+0.1 ss	-0.6 sss	-63.0	+0.1 ss	72.6
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	0.2	0.4	+0.2 ss	-1.3 sss	-78.3	+0.2 ss	+113.7
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	0.1	0.2	+0.1 ss	-0.3 sss	-55.9	+0.1 ss	+125.6
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	0.1	—	—	—	—	—	—
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	0.1	—	—	—	—	—	—
Amphetamines[b]	3.2	2.6	2.7	2.7	2.8	2.5	3.2‡	**3.2**	2.7	2.5	2.2	2.2	2.2	2.0	1.4	1.5	+0.1	-1.7 sss	-52.9	+0.1	+9.4
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	0.1	0.2	+0.1	-1.3 sss	-87.2	+0.1	+146.1
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	0.4	0.6	+0.2 s	-1.7 sss	-73.5	+0.2 s	+41.6
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	15.1	15.6	+0.5	-23.2 sss	-59.8	+0.5	+3.5
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	7.4	7.7	+0.4	-13.5 sss	-63.5	+0.4	+4.9
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	9.0	11.3	+2.2 sss	-11.8 sss	-51.1	+2.2 sss	+24.7
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	2.3	2.1	-0.2	-26.2 sss	-92.6	—	—
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	1.8	2.3	+0.5	-7.4 sss	-76.4	+0.5	+24.7
Any Vaping[d]	—	—	—	—	—	—	—	—	*12.8*	9.9‡	12.0	19.2	**22.5**	21.2	15.9	17.0	+1.1 s	-5.5 sss	-24.3	+5.0 sss	+42.1
Vaping nicotine	—	—	—	—	—	—	—	—	—	—	7.5	14.2	**18.1**	18.0	13.3	13.8	+0.5	-4.3 sss	-23.9	+6.3 sss	+84.4
Vaping marijuana	—	—	—	—	—	—	—	—	—	—	3.6	5.7	**10.1**	9.2	7.8	9.6	+1.8 sss	-0.5	-5.0	+6.0 sss	+165.8
Vaping just flavoring	—	—	—	—	—	—	—	—	—	—	8.0	**11.5**	9.6	8.5	6.1	6.8	+0.8 s	-4.7 sss	-40.8	+0.8 s	+12.6
JUUL	—	—	—	—	—	—	—	—	—	—	—	—	**15.8**	10.4	4.8	—	—	—	—	—	—
Large Cigars	—	—	—	—	—	—	—	3.9	**4.2**	**3.3**	3.2	3.2	2.8	1.8	1.5	1.2	-0.4 s	-3.0 sss	-72.3	—	—
Flavored Little Cigars	—	—	—	—	—	—	—	**7.4**	7.1	5.6	5.4	5.5	4.5	3.1	1.5	1.4	-0.1	-6.0 sss	-80.9	—	—
Regular Little Cigars	—	—	—	—	—	—	—	4.5	**4.9**	3.6	3.6	3.4	3.0	2.4	1.3	1.2	-0.1	-3.7 sss	-76.3	—	—
Tobacco using a hookah	—	—	—	—	—	—	—	—	—	**4.3**	3.4	2.7	2.5	1.1	0.9	1.2	+0.3	-3.1 sss	-70.9	+0.3	+32.5
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	0.2	0.7	+0.4 sss	-0.4 sss	-34.1	+0.4 sss	+181.8

(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.

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

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

[c]In 2014, 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.

[d]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.

[e]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	**2.2**	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	**21.9**	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	**0.9**	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	**16.9**	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	**8.7**	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	—	**3.0**	2.7	2.9	2.5	2.3	2.5	2.1	1.7	1.9	2.0	1.4	1.6	1.7	1.6	1.5

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 [b]	2020	2021	2022	2021–2022 change	Peak year–2022 change: Absolute change	Peak year–2022 change: Proportional change (%) [a]	Low year–2022 change: Absolute change	Low year–2022 change: Proportional change (%) [a]
Marijuana	2.7	2.8	2.8	3.4	3.6	3.6	3.7	3.3	3.3	3.0	3.1	3.2	**4.1**	4.1	3.1	3.2	+0.1	-0.9 sss	-21.8	+0.5 ss	+17.9
Alcohol	1.6	1.4	1.3	1.4	1.0	1.2	1.1	1.0	0.8	0.7	0.7	0.6	0.8	1.3	0.5	0.7	+0.1	-1.5 sss	-69.1	+0.1	+26.0
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	6.6	6.7	+0.1	-15.2 sss	-69.4	+0.1	+1.3
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	0.2	0.3	+0.1	-0.6 sss	-65.1	+0.1	+59.8
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	1.0	0.8	-0.2	-16.1 sss	-95.1	-0.2	-17.8
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	0.4	0.4	0.0	-8.3 sss	-94.9	0.0	+5.6
Vaping nicotine	—	—	—	—	—	—	—	—	—	—	—	—	**9.2**	2.9	2.9	3.5	+0.5 ss	-5.7 sss	-62.4	+0.5 ss	+18.6
Vaping marijuana	—	—	—	—	—	—	—	—	—	—	—	—	**2.4**	0.9	1.1	1.3	+0.2	-1.1 sss	-45.3	+0.4 ss	+45.1
Vaping just flavoring	—	—	—	—	—	—	—	—	—	—	—	—	**2.0**	1.0	0.7	1.1	+0.4 ss	-0.9 sss	-45.8	+0.4 ss	+52.2
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	0.5	0.7	+0.2	-2.3 sss	-76.6	+0.2	+45.9

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.

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

[b]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	2022	2021–2022 change
Any Illicit Drug [a,ll]																																	
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	16.6	+0.6
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	27.7	+2.7
12th Grade	44.1	40.7	42.9	45.6	48.4	50.8	54.3	54.1	54.7	54.0	53.9	53.0	51.1	51.1	50.4	48.2	46.8	47.4	46.7	48.2	49.9	49.1‡	49.8	49.1	48.9	48.3	48.9	47.8	47.4	46.6	41.3	41.0	-0.3
Any Illicit Drug other than Marijuana [a,b]																																	
8th Grade	14.3	15.6	16.8	17.5	18.8	19.2	17.7	16.9	16.3	15.8‡	17.0	13.7	13.6	12.2	12.1	12.2	11.1	11.2	10.4	10.6	9.8	8.7‡	10.4	10.0	10.3	8.9	9.3	9.8	10.8	12.5	8.8	9.3	+0.6
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	9.7	+0.6
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	13.2	+0.3
Any Illicit Drug including Inhalants [a,c,ll]																																	
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	22.2	-0.2
10th Grade	36.1	36.2	38.7	42.7	45.9	49.8	50.9	49.3	49.9	49.3	48.8	47.7	44.9	43.1	42.1	40.1	39.8	38.7	40.0	40.6	40.8	40.0‡	41.6	40.4	37.2	35.9	37.0	38.7	39.8	39.7	28.5	31.1	+2.6
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	44.0	+0.8
Abstainers [ll,mm]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	67.9	64.9	63.1	63.9	69.9	67.1	-2.9
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	44.6	42.7	41.7	40.3	55.8	48.8	-7.0 sss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.5	26.4	29.7	29.4	35.3	31.0	-4.3 s
Marijuana/Hashish [ll]																																	
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	11.0	+0.8
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	24.2	+2.2
12th Grade	36.7	32.6	35.3	38.2	41.7	44.9	49.6	49.1	49.7	48.8	49.0	47.8	46.1	45.7	44.8	42.3	41.8	42.6	42.0	43.8	45.5	45.2	45.5	44.4	44.7	44.5	45.0	43.6	43.7	43.7	38.6	38.3	-0.3
Marijuana Under a Doctor's Orders [n,o]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.1	1.1	1.3	1.0	1.3	1.7	+0.4
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.1	1.3	2.0	2.0	1.4	1.6	+0.2
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.5	1.2	2.0	§	2.3	3.6	+1.3
Inhalants [c,d]																																	
8th Grade	17.6	17.4	19.4	19.9	21.6	21.2	21.0	20.5	19.7	17.9	17.1	15.2	15.8	17.3	17.1	16.1	15.6	15.7	14.9	14.5	13.1	11.8	10.8	10.8	9.4	7.7	8.9	8.7	9.5	12.6	11.3	9.8	-1.5
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	7.5	+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	5.8	+0.9
Hallucinogens [b,f]																																	
8th Grade	3.2	3.8	3.9	4.3	5.2	5.9	5.4	4.9	4.8	4.6‡	5.2	4.1	4.0	3.5	3.8	3.4	3.1	3.3	3.0	3.4	3.3	2.8	2.5	2.0	2.0	1.9	1.9	2.2	2.4	3.0	1.8	2.0	+0.2
10th Grade	6.1	6.4	6.8	8.1	9.3	10.5	10.5	9.8	9.7	8.9‡	8.9	7.8	6.9	6.4	5.8	6.1	6.4	5.5	6.1	6.1	6.0	5.2	5.4	5.0	4.6	4.4	4.2	3.9	4.7	4.8	3.5	3.4	-0.1
12th Grade	9.6	9.2	10.9	11.4	12.7	14.0	15.1	14.1	13.7	13.0‡	14.7	12.0	10.6	9.7	8.8	8.3	8.4	8.7	7.4	8.6	8.3	7.5	7.6	6.3	6.4	6.7	6.7	6.6	6.9	7.5	7.1	7.1	0.0

(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[kk]	2020	2021	2022	2021–2022 change
LSD [b]																																	
8th Grade	2.7	3.2	3.5	3.7	4.4	5.1	4.7	4.1	4.1	3.9	3.4	2.5	2.1	1.8	1.9	1.6	1.6	1.9	1.7	1.8	1.7	1.3	1.4	1.1	1.3	1.2	1.3	1.4	1.6	2.1	1.2	1.0	-0.2
10th Grade	5.6	5.8	6.2	7.2	8.4	9.4	9.5	8.5	8.5	7.6	6.3	5.0	3.5	2.8	2.5	2.7	3.0	2.6	3.0	3.0	2.8	2.6	2.7	2.6	3.0	3.2	3.0	2.8	3.6	3.8	2.5	2.1	-0.4
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	4.4	-0.5
Hallucinogens other than LSD [b]																																	
8th Grade	1.4	1.7	1.7	2.2	2.5	3.0	2.6	2.5	2.4	2.3‡	3.9	3.3	3.2	3.0	3.3	2.8	2.6	2.5	2.4	2.7	2.8	2.3	1.9	1.5	1.2	1.3	1.2	1.5	1.7	2.0	1.3	1.7	+0.4
10th Grade	2.2	2.5	2.8	3.8	3.9	4.7	4.8	5.0	4.7	4.8‡	6.6	6.3	5.9	5.8	5.2	5.5	5.7	4.8	5.4	5.3	5.2	4.5	4.4	4.1	3.3	3.1	2.9	2.7	3.3	3.4	2.5	2.7	+0.1
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	5.6	+0.4
MDMA (Ecstasy, Molly) [g]																																	
8th Grade	—	—	—	—	—	3.4	3.2	2.7	2.7	4.3	5.2	4.3	3.2	2.8	2.8	2.5	2.3	2.4	2.2	3.3	2.6	2.0	1.8‡	2.4	2.3	1.7	1.5	1.6	1.7	1.7	1.0	1.2	+0.2
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	1.4	0.0
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	3.0	+0.2
Cocaine																																	
8th Grade	2.3	2.9	2.9	3.6	4.2	4.5	4.4	4.6	4.7	4.5	4.3	3.6	3.6	3.4	3.7	3.4	3.1	3.0	2.6	2.6	2.2	1.9	1.7	1.8	1.6	1.4	1.3	1.4	1.2	1.6	0.6	0.8	+0.2
10th Grade	4.1	3.3	3.6	4.3	5.0	6.5	7.1	7.2	7.7	6.9	5.7	6.1	5.1	5.4	5.2	4.8	5.3	4.5	4.6	3.7	3.3	3.3	3.3	2.6	2.7	2.1	2.1	2.6	2.5	1.6	1.2	0.8	-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	2.4	0.0
Crack																																	
8th Grade	1.3	1.6	1.7	2.4	2.7	2.9	2.7	3.2	3.1	3.1	3.0	2.5	2.5	2.4	2.4	2.3	2.1	2.0	1.7	1.5	1.5	1.0	1.2	1.2	1.0	0.9	0.8	0.9	0.9	0.9	0.4	0.7	+0.2
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	0.4	-0.2
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	1.3	-0.3
Cocaine other than Crack [h]																																	
8th Grade	2.0	2.4	2.4	3.0	3.4	3.8	3.5	3.7	3.8	3.5	3.3	2.8	2.7	2.6	2.9	2.7	2.6	2.4	2.1	2.1	1.8	1.6	1.4	1.4	1.3	1.1	1.0	1.2	1.0	1.3	0.5	0.7	+0.2
10th Grade	3.8	3.0	3.3	3.8	4.4	5.5	6.1	6.4	6.8	6.0	5.0	5.2	4.5	4.8	4.6	4.3	4.8	4.0	4.1	3.4	3.0	3.0	2.9	2.2	2.3	1.9	1.9	2.4	2.3	1.5	1.0	0.6	-0.4 s
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	2.0	-0.2
Heroin [i,j]																																	
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	0.4	-0.1
10th Grade	1.2	1.2	1.3	1.5	1.7	2.1	2.1	2.3	2.3	2.2	1.7	1.8	1.5	1.5	1.5	1.4	1.5	1.2	1.5	1.3	1.2	1.1	1.0	0.9	0.7	0.6	0.4	0.4	0.4	0.3	0.3	0.5	+0.2
12th Grade	0.9	1.2	1.1	1.2	1.6	1.8	2.1	2.0	2.0	2.4	1.8	1.7	1.5	1.5	1.5	1.4	1.5	1.3	1.2	1.6	1.4	1.1	1.0	1.0	0.8	0.7	0.7	0.8	0.6	0.4	0.4	0.5	0.0
Narcotics other than Heroin [k,l]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.6	6.1	6.4	6.6	7.2	8.2	9.7	9.8	10.2	10.6	9.9‡	13.5	13.2	13.5	12.8	13.4	13.1	13.2	13.2	13.0	13.0	12.2	11.1	9.5	8.4	7.8	6.8	6.0	5.3	5.3	2.3	3.2	+0.9 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[kk]	2020	2021	2022	2021–2022 change
Amphetamines [k,m]																																	
8th Grade	10.5	10.8	11.8	12.3	13.1	13.5	12.3	11.3	10.7	9.9	10.2	8.7	8.4	7.5	7.4	7.3	6.5	6.8	6.0	5.7	5.2	4.5‡	6.9	6.7	6.8	5.7	5.7	5.9	6.8	8.9	5.8	6.0	+0.2
10th Grade	13.2	13.1	14.9	15.1	17.4	17.7	17.0	16.0	15.7	15.7	16.0	14.9	13.1	11.9	11.1	11.2	11.1	9.0	10.3	10.6	9.0	8.9‡	11.2	10.6	9.7	8.8	8.2	8.6	8.2	7.0	5.2	5.4	+0.3
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	5.3	+0.4
Methamphetamine [n,o]																																	
8th Grade	—	—	—	—	—	—	—	—	4.5	4.2	4.4	3.5	3.9	2.5	3.1	2.7	1.8	2.3	1.6	1.8	1.3	1.3	1.4	1.0	0.8	0.6	0.7	0.7	0.9	1.1	0.3	0.5	+0.2
10th Grade	—	—	—	—	—	—	—	—	7.3	6.9	6.4	6.1	5.2	5.3	4.1	3.2	2.8	2.4	2.8	2.5	2.1	1.8	1.6	1.4	1.3	0.7	0.9	0.8	0.7	0.8	0.4	0.6	+0.2
12th Grade	—	—	—	—	—	—	—	—	8.2	7.9	6.9	6.7	6.2	6.2	4.5	4.4	3.0	2.8	2.4	2.3	2.1	1.7	1.5	1.9	1.0	1.2	1.1	0.7	0.8	1.7	0.6	1.1	+0.5
Crystal Methamphetamine (Ice) [o]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.3	2.9	3.1	3.4	3.9	4.4	4.4	5.3	4.8	4.0	4.1	4.7	3.9	4.0	4.0	3.4	3.4	2.8	2.1	1.8	2.1	1.7	2.0	1.3	1.2	1.4	1.5	1.1	1.3	0.2	0.7	0.8	0.0
Sedatives (Barbiturates) [k,p]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.2	5.5	6.3	7.0	7.4	7.6	8.1	8.7	8.9	9.2	8.7	9.5	8.8	9.9	10.5	10.2	9.3	8.5	8.2	7.5	7.0	6.9	7.5	6.8	5.9	5.2	4.5	4.2	4.2	4.4	3.5	3.6	+0.1
Tranquilizers [b,k]																																	
8th Grade	3.8	4.1	4.4	4.6	4.5	5.3	4.8	4.6	4.4	4.4‡	5.0	4.3	4.4	4.0	4.1	4.3	3.9	3.9	3.9	4.4	3.4	3.0	2.9	2.9	3.0	3.0	3.4	3.5	4.0	3.9	2.5	3.1	+0.6
10th Grade	5.8	5.9	5.7	5.4	6.0	7.1	7.3	7.8	7.9	8.0‡	9.2	8.8	7.8	7.3	7.1	7.2	7.4	6.8	7.0	7.3	6.8	6.3	5.5	5.8	5.8	6.1	6.0	6.0	5.7	4.9	2.6	2.7	+0.1
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	3.3	0.0
Any Prescription Drug [q]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.0	23.9	22.2	21.5	20.9	21.6	21.7	21.2‡	22.2	19.9	18.3	18.0	16.5	15.5	14.6	14.2	8.8	9.3	+0.4
Rohypnol [r]																																	
8th Grade	—	—	—	—	—	1.5	1.1	1.4	1.3	1.0	1.1	0.8	1.0	1.0	1.1	1.0	1.0	0.7	0.7	0.9	2.0	1.0	0.7	0.6	0.8	0.9	0.6	0.7	0.6	§	0.3	0.4	+0.1
10th Grade	—	—	—	—	—	1.5	1.7	2.0	1.8	1.3	1.5	1.3	1.0	1.2	1.0	0.8	1.3	0.9	0.7	1.4	1.2	0.8	1.1	1.0	0.5	1.0	0.7	0.5	0.9	§	0.6	0.2	-0.4
12th Grade	—	—	—	—	—	1.2	1.8	3.0	2.0	1.5	1.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [s,nn]																																	
Any Use																																	
8th Grade	70.1	69.3‡	55.7	55.8	54.5	55.3	53.8	52.5	52.1	51.7	50.5	47.0	45.6	43.9	41.0	40.5	38.9	38.9	36.6	35.8	33.1	29.5	27.8	26.8	26.1	22.8	23.1	23.5	24.5	25.6	21.7	23.1	+1.4
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	41.1	+6.4 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	61.6	+7.5 sss

