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ABSTRACT

Over the past quarter of a century, the Monitoring the Future study has tracked young American's use of psychoactive substances, both illicit and licit. In this volume, findings are presented on the prevalence and trends of drug use and related factors for secondary school students (eight, tenth, and twelfth graders). Distinctions are made among demographic subgroups of these populations based on gender; college plans; region of the country; population density; parents' education; and race/ethnicity. This study demonstrates that key attitudes and beliefs about use of the various drugs are important determinants of trends in use over time. Attitudes are tracked as well as students' perceptions of certain relevant aspects of their social environment, including perceived availability of substances, peer norms, use by friends, and exposure to use. Chapter One provides an introduction. Chapter Two gives an overview of key findings. Chapter Three presents study design and the procedures. Chapter Four discusses the prevalence of drug use among the different grades. Chapter Five explains trends in drug use. Chapter Six looks at the incidence of drug use in the lower grades. Chapter Seven discusses the degree and duration of drug-induced highs. Chapter Eight details attitudes and beliefs about drug use. Chapter Nine includes the influence of the social milieu. Chapter Ten explains other findings from the study. (Contains 5 appendixes, 152 tables, 105 figures, and references.) (JDM)

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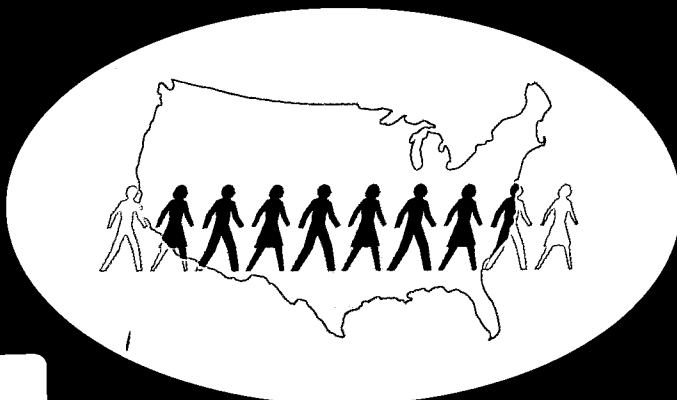
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Monitoring the Future National Survey Results on Drug Use, 1975-1999

Volume I:

Secondary School Students

1999



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MONITORING THE FUTURE
NATIONAL SURVEY RESULTS ON DRUG USE, 1975-1999

Volume I
Secondary School Students

by

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Chapter 1

INTRODUCTION

In the last third of the twentieth century we have seen an epidemic of illicit drug use among American young people which is unparalleled in this country's history. In addition, widespread alcohol and tobacco use among our youth is a topic of increasing public concern and policy attention, given the consequences for both young people and the rest of society. Since 1975, the Monitoring the Future project has provided the nation with an important window through which to view these problems and thus gain a better understanding of their changing nature and some of the dynamics that explain them. This series of annual monographs has been the primary vehicle for disseminating many of the epidemiological findings from the study, which has grown substantially in its coverage and size over the years.

This two-volume monograph reports the results of the twenty-fifth (1999) national survey of drug use and related attitudes and beliefs among American high school seniors, the twentieth such survey of American college students, and the ninth such survey of eighth- and tenth-grade students. Results from the secondary school samples of eighth, tenth, and twelfth graders are contained in Volume I, while the results from college students and young adults are reported in Volume II. This year, for the first time, Volume I on secondary school students was preceded by an advance summary of its key findings, *Monitoring the Future National Results on Adolescent Drug Use: Overview of Key Findings, 1999*.¹ The report can be obtained on the Web at <http://www.MonitoringTheFuture.org> or by contacting the authors at the Institute for Social Research, The University of Michigan, Ann Arbor, Michigan, 48106-1248.