(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[kk]	2020	2021	2022	2021–2022 change
Been Drunk [o]																																	
8th Grade	26.7	26.8	26.4	25.9	25.3	26.8	25.2	24.8	24.8	25.1	23.4	21.3	20.3	19.9	19.5	19.5	17.9	18.0	17.4	16.3	14.8	12.8	12.2	10.8	10.9	8.6	9.2	9.2	10.1	10.1	8.3	8.0	-0.3
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	19.8	+1.9
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	36.7	-2.2
Flavored Alcoholic Beverages [e,n]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	37.9	35.5	35.5	34.0	32.8	29.4	30.0	27.0	23.5	21.9	19.2	19.3	16.3	16.0	18.0	15.1	18.3	13.8	16.2	+2.4
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	29.0	+4.1 s
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	46.4	+2.7
Cigarettes																																	
Any Use																																	
8th Grade	44.0	45.2	45.3	46.1	46.4	49.2	47.3	45.7	44.1	40.5	36.6	31.4	28.4	27.9	25.9	24.6	22.1	20.5	20.1	20.0	18.4	15.5	14.8	13.5	13.3	9.8	9.4	9.1	10.0	11.5	7.0	6.1	-0.9
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	10.2	+0.2
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	16.8	-1.0
Smokeless Tobacco [t]																																	
8th Grade	22.2	20.7	18.7	19.9	20.0	20.4	16.8	15.0	14.4	12.8	11.7	11.2	11.3	11.0	10.1	10.2	9.1	9.8	9.6	9.9	9.7	8.1	7.9	8.0	8.6	6.9	6.2	6.4	7.1	7.8	4.6	3.9	-0.7
10th Grade	28.2	26.6	28.1	29.2	27.6	27.4	26.3	22.7	20.4	19.1	19.5	16.9	14.6	13.8	14.5	15.0	15.1	12.2	15.2	16.8	15.6	15.4	14.0	13.6	12.3	10.2	9.1	10.0	9.2	9.3	4.9	5.8	+0.9
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	10.3	+1.8
Any Vaping [bb,cc]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.7	17.5‡	18.5	21.5	24.3	24.1	17.5	18.1	+0.7
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.8	29.0‡	30.9	36.9	41.0	41.0	29.7	29.6	-0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35.5	33.8‡	35.8	42.5	45.6	47.2	40.5	40.7	+0.2
Vaping Nicotine [bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.6	13.5	20.3	22.7	16.6	17.0	+0.4
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.4	28.6	36.3	38.7	28.4	28.2	-0.2
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	34.0	40.8	44.3	38.7	38.8	+0.1
Vaping Marijuana [bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.0	5.5	9.0	10.2	6.5	7.7	+1.2
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.8	14.2	21.8	22.7	16.5	18.6	+2.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.9	15.6	23.7	27.9	25.7	27.5	+1.8
Vaping Just Flavoring [bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.0	19.4	18.9	17.8	12.0	12.8	+0.8
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.5	31.7	28.3	27.7	19.6	18.5	-1.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.7	34.1	29.0	29.8	25.2	23.7	-1.5

(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[kk]	2020	2021	2022	2021–2022 change
Flavoring Vaping with no Nicotine Vaping[bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.8	7.8	3.6	1.3	0.8	1.1	+0.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.0	7.6	3.7	1.6	0.9	0.7	-0.3
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.1	7.6	3.7	2.1	1.1	0.9	-0.1
Steroids [k,u]																																	
8th Grade	1.9	1.7	1.6	2.0	2.0	1.8	1.8	2.3	2.7	3.0	2.8	2.5	2.5	1.9	1.7	1.6	1.5	1.4	1.3	1.1	1.2	1.2	1.1	1.0	1.0	0.9	1.1	1.1	1.5	2.0	1.2	1.6	+0.4
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	+0.2
12th Grade	2.1	2.1	2.0	2.4	2.3	1.9	2.4	2.7	2.9	2.5	3.7	4.0	3.5	3.4	2.6	2.7	2.2	2.2	2.2	2.0	1.8	1.8	2.1	1.9	2.3	1.6	1.6	1.6	1.6	2.0	0.8	1.5	+0.7 s
Legal Use of Over-the-Counter Stimulants																																	
Diet Pills [e]																																	
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	3.8	-0.8
Stay-Awake Pills [e]																																	
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	2.6	-0.8
Look-Alikes [e]																																	
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	—	—	—	—	—	—
Legal Use of Prescription ADHD Drugs																																	
Stimulant-Type [n,dd]																																	
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	9.7	+0.7
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	8.5	+1.5
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	11.2	+3.2 s
Non-Stimulant-Type [n,dd]																																	
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	3.5	+0.8
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	3.4	+0.4
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	5.8	+1.3
Either Type [n,dd]																																	
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	12.0	+0.4
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	10.6	+1.6
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	14.6	+3.7 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[kk]	2020	2021	2022	2021–2022 change
Previously surveyed drugs that have been dropped.																																	
Nitrites [e]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.6	1.5	1.4	1.7	1.5	1.8	2.0	2.7	1.7	0.8	1.9	1.5	1.6	1.3	1.1	1.2	1.2	0.6	1.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PCP [e]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	2.9	2.4	2.9	2.8	2.7	4.0	3.9	3.9	3.4	3.4	3.5	3.1	2.5	1.6	2.4	2.2	2.1	1.8	1.7	1.8	2.3	1.6	1.3	—	—	—	—	—	—	—	—	—	—
Heroin With a Needle [j]																																	
8th Grade	—	—	—	—	1.5	1.6	1.3	1.4	1.6	1.1	1.2	1.0	1.0	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.6	0.6	0.8	0.3	0.3	0.4	0.4	0.5	0.3	0.4	—	—
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	—	—
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	—	—
Heroin Without a Needle [j]																																	
8th Grade	—	—	—	—	1.5	1.6	1.4	1.5	1.4	1.3	1.1	1.0	1.1	1.0	0.9	0.9	0.7	0.9	0.8	0.7	0.7	0.5	0.5	0.4	0.3	0.4	0.5	0.3	0.4	0.4	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	—	—
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	—	—
Methaqualone [e,k]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.3	1.6	0.8	1.4	1.2	2.0	1.7	1.6	1.8	0.8	1.1	1.5	1.0	1.3	1.3	1.2	1.0	0.8	0.7	0.4	0.6	0.8	—	—	—	—	—	—	—	—	—	—	—
JUUL[jj]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.9	16.9	10.3	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.8	30.7	19.8	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.0	36.2	28.5	—	—

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

Note: See footnotes following Table 8.

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[kk]	2020	2021	2022	2021–2022 change
Any Illicit Drug [a,ll]																																	
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	11.0	+0.9
10th Grade	21.4	20.4	24.7	30.0	33.3	37.5	38.5	35.0	35.9	36.4	37.2	34.8	32.0	31.1	29.8	28.7	28.1	26.9	29.4	30.2	31.1	30.1‡	32.1	29.9	27.9	26.8	27.8	29.9	31.0	30.4	18.7	21.5	+2.8
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	32.6	+0.6
Any Illicit Drug other than Marijuana [a,b]																																	
8th Grade	8.4	9.3	10.4	11.3	12.6	13.1	11.8	11.0	10.5	10.2‡	10.8	8.8	8.8	7.9	8.1	7.7	7.0	7.4	7.0	7.1	6.4	5.5‡	6.3	6.4	6.3	5.4	5.8	6.1	6.5	7.7	4.6	4.9	+0.3
10th Grade	12.2	12.3	13.9	15.2	17.5	18.4	18.2	16.6	16.7	16.7‡	17.9	15.7	13.8	13.5	12.9	12.7	13.1	11.3	12.2	12.1	11.2	10.8‡	11.2	11.2	10.5	9.8	9.4	9.6	9.1	8.6	5.1	5.7	+0.6
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	8.0	+0.7
Any Illicit Drug including Inhalants [a,c,ll]																																	
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	13.1	+0.5
10th Grade	23.9	23.5	27.4	32.5	35.6	39.6	40.3	37.1	37.7	38.0	38.7	36.1	33.5	32.9	31.7	30.7	30.2	28.8	31.2	31.8	32.5	31.5‡	33.2	31.0	28.9	27.7	29.1	31.0	31.7	31.3	19.6	22.7	+3.1 s
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	34.3	+1.1
Marijuana/Hashish [ll]																																	
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	8.3	+1.2
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	19.5	+2.2
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	30.7	+0.2
Synthetic Marijuana [n,o]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.4	4.0	3.3	3.1	2.7	2.0	1.6	2.7	1.6	1.3	1.5	+0.2
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.8	7.4	5.4	4.3	3.3	2.7	2.9	2.6	2.5	1.6	2.2	+0.5
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.4	11.3	7.9	5.8	5.2	3.5	3.7	3.5	3.3	2.4	1.8	3.2	+1.4 ss
Inhalants [c,d]																																	
8th Grade	9.0	9.5	11.0	11.7	12.8	12.2	11.8	11.1	10.3	9.4	9.1	7.7	8.7	9.6	9.5	9.1	8.3	8.9	8.1	8.1	7.0	6.2	5.2	5.3	4.6	3.8	4.7	4.6	4.7	6.1	4.8	3.6	-1.2
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	2.4	+0.4
12th Grade	6.6	6.2	7.0	7.7	8.0	7.6	6.7	6.2	5.6	5.9	4.5	4.5	3.9	4.2	5.0	4.5	3.7	3.8	3.4	3.6	3.2	2.9	2.5	1.9	1.9	1.7	1.5	1.6	1.9	1.1	1.8	1.8	0.0
Hallucinogens [b,f]																																	
8th Grade	1.9	2.5	2.6	2.7	3.6	4.1	3.7	3.4	2.9	2.8‡	3.4	2.6	2.6	2.2	2.4	2.1	1.9	2.1	1.9	2.2	2.2	1.6	1.6	1.3	1.3	1.2	1.1	1.4	1.3	1.7	1.0	1.2	+0.2
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	2.1	-0.1
12th Grade	5.8	5.9	7.4	7.6	9.3	10.1	9.8	9.0	9.4	8.1‡	9.1	6.6	5.9	6.2	5.5	4.9	5.4	5.9	4.7	5.5	5.2	4.8	4.5	4.0	4.2	4.3	4.4	4.3	4.6	5.3	4.1	4.4	+0.4
LSD [b]																																	
8th Grade	1.7	2.1	2.3	2.4	3.2	3.5	3.2	2.8	2.4	2.4	2.2	1.5	1.3	1.1	1.2	0.9	1.1	1.3	1.1	1.2	1.1	0.8	1.0	0.7	0.9	0.8	0.9	0.9	0.9	1.1	0.7	0.6	-0.1
10th Grade	3.7	4.0	4.2	5.2	6.5	6.9	6.7	5.9	6.0	5.1	4.1	2.6	1.7	1.6	1.5	1.7	1.9	1.8	1.9	1.9	1.8	1.7	1.7	1.9	2.0	2.1	2.1	2.0	2.3	2.5	1.5	1.3	-0.2
12th Grade	5.2	5.6	6.8	6.9	8.4	8.8	8.4	7.6	8.1	6.6	6.6	3.5	1.9	2.2	1.8	1.7	2.1	2.7	1.9	2.6	2.7	2.4	2.2	2.5	2.9	3.0	3.3	3.2	3.6	3.9	2.5	2.5	-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[kk]	2020	2021	2022	2021–2022 change
Hallucinogens other than LSD [b]																																	
8th Grade	0.7	1.1	1.0	1.3	1.7	2.0	1.8	1.6	1.5	1.4‡	2.4	2.1	2.1	1.9	2.0	1.8	1.6	1.6	1.5	1.8	1.8	1.3	1.2	1.0	0.8	0.8	0.7	0.9	0.9	1.1	0.8	1.0	+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	1.6	+0.1
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	3.4	+0.5
PCP [e]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.4	1.4	1.4	1.6	1.8	2.6	2.3	2.1	1.8	2.3	1.8	1.1	1.3	0.7	1.3	0.7	0.9	1.1	1.0	1.0	1.3	0.9	0.7	0.8	1.4	1.3	1.0	1.1	1.1	§	0.7	1.2	+0.5
MDMA (Ecstasy, Molly) [g]																																	
8th Grade		—	—	—	—	2.3	2.3	1.8	1.7	3.1	3.5	2.9	2.1	1.7	1.7	1.4	1.5	1.7	1.3	2.4	1.7	1.1	1.1‡	1.5	1.4	1.0	0.9	1.1	1.1	0.8	0.6	0.6	0.0
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	0.7	0.0
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	1.4	+0.2
Salvia [n,o]																																	
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	0.8	+0.2
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	+0.3
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	0.8	+0.2
Cocaine																																	
8th Grade	1.1	1.5	1.7	2.1	2.6	3.0	2.8	3.1	2.7	2.6	2.5	2.3	2.2	2.0	2.2	2.0	2.0	1.8	1.6	1.6	1.4	1.2	1.0	1.0	0.9	0.8	0.8	0.8	0.7	0.5	0.2	0.5	+0.3 s
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	0.3	-0.3 s
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	1.5	+0.3
Crack																																	
8th Grade	0.7	0.9	1.0	1.3	1.6	1.8	1.7	2.1	1.8	1.8	1.7	1.6	1.6	1.3	1.4	1.3	1.3	1.1	1.1	1.0	0.9	0.6	0.6	0.7	0.5	0.5	0.5	0.4	0.4	0.2	0.2	0.4	+0.2 s
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	-0.1
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	0.9	+0.2
Cocaine other than Crack [h]																																	
8th Grade	1.0	1.2	1.3	1.7	2.1	2.5	2.2	2.4	2.3	1.9	1.9	1.8	1.6	1.6	1.7	1.6	1.5	1.4	1.3	1.3	1.1	1.0	0.8	0.8	0.8	0.6	0.6	0.7	0.6	0.5	0.2	0.4	+0.2 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	0.2	-0.3 s
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	1.3	+0.4
Heroin [i,j]																																	
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	0.3	+0.1
10th Grade	0.5	0.6	0.7	0.9	1.1	1.2	1.4	1.4	1.4	1.4	0.9	1.1	0.7	0.9	0.9	0.9	0.8	0.8	0.9	0.8	0.8	0.6	0.6	0.5	0.5	0.3	0.2	0.2	0.3	0.2	0.1	0.2	+0.1
12th Grade	0.4	0.6	0.5	0.6	1.1	1.0	1.2	1.0	1.1	1.5	0.9	1.0	0.8	0.9	0.8	0.8	0.9	0.7	0.7	0.9	0.8	0.6	0.6	0.6	0.5	0.3	0.4	0.4	0.4	0.3	0.1	0.3	+0.2

(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[kk]	2020	2021	2022	2021–2022 change
Narcotics other than Heroin [k,l]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.5	3.3	3.6	3.8	4.7	5.4	6.2	6.3	6.7	7.0	6.7‡	9.4	9.3	9.5	9.0	9.0	9.2	9.1	9.2	8.7	8.7	7.9	7.1	6.1	5.4	4.8	4.2	3.4	2.7	2.1	1.0	1.7	+0.7 ss
OxyContin [k,n,v]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	1.3	1.7	1.7	1.8	2.6	1.8	2.1	2.0	2.1	1.8	1.6	2.0	1.0	0.8	0.9	0.8	0.8	1.2	0.9	0.8	0.7	-0.2
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	0.9	0.0
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	1.9	+1.0 ss
Vicodin [k,n,v]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	2.5	2.8	2.5	2.6	3.0	2.7	2.9	2.5	2.7	2.1	1.3	1.4	1.0	0.9	0.8	0.7	0.6	0.9	0.5	0.6	0.7	+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	1.0	+0.5
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	1.3	+0.5
Amphetamines [k,m]																																	
8th Grade	6.2	6.5	7.2	7.9	8.7	9.1	8.1	7.2	6.9	6.5	6.7	5.5	5.5	4.9	4.9	4.7	4.2	4.5	4.1	3.9	3.5	2.9‡	4.2	4.3	4.1	3.5	3.5	3.7	4.1	5.3	3.0	3.2	+0.3
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	3.1	+0.4
12th Grade	8.2	7.1	8.4	9.4	9.3	9.5	10.2	10.1	10.2	10.5	10.9	11.1	9.9	10.0	8.6	8.1	7.5	6.8	6.6	7.4	8.2	7.9‡	9.2	8.1	7.7	6.7	5.9	5.5	4.5	4.3	2.3	2.8	+0.5
Ritalin [k,n,o]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	2.9	2.8	2.6	2.5	2.4	2.6	2.1	1.6	1.8	1.5	1.3	0.7	1.1	0.9	0.6	0.8	0.4	0.5	1.0	0.5	0.6	0.7	+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	0.7	+0.4
12th Grade	—	—	—	—	—	—	—	—	—	—	5.1	4.0	4.0	5.1	4.4	4.4	3.8	3.4	2.1	2.7	2.6	2.6	2.3	1.8	2.0	1.2	1.3	0.9	1.1	1.7	0.5	1.1	+0.6 s
Adderall [k,n,o]																																	
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	2.3	+0.5
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	2.9	+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	3.4	+1.7 sss
Methamphetamine [n,o]																																	
8th Grade	—	—	—	—	—	—	—	—	3.2	2.5	2.8	2.2	2.5	1.5	1.8	1.8	1.1	1.2	1.0	1.2	0.8	1.0	1.0	0.6	0.5	0.4	0.5	0.4	0.5	0.5	0.2	0.2	+0.1
10th Grade	—	—	—	—	—	—	—	—	4.6	4.0	3.7	3.9	3.3	3.0	2.9	1.8	1.6	1.5	1.6	1.6	1.4	1.0	1.0	0.8	0.8	0.4	0.4	0.4	0.5	0.3	0.2	0.3	+0.2
12th Grade	—	—	—	—	—	—	—	—	4.7	4.3	3.9	3.6	3.2	3.4	2.5	2.5	1.7	1.2	1.2	1.0	1.4	1.1	0.9	1.0	0.6	0.6	0.6	0.5	0.5	1.4	0.2	0.5	0.4
Crystal Methamphetamine (Ice) [o]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.4	1.3	1.7	1.8	2.4	2.8	2.3	3.0	1.9	2.2	2.5	3.0	2.0	2.1	2.3	1.9	1.6	1.1	0.9	0.9	1.2	0.8	1.1	0.8	0.5	0.8	0.8	0.6	0.6	0.0	0.4	0.3	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[kk]	2020	2021	2022	2021–2022 change
Sedatives (Barbiturates) [k,p]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.4	2.8	3.4	4.1	4.7	4.9	5.1	5.5	5.8	6.2	5.7	6.7	6.0	6.5	7.2	6.6	6.2	5.8	5.2	4.8	4.3	4.5	4.8	4.3	3.6	3.0	2.9	2.7	2.5	2.4	1.8	2.0	+0.2
Tranquilizers [b,k]																																	
8th Grade	1.8	2.0	2.1	2.4	2.7	3.3	2.9	2.6	2.5	2.6‡	2.8	2.6	2.7	2.5	2.8	2.6	2.4	2.4	2.6	2.8	2.0	1.8	1.8	1.7	1.7	1.7	2.0	2.0	2.4	2.2	1.1	1.4	+0.2
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	1.5	+0.3
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	1.5	+0.3
Any Prescription Drug [q]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.1	16.8	15.8	15.4	14.4	15.0	15.2	14.8‡	15.9	13.9	12.9	12.0	10.9	9.9	8.6	7.6	4.4	5.0	+0.6
OTC Cough/Cold Medicines [n,o]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.2	4.0	3.6	3.8	3.2	2.7	3.0	2.9	2.0	1.6	2.6	2.1	2.8	3.2	4.6	3.5	3.2	-0.3
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	3.9	+1.2 s
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	2.4	+0.7
Rohypnol [r]																																	
8th Grade	—	—	—	—	—	1.0	0.8	0.8	0.5	0.5	0.7	0.3	0.5	0.6	0.7	0.5	0.7	0.5	0.4	0.5	0.8	0.4	0.4	0.3	0.3	0.5	0.4	0.3	0.4	§	0.2	0.2	+0.1
10th Grade	—	—	—	—	—	1.1	1.3	1.2	1.0	0.8	1.0	0.7	0.6	0.7	0.5	0.5	0.7	0.4	0.4	0.6	0.6	0.5	0.6	0.5	0.2	0.5	0.3	0.3	0.6	§	0.2	0.0	-0.2 s
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	0.7	+0.3
GHB [n,w]																																	
8th Grade	—	—	—	—	—	—	—	—	—	1.2	1.1	0.8	0.9	0.7	0.5	0.8	0.7	1.1	0.7	0.6	0.6	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	1.1	1.0	1.4	1.4	0.8	0.8	0.7	0.6	0.5	1.0	0.6	0.5	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	1.9	1.6	1.5	1.4	2.0	1.1	1.1	0.9	1.2	1.1	1.4	1.4	1.4	1.0	1.0	0.7	0.9	0.4	0.3	0.4	§	0.4	0.5	+0.1
Ketamine [n,x]																																	
8th Grade	—	—	—	—	—	—	—	—	—	1.6	1.3	1.3	1.1	0.9	0.6	0.9	1.0	1.2	1.0	1.0	0.8	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	2.1	2.1	2.2	1.9	1.3	1.0	1.0	0.8	1.0	1.3	1.1	1.2	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	2.5	2.5	2.6	2.1	1.9	1.6	1.4	1.3	1.5	1.7	1.6	1.7	1.5	1.4	1.5	1.4	1.2	1.2	0.7	0.7	1.3	0.9	1.2	+0.3
Alcohol [s,nn]																																	
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	15.2	-2.0
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	31.3	+2.8
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	51.9	+5.4 ss

(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[kk]	2020	2021	2022	2021–2022 change
Been Drunk [o]																																	
8th Grade	17.5	18.3	18.2	18.2	18.4	19.8	18.4	17.9	18.5	18.5	16.6	15.0	14.5	14.5	14.1	13.9	12.6	12.7	12.2	11.5	10.5	8.6	8.4	7.3	7.7	5.7	6.4	6.5	6.6	7.5	5.7	4.7	-1.0
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	14.6	+1.1
12th Grade	52.7	50.3	49.6	51.7	52.5	51.9	53.2	52.0	53.2	51.8	53.2	50.4	48.0	51.8	47.7	47.9	46.1	45.6	47.0	44.0	42.2	45.0	43.5	41.4	37.7	37.3	35.6	33.9	32.8	36.9	28.8	29.6	+0.8
Flavored Alcoholic Beverages [e,n,y]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	30.4	27.9	26.8	26.0	25.0	22.2	21.9	19.2	17.0	15.7	13.4	13.4	11.2	10.8	12.1	10.7	14.7	10.2	10.1	-0.1
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	22.0	+3.3
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	55.2	55.8	58.4	54.7	53.6	51.8	53.4	47.9	47.0	44.4	44.2	43.6	42.8	40.0	39.6	38.4	37.5	§	32.1	37.5	+5.3
Alcoholic Beverages containing Caffeine [n,o,z]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.8	10.9	10.2	9.5	8.4	6.5	5.6	6.0	7.3	5.7	6.2	4.7	-1.4
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22.5	19.7	16.9	14.3	12.8	10.6	9.9	9.8	8.4	8.3	7.5	7.1	-0.4
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.4	26.4	23.5	20.0	18.3	17.0	16.9	14.7	12.3	12.3	9.9	11.6	+1.7
Tobacco using a Hookah [e]																																	
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	3.3	+1.2
Small cigars [e]																																	
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	5.6	+2.3 s
Dissolvable Tobacco Products [e,n]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.0	1.1	1.1	0.9	0.7	0.6	0.6	1.1	0.6	0.8	0.8	0.0
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	1.2	1.3	1.1	0.9	0.6	1.1	0.8	1.3	0.3	0.9	+0.6 s
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.5	1.6	1.9	1.1	1.4	1.1	1.4	1.3	1.1	§	1.1	1.7	+0.6
Snus [e,n]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.4	2.0	2.2	1.9	2.2	1.1	1.3	1.5	1.6	1.2	1.0	-0.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	5.2	4.5	4.0	3.0	2.6	3.1	2.3	2.2	1.0	1.5	+0.4
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.9	7.9	7.7	5.8	5.8	5.8	4.2	4.7	2.7	§	2.6	2.4	-0.2
Any Vaping [bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.3	17.6	20.1	19.2	13.4	13.8	+0.4
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.9	32.3	35.7	34.6	22.2	23.8	+1.7
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.8	37.3	40.6	39.0	31.5	32.1	+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[kk]	2020	2021	2022	2021–2022 change
Vaping Nicotine[bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.5	10.9	16.5	16.6	12.1	12.0	-0.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.8	24.7	30.7	30.7	19.5	20.5	+1.0
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.8	29.7	35.3	34.5	26.6	27.3	+0.7
Vaping Marijuana[bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.0	4.4	7.0	8.1	4.7	6.0	+1.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.1	12.4	19.4	19.1	12.4	15.0	+2.6 s
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.5	13.1	20.8	22.1	18.3	20.6	+2.3
Vaping Just Flavoring[bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.8	15.1	14.7	12.3	7.7	8.2	+0.5
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.3	24.7	20.8	18.4	10.6	11.3	+0.8
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.6	25.7	20.3	16.6	11.7	11.8	+0.1
Flavoring Vaping with no Nicotine Vaping[bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.5	6.2	3.0	2.0	1.0	1.2	+0.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.0	6.4	2.9	2.0	1.0	1.0	0.0
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.5	6.0	3.1	1.9	1.2	1.1	-0.1
Steroids [k,u]																																	
8th Grade	1.0	1.1	0.9	1.2	1.0	0.9	1.0	1.2	1.7	1.7	1.6	1.5	1.4	1.1	1.1	0.9	0.8	0.9	0.8	0.5	0.7	0.6	0.6	0.6	0.5	0.5	0.6	0.6	0.8	1.1	0.5	0.8	+0.3 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	0.5	+0.2
12th Grade	1.4	1.1	1.2	1.3	1.5	1.4	1.4	1.7	1.8	1.7	2.4	2.5	2.1	2.5	1.5	1.8	1.4	1.5	1.5	1.5	1.2	1.3	1.5	1.5	1.7	1.0	1.1	1.1	1.0	1.2	0.5	1.3	+0.8 ss
Androstenedione [bb]																																	
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	1.9	+1.3 ss
Creatine [bb]																																	
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	4.3	+1.1
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	10.7	+4.7 sss
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	11.8	+4.4 ss

(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[kk]	2020	2021	2022	2021–2022 change
Legal Use of Over-the-Counter Stimulants																																	
Diet Pills [e]																																	
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	1.6	-0.9
Stay-Awake Pills [e]																																	
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	1.6	0.0
Look-Alikes [e]																																	
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	—	—	—	—	—	—
Previously surveyed drugs that have been dropped.																																	
Nitrites [e]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.9	0.5	0.9	1.1	1.1	1.6	1.2	1.4	0.9	0.6	0.6	1.1	0.9	0.8	0.6	0.5	0.8	0.6	0.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Provigil [k,o]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.8	1.3	1.5	—	—	—	—	—	—	—	—	—	—	—	—
Heroin With a Needle [j]																																	
8th Grade	—	—	—	—	0.9	1.0	0.8	0.8	0.9	0.6	0.7	0.6	0.6	0.7	0.6	0.5	0.6	0.5	0.5	0.6	0.5	0.4	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	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	—	—
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	—	—
Heroin Without a Needle [j]																																	
8th Grade	—	—	—	—	0.8	1.0	0.8	0.8	0.9	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6	0.4	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	—	—
10th Grade	—	—	—	—	0.8	0.9	1.1	1.0	1.1	1.1	0.7	0.8	0.5	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.1	0.1	0.2	0.1	0.1	—	—
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	—	—
Bath salts (synthetic stimulants) [n,o]																																	
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	—	—	—	—	—

(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[kk]	2020	2021	2022	2021–2022 change
Powdered Alcohol [n,o]																																	
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	—	—	—	—
Methaqualone [e,k]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.5	0.6	0.2	0.8	0.7	1.1	1.0	1.1	1.1	0.3	0.8	0.9	0.6	0.8	0.9	0.8	0.5	0.5	0.6	0.3	0.3	0.4	—	—	—	—	—	—	—	—	—	—	—
JUUL[jj]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.7	12.8	6.2	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.7	23.3	9.2	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.4	26.1	12.2	—	—
Bidis [n,o]																																	
8th Grade	—	—	—	—	—	—	—	—	—	3.9	2.7	2.7	2.0	1.7	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	6.4	4.9	3.1	2.8	2.1	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	9.2	7.0	5.9	4.0	3.6	3.3	2.3	1.7	1.9	1.5	1.4	—	—	—	—	—	—	—	—	—	—	—	—	—
Kreteks [n,o]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	2.6	2.6	2.0	1.9	1.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	6.0	4.9	3.8	3.7	2.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	10.1	8.4	6.7	6.5	7.1	6.2	6.8	6.8	5.5	4.6	2.9	3.0	1.6	1.6	—	—	—	—	—	—	—	—	—

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

Note: See footnotes following Table 8.