All data presented here derive from the ongoing national research and reporting program entitled *Monitoring the Future: A Continuing Study of American Youth*, which is conducted at the University of Michigan's Institute for Social Research and has been funded through a series of investigator-initiated research grants from the National Institute on Drug Abuse. In the past the study was sometimes called the National High School Senior Survey because each year since 1975 a representative sample of all seniors in public and private high schools in the coterminous United States has been surveyed. However, the study also surveys (a) representative samples of eighth- and tenth-grade students, (b) representative samples of young adults from previous graduating classes, who are administered follow-up surveys by mail and (c) representative samples of American college students one to four years past high school, who are a part of these follow-up samples.

¹Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2000). *Monitoring the Future National Results on Adolescent Drug Use: Overview of Key Findings, 1999* (NIH Publication No. 00-4690). Rockville, MD: National Institute on Drug Abuse. c. 56 pp.

SURVEYS OF SECONDARY SCHOOL STUDENTS

Two of the major topics included in this series of annual reports are (1) the prevalence and frequency of drug use among American secondary school students (specifically, in eighth, tenth, and twelfth grades) and (2) trends in use by those students. Distinctions are made among important demographic subgroups in these populations based on gender, college plans, region of the country, population density, parents' education, and race/ethnicity. Data on grade of first use, trends in use at lower grade levels, and intensity of drug use also are reported. Key attitudes and beliefs about use of the various drugs have been demonstrated by this study to be important determinants of trends in use over time. Therefore, they are also tracked, as are students' perceptions of certain relevant aspects of the social environment—in particular, perceived availability, peer norms, use by friends, and exposure to use.

SURVEYS OF COLLEGE STUDENTS AND YOUNG ADULTS GENERALLY

Also included in this report series are findings on the prevalence and trends in drug use among young adults who have completed high school. These data are reported primarily in Volume II, although a brief summary of them is given in Chapter 2 of this volume, "Overview of Key Findings." The period of young adulthood (here defined as late teens to early thirties) is particularly important because it has tended to be the period of peak use for many drugs.

The Monitoring the Future study design calls for biennial follow-ups—through age 32—of a subsample of the participants in each participating senior class, beginning with the class of 1976. In 1999, representative samples of the graduating classes of 1985 through 1998, corresponding to modal ages of 19 to 32, provided the panel data. Because the same questionnaire forms are used in all of these follow-ups, it is possible to integrate the data across this age band. Comprehensive results from this young adult population are presented in Volume II.²

Two chapters in Volume II present data on college students specifically. Trend data are provided since 1980, the first year that a national sample of college students one to four years past high school was available from the follow-up survey. College students have not usually been well represented in national household surveys because many college students live on campus in group dwellings (dormitories, fraternities, and sororities) that often are not included in household surveys. (The National Household Survey on Drug Abuse, conducted in earlier years by NIDA and now by the Substance Abuse and Mental Health Services Administration, was revised in 1991 to include such group dwellings.) Twenty surveys on substance use among American college students have now been completed, encompassing a nineteen-year period.

²Older cohorts are now followed up again at ages 35 and 40 using somewhat different questionnaires.

CONTENT AREAS COVERED IN THIS REPORT

Initially, eleven separate classes of drugs were distinguished for this series of reports: marijuana (including hashish), inhalants, hallucinogens, cocaine, heroin, opiates other than heroin (both natural and synthetic), stimulants (more specifically, amphetamines), sedatives, tranquilizers, alcohol, and tobacco. This particular organization of drug use classes was chosen to heighten comparability with a parallel series of publications based on the National Household Surveys on Drug Abuse. Separate statistics also are presented for several subclasses of drugs within these more general classes: PCP and LSD (both hallucinogens), barbiturates and methaqualone (both sedatives), the amyl and butyl nitrites (both inhalants), crystal methamphetamine ("ice"), and crack and other cocaine. A number of these drugs appeared on the American scene after the study began and were added to the twelfth-grade questionnaires in subsequent years. Trend data for PCP and nitrites are available since 1979, when questions about the use of these drugs were added to the study because of increasing concern over their rising popularity and possibly deleterious effects. For similar reasons, a single question about crack cocaine was added to the 1986 survey and more detailed questions on crack and other cocaine were added in 1987. Questions about MDMA, or "ecstasy," were added in 1989 to the follow-up surveys only and in 1996 to the eighth-, tenth-, and twelfth-grade surveys. Questions about crystal methamphetamine ("ice") were added in 1990. Barbiturates and methaqualone, two components of the sedative class as used here, have been measured separately from the outset. Data for them are presented separately because their trend lines have proved to be quite different. Questions about anabolic steroids were added in 1989 because of reports of their increasing illicit use among young people. Questions about smokeless tobacco were added in 1986, while cigarette use has been covered since the study's inception. In 1991 questions about "getting drunk" were added to the long-standing set of questions on alcohol use. A question about Rohypnol was added to the secondary school questionnaires in 1996. Special tables on the use of heroin by injection, as well as by means other than injection, are contained in Chapters 4 and 5 on prevalence and trends in use. New questions distinguishing these two types of use were introduced in the 1995 survey. The 1999 survey incorporates a new question on the use of methamphetamines, and the 2000 survey will add questions on the use of two additional "club drugs," GHB and ketamine.

For drugs other than alcohol, cigarettes, smokeless tobacco, inhalants, and nonprescription stimulants, practically all of the information reported here deals with illicit use of controlled substances. Respondents are asked to exclude any occasions on which they used any of the psychotherapeutic drugs under medical supervision. (Some data on the medically supervised use of such drugs are contained in the full 1977, 1978, 1981, and 1983 volumes in this series, and an earlier article discussed trends in the medical use of these drugs.³)

Throughout this report we have chosen to focus attention on drug use at the higher frequency levels rather than simply to report proportions that have ever used various drugs. This is done to

³Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1987). Psychotherapeutic, licit, and illicit use of drugs among adolescents: An epidemiological perspective. *Journal of Adolescent Health Care*, 8, 36-51.

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help differentiate levels of seriousness, or extent, of drug involvement. While there is no public consensus on what levels or patterns of use constitute "abuse," there is surely a consensus that higher levels of use are more likely than lower levels to have detrimental effects for the user and society. We have also introduced indirect measures of dosage per occasion by asking respondents the duration and intensity of the highs they usually experience with each type of drug. They have shown some interesting trends over the years. Chapter 7 reports those results.

For both licit and illicit drugs, separate chapters are devoted to various variables: grade of first use; the students' own attitudes and beliefs; related attitudes, beliefs, and behaviors of others in their social environment, and perceived drug availability. Some of these variables served to explain observed secular trends in use.

Chapter 10, "Other Findings from the Study," discusses use of nonprescription stimulants, including diet pills, stay-awake pills, and the "look-alike" pseudo-amphetamines. Questions on these substances were placed in the survey beginning in 1982 because the use of them appeared to be on the rise and because it appeared that some respondents inappropriately included them in their answers about amphetamine use. That inappropriate inclusion affected some of the observed trends until the clarification in 1982.

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

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

The reader's attention is also called to Appendix D, which presents supplementary tables providing cross-time trends in the use of various drugs for a number of demographic subgroups in the population. Specifically, subgroups are differentiated on the basis of gender, college plans, region of the country, size of the community, education level of the parents (a proxy for socioeconomic status), and racial/ethnic group. The tables document a number of important subgroup differences in both levels of drug use and cross-time trends in drug use. Appendix B supplies the exact definitions used to distinguish these various subgroups. Appendix E provides trends (for 12th grade only) on individual drugs within the following general classes: hallucinogens, amphetamines, tranquilizers, and sedatives.

PURPOSES AND RATIONALE FOR THIS RESEARCH

Perhaps no area has proven more clearly appropriate for the application of systematic research and reporting than the field of substance abuse. It has been, and remains, a rapidly changing field. It has great importance for the well-being of the nation, and a large amount of legislative and programmatic intervention is addressed to it, particularly in response to the increases in adolescent smoking and illicit drug use we have been reporting in the 1990s.