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

	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[kk]	2020	2021	2022	2021–2022 change
Any Illicit Drug [a,ll]																																	
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	6.5	+0.6
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	12.9	+1.9
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	21.6	+1.0
Any Illicit Drug other than Marijuana [a,b]																																	
8th Grade	3.8	4.7	5.3	5.6	6.5	6.9	6.0	5.5	5.5	5.6‡	5.5	4.7	4.7	4.1	4.1	3.8	3.6	3.8	3.5	3.5	3.4	2.6‡	3.6	3.3	3.1	2.7	2.7	3.0	3.4	3.5	2.4	2.5	+0.1
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	2.4	0.0
12th Grade	7.1	6.3	7.9	8.8	10.0	9.5	10.7	10.7	10.4	10.4‡	11.0	11.3	10.4	10.8	10.3	9.8	9.5	9.3	8.6	8.6	8.9	8.4‡	8.2	7.7	7.6	6.9	6.3	6.0	5.2	4.8	2.9	3.6	+0.7
Any Illicit Drug including Inhalants [a,c,ll]																																	
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	7.7	+0.8
10th Grade	13.1	12.6	15.5	20.0	21.6	24.5	24.1	22.5	23.1	23.6	23.6	21.7	20.5	19.3	18.4	17.7	18.1	16.8	18.8	19.4	20.1	19.3‡	20.0	19.1	17.1	16.4	18.0	18.7	20.4	18.7	11.4	13.7	+2.3 s
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	22.6	+1.6
Abstainers [ll,mm]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87.0	84.2	82.2	82.7	86.9	87.1	+0.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	68.9	65.2	64.8	65.4	77.4	75.2	-2.2
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52.6	51.8	53.8	53.1	60.1	58.3	-1.8
Marijuana/Hashish [ll]																																	
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	5.0	+0.9
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	12.1	+2.1
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	20.2	+0.7
Inhalants [c,d]																																	
8th Grade	4.4	4.7	5.4	5.6	6.1	5.8	5.6	4.8	5.0	4.5	4.0	3.8	4.1	4.5	4.2	4.1	3.9	4.1	3.8	3.6	3.2	2.7	2.3	2.2	2.0	1.8	2.1	1.8	2.1	2.9	1.8	1.9	+0.1
10th Grade	2.7	2.7	3.3	3.6	3.5	3.3	3.0	2.9	2.6	2.6	2.4	2.4	2.2	2.4	2.2	2.3	2.5	2.1	2.2	2.0	1.7	1.4	1.3	1.1	1.2	1.0	1.1	1.0	1.1	1.2	0.9	1.2	+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	0.7	0.0
Hallucinogens [b,f]																																	
8th Grade	0.8	1.1	1.2	1.3	1.7	1.9	1.8	1.4	1.3	1.2‡	1.6	1.2	1.2	1.0	1.1	0.9	1.0	0.9	0.9	1.0	1.0	0.6	0.8	0.5	0.6	0.6	0.5	0.6	0.6	0.9	0.4	0.5	+0.1
10th Grade	1.6	1.8	1.9	2.4	3.3	2.8	3.3	3.2	2.9	2.3‡	2.1	1.6	1.5	1.6	1.5	1.5	1.7	1.3	1.4	1.6	1.4	1.2	1.1	1.2	0.9	0.9	1.1	0.8	1.3	1.4	0.8	0.7	-0.1
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	1.4	+0.5 s
LSD [b]																																	
8th Grade	0.6	0.9	1.0	1.1	1.4	1.5	1.5	1.1	1.1	1.0	1.0	0.7	0.6	0.5	0.5	0.4	0.5	0.5	0.5	0.6	0.5	0.3	0.5	0.3	0.4	0.4	0.3	0.4	0.4	0.6	0.2	0.2	0.0
10th Grade	1.5	1.6	1.6	2.0	3.0	2.4	2.8	2.7	2.3	1.6	1.5	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.5	0.7	0.7	0.5	0.6	0.6	0.6	0.7	0.8	0.5	1.1	1.0	0.4	0.4	0.0
12th Grade	1.9	2.0	2.4	2.6	4.0	2.5	3.1	3.2	2.7	1.6	2.3	0.7	0.6	0.7	0.7	0.6	0.6	1.1	0.5	0.8	0.8	0.8	0.8	1.0	1.1	1.0	1.2	1.0	1.4	1.4	0.5	0.8	+0.3

(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

	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[kk]	2020	2021	2022	2021–2022 change
Hallucinogens other than LSD [b]																																	
8th Grade	0.3	0.4	0.5	0.7	0.8	0.9	0.7	0.7	0.6	0.6‡	1.1	1.0	1.0	0.8	0.9	0.7	0.7	0.7	0.7	0.8	0.7	0.5	0.5	0.4	0.3	0.3	0.3	0.4	0.4	0.6	0.2	0.4	+0.1
10th Grade	0.4	0.5	0.7	1.0	1.0	1.0	1.2	1.4	1.2	1.2‡	1.4	1.4	1.2	1.4	1.3	1.3	1.4	1.0	1.1	1.2	1.1	0.9	0.8	0.8	0.6	0.5	0.6	0.5	0.8	0.9	0.6	0.5	-0.1
12th Grade	0.7	0.5	0.8	1.2	1.3	1.6	1.7	1.6	1.6	1.7‡	1.9	2.0	1.5	1.7	1.6	1.3	1.4	1.6	1.4	1.5	1.2	1.3	1.0	1.0	0.9	0.7	1.0	0.9	1.0	0.7	0.8	1.1	+0.3
MDMA (Ecstasy, Molly) [g]																																	
8th Grade		—	—	—	—	1.0	1.0	0.9	0.8	1.4	1.8	1.4	0.7	0.8	0.6	0.7	0.6	0.8	0.6	1.1	0.6	0.5	0.5‡	0.7	0.5	0.3	0.4	0.4	0.5	0.3	0.2	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‡	1.1	0.9	0.5	0.5	0.4	0.7	0.5	0.1	0.3	+0.2
12th Grade		—	—	—	—	2.0	1.6	1.5	2.5	3.6	2.8	2.4	1.3	1.2	1.0	1.3	1.6	1.8	1.8	1.4	2.3	0.9	1.5‡	1.5	1.1	0.9	0.9	0.5	0.7	0.8	0.2	0.9	+0.8 ss
Cocaine																																	
8th Grade	0.5	0.7	0.7	1.0	1.2	1.3	1.1	1.4	1.3	1.2	1.2	1.1	0.9	0.9	1.0	1.0	0.9	0.8	0.8	0.6	0.8	0.5	0.5	0.5	0.5	0.3	0.4	0.3	0.3	0.1	0.1	0.3	+0.2 s
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	0.2	-0.1
12th Grade	1.4	1.3	1.3	1.5	1.8	2.0	2.3	2.4	2.6	2.1	2.1	2.3	2.1	2.3	2.3	2.5	2.0	1.9	1.3	1.3	1.1	1.1	1.1	1.0	1.1	0.9	1.2	1.1	1.0	0.8	0.3	0.8	+0.4 ss
Crack																																	
8th Grade	0.3	0.5	0.4	0.7	0.7	0.8	0.7	0.9	0.8	0.8	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.5	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.3	+0.2 ss
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	-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	0.6	+0.3 s
Cocaine other than Crack [h]																																	
8th Grade	0.5	0.5	0.6	0.9	1.0	1.0	0.8	1.0	1.1	0.9	0.9	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.5	0.6	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.2	0.1	0.1	0.2	+0.1
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	0.1	-0.2
12th Grade	1.2	1.0	1.2	1.3	1.3	1.6	2.0	2.0	2.5	1.7	1.8	1.9	1.8	2.2	2.0	2.4	1.7	1.7	1.1	1.1	1.0	1.0	0.9	0.9	1.1	0.6	1.1	1.0	0.9	1.0	0.1	0.8	+0.7 ss
Heroin [I,j]																																	
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	+0.1
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	0.2	+0.1
12th Grade	0.2	0.3	0.2	0.3	0.6	0.5	0.5	0.5	0.5	0.7	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.2	0.3	0.2	0.3	0.3	0.1	0.3	+0.2 s
Narcotics other than Heroin [k,l]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.1	1.2	1.3	1.5	1.8	2.0	2.3	2.4	2.6	2.9	3.0‡	4.0	4.1	4.3	3.9	3.8	3.8	3.8	4.1	3.6	3.6	3.0	2.8	2.2	2.1	1.7	1.6	1.1	1.0	0.7	0.3	0.7	+0.4
Amphetamines [k,m]																																	
8th Grade	2.6	3.3	3.6	3.6	4.2	4.6	3.8	3.3	3.4	3.4	3.2	2.8	2.7	2.3	2.3	2.1	2.0	2.2	1.9	1.8	1.8	1.3‡	2.3	2.1	1.9	1.7	1.7	1.8	2.2	2.2	1.7	1.9	+0.2
10th Grade	3.3	3.6	4.3	4.5	5.3	5.5	5.1	5.1	5.0	5.4	5.6	5.2	4.3	4.0	3.7	3.5	4.0	2.8	3.3	3.3	3.1	2.8‡	3.3	3.7	3.1	2.7	2.5	2.4	2.4	1.9	1.4	1.3	0.0
12th Grade	3.2	2.8	3.7	4.0	4.0	4.1	4.8	4.6	4.5	5.0	5.6	5.5	5.0	4.6	3.9	3.7	3.7	2.9	3.0	3.3	3.7	3.3‡	4.2	3.8	3.2	3.0	2.6	2.4	2.0	1.7	1.0	1.3	+0.2

(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

	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[kk]	2020	2021	2022	2021–2022 change
Methamphetamine [n,o]																																	
8th Grade	—	—	—	—	—	—	—	—	1.1	0.8	1.3	1.1	1.2	0.6	0.7	0.6	0.6	0.7	0.5	0.7	0.4	0.5	0.4	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.0	0.1	0.0
10th Grade	—	—	—	—	—	—	—	—	1.8	2.0	1.5	1.8	1.4	1.3	1.1	0.7	0.4	0.7	0.6	0.7	0.5	0.6	0.4	0.3	0.3	0.2	0.1	0.1	0.3	0.2	0.1	0.1	0.0
12th Grade	—	—	—	—	—	—	—	—	1.7	1.9	1.5	1.7	1.7	1.4	0.9	0.9	0.6	0.6	0.5	0.5	0.6	0.5	0.4	0.5	0.4	0.3	0.3	0.3	0.3	0.8	0.1	0.4	+0.3
Crystal Methamphetamine (Ice) [o]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.6	0.5	0.6	0.7	1.1	1.1	0.8	1.2	0.8	1.0	1.1	1.2	0.8	0.8	0.9	0.7	0.6	0.6	0.5	0.6	0.6	0.4	0.8	0.4	0.3	0.4	0.5	0.4	0.4	0.0	0.2	0.3	+0.1
Sedatives (Barbiturates) [k,p]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.4	1.1	1.3	1.7	2.2	2.1	2.1	2.6	2.6	3.0	2.8	3.2	2.9‡	2.9	3.3	3.0	2.7	2.8	2.5	2.2	1.8	2.0	2.2	2.0	1.7	1.5	1.4	1.2	1.2	1.2	0.9	1.1	+0.3
Tranquilizers [b,k]																																	
8th Grade	0.8	0.8	0.9	1.1	1.2	1.5	1.2	1.2	1.1	1.4‡	1.2	1.2	1.4	1.2	1.3	1.3	1.1	1.2	1.2	1.2	1.0	0.8	0.9	0.8	0.8	0.8	0.7	0.9	1.2	1.1	0.4	0.6	+0.2
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	0.6	0.0
12th Grade	1.4	1.0	1.2	1.4	1.8	2.0	1.8	2.4	2.5	2.6‡	2.9	3.3	2.8	3.1	2.9	2.7	2.6	2.6	2.7	2.5	2.3	2.1	2.0	2.1	2.0	1.9	2.0	1.3	1.3	1.0	0.4	0.7	+0.3 s
Any Prescription Drug [q]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.6	8.1	7.8	7.2	7.3	6.9	7.2	7.0‡	7.1	6.4	5.9	5.4	4.9	4.2	3.6	3.3	2.1	2.6	+0.5
Rohypnol [r]																																	
8th Grade	—	—	—	—	—	0.5	0.3	0.4	0.3	0.3	0.4	0.2	0.1	0.2	0.2	0.4	0.3	0.1	0.2	0.2	0.6	0.1	0.1	0.2	0.1	0.2	0.1	0.3	0.4	§	0.1	0.2	+0.2
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	0.0	-0.1
12th Grade	—	—	—	—	—	0.5	0.3	0.3	0.3	0.4	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [s,nn]																																	
Any Use																																	
8th Grade	25.1	26.1‡	24.3	25.5	24.6	26.2	24.5	23.0	24.0	22.4	21.5	19.6	19.7	18.6	17.1	17.2	15.9	15.9	14.9	13.8	12.7	11.0	10.2	9.0	9.7	7.3	8.0	8.2	7.9	9.9	7.3	6.0	-1.3
10th Grade	42.8	39.9‡	38.2	39.2	38.8	40.4	40.1	38.8	40.0	41.0	39.0	35.4	35.4	35.2	33.2	33.8	33.4	28.8	30.4	28.9	27.2	27.6	25.7	23.5	21.5	19.9	19.7	18.6	18.4	20.3	13.1	13.6	+0.5
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	28.4	+2.5
Been Drunk [o]																																	
8th Grade	7.6	7.5	7.8	8.7	8.3	9.6	8.2	8.4	9.4	8.3	7.7	6.7	6.7	6.2	6.0	6.2	5.5	5.4	5.4	5.0	4.4	3.6	3.5	2.7	3.1	1.8	2.2	2.1	2.6	3.4	2.0	1.5	-0.5
10th Grade	20.5	18.1	19.8	20.3	20.8	21.3	22.4	21.1	22.5	23.5	21.9	18.3	18.2	18.5	17.6	18.8	18.1	14.4	15.5	14.7	13.7	14.5	12.8	11.2	10.3	9.0	8.9	8.4	8.8	9.3	5.4	5.7	+0.3
12th Grade	31.6	29.9	28.9	30.8	33.2	31.3	34.2	32.9	32.9	32.3	32.7	30.3	30.9	32.5	30.2	30.0	28.7	27.6	27.4	26.8	25.0	28.1	26.0	23.5	20.6	20.4	19.1	17.5	17.5	19.8	15.5	16.8	+1.3

(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																														2021–2022 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[kk]	2020	2021	2022	
Flavored Alcoholic Beverages [e,n]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	14.6	12.9	13.1	12.2	10.2	9.5	9.4	8.6	7.6	6.3	5.7	5.5	4.0	4.4	4.9	4.5	6.6	4.6	3.9	-0.8
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	9.7	+1.9
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	31.1	30.5	29.3	29.1	27.4	27.4	24.1	23.1	21.8	21.0	19.9	20.8	18.3	20.2	18.1	18.5	§	15.3	21.2	+5.9 ss
Cigarettes																																	
Any Use																																	
8th Grade	14.3	15.5	16.7	18.6	19.1	21.0	19.4	19.1	17.5	14.6	12.2	10.7	10.2	9.2	9.3	8.7	7.1	6.8	6.5	7.1	6.1	4.9	4.5	4.0	3.6	2.6	1.9	2.2	2.3	2.2	1.1	0.8	-0.3
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	1.7	-0.2
12th Grade	28.3	27.8	29.9	31.2	33.5	34.0	36.5	35.1	34.6	31.4	29.5	26.7	24.4	25.0	23.2	21.6	21.6	20.4	20.1	19.2	18.7	17.1	16.3	13.6	11.4	10.5	9.7	7.6	5.7	7.5	4.1	4.0	-0.1
Smokeless Tobacco [t]																																	
8th Grade	6.9	7.0	6.6	7.7	7.1	7.1	5.5	4.8	4.5	4.2	4.0	3.3	4.1	4.1	3.3	3.7	3.2	3.5	3.7	4.1	3.5	2.8	2.8	3.0	3.2	2.5	1.7	2.1	2.5	2.3	1.6	1.2	-0.5
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	2.5	+0.8 s
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	3.2	+1.0
Large Cigars [ii]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	2.4	1.5	1.5	1.7	1.3	1.5	1.1	0.5	-0.6
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.9	3.4	2.3	2.6	2.8	2.1	1.2	1.3	0.8	-0.5
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.4	7.0	6.5	5.6	5.2	5.3	§	2.3	2.3	0.0
Flavored Little Cigars [ii]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.1	4.1	2.8	2.6	2.6	2.2	2.3	1.0	0.7	-0.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	6.1	4.9	4.0	5.3	3.7	3.0	1.5	1.4	-0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.9	11.4	9.5	10.1	8.9	7.7	§	1.9	2.2	+0.2
Regular Little Cigars [ii]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.5	3.3	1.9	1.6	1.6	1.6	1.4	0.8	0.8	-0.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.4	3.8	3.0	3.0	3.1	2.6	2.4	1.2	1.1	-0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.0	7.8	6.1	6.6	5.8	4.9	§	1.8	1.6	-0.2
Any Vaping [bb,cc]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.0	6.2‡	6.6	10.4	12.2	12.5	8.9	8.9	0.0
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.2	11.0‡	13.1	21.7	25.0	23.5	15.6	17.3	+1.7
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.3	12.5‡	16.6	26.7	30.9	28.2	24.0	25.6	+1.6
Vaping Nicotine [bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.5	6.1	9.6	10.5	7.6	7.1	-0.5
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.2	16.1	19.9	19.3	13.1	14.2	+1.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.0	20.9	25.5	24.7	19.6	20.7	+1.1