Young people are often at the leading edge of social change—and this has been particularly true of drug use. The massive upsurge in illicit drug use during the last twenty-five to thirty years has proven to be a youth phenomenon, and the “relapse” in the drug epidemic in the early ‘90s occurred almost exclusively among adolescents, as this study and others have demonstrated. Adolescents and young adults in their twenties also fell into the age groups at the highest risk for illicit drug use. The original epidemic began on the nation’s college campuses and then spread downward in age, but the more recent relapse phase in the epidemic manifested itself first among secondary school students and now is moving upward in age as those cohorts mature. From one year to the next, particular drugs rise or fall in popularity, and related problems occur for youth, their families, governmental agencies, and society as a whole.

One of the major purposes of the Monitoring the Future series is to develop an accurate picture of current drug use and trends. This is a formidable task, given the illegal nature of most of the phenomena under study. A reasonably accurate picture of the basic size and contours of the illicit drug use problem among young Americans is a prerequisite for rational public debate and policymaking. In the absence of reliable *prevalence* data, substantial misconceptions can develop and resources may be misallocated. In the absence of reliable data on *trends*, the early detection and localization of emerging problems are more difficult and societal responses more lagged. We believe that Monitoring the Future played an important role in establishing that cigarette smoking among American adolescents was rising sharply in the 1990s, a fact which helped to encourage and buttress some very important policy initiatives. In addition, assessments of the impact of major historical and policy-induced events are much more conjectural without good trend data. Finally, the accurate empirical comparison of subgroup differences has challenged conventional wisdom in some important ways.

The Monitoring the Future study also monitors a number of factors that we believe help *explain* the changes observed in drug use. Many are discussed in this series of volumes. They include peer norms regarding drugs, beliefs about the dangers of drugs and perceived availability. In fact, monitoring these factors has made it possible to examine a central policy issue in this nation’s war on drugs—namely, the relative importance of supply factors versus demand factors in bringing about some of the observed declines (and more recently, increases) in drug use. We also have developed a general theory of drug epidemics that makes use of many of these concepts to explain the rises and declines that occur in use.⁴

⁴See Johnston, L. D. (1991). Toward a theory of drug epidemics. In R. L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93-132). Hillsdale, NJ: Lawrence Erlbaum.

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In addition to assessing prevalence and trends accurately, and trying to determine their causes, the Monitoring the Future study has quite a number of other important research objectives. Among these are 1) helping to determine which young people are at the greatest risk for developing various patterns of drug abuse; 2) gaining a better understanding of the lifestyles and value orientations associated with various patterns of drug use, and monitoring how subgroup differences and lifestyle orientations are shifting over time; 3) determining the immediate and more general aspects of the social environment associated with drug use and abuse; 4) determining how major transitions in social environment (entry into military service, civilian employment, college, homemaking, and unemployment) or in social roles (engagement, marriage, pregnancy, parenthood, divorce, and remarriage) affect drug use; 5) determining the life course of the various drug-using behaviors from early adolescence to middle adulthood and distinguishing such "age effects" from cohort and period effects in determining drug use; 6) evaluating possible explanations of period and age effects, including determining the effects of social legislation on various types of substance use; 7) examining possible consequences of using various drugs; and 8) determining the changing connotations of drug use and changing patterns of multiple drug use among youth.⁵ We believe that the differentiation of period, age, and cohort effects in substance use of various types has been a particularly important contribution of the project; and it is one that the project's cohort-sequential research design is especially well suited to make. Readers interested in publications dealing with any of these other areas should write the authors at the Institute for Social Research, The University of Michigan, Ann Arbor, Michigan, 48106-1248.

WEB SITE

Up-to-date information about the study, and copies of the most recent press releases and selected reports from it, may be found on the Monitoring the Future Web site at: <http://www.MonitoringTheFuture.org>.