(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

	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[kk]	2020	2021	2022	2021–2022 change
Vaping Marijuana [bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	2.6	3.9	4.2	2.9	4.2	+1.3 s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.3	7.0	12.6	11.3	8.4	10.3	+1.9
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.9	7.5	14.0	12.2	12.4	14.8	+2.3 s
Vaping Just Flavoring [bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.3	8.1	7.7	6.8	4.6	4.9	+0.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.2	13.1	10.5	10.4	6.3	7.4	+1.0
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.7	13.5	10.7	8.4	7.4	8.3	+0.9
Flavoring Vaping with no Nicotine Vaping [bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.7	3.6	1.9	1.2	0.9	0.9	0.0
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.8	4.1	2.0	2.0	0.7	0.8	+0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.1	7.6	2.3	0.8	0.7	1.1	+0.3 s
Tobacco Using a Hookah [ii]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.8	2.5	1.6	1.3	0.7	1.1	1.0	-0.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.0	3.0	2.4	2.4	1.0	0.7	1.0	+0.2
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.1	5.0	4.4	4.0	§	1.0	1.8	+0.8
Any Nicotine Use [e,gg]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.3	11.2	9.4	8.7	-0.7
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.0	18.8	15.7	15.1	-0.5
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.6	32.5	33.6	§	24.6	24.8	+0.2
Any Nicotine Use other than Vaping [e,hh]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.9	4.7	3.2	2.7	-0.5
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.3	6.6	4.2	4.2	+0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.6	18.5	15.7	§	7.7	8.3	+0.6
Steroids [k,u]																																	
8th Grade	0.4	0.5	0.5	0.5	0.6	0.4	0.5	0.5	0.7	0.8	0.7	0.8	0.7	0.5	0.5	0.5	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.5	+0.4 ss
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	+0.2 s
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	1.3	+0.8 sss
Legal Use of Over-the-Counter Stimulants																																	
Diet Pills [e]																																	
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	1.1	0.0

(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

	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[kk]	2020	2021	2022	2021–2022 change
Stay-Awake Pills [e]																																	
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	0.8	+0.3
Look-Alikes [e]																																	
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	—	—	—	—	—	—
Legal Use of Prescription ADHD Drugs																																	
Stimulant-Type [n,dd,ee]																																	
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	4.2	0.0
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	4.3	+0.7
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	5.6	+2.2 s
Non-Stimulant-Type [n,dd,ee]																																	
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	1.3	+0.4
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	1.3	-0.2
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	3.5	+1.2
Either Type [n,dd,ee]																																	
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	5.4	-0.1
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	5.3	+0.4
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	8.4	+3.2 ss
Previously surveyed drugs that have been dropped.																																	
Nitrites [e]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.4	0.3	0.6	0.4	0.4	0.7	0.7	1.0	0.4	0.3	0.5	0.6	0.7	0.7	0.5	0.3	0.5	0.3	0.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PCP [e]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.5	0.6	1.0	0.7	0.6	1.3	0.7	1.0	0.8	0.9	0.5	0.4	0.6	0.4	0.7	0.4	0.5	0.6	0.5	0.8	0.8	0.5	0.4	—	—	—	—	—	—	—	—	—	—
Heroin With a Needle [j]																																	
8th Grade	—	—	—	—	0.4	0.5	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.0	—	—
10th Grade	—	—	—	—	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.1	0.1	0.2	0.1	0.1	—	—
12th Grade	—	—	—	—	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.1	0.4	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.1	0.1	—	—

(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																														2021–2022 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[kk]	2020	2021	2022	
Heroin Without a Needle [j]																																	
8th Grade	—	—	—	—	0.3	0.4	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.0	—	—
10th Grade	—	—	—	—	0.3	0.3	0.4	0.5	0.5	0.4	0.2	0.4	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.2	0.1	0.0	—	—
12th Grade	—	—	—	—	0.6	0.4	0.6	0.4	0.4	0.7	0.3	0.5	0.4	0.3	0.5	0.3	0.4	0.2	0.3	0.4	0.4	0.2	0.2	0.4	0.3	0.1	0.2	0.1	0.2	0.1	0.1	—	—
Methaqualone [e,k]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.2	0.4	0.1	0.4	0.4	0.6	0.3	0.6	0.4	0.2	0.5	0.3	0.4	0.5	0.5	0.4	0.4	0.2	0.3	0.2	0.2	0.3	—	—	—	—	—	—	—	—	—	—	—
JUUL [jj]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.5	6.3	3.3	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.5	12.3	4.6	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.8	12.9	6.8	—	—

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

Note: See footnotes following Table 8.

TABLE 8
Trends in 30-Day Prevalence of Daily Use of Various Drugs and Binge Drinking 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[kk]	2020	2021	2022	2021–2022 change
Marijuana/Hashish																																	
Used Daily in Past 30 Days [aa,ll]																																	
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	0.7	+0.1
10th Grade	0.8	0.8	1.0	2.2	2.8	3.5	3.7	3.6	3.8	3.8	4.5	3.9	3.6	3.2	3.1	2.8	2.8	2.7	2.8	3.3	3.6	3.5	4.0	3.4	3.0	2.5	2.9	3.4	4.8	4.4	3.2	2.1	-1.0
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	6.3	+0.6
Ever Used Daily for Month or More in Lifetime [e]																																	
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	13.6	+1.2
Alcohol [s,aa,nn]																																	
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	-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	0.4	0.0
12th Grade	3.6	3.4‡	3.4	2.9	3.5	3.7	3.9	3.9	3.4	2.9	3.6	3.5	3.2	2.8	3.1	3.0	3.1	2.8	2.5	2.7	2.1	2.5	2.2	1.9	1.9	1.3	1.6	1.2	1.7	2.7	0.9	1.5	+0.6 s
Been Drunk																																	
Daily [o,aa]																																	
8th Grade	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0
10th Grade	0.2	0.3	0.4	0.4	0.6	0.4	0.6	0.6	0.7	0.5	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.3	0.4	0.3	0.2	0.4	0.3	0.3	0.1	0.1	0.2	0.2	0.2	0.3	0.1	0.2	0.0
12th Grade	0.9	0.8	0.9	1.2	1.3	1.6	2.0	1.5	1.9	1.7	1.4	1.2	1.6	1.8	1.5	1.6	1.3	1.4	1.1	1.6	1.3	1.5	1.3	1.1	0.8	0.8	1.1	0.7	1.1	0.8	0.4	0.8	+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	2.2	-0.5
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	5.9	+0.1
12th Grade	29.8	27.9	27.5	28.2	29.8	30.2	31.3	31.5	30.8	30.0	29.7	28.6	27.9	29.2	27.1	25.4	25.9	24.6	25.2	23.2	21.6	23.7	22.1	19.4	17.2	15.5	16.6	13.8	14.4	16.8	11.8	12.6	+0.8

(Table continued on next page.)

TABLE 8 (cont.)
Trends in 30-Day Prevalence of Daily Use of Various Drugs and Binge Drinking 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[kk]	2020	2021	2022	2021–2022 change
10+ Drinks in a Row in Last 2 Weeks [e,ff]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.2	1.1	1.1	1.7	0.9	1.0	0.6	-0.4
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.0	3.6	3.3	3.3	2.5	2.1	1.9	-0.2
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	4.3	+1.1
15+ Drinks in a Row in Last 2 Weeks [e]																																	
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	2.4	+1.1
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	0.3	-0.1
10th Grade	12.6	12.3	14.2	14.6	16.3	18.3	18.0	15.8	15.9	14.0	12.2	10.1	8.9	8.3	7.5	7.6	7.2	5.9	6.3	6.6	5.5	5.0	4.4	3.2	3.0	1.9	2.2	1.8	1.3	1.2	0.8	0.7	-0.1
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	1.6	-0.4
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	0.0
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	0.3	0.0
12th Grade	10.7	10.0	10.9	11.2	12.4	13.0	14.3	12.6	13.2	11.3	10.3	9.1	8.4	8.0	6.9	5.9	5.7	5.4	5.0	4.7	4.3	4.0	3.4	2.6	2.1	1.8	1.7	1.5	0.9	1.4	0.8	0.9	+0.1
Vaping Nicotine [bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0‡	0.8	1.1	1.2	+0.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.8‡	3.0	2.5	3.3	+0.8
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.6‡	5.2	5.4	6.2	+0.8
Vaping Marijuana [bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8‡	0.2	0.4	0.6	+0.2
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.0‡	0.9	1.2	1.3	+0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.5‡	1.6	1.7	2.1	+0.4
Vaping Just Flavoring [bb]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.2‡	0.4	0.5	0.6	+0.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0‡	1.2	0.9	1.0	+0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.8‡	1.4	0.8	1.7	+0.9 sss

(Table continued on next page.)

TABLE 8 (cont.)
Trends in 30-Day Prevalence of Daily Use of Various Drugs and Binge Drinking 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[kk]	2020	2021	2022	2021–2022 change
Smokeless Tobacco Daily [t]																																	
8th Grade	1.6	1.8	1.5	1.9	1.2	1.5	1.0	1.0	0.9	0.9	1.2	0.8	0.8	1.0	0.7	0.7	0.8	0.8	0.8	0.9	0.8	0.5	0.5	0.5	0.8	0.6	0.4	0.3	0.5	0.5	0.4	0.3	-0.2
10th Grade	3.3	3.0	3.3	3.0	2.7	2.2	2.2	2.2	1.5	1.9	2.2	1.7	1.8	1.6	1.9	1.7	1.6	1.4	1.9	2.5	1.7	2.0	1.9	1.8	1.6	1.0	0.6	1.0	0.9	0.7	0.4	0.7	+0.4 s
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	1.1	+0.5
Legal Use of Stimulants																																	
Energy Drinks 1 or More Daily [e,z]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.6	17.7	16.3	14.2	12.8	12.1	11.3	10.1	10.3	10.5	§	13.8	15.0	+1.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.6	11.4	10.8	10.3	9.6	7.8	9.2	8.8	9.1	10.5	§	12.6	16.2	+3.6 ss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.3	9.5	9.2	8.2	8.3	7.8	9.8	9.4	10.1	11.6	§	13.1	16.5	+3.4
Energy Shots 1 or More Daily [e,z]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.4	6.8	5.7	5.6	4.2	5.3	4.4	4.0	3.7	4.6	§	3.7	4.5	+0.8
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.3	4.6	4.0	4.0	3.4	2.6	3.3	3.3	3.8	4.1	§	2.6	4.7	+2.1 sss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.3	4.0	2.7	2.5	2.1	3.1	4.1	3.8	4.2	4.1	§	2.9	3.3	+0.4
Either Energy Drinks or Energy Shots 1 or More Daily [e,z]																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.5	18.9	17.2	15.4	13.5	13.0	12.3	11.1	11.4	11.7	§	14.5	16.1	+1.6
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.4	12.4	11.8	11.3	10.1	8.4	10.0	9.5	9.9	11.6	§	13.2	17.5	+4.3 ss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.5	11.0	9.9	9.1	9.3	9.0	10.9	10.9	11.2	12.8	§	14.3	17.5	+3.2

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

Note. See footnotes following Table 8.

Footnotes for Tables 5 through 8

Approximate Weighted *N*s	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
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	16,100
10th Graders	14,800	14,800	15,300	15,800	17,000	15,600	15,500	15,000	13,600	14,300	14,000	14,300	15,800	16,400	16,200	16,200	16,100
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	14,500

Approximate Weighted *N*s	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2017	2018	2019	2020	2021	2022
8th Graders	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	9,300
10th Graders	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	11,200
12th Graders	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	8,900

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, due to curtailed data collection during the COVID-19 pandemic.

[a]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.

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

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

[d]Inhalants are unadjusted for underreporting of amyl and butyl nitrites.

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

[f]Hallucinogens are unadjusted for underreporting of PCP.

[g]For 8th and 10th graders only: Data based on one of two forms in 1996; *N* is one half of *N* indicated. Data based on one third of *N* indicated in 1997–2001 due to changes in the questionnaire forms. Data based on two of four forms beginning in 2002; *N* is one half of *N* indicated. 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 5 through 8 (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 ecxtasy (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.

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

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

[j] For 8th and 10th graders only: Data based on one of two forms in 1995; *N* is one half of *N* indicated. Data based on all forms 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.

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

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

[m] For 8th, 10th, and 12th graders: In 2009, the question text was changed slightly in half of the forms. An examination of the data did not show any effect from the wording change. In 2010 the remaining forms were changed in a like manner. In 2011 the question text was changed slightly in one form; bennies, Benzedrine and Methadrine were dropped from the list of examples. An examination of the data did not show any effect from the wording change. In 2013 the question wording was changed slightly in two of the 8th and 10th grade questionnaires and in three of the 12th grade questionnaires. The new wording in 2013 asked "On how many occasions (if any) have taken amphetamines or other prescription stimulant drugs…" In contrast, the old wording did not include the text highlighted in red. Results in 2013 indicated higher prevalence in questionnaires with the new wording as compared to the old wording; it was proportionally 61% higher in 8th grade, 34% higher in 10th grade, and 21% higher in 12th grade. 2013 data are based on the changed forms only; for 8th, 10th, and 12th graders N is one half of N indicated. Beginning in 2014 all questionnaires included the new, updated wording.

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

[o] For 12th graders only: Data based on two of six forms; N is two sixths of N indicated. Bidis and kreteks based on one of six forms beginning in 2009; *N* is one sixth *N* indicated.

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

Footnotes for Tables 5 through 8 (cont.)

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

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

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

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

[u]For 8th and 10th graders only: In 2006, the question text was changed slightly in half of the questionnaire forms. An examination of the data did not show any effect from the wording change. In 2007 the remaining forms were changed in a like manner. In 2008 the question text was changed slightly in half of the questionnaire forms. An examination of the data did not show any effect from the wording change. In 2009 the remaining forms were changed in a like manner. For 12th graders only: Data based on two of six forms in 1991–2005 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.

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

[w]For 12th graders only: Data based on two of six forms in 2000;*N* is two sixths of *N* indicated. Data based on three of six forms in 2001; *N* is three sixths of *N* indicated. Data based on one of six forms beginning in 2002;*N* is one sixth of *N* indicated.

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

[y]The 2003 flavored alcoholic beverage data were created by adjusting the 2004 data to reflect the change in the 2003 and 2004 alcopops data.

[z]For 8th and 10th graders only: Data based on one of four forms;*N* is one third of *N* indicated. See text for detailed explanation. For 12th graders only: Data based on two of six forms; *N* is two sixths of *N* indicated. For all grades: In 2011 the question text was "…had an alcoholic beverage containing caffeine (like Four Loko or Joose)." In 2012 the question text was changed to "…had an alcoholic beverage mixed with an energy drink (like Red Bull)." An examination of the data did not show any effect from the wording changes.

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

[bb]8th and 10th grade data based on one 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.

[cc]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.

[dd]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 5 through 8 (cont.)

[ee]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."

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

[gg]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.

[hh]Includes use of any of the following: cigarettes, large cigars, flavored small cigars, regular small cigars, tobacco using a hookah, or smokeless tobacco.

[ii]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.

[jj]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. In 2021, data based on two thirds of *N* indicated. Beginning in 2022, data based on one sixth of *N* indicated.

[kk]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.

[ll]For 8th and 10th graders only: Beginning 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-forward based on the forms that included the original question wording. N is one half of N indicated. Any illicit drug use, any illicit drug use including inhalants, and abstainers were also impacted by this change.

[mm]Respondents who report no use of alcohol, marijuana, or nicotine (either vaping or cigarettes).

[nn]A survey change that removed a skip pattern in 2022 resulted in higher levels of inconsistent responses for alcohol use among 8th and 10th grade students. Specifically, as a result of the change adolescents were more likely to indicate an inconsistent pattern (i.e., report lifetime alcohol use early in the survey but then later report that they had never used alcohol). These inconsistent responders were coded as missing in 2022; the skip pattern will be reintroduced into the survey in 2023.

TABLE 9
Trends in Harmfulness of Drugs as Perceived by 8th Graders

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

Table continued on next page.