⁵For an elaboration and discussion of the full range of Monitoring the Future research objectives in the domain of substance abuse, see Johnston, L. D., O'Malley, P. M., Bachman, J. G., and Schulenberg, J. (1996). *Aims and objectives of the Monitoring the Future study and progress toward fulfilling them*. (Monitoring the Future Occasional Paper 34, Revised). Ann Arbor, MI: Institute for Social Research.

Chapter 2

OVERVIEW OF KEY FINDINGS

Over the past quarter century the Monitoring the Future study has tracked young Americans' use of an array of psychoactive substances, both illicit and licit. This annual series of monographs is written by the study's investigators and published by its sponsor—the National Institute on Drug Abuse; and it provides one of the major vehicles by which the epidemiological findings from the study are reported. The present two-volume monograph, which reports the study's findings through 1999, is the latest one in this long-term series. This year, for the first time, an advance report was published earlier in the year, providing a synopsis of the key findings from the 1999 survey of secondary school students.⁶

Over its twenty-five year existence, Monitoring the Future has conducted in-school surveys of nationally representative samples of (a) high school seniors each year since 1975 and (b) eighth- and tenth-grade students each year since 1991. In addition, beginning with the Class of 1976, follow-up surveys have been conducted by mail on representative subsamples of the respondents from each previously participating twelfth-grade class.

Volume I of this report presents findings on the prevalence and trends in drug use and related factors for secondary school students (eighth, tenth, and twelfth graders). Trend data are presented for varying time intervals, covering up to a 24-year interval in the case of the twelfth graders. Volume II presents the comparable results for young adult high school graduates 19-32 years old, as well as college students, specifically. For college students, a particularly important subset of the young adult population for which very little nationally representative trend data exist, we present detailed prevalence and trend results covering a 19-year interval (since 1980). This year, for the first time, we include in Volume II data on 35 and 40 year-old respondents who have been followed for 17 and 22 years, respectively, since their graduation from high school.

The high school dropout segment of these populations—about 15%-20% of an age group by the end of senior year—is of necessity omitted from the coverage, though this omission should have a negligible effect on the coverage of college students. Appendix A of Volume I discusses the likely impact of omitting dropouts from the sample coverage at twelfth grade. Very few students will have left school by eighth grade, of course, and relatively few by the end of tenth grade; thus the results of the school surveys at those levels should be generalizable to the great majority of the relevant age cohorts.

⁶ Johnston, L. D., O'Malley P. M., & Bachman, J. G. (2000). *Monitoring the Future national results on adolescent drug use: overview of key findings, 1999*. (NIH Publication No. 00-4690) Bethesda, MD: National Institute on Drug Abuse. (Also available on the Web at www.MonitoringTheFuture.org.)

A number of important findings have emerged for these five national populations—eighth-grade students, tenth-grade students, twelfth-grade students, college students, and all young adults through age 28 who are high school graduates. They have been summarized and integrated in this chapter so that the reader may quickly get an overview of the key results. Because so many populations, drugs, and prevalence intervals are discussed here, a single integrative set of tables (Table 2-1 through 2-3) showing the 1991-1999 trends for all drugs on all five populations is included in this chapter.

TRENDS IN ILLICIT DRUG USE

- Earlier in the decade we noted an increase in the use of a number of illicit drugs among secondary students and some important changes among the students in terms of certain key attitudes and beliefs related to drug use. In the volume reporting 1992 survey results, we noted the beginning of such reversals in both use and attitudes among eighth graders, the youngest respondents surveyed in this study, and also a reversal in attitudes among the twelfth graders. Specifically, the proportions seeing great risk in using drugs began to decline, as did the proportions saying they disapproved of use. As we predicted, those reversals indeed presaged “an end to the improvements in the drug situation that the nation may be taking for granted.” The use of illicit drugs rose sharply in all three grade levels after 1992, as negative attitudes and beliefs about drug use continued to erode. This pattern continued for some years.