TABLE 9 (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 [a]															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Try bath salts (synthetic stimulants) once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take bath salts (synthetic stimulants) occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try cough/cold medicine once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take cough/cold medicine occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) [b]	11.0	12.1	12.4	11.6	11.6	11.8	10.4	12.1	11.6	11.9	12.2	12.5	12.6	13.7	13.9	14.2
Take one or two drinks nearly every day [b]	31.8	32.4	32.6	29.9	30.5	28.6	29.1	30.3	29.7	30.4	30.0	29.6	29.9	31.0	31.4	31.3
Have five or more drinks once or twice each weekend [b]	59.1	58.0	57.7	54.7	54.1	51.8	55.6	56.0	55.3	55.9	56.1	56.4	56.5	56.9	57.2	56.4
Smoke one to five cigarettes per day [c]	—	—	—	—	—	—	—	—	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 [g]	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 [h]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana occasionally [m]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly [m]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally [c,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly [c,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL occasionally [k]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL regularly [k]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smoke little cigars or cigarillos regularly [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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 [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take snus regularly [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take steroids [i]	64.2	69.5	70.2	67.6	—	—	—	—	—	—	—	—	—	—	—	—
Approximate weighted N =	*17,400*	*18,700*	*18,400*	*17,400*	*17,500*	*17,900*	*18,800*	*18,100*	*16,700*	*16,700*	*16,200*	*15,100*	*16,500*	*17,000*	*16,800*	*16,500*

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TABLE 9 (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 [a]																
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 [l]	2020	2021 [n]	2022	2021-2022 change
Use marijuana once or twice [b]	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*	20.6	+1.8
Use marijuana occasionally [b]	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*	31.1	+2.9
Use marijuana regularly [b]	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*	53.6	+2.1
Try synthetic marijuana once or twice [c]	—	—	—	—	—	24.4	24.2	23.9	26.0	27.5	23.0	22.2	20.4	§	24.2*	23.0	-1.2
Take synthetic marijuana occasionally [c]	—	—	—	—	—	36.8	36.2	32.4	33.5	35.4	30.4	28.8	28.5	§	31.4*	28.6	-2.8
Try inhalants once or twice [d]	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*	20.0	+1.8
Take inhalants regularly [d]	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*	37.1	0.0
Take LSD once or twice [e]	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*	17.9	+1.8
Take LSD regularly [e]	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*	35.9	-0.8
Try ecstasy (MDMA, Molly) once or twice [f]	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*	36.2	+3.0
Take ecstasy (MDMA, Molly) occasionally [f]	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*	48.7	+0.6
Try salvia once or twice [c]	—	—	—	—	—	9.5	8.5	—	—	—	—	—	—	—	—	—	—
Take salvia occasionally [c]	—	—	—	—	—	16.1	14.6	—	—	—	—	—	—	—	—	—	—
Try crack once or twice [d]	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 [d]	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 [d,o]	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*	46.0	+2.2
Take cocaine occasionally [d,o]	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*	59.5	-4.4 sss
Try heroin once or twice without using a needle [e]	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*	53.8	+0.4
Take heroin occasionally without using a needle [e]	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*	66.6	-1.3
Try OxyContin once or twice [c]	—	—	—	—	—	21.9	19.9	22.1	20.2	21.3	21.0	20.8	19.2	§	17.7*	17.2	-0.5
Take OxyContin occasionally [c]	—	—	—	—	—	35.3	32.6	34.4	32.5	33.5	32.6	32.5	31.0	§	29.6*	29.1	-0.5
Try Vicodin once or twice [c]	—	—	—	—	—	17.5	15.0	18.4	16.9	18.3	17.1	16.1	16.0	§	18.0*	18.3	+0.3
Take Vicodin occasionally [c]	—	—	—	—	—	29.4	26.2	28.2	26.7	28.8	26.7	25.9	25.3	§	23.9*	22.9	-1.0
Try Adderall once or twice [c]	—	—	—	—	—	17.6	16.5	20.7	19.2	21.4	20.4	20.1	20.6	§	20.9*	20.5	-0.5
Take Adderall occasionally [c]	—	—	—	—	—	29.9	28.3	32.5	32.0	35.9	33.8	34.0	35.2	§	30.0*	28.1	-1.9

Table continued on next page.

TABLE 9 (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 [a]																
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 [l]	2020	2021 [n]	2022	2021-2022 change
Try bath salts (synthetic stimulants) once or twice [c]	—	—	—	—	—	24.9	39.3	36.8	33.9	31.8	32.0	30.1	—	—	—	—	—
Take bath salts (synthetic stimulants) occasionally [c]	—	—	—	—	—	38.8	51.9	49.1	45.5	42.5	43.1	41.2	—	—	—	—	—
Try cough/cold medicine once or twice [c]	—	—	—	—	—	21.2	20.1	22.9	20.9	23.5	21.2	19.5	20.7	§	22.8*	24.5	+1.7
Take cough/cold medicine occasionally [c]	—	—	—	—	—	38.8	37.3	37.9	37.3	38.6	35.2	34.5	37.8	§	34.1*	33.7	-0.3
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) [b]	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*	12.1	+2.0
Take one or two drinks nearly every day [b]	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*	29.5	+2.3
Have five or more drinks once or twice each weekend [b]	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*	51.9	+0.2
Smoke one to five cigarettes per day [c]	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*	35.5	-4.1
Smoke one or more packs of cigarettes per day [g]	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*	61.9	-2.0
Use electronic cigarettes (e-cigarettes) regularly [h]	—	—	—	—	—	—	—	14.5	18.5	21.3	20.3	22.1	—	—	—	—	—
Vape marijuana occasionally [m]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	33.8*	36.2	+2.4
Vape marijuana regularly [m]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	52.7*	53.0	+0.3
Vape an e-liquid with nicotine occasionally [c, j]	—	—	—	—	—	—	—	—	—	—	18.3	16.9	21.7	§	23.2*	24.1	+0.8
Vape an e-liquid with nicotine regularly [c, j]	—	—	—	—	—	—	—	—	—	—	32.7	32.4	40.2	§	55.1*	53.2	-1.9
Use JUUL occasionally [k]	—	—	—	—	—	—	—	—	—	—	—	—	22.6	§	27.1*	—	—
Use JUUL regularly [k]	—	—	—	—	—	—	—	—	—	—	—	—	36.2	§	48.8*	—	—
Smoke little cigars or cigarillos regularly [c]	—	—	—	—	—	—	—	28.8	31.0	32.5	30.8	30.5	35.9	§	42.8*	31.6	-11.2 sss
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*	36.5	-1.1
Take dissolvable tobacco regularly [c]	—	—	—	—	—	34.8	32.2	33.5	33.0	34.3	31.9	31.3	32.0	§	36.7*	34.0	-2.7
Take snus regularly [c]	—	—	—	—	—	42.2	38.9	38.3	37.7	37.9	36.4	34.2	36.0	§	36.4*	33.7	-2.6
Take steroids [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate weighted N =	*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*	*9,300*	

Table continued on next page.

TABLE 9 (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.

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

[b]Beginning in 2012 data based on two thirds of *N* indicated.

[c]Data based on one third of *N* indicated.

[d]Beginning in 1997, data based on two thirds of *N* indicated.

[e]Data based on one of two forms in 1993–1996; *N* is one half of *N* indicated. Beginning in 1997, data based on one third of *N* indicated due to changes in questionnaire forms.

[f]Beginning in 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.

[g]Beginning in 1999, data based on two thirds of *N* indicated due to changes in questionnaire forms.

[h]E-cigarette data based on two thirds of *N* indicated. Little cigars or cigarillos data based on one third *N* indicated.

[i]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.

[j]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.

[k]Data based on two thirds of *N* indicated.

[l]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.

[m]Data based on one half of *N* indicated.

[n]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.

[o]In 2019 and previous years the survey question asked about 'cocaine powder' and in 2020 forward it asked about 'cocaine'.

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

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

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TABLE 10 (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 [a]															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Try bath salts (synthetic stimulants) once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take bath salts (synthetic stimulants) occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try cough/cold medicine once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take cough/cold medicine occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) [b]	9.0	10.1	10.9	9.4	9.3	8.9	9.0	10.1	10.5	9.6	9.8	11.5	11.5	10.8	11.5	11.1
Take one or two drinks nearly every day [b]	36.1	36.8	35.9	32.5	31.7	31.2	31.8	31.9	32.9	32.3	31.5	31.0	30.9	31.3	32.6	31.7
Have five or more drinks once or twice each weekend [b]	54.7	55.9	54.9	52.9	52.0	50.9	51.8	52.5	51.9	51.0	50.7	51.7	51.6	51.7	53.3	52.4
Smoke one to five cigarettes per day [c]	—	—	—	—	—	—	—	—	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 [g]	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 [h]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana occasionally [m]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly [m]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally [c,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly [c,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL occasionally [k]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL regularly [k]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smoke little cigars or cigarillos regularly [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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 [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take snus regularly [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take steroids [l]	67.1	72.7	73.4	72.5	—	—	—	—	—	—	—	—	—	—	—	—
Approximate weighted N =	*14,700*	*14,800*	*15,300*	*15,900*	*17,000*	*15,700*	*15,600*	*15,000*	*13,600*	*14,300*	*14,000*	*14,300*	*15,800*	*16,400*	*16,200*	*16,200*

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TABLE 10 (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 [a]																
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 [l]	2020	2021 [n]	2022	2021-2022 change
Use marijuana once or twice [b]	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*	16.8	-0.2
Use marijuana occasionally [b]	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*	23.4	+0.8
Use marijuana regularly [b]	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*	42.2	+1.2
Try synthetic marijuana once or twice [c]	—	—	—	—	—	24.6	24.1	25.0	26.3	26.8	25.1	24.3	22.4	§	24.7*	26.1	+1.4
Take synthetic marijuana occasionally [c]	—	—	—	—	—	34.9	32.8	30.7	31.7	31.8	29.2	28.8	27.2	§	28.3*	29.0	+0.7
Try inhalants once or twice [d]	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*	27.6	-2.8
Take inhalants regularly [d]	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*	47.1	-5.2 sss
Take LSD once or twice [e]	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*	26.6	-1.1
Take LSD regularly [e]	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*	51.5	-3.7
Try ecstasy (MDMA, Molly)) once or twice [f]	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*	47.8	-5.1 s
Take ecstasy (MDMA, Molly) occasionally [f]	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*	59.8	-6.7 ss
Try salvia once or twice [c]	—	—	—	—	—	12.2	10.7	—	—	—	—	—	—	—	—	—	—
Take salvia occasionally [c]	—	—	—	—	—	20.3	17.1	—	—	—	—	—	—	—	—	—	—
Try crack once or twice [d]	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 [d]	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 [d,o]	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*	56.7	+1.4
Take cocaine occasionally [d,o]	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*	70.2	-3.8 ss
Try heroin once or twice without using a needle [e]	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*	66.1	-7.1 ss
Take heroin occasionally without using a needle [e]	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*	77.0	-4.8 s
Try OxyContin once or twice [c]	—	—	—	—	—	30.9	29.4	29.7	29.9	28.7	27.8	29.6	25.0	§	27.6*	29.7	+2.1
Take OxyContin occasionally [c]	—	—	—	—	—	48.3	44.7	44.4	43.7	41.4	41.3	43.9	41.5	§	41.3*	43.5	+2.2
Try Vicodin once or twice [c]	—	—	—	—	—	23.2	21.0	22.5	24.1	21.8	22.1	23.2	19.7	§	26.1*	27.5	+1.4
Take Vicodin occasionally [c]	—	—	—	—	—	40.3	36.0	36.4	35.4	32.6	32.0	34.8	30.5	§	32.6*	35.2	+2.6
Try Adderall once or twice [c]	—	—	—	—	—	19.7	17.6	22.2	22.9	22.5	21.6	23.2	22.3	§	25.9*	28.5	+2.6
Take Adderall occasionally [c]	—	—	—	—	—	34.3	30.5	37.0	37.0	35.8	36.4	39.8	39.1	§	38.1*	37.6	-0.4

Table continued on next page.

TABLE 10 (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 [a]																
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 [l]	2020	2021 [n]	2022	2021-2022 change
Try bath salts (synthetic stimulants) once or twice [c]	—	—	—	—	—	32.3	50.1	49.6	49.1	42.7	42.5	41.1	—	—	—	—	—
Take bath salts (synthetic stimulants) occasionally [c]	—	—	—	—	—	44.9	61.8	61.1	60.4	53.0	51.5	51.4	—	—	—	—	—
Try cough/cold medicine once or twice [c]	—	—	—	—	—	23.6	21.6	22.9	24.0	24.0	21.8	22.1	22.3	§	27.9*	29.3	+1.4
Take cough/cold medicine occasionally [c]	—	—	—	—	—	40.4	37.3	38.3	38.2	37.6	36.4	37.2	37.9	§	37.0*	38.7	+1.7
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) [b]	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*	12.2	-1.0
Take one or two drinks nearly every day [b]	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*	31.4	-3.3
Have five or more drinks once or twice each weekend [b]	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*	51.4	-2.8
Smoke one to five cigarettes per day [c]	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*	45.7	-0.1
Smoke one or more packs of cigarettes per day [g]	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*	71.0	-1.7
Use electronic cigarettes (e-cigarettes) regularly [h]	—	—	—	—	—	—	—	14.1	17.0	19.1	19.4	22.8	—	—	—	—	—
Vape marijuana occasionally [m]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	28.7*	30.0	+1.3
Vape marijuana regularly [m]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	42.9*	43.1	+0.2
Vape an e-liquid with nicotine occasionally [c,j]	—	—	—	—	—	—	—	—	—	—	17.0	17.9	22.7	§	22.8*	22.7	-0.1
Vape an e-liquid with nicotine regularly [c,j]	—	—	—	—	—	—	—	—	—	—	30.0	31.3	40.7	§	52.6*	51.5	-1.1
Use JUUL occasionally [k]	—	—	—	—	—	—	—	—	—	—	—	—	22.8	§	27.4*	—	—
Use JUUL regularly [k]	—	—	—	—	—	—	—	—	—	—	—	—	35.6	§	49.2*	—	—
Smoke little cigars or cigarillos regularly [c]	—	—	—	—	—	—	—	31.0	34.9	35.3	34.0	34.9	39.1	§	45.6*	36.6	-9.1 sss
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*	44.1	+0.2
Take dissolvable tobacco regularly [c]	—	—	—	—	—	33.3	31.3	32.0	35.6	34.2	32.7	33.2	32.9	§	38.6*	37.5	-1.1
Take snus regularly [c]	—	—	—	—	—	41.0	38.9	38.8	41.8	39.9	38.1	39.8	39.0	§	38.8*	37.8	-1.0
Take steroids [l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate weighted N =	*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*	*11,200*	0.0 0

Table continued on next page.

TABLE 10 (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.

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

[b]Beginning in 2012 data based on two thirds of *N* indicated.

[c]Data based on one third of *N* indicated.

[d]Beginning in 1997, data based on two thirds of *N* indicated.

[e]Data based on one of two forms in 1993–1996; *N* is one half of *N* indicated. Beginning in 1997, data based on one third of *N* indicated due to changes in questionnaire forms.

[f]Beginning in 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.

[g]Beginning in 1999, data based on two thirds of *N* indicated due to changes in questionnaire forms.

[h]E-cigarette data based on two thirds of *N* indicated. Little cigars or cigarillos data based on one third *N* indicated.

[i]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.

[j]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.

[k]Data based on two thirds of *N* indicated.

[l]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.

[m]Data based on one half of *N* indicated.

[n]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.

[o]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 12th Graders

How much do you think people risk harming themselves (physically or in other ways), if they . . .	Percentage saying great risk [a]															
	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 [b]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try salvia once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take salvia occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try cocaine once or twice	42.6	39.1	35.6	33.2	31.5	31.3	32.1	32.8	33.0	35.7	34.0	33.5	47.9	51.2	54.9	59.4
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 11 (cont.)
Trends in Harmfulness of Drugs as Perceived by 12th Graders

	Percentage saying great risk [a]															
How much do you think people risk harming themselves (physically or in other ways), if they . . .	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Try amphetamines once or twice [d]	35.4	33.4	30.8	29.9	29.7	29.7	26.4	25.3	24.7	25.4	25.2	25.1	29.1	29.6	32.8	32.2
Take amphetamines regularly [d]	69.0	67.3	66.6	67.1	69.9	69.1	66.1	64.7	64.8	67.1	67.2	67.3	69.4	69.8	71.2	71.2
Try Adderall once or twice [e]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try Adderall occasionally [e]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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 [f]	34.8	32.5	31.2	31.3	30.7	30.9	28.4	27.5	27.0	27.4	26.1	25.4	30.9	29.7	32.2	32.4
Take sedatives (barbiturates) regularly [f]	69.1	67.7	68.6	68.4	71.6	72.2	69.9	67.6	67.7	68.5	68.3	67.2	69.4	69.6	70.5	70.2
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 [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana occasionally [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Approximate weighted N =	*2,804*	*2,918*	*3,052*	*3,770*	*3,250*	*3,234*	*3,604*	*3,557*	*3,305*	*3,262*	*3,250*	*3,020*	*3,315*	*3,276*	*2,796*	*2,553*

Table continued on next page.