In 1997, for the first time in 6 years, illicit drug use finally began to decline among eighth graders. Use of marijuana continued to rise among tenth and twelfth graders, although their use of a number of other drugs appears to have leveled off, and relevant attitudes and beliefs also began to reverse in many cases. In 1998, illicit drug use continued a gradual decline among eighth graders and started to decline at tenth and twelfth grades. In 1999, the decline continued for eighth graders while use leveled for tenth and twelfth graders. We are hopeful that the leveling in 1999 simply represents a pause in a longer-term decline, much as did the earlier leveling in 1985 in the midst of an ongoing decline.

- As illustrated below in discussion of specific drugs, the increase in use of many drugs during the 1990s among secondary school students, combined with fairly level rates of use among college students and young adults, has resulted in some unusual reversals in the usage rates by age. In the early years of the epidemic, illicit drug use rates clearly were higher in the college age group (and eventually the young adults) than they were among secondary school students. But by the late 1990s, the highest rates of active use (i.e., annual or 30-day prevalence) tended to be found in the late secondary school years. For example, in 1999, 30-day prevalence of using *any illicit drug* is highest in twelfth grade (26%), second highest in tenth

grade (22.1%), third highest among college students (21.6%), fourth highest among 19- to 28-year-olds (17%), and lowest among eighth graders (12%). When it comes to using *any illicit drug other than marijuana* in the past 30 days, the rank order is: twelfth grade (10.4%), tenth grade (8.6%), college students (6.4%), 19- to 28-year-olds (6.0%), and finally eighth graders (5.5%). As can be seen, usage rates among tenth and twelfth graders are considerably higher than among young adults, and even higher than the college-student segment of the young adult population.

- Until 1997, *marijuana* use rose sharply among secondary school students, and their use of a number of *other illicit drugs* rose more gradually. The increase in marijuana use also began to appear among American college students, no doubt due largely to “generational replacement,” wherein earlier graduating high school class cohorts are replaced in the college population by more recent ones who were more drug experienced, even before they left high school. A resurgence in illicit drug use spreading up the age spectrum is a reversal of the way the epidemic spread several decades earlier. In the 1960s the epidemic began on the nation’s college campuses, and then the behavior diffused downward in age to high school students and eventually to junior high school students. This time the increases began in middle schools and have radiated up the age spectrum.

At present there still is rather little increase in illicit drug use in the young adult population, 19 to 28 years old, taken as a whole. In fact, from 1991 through 1999, their use of *illicit drugs* (taken as a class) has held remarkably stable at the same time that adolescent use rose. We think that generational replacement may well begin to boost the numbers for this group, as well. In fact, some of that appears to have happened among college students, whose significant rise in marijuana use in 1998 was preceded by a two-year rise in the use of two other classes of illicit drugs (MDMA and cocaine).

These diverging trends across the different age groups show that changes during the 1990s reflect some cohort effects—lasting differences between class cohorts—rather than broad secular trends, which characterize all of the age groups covered by the study. Typically, use has moved in parallel across most age groups.

- A parallel finding occurred for *cigarette* smoking, as well, in that college students showed a sharp increase in smoking, beginning in 1995, no doubt reflecting a generational replacement effect. (Smoking had been rising among high school seniors since 1992.) This has been a more typical pattern of change for *cigarettes*, however, since differences in cigarette smoking rates among class cohorts tend to remain through much or all of the life cycle and also tend to account for much of the change in use which

is observed at any given age. Now, smoking among American college students shows a continuing pattern of increase, even though smoking among younger age groups has started to turn downward.

- **Marijuana** use, which had been rising sharply in all three grades of secondary school during the 1990s, began to turn downward in 1997 among eighth graders and then did the same in 1998 among tenth and twelfth graders. Only the eighth graders showed a continuation of this decline in 1999, however. In the 1990s, the annual prevalence of marijuana use (i.e., the percent reporting any use during the prior twelve months) tripled among eighth graders (from 6% in 1991 to 18% in 1996), more than doubled among tenth graders (from 15% in 1992 to 35% in 1997), and grew by nearly three-quarters among twelfth graders (from 22% in 1992 to 39% in 1997). Among college students, however, the increase in marijuana use, presumably due to a "generational replacement effect," was much more gradual. Annual prevalence rose by about one-third from 27% in 1991 to 35% in 1999. Among young adults there was even less change, from 24% in 1991 to 28% in 1999.

Daily marijuana use rose substantially among secondary school and college students between 1992 and 1999, but somewhat less so among young adults (see Table 2-3). Nearly one in seventeen (6.0%) twelfth graders are now current daily marijuana users. Still, this rate is far below the 10.7% peak figure reached in 1978. Daily use among eighth graders is considerably lower, at 1.4%, but is still at the highest level it has been since 1991, when eighth-grade data were first collected.

The amount of risk associated with using marijuana fell during the earlier period of increased use and again during the more recent resurgence of use in the 1990s. Indeed, at tenth and twelfth grades, perceived risk began to decline a year *before* use began to rise in the upturn of the 1990s, making perceived risk a leading indicator of change in use. (The same may have happened in eighth grade, as well, but we do not have data starting early enough to check that possibility.) The decline in perceived risk halted after 1997 in eighth and tenth grade, and use began to decline a year or two later. Again, perceived risk was a leading indicator of change in use.

Personal disapproval of marijuana use slipped considerably among eighth graders between 1991 and 1996, and among tenth and twelfth graders between 1992 and 1997. For example, the proportions of eighth, tenth, and twelfth graders who said they disapproved of trying marijuana once or twice fell by 17, 21, and 19 percentage points, respectively, over those intervals of decline. There has since been a little increase in disapproval among eighth and tenth graders but not yet among twelfth graders.

- Among seniors, the proportions using *any illicit drug other than marijuana* in the past year rose to 21% in 1997, from a low of 15% in 1992. (This recent peak in 1997 was substantially below the 34% peak rate in 1981.) By way of contrast, there was very little change for young adults on this measure after 1991 (see Table 2-2). All of the younger groups showed significant increases but not as large in proportional terms as was true for marijuana. Use of any illicit drug other than marijuana began to increase in 1992 among eighth graders, in 1993 among tenth and twelfth graders, and in 1995 among college students. Use peaked in 1996 among eighth and tenth graders, and by 1997 among twelfth graders, college students, and young adults. The younger ages have shown a slight decline since, and the older age groups a leveling.
- Between 1989 and 1992 we noted an increase among college students and young adults in the use of *LSD*, a drug most popular in the late 1960s and early 1970s. In 1992, all five populations showed an increase in annual prevalence of LSD; for four subsequent years, modest increases persisted among the secondary school students. Use of LSD in all three grades leveled in 1997 and showed some (nonsignificant) decline in 1998. Use of LSD among college students and young adults peaked around 1995 and has declined some in both groups since then, though there was no further decline in 1999.

Prior to the significant increase in LSD use among seniors in 1993, there was a significant 4.3 percentage point decline between 1991 and 1992 in the proportion seeing great risk associated with trying LSD. The decline in this belief, which continued through 1997, halted in 1998. The proportion of seniors disapproving of LSD use also began to decline in 1992, continued through 1996, and reversed in 1997.

Because LSD was one of the earliest drugs to be popularly used in the overall American drug epidemic, there is a distinct possibility that young people—particularly the youngest cohorts, like the eighth graders—are not as concerned about the risks of use. They have had less opportunity to learn vicariously about the consequences of use by observing others around them, or to learn from intense media coverage of the issue, which occurred some years earlier. We were concerned that this type of “generational forgetting” of the dangers of a drug, which occurs as a result of generational replacement, could set the stage for a whole new epidemic of use. In fact, perceived harmfulness of LSD began to decline after 1991 among seniors. These measures for risk and disapproval were first introduced for eighth and tenth graders in 1993 and both measures had been dropping until 1997 or 1998, after which perceived risk and disapproval leveled.