TABLE 11 (cont.)
Trends in Harmfulness of Drugs as Perceived by 12th Graders

How much do you think people risk harming themselves (physically or in other ways), if they . . .	Percentage saying great risk [a]															
	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 [b]	—	—	—	—	—	—	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 [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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 11 (cont.)
Trends in Harmfulness of Drugs as Perceived by 12th Graders

	Percentage saying great risk [a]															
How much do you think people risk harming themselves (physically or in other ways), if they . . .	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Try amphetamines once or twice [d]	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 [d]	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 [e]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try Adderall occasionally [e]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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 [f]	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 [f]	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 [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana occasionally [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Approximate weighted N =	*2,549*	*2,684*	*2,759*	*2,591*	*2,603*	*2,449*	*2,579*	*2,564*	*2,306*	*2,130*	*2,173*	*2,198*	*2,466*	*2,491*	*2,512*	*2,407*

Table continued on next page.

TABLE 11 (cont.)
Trends in Harmfulness of Drugs as Perceived by 12th Graders

	Percentage saying great risk [a]																
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 [h]	2020	2021	2022	2021 – 2022 change
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*	10.0	0.0
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*	12.7	+0.1
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*	27.6	+6.0
Try synthetic marijuana once or twice	—	—	—	—	—	23.5	25.9	32.5	33.0	35.6	33.0	30.4	28.4	§	23.0*	20.3	-2.7
Take synthetic marijuana occasionally	—	—	—	—	—	32.7	36.2	39.4	40.9	43.9	40.0	37.1	35.4	§	28.7*	25.3	-3.4
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*	27.4	-0.8
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*	60.1	+5.4
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*	44.3	+1.4
Try ecstasy (MDMA, Molly) once or twice [b]	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*	46.1	+5.5
Try salvia once or twice [c]	—	—	—	39.8	36.7‡	13.8	12.9	14.1	13.1	13.0	10.2	9.8	10.0	§	10.3*	10.4	+0.1
Take salvia occasionally	—	—	—	—	—	23.1	21.3	20.0	17.6	16.3	13.8	12.0	12.7	§	14.3*	15.2	+0.8
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*	48.1	-3.9
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*	65.1	+4.9
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*	77.1	+4.9
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*	59.4	-1.5
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*	75.8	+1.4
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*	84.1	+1.6
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*	60.0	-4.7
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*	69.4	-4.4
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*	42.9	-1.1
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*	52.9	-1.0
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*	67.4	+4.6

Table continued on next page.

TABLE 11 (cont.)
Trends in Harmfulness of Drugs as Perceived by 12th Graders

	Percentage saying great risk [a]																
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 [h]	2020	2021	2022	2021 – 2022 change
Try amphetamines once or twice [d]	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*	36.7	-2.1
Take amphetamines regularly [d]	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*	51.5	+5.6
Try Adderall once or twice [e]	—	—	—	33.3	31.2	27.2	31.8	33.6	34.3	32.5	32.0	34.0	34.3	§	30.2*	31.8	+1.6
Try Adderall occasionally [e]	—	—	—	41.6	40.8	35.3	38.8	41.5	41.6	40.9	40.6	40.1	41.8	§	41.7*	39.6	-2.1
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*	63.5	-0.7
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 [f]	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*	34.0	+3.1
Take sedatives (barbiturates) regularly [f]	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*	53.7	+4.1
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*	10.0	+0.2
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*	23.3	+1.4
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*	66.6	+2.3
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*	34.9	+0.5
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*	71.6	+5.6
Use electronic cigarettes (e-cigarettes) regularly [g]	—	—	—	—	—	—	—	14.2	16.2	18.2	16.1	18.0	—	—	—	—	—
Vape marijuana occasionally [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	16.0*	19.8	+3.7 s
Vape marijuana regularly [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	30.9*	35.9	+5.0 s
Vape an e-liquid with nicotine occasionally [g]	—	—	—	—	—	—	—	—	—	—	16.4	15.8	17.7	§	22.7*	25.3	+2.6
Vape an e-liquid with nicotine regularly [g]	—	—	—	—	—	—	—	—	—	—	27.0	27.7	35.2	§	43.7*	45.2	+1.6
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*	48.6	+2.7
Approximate weighted N =	*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*	*1,333*	

Table continued on next page.

TABLE 11 (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.

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

[b] Beginning in 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.

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

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

[e]In 2014 "(without a doctor's orders)" added to the questions on perceived risk of using Adderall.

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

[g]Based on two of six forms 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.

[h]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.

[i]Based on two of six forms; N is two times the N indicated.

TABLE 12
Trends in Disapproval of Drug Use in Grade 8

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

Table continued on next page.

TABLE 12 (cont.)
Trends in Disapproval of Drug Use in Grade 8

Do you disapprove of people who . . .	Percentage who disapprove or strongly disapprove[a]																
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019[l]	2020	2021[m]	2022	2021–2022 change
Use marijuana once or twice[b]	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*	62.2	+1.9
Use marijuana occasionally[b]	84.5	82.6	81.9	79.9	81.1	81.6	78.8	77.7	77.5	77.5	75.5	73.1	70.9	§	69.0*	69.7	+0.8
Use marijuana regularly[b]	87.7	86.8	85.9	84.3	85.7	85.6	83.8	82.2	82.2	82.3	81.2	79.3	77.5	§	75.8*	76.3	+0.5
Try inhalants once or twice[c]	84.1	82.3	83.1	83.1	82.9	83.1	81.6	80.7	80.6	78.3	77.4	75.0	75.0	§	63.8*	64.8	+1.0
Take inhalants regularly[c]	89.5	88.5	88.4	88.9	88.5	88.6	86.8	85.5	85.4	83.3	82.8	81.3	81.9	§	74.9*	75.0	0.0
Take LSD once or twice[d]	53.5	52.6	53.2	53.7	55.4	51.8	52.0	52.8	56.0	55.2	56.1	55.9	56.7	§	52.6*	51.7	-0.9
Take LSD regularly[d]	55.6	54.7	55.7	55.8	57.6	54.1	53.6	54.8	58.1	57.6	58.2	59.4	60.4	§	58.9*	56.8	-2.1
Try ecstasy (MDMA, Molly) once or twice[e]	65.7	63.5	62.3	62.4	64.2	60.2	60.9	61.0‡	68.2	64.8	63.0	63.7	65.1	§	59.1*	59.0	-0.1
Take ecstasy (MDMA, Molly) occasionally[e]	68.3	66.5	65.7	65.9	67.5	63.2	63.4	64.1‡	71.7	67.5	65.8	67.1	68.3	§	64.9*	63.7	-1.2
Try crack once or twice[c]	88.6	87.2	88.4	89.1	88.5	89.0	88.1	88.0	87.5	87.0	87.5	86.1	87.2	—	—	—	—
Take crack occasionally[c]	91.2	90.3	91.0	91.5	91.0	91.2	90.3	89.8	89.8	88.8	89.6	88.4	88.8	—	—	—	—
Try cocaine once or twice[c,n]	88.2	86.8	88.1	88.4	88.3	88.6	88.0	87.7	87.5	86.8	86.8	85.6	86.4‡	§	82.8*	81.6	-1.2
Take cocaine occasionally[c,n]	91.0	90.1	90.7	91.4	91.3	91.5	90.6	90.1	90.1	89.3	90.0	88.9	89.3‡	§	87.2*	85.5	-1.8
Try heroin once or twice without using a needle[d]	88.4	86.9	88.6	89.5	87.5	86.8	87.2	87.1	87.1	85.6	87.9	85.5	86.7	§	82.4*	82.2	-0.2
Take heroin occasionally without using a needle[d]	89.7	88.2	90.1	90.6	89.0	87.7	88.2	88.1	88.0	86.7	88.7	86.8	87.1	§	84.0*	83.1	-0.9
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)[b]	54.0	52.5	52.7	54.2	54.0	54.1	53.3	53.3	53.7	52.6	51.0	47.4	46.2	§	40.9*	47.2	+6.3 ss
Take one or two drinks nearly every day[b]	80.4	79.2	78.5	79.5	80.7	81.3	80.2	79.6	79.7	79.1	79.5	77.9	77.3	§	76.0*	76.3	+0.3
Have five or more drinks once or twice each weekend[b]	83.8	83.2	83.2	83.6	84.8	86.0	85.0	84.9	85.4	84.9	84.7	83.7	84.6	§	81.1*	81.3	+0.2
Smoke one to five cigarettes per day[e]	85.3	85.0	83.6	84.7	86.8	—	—	—	—	—	—	—	—	—	—	—	—
Smoke one or more packs of cigarettes per day[f]	87.0	86.7	87.1	87.0	88.0	88.8	88.0	87.5	88.8	88.1	88.8	87.6	87.8	§	85.6*	85.0	-0.7
Use electronic cigarettes (e-cigarettes) regularly[e]	—	—	—	—	—	—	—	58.4	65.0	66.6	—	—	—	—	—	—	—
Vape marijuana occasionally[b]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	71.7*	73.9	+2.2
Vape marijuana regularly[b]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	78.1*	79.8	+1.7
Vape an e-liquid with nicotine occasionally[e,h]	—	—	—	—	—	—	—	—	—	—	63.2	60.8	65.6	§	70.7*	70.5	-0.2
Vape an e-liquid with nicotine regularly[e,h]	—	—	—	—	—	—	—	—	—	—	69.9	68.9	74.7	§	79.0*	77.6	-1.3
Use JUUL occasionally[e]	—	—	—	—	—	—	—	—	—	—	—	—	61.1	§	68.2*	—	—
Use JUUL regularly[e]	—	—	—	—	—	—	—	—	—	—	—	—	69.9	§	75.2*	—	—
Use smokeless tobacco regularly[b]	82.3	82.1	81.5	81.2	82.6	82.7	81.5	80.2	82.5	81.1	81.3	79.9	81.3	§	78.5*	78.3	-0.2
Take steroids[g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate weighted N =	*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*	*9,300*	

Table continued on next page.

TABLE 12 (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.

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

[b]Beginning in 2012, data based on two thirds of *N* indicated.

[c]Beginning in 1997, data based on two thirds of *N* indicated.

[d]Data based on one of two forms in 1993–1996; *N* is one half of *N* indicated. Beginning in 1997, data based on one third of *N* indicated due to changes in questionnaire forms.

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

[f]Beginning in 1999, data based on two thirds of *N* indicated due to changes in questionnaire forms.

[g]Data based on two forms in 1991 and 1992. Data based on one of two forms in 1993 and 1994; *N* is one half of *N* indicated.

[h] 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.

[i]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.

[m]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).

[n]In 2019 and previous years the survey question asked about 'cocaine powder' and in 2020 forward it asked about 'cocaine'.

TABLE 13
Trends in Disapproval of Drug Use in Grade 10

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

Table continued on next page.

TABLE 13 (cont.)
Trends in Disapproval of Drug Use in Grade 10

Do you disapprove of people who . . .	Percentage who disapprove or strongly disapprove[a]																
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019[i]	2020	2021[m]	2022	2021–2022 change
Use marijuana once or twice[b]	63.9	64.5	60.1	59.2	58.5	56.2	53.2	53.8	52.7	52.6	48.1	47.9	46.0	§	47.8*	48.1	+0.3
Use marijuana occasionally[b]	73.3	73.6	69.2	68.0	67.9	65.7	62.1	62.9	62.6	61.9	58.1	57.4	55.0	§	56.6*	56.9	+0.3
Use marijuana regularly[b]	82.4	83.0	79.9	78.7	78.8	77.3	73.8	74.6	74.3	73.5	70.2	69.7	67.4	§	70.2*	69.3	-0.9
Try inhalants once or twice[c]	87.6	87.1	87.0	86.5	86.9	85.7	86.1	85.9	84.1	83.3	80.7	81.8	81.8	§	74.5*	72.5	-2.0
Take inhalants regularly[c]	91.8	91.6	91.1	90.8	90.9	90.0	89.7	89.7	88.3	87.1	85.4	86.9	86.6	§	83.4*	80.6	-2.8 s
Take LSD once or twice[d]	67.7	66.3	67.8	68.2	68.5	68.3	69.1	67.8	70.3	69.5	66.9	70.5	69.2	§	63.3*	63.8	+0.5
Take LSD regularly[d]	71.5	69.8	72.2	72.9	72.5	73.0	74.2	73.3	76.5	74.9	74.5	76.5	75.7	§	75.3*	71.1	-4.2 s
Try ecstasy (MDMA, Molly) once or twice[e]	80.0	78.1	76.5	75.5	76.1	75.3	75.4	74.4‡	78.0	76.8	74.7	75.3	76.4	§	68.6*	69.8	+1.2
Take ecstasy (MDMA, Molly) occasionally[e]	84.3	83.0	81.3	81.3	82.2	81.2	81.3	80.4‡	84.0	81.7	80.0	79.5	81.8	§	75.8*	76.2	+0.5
Try crack once or twice[c]	89.5	90.8	90.4	90.3	90.9	91.0	90.6	90.6	90.1	89.7	88.4	89.5	89.4	—	—	—	—
Take crack occasionally[c]	92.7	92.9	92.8	92.4	93.0	93.0	92.4	92.4	92.1	91.1	90.0	91.2	91.0	—	—	—	—
Try cocaine once or twice[c,n]	87.7	88.6	88.4	89.0	89.4	89.3	88.7	88.9	87.9	87.9	86.1	87.6	87.4‡	§	84.7*	84.1	-0.6
Take cocaine occasionally[c,n]	92.0	92.1	92.1	92.2	92.5	92.4	91.8	91.9	91.8	90.8	89.9	90.9	90.9‡	§	89.0*	88.5	-0.5
Try heroin once or twice without using a needle[d]	90.7	91.4	91.6	91.4	91.6	91.9	91.3	91.9	91.7	90.2	89.7	90.6	91.5	§	89.5*	87.6	-1.9
Take heroin occasionally without using a needle[d]	92.5	92.5	93.0	92.4	92.4	92.9	92.3	92.7	92.7	90.9	90.5	91.2	92.1	§	90.3*	88.5	-1.8
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)[b]	39.5	41.8	39.7	40.3	41.5	39.6	38.5	40.7	40.0	41.8	39.3	39.6	40.4	§	36.7*	37.4	+0.7
Take one or two drinks nearly every day[b]	77.1	79.1	77.6	77.6	80.0	78.0	77.1	77.9	78.2	78.6	77.7	77.9	79.4	§	77.1*	77.4	+0.3
Have five or more drinks once or twice each weekend[b]	74.1	77.2	75.1	75.9	77.3	77.5	77.8	79.5	79.6	80.8	80.1	80.4	82.4	§	78.4*	78.4	0.0
Smoke one to five cigarettes per day[e]	79.7	82.5	80.0	80.6	82.1	—	—	—	—	—	—	—	—	—	—	—	—
Smoke one or more packs of cigarettes per day[f]	84.7	85.2	84.5	83.9	85.8	86.0	86.1	88.0	88.3	88.5	87.8	88.5	89.5	§	86.5*	86.4	-0.1
Use electronic cigarettes (e-cigarettes) regularly[e]	—	—	—	—	—	—	—	54.6	59.9	65.0	—	—	—	—	—	—	—
Vape marijuana occasionally[b]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	65.3*	63.4	-1.9
Vape marijuana regularly[b]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	74.8*	73.4	-1.5
Vape an e-liquid with nicotine occasionally[e,h]	—	—	—	—	—	—	—	—	—	—	59.3	58.0	65.4	§	65.8*	67.9	+2.1
Vape an e-liquid with nicotine regularly[e,h]	—	—	—	—	—	—	—	—	—	—	68.3	67.8	75.5	§	76.7*	77.4	+0.7
Use JUUL occasionally[e]	—	—	—	—	—	—	—	—	—	—	—	—	61.1	§	71.4*	—	—
Use JUUL regularly[e]	—	—	—	—	—	—	—	—	—	—	—	—	69.9	§	79.2*	—	—
Use smokeless tobacco regularly[b]	80.9	81.8	79.5	78.5	79.5	79.5	77.7	78.7	80.1	81.2	80.7	80.7	83.2	§	79.6*	78.9	-0.7
Take steroids[g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate weighted N =	*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*	*11,200*	

Table continued on next page.

TABLE 13 (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.

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

[b]Beginning in 2012, data based on two thirds of *N* indicated.

[c]Beginning in 1997, data based on two thirds of *N* indicated due to changes in questionnaire forms.

[d]Data based on one of two forms in 1993–1996; *N* is one half of *N* indicated. Beginning in 1997, data based on one third of *N* indicated due to changes in questionnaire forms.

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

[f]Beginning in 1999, data based on two thirds of *N* indicated due to changes in questionnaire forms.

[g]Data based on two forms in 1991 and 1992. Data based on one of two forms in 1993 and 1994; *N* is one half of *N* indicated.

[h] 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.

[i]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.

[m]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).

[n]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 12

	Percentage who disapprove or strongly disapprove [b]															
Do you disapprove of people (who are 18 or older) doing each of the following? [a]	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 [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trying cocaine once or twice	81.3	82.4	79.1	77.0	74.7	76.3	74.6	76.6	77.0	79.7	79.3	80.2	87.3	89.1	90.5	91.5
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 [d]	74.8	75.1	74.2	74.8	75.1	75.4	71.1	72.6	72.3	72.8	74.9	76.5	80.7	82.5	83.3	85.3
Taking amphetamines regularly [d]	92.1	92.8	92.5	93.5	94.4	93.0	91.7	92.0	92.6	93.6	93.3	93.5	95.4	94.2	94.2	95.5
Trying sedatives (barbiturates) once or twice [e]	77.7	81.3	81.1	82.4	84.0	83.9	82.4	84.4	83.1	84.1	84.9	86.8	89.6	89.4	89.3	90.5
Taking sedatives (barbiturates) regularly [e]	93.3	93.6	93.0	94.3	95.2	95.4	94.2	94.4	95.1	95.1	95.5	94.9	96.4	95.3	95.3	96.4
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 [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL occasionally [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL regularly [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Taking steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.8
Approximate weighted N =	*2,677*	*2,957*	*3,085*	*3,686*	*3,221*	*3,261*	*3,610*	*3,651*	*3,341*	*3,254*	*3,265*	*3,113*	*3,302*	*3,311*	*2,799*	*2,566*

Table continued on next page.

TABLE 14 (cont.)
Trends in Disapproval of Drug Use in Grade 12

	Percentage who disapprove or strongly disapprove [b]															
Do you disapprove of people (who are 18 or older) doing each of the following? [a]	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 [c]	—	—	—	—	—	—	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 [d]	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 [d]	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 [e]	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 [e]	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 [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL occasionally [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL regularly [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Approximate weighted N =	*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 14 (cont.)
Trends in Disapproval of Drug Use in Grade 12

Percentage who disapprove or strongly disapprove [b]

Do you disapprove of people (who are 18 or older) doing each of the following? [a]	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 [g]	2020	2021 [h]	2022	2021–2022 change
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	34.1	§	31.2*	35.0	+3.8
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	41.4	§	38.6*	41.6	+3.0
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	63.4	§	58.0*	61.6	+3.6
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	76.1	§	68.7*	72.8	+4.0
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	93.8	§	90.3*	89.8	-0.6
Trying ecstasy (MDMA, Molly) once or twice [c]	87.8	88.2	88.2	86.3	83.9	87.1	84.9‡	83.1	84.5	84.0	85.1	85.6	89.8	§	85.5*	86.6	+1.0
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	88.5	§	81.7*	88.7	+7.1 s
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	96.5	§	92.6*	95.0	+2.5
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	88.7	—	—	—	—
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	91.1	—	—	—	—
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	91.5	—	—	—	—
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	85.7	—	—	—	—
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	90.1	—	—	—	—
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	91.2	—	—	—	—
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	95.7	§	92.8*	92.9	+0.1
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	96.7	§	94.9*	95.7	+0.8
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	97.3	§	96.3*	96.7	+0.4
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	95.2	§	93.4*	93.1	-0.3
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	95.4	§	93.9*	93.8	0.0
Trying amphetamines once or twice [d]	87.3	87.2	88.2	88.1‡	84.1	83.9	84.9	83.1	81.4	82.1	81.9	81.0	80.3	§	78.5*	84.0	+5.5
Taking amphetamines regularly [d]	95.4	94.2	95.6	94.9‡	92.9	93.9	93.2	93.0	92.2	92.2	92.0	92.8	94.4	§	88.3*	91.2	+2.9
Trying sedatives (barbiturates) once or twice [e]	86.5	86.1	87.7	87.6	87.3	88.2	88.9	88.5	87.4	86.5	85.9	86.9	85.6	—	—	—	—
Taking sedatives (barbiturates) regularly [e]	94.6	94.3	95.8	94.7	95.1	96.1	95.8	95.0	94.7	94.8	94.4	95.3	95.1	—	—	—	—
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	26.3	§	22.3*	26.7	+4.4
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	73.4	§	67.4*	71.0	+3.7
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	91.5	§	91.8*	92.2	+0.4
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	75.0	§	57.8*	66.9	+9.1 s
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	87.9	§	86.5*	86.3	-0.3
Vape marijuana occasionally [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	48.0*	52.8	+4.8
Vape marijuana regularly [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	64.5*	68.3	+3.8
Vape an e-liquid with nicotine occasionally [f]	—	—	—	—	—	—	—	—	—	—	62.0	59.2	56.6	§	60.3*	64.9	+4.6
Vape an e-liquid with nicotine regularly [f]	—	—	—	—	—	—	—	—	—	—	71.8	70.9	70.1	§	73.2*	76.0	+2.8
Use JUUL occasionally [f]	—	—	—	—	—	—	—	—	—	—	—	—	58.2	§	59.6*	—	—
Use JUUL regularly [f]	—	—	—	—	—	—	—	—	—	—	—	—	69.1	§	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	88.7	§	80.9*	84.5	+3.7
Approximate weighted N =	*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*	*1,539*	

Table continued on next page.

TABLE 14 (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.

[a]The 1975 question asked about people who are 20 or older.

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

[c]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.

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

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

[f]Based on two of six forms; N is two times the N indicated.

[g]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.

[h]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 15
Trends in Availability of Drugs as Perceived by 8th Graders

How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percentage saying fairly easy or very easy to get [a]															
	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 [b]	—	18.0	18.5	17.7	19.0	19.6	19.2	17.5	17.1	16.0	15.4	14.1	13.7	11.4	11.0	10.5
MDMA (e.g. ecstasy, "Molly") [b]	—	—	—	—	—	—	—	—	—	—	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 [b,c]	—	19.8	19.0	18.3	20.3	20.0	20.6	17.1	16.2	15.6	15.0	14.7	15.0	12.4	12.9	13.0
Amphetamines [d]	—	32.2	31.4	31.0	33.4	32.6	30.6	27.3	25.9	25.5	26.2	24.4	24.4	21.9	21.0	20.7
Crystal methamphetamine (ice) [b]	—	16.0	15.1	14.1	16.0	16.3	15.7	16.0	14.7	14.9	13.9	13.3	14.1	11.9	13.5	14.5
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 [e,f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
E-liquid with nicotine (for vaping) [e,f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Flavored e-liquid with nicotine (for vaping) [e,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
JUUL vaping device [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Approximate weighted N =		*8,355*	*16,775*	*16,119*	*15,496*	*16,318*	*16,482*	*16,208*	*15,397*	*15,180*	*14,804*	*13,972*	*15,583*	*15,944*	*15,730*	*15,502*

Table continued on next page.

TABLE 15 (cont.)
Trends in Availability of Drugs as Perceived by 8th Graders

How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percentage saying fairly easy or very easy to get [a]																
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 [h]	2020	2021 [i]	2022	2021–2022 change
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*	26.0	-0.7
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*	5.4	-0.9
PCP [b]	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*	4.0	-0.4
MDMA (e.g. ecstasy, "Molly") [b]	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*	6.0	-0.4
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*	7.1	-0.4
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*	7.1	-0.6
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*	4.8	-0.7
Narcotics other than Heroin [b,c]	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*	5.6	-0.4
Amphetamines [d]	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*	10.9	-0.5
Crystal methamphetamine (ice) [b]	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*	4.8	-0.1
Sedatives (barbiturates) [e]	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*	8.2	+0.1
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*	7.2	-0.4
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*	41.9	-6.1 ss
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*	33.8	-4.2 ss
Vaping device [e,f]	—	—	—	—	—	—	—	—	—	—	38.6	45.7	49.1	§	37.8*	34.6	-3.3
E-liquid with nicotine (for vaping) [e,f]	—	—	—	—	—	—	—	—	—	—	31.0	37.9	46.1	§	35.1*	32.7	-2.4
Flavored e-liquid with nicotine (for vaping) [e,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	33.8*	31.2	-2.5
JUUL vaping device [g]	—	—	—	—	—	—	—	—	—	—	—	—	51.5	§	43.6*	39.2	-4.4
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*	8.1	-1.0
Approximate weighted N =	*15,043*	*14,482*	*13,989*	*14,485*	*15,233*	*14,235*	*13,605*	*13,208*	*13,494*	*15,628*	*14,042*	*12,315*	*5,712*	*§*	*9,790*	*8,519*	

Table continued on next page.

TABLE 15 (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.

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

[b]Beginning in 1993, data based on one of two of forms; *N* is one half of *N* indicated. Beginning in 2014 data based on one sixth of *N* indicated. For MDMA only: In 2014 the question text was changed in one form to include "Molly." In 2015 a second from 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.

[c]In 2010 the list of examples for narcotics other than heroin was changed from methadone, opium to Vicodin, OxyContin, Percocet, etc. This change likely explains the discontinuity in the 2010 results.

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

[e]Beginning in 2017, data based on one half of *N* indicated.

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

[g] Data based on three of four forms. *N* is two thirds of *N* indicated.

[h]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.

[i]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.

[j]Question asks specifically about "e-liquid with nicotine (for vaping) with a flavor other than tobacco or menthol, such as mint or mango."

TABLE 16
Trends in Availability of Drugs as Perceived by 10th Graders

How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percentage saying fairly easy or very easy to get[a]															
	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 [b]	—	23.7	23.4	23.8	24.7	26.8	24.8	23.9	24.5	25.0	21.6	20.8	19.4	18.0	18.1	15.8
MDMA (e.g. ecstasy, "Molly") [c]	—	—	—	—	—	—	—	—	—	—	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 [b]	—	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 [d]	—	43.4	46.4	46.6	47.7	47.2	44.6	41.0	41.3	40.9	40.6	39.6	36.1	35.7	35.6	34.7
Crystal methamphetamine (ice) [b]	—	18.8	16.4	17.8	20.7	22.6	22.9	22.1	21.8	22.8	19.9	20.5	19.0	19.5	21.6	20.8
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 [e,f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
E-liquid with nicotine (for vaping) [e,f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Flavored e-liquid with nicotine (for vaping) [e,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
JUUL vaping device [h]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Approximate weighted N =		*7,014*	*14,652*	*15,192*	*16,209*	*14,887*	*14,856*	*14,423*	*13,112*	*13,690*	*13,518*	*13,694*	*15,255*	*15,806*	*15,636*	*15,804*

Table continued on next page.

TABLE 16 (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[a]																
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019[i]	2020	2021[j]	2022	2021–2022 change
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*	48.5	+0.9
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*	10.6	-2.8 ss
PCP[b]	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*	6.4	-0.4
MDMA (e.g. ecstasy, "Molly")[c]	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*	9.4	-1.9 s
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*	8.9	+0.2
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*	9.2	-0.3
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*	6.6	+0.3
Narcotics other than Heroin[b,g]	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*	9.3	-0.5
Amphetamines[d]	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*	16.7	+0.4
Crystal methamphetamine (ice)[b]	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*	6.5	+0.3
Sedatives (barbiturates)[e]	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*	11.1	-0.3
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*	10.9	-0.5
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*	58.7	-1.4
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*	47.5	-0.5
Vaping device[e,f]	—	—	—	—	—	—	—	—	—	—	59.5	66.6	68.3	§	54.6*	51.9	-2.7
E-liquid with nicotine (for vaping)[e,f]	—	—	—	—	—	—	—	—	—	—	52.8	60.4	64.5	§	48.5*	50.8	+2.3
Flavored e-liquid with nicotine (for vaping)[e,k]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	46.9*	49.4	+2.5
JUUL vaping device[h]	—	—	—	—	—	—	—	—	—	—	—	—	68.8	§	55.6*	58.3	+2.7
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*	12.2	+1.3
Approximate weighted N =	*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*	*10,346*	

Table continued on next page.

TABLE 16 (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.

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

[b]Beginning in 1993, data based on one of two forms; *N* is one half of *N* indicated. Beginning in 2014 data based on one sixth of N indicated.

[c]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 from 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.

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

[e]Beginning in 2017, data based on one half of *N* indicated.

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

[g]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.

[h] Data based on three of four forms. *N* is two thirds of *N* indicated.

[i]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.

[j]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.

[k]Question asks specifically about "e-liquid with nicotine (for vaping) with a flavor other than tobacco or menthol, such as mint or mango."

TABLE 17
Trends in Availability of Drugs as Perceived by 12th Graders

How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percentage saying fairly easy or very easy to get [a]															
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
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 [b]	47.8	35.7	33.8	33.8	34.6	35.0	32.7	30.6	26.6	26.6	26.1	24.9	25.0	26.2	28.2	28.3
PCP	—	—	—	—	—	—	—	—	—	—	—	—	22.8	24.9	28.9	27.7
MDMA (e.g. ecstasy, "molly") [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	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) [d]	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 [e]	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) [f]	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 [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping device [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
E-liquid with nicotine (for vaping) [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Flavored e-liquid with nicotine (for vaping) [g,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate weighted N =	*2,627*	*2,865*	*3,065*	*3,598*	*3,172*	*3,240*	*3,578*	*3,602*	*3,385*	*3,269*	*3,274*	*3,077*	*3,271*	*3,231*	*2,806*	*2,549*

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TABLE 17 (cont.)
Trends in Availability of Drugs as Perceived by 12th Graders

How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percentage saying fairly easy or very easy to get [a]															
	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 [b]	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") [c]	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) [d]	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 [e]	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) [f]	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 [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping device [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
E-liquid with nicotine (for vaping) [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Flavored e-liquid with nicotine (for vaping) [g,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Approximate weighted N =	*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 17 (cont.)
Trends in Availability of Drugs as Perceived by 12th Graders

How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percentage saying "fairly easy" or "very easy" to get [a]																
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 [h]	2020	2021 [i]	2022	2021–2022 change
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*	70.4	+0.8
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*	24.7	+1.1
Some other hallucinogen [b]	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*	30.6	-0.8
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") [c]	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*	17.5	-3.4
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*	18.4	+1.2
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*	11.3	+1.4
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*	12.3	+0.9
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*	11.8	+1.9
Some other narcotic (including methadone) [d]	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*	19.7	+1.0
Amphetamines [e]	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*	33.2	+3.8
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*	8.0	+0.4
Sedatives (barbiturates) [f]	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*	18.6	+2.4
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*	24.1	-1.4
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*	78.4	+1.6
Cigarettes [g]	—	—	—	—	—	—	—	—	—	—	77.9	75.1	74.7	§	57.9*	54.2	-3.7
Vaping device [g]	—	—	—	—	—	—	—	—	—	—	78.2	80.5	82.9	§	71.5*	69.3	-2.2
E-liquid with nicotine (for vaping) [g]	—	—	—	—	—	—	—	—	—	—	75.0	77.2	81.6	§	68.4*	66.5	-1.9
Flavored e-liquid with nicotine (for vaping) [g,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	§	68.0*	66.0	-2.0
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*	16.4	+3.5 s
Approximate weighted N =	*2,420*	*2,276*	*2,243*	*2,395*	*2,337*	*2,280*	*2,092*	*2,066*	*2,181*	*1,958*	*1,882*	*1,931*	*868*	*§*	*1,219*	*1,315*	

Table continued on next page.

TABLE 17 (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.

[a]Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

[b]In 2001 the question text was changed from other psychedelics to other hallucinogens and shrooms was added to the list of examples. These changes likely explain the discontinuity in the 2001 results.

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

[d]In 2010 the list of examples for narcotics other than heroin was changed from methadone, opium to Vicodin, OxyContin, Percocet, etc. This change likely explains the discontinuity in the 2010 results.

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

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

[g]Data based on 2 of 6 forms. N is twice the N indicated.

[h]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.

[i]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.

[j]Question asks specifically about "e-liquid with nicotine (for vaping) with a flavor other than tobacco or menthol, such as mint or mango."

Monitoring the Future website:
http://www.monitoringthefuture.org

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