- The use of prescription-controlled *amphetamines*—one of the most widely used classes of drugs taken illicitly (i.e., outside of medical regimen)—increased by about half among eighth and tenth graders between 1991 and 1996 (though the usage levels were still well below those attained in the early 1980s). In 1997, use declined significantly among eighth graders and leveled among tenth graders, but use continued to increase among twelfth graders. After 1997, use continued to decline in eighth and tenth grade and leveled in twelfth grade.

Between 1982 and 1992, annual prevalence rates for the use of amphetamines among seniors fell substantially, from 20% to 7%. Rates among college students fell over the same interval, from 21% to 4%. The subsequent increase in use of illicit amphetamines (and a decrease in disapproval) began among seniors in 1993, following a sharp drop in perceived risk a year earlier (which, as we have said, often serves as a leading indicator). Following a period of decline, disapproval and perceived risk associated with amphetamine use stabilized in 1997 among seniors, while use showed a leveling. In 1998, there was a sharp rise in perceived risk (up 4.3 percentage points). This general pattern of change is consistent with our theoretical position that perceived risk can drive both disapproval and use.

College students showed a modest increase in amphetamine use during the 1990s, but the absolute prevalence rates are only about half those for tenth and twelfth graders; and use among young adults generally is lower still and has changed very little.

Among the most widely reported specific amphetamines in recent years are *Ritalin*TM (the use of which increased from an annual prevalence of 0.1% in 1992 to 2.8% in 1997, before leveling), *ice* (the use of which increased in the late 1990s but fell in 1999), and *methamphetamine*. (See Table E-2 in Appendix E.)

- The *inhalants* constitute another class of abusable substances in which a troublesome increase (this time a longer-term one) was followed by a reversal among secondary school students—after 1995, in this instance. Inhalants are defined as fumes or gases that are inhaled to get high, and they include common household substances such as glues, aerosols, butane, and solvents. One class of inhalants, *amyl and butyl nitrites*, became somewhat popular in the late 1970s, but their use has been almost eliminated. For example, their annual prevalence rate among twelfth-grade students was 6.5% in 1979 but only 0.9% in 1999.

When the nitrites are removed from consideration, it appears that all inhalants taken together showed an upward trend in annual use until 1995. Largely prompted by reports of Monitoring the Future survey findings

regarding the rise in inhalant use, the Partnership for a Drug-Free America launched an anti-inhalant ad campaign in mid-April of 1995. By the 1996 spring survey of eighth and tenth graders (twelfth graders are not asked about the dangers of inhalants), there was a sharp increase (of 3 to 6 percentage points, depending on the measure) in the percent who said that using inhalants carries great risk to the user. Inhalant use in all grades began to decline in 1996 and has continued declining since, after a long and steady increase in the preceding years. This is all the more noteworthy because illicit drug use generally was still increasing in 1996 and (for the upper two grades) in 1997 as well.

Some 10% of the 1999 eighth graders and 7% of the tenth graders indicated inhalant use in the prior 12 months, making inhalants the second most widely used class of illicitly used drugs for eighth graders (after marijuana) and the third most widely used (after marijuana and amphetamines) for tenth graders. Inhalants can and do cause death, and tragically, this often occurs among those in their early teens. Because the use of inhalants decreases with age, this class of drugs shows an unusual pattern, with active use being highest among the eighth graders (10% annual prevalence in 1999) and lowest among the young adult population (annual prevalence of 2% in 1999).

- **Crack cocaine** use spread rapidly from the early to the mid-1980s. Still, among high school seniors, the overall prevalence of crack leveled in 1987 at a relatively low prevalence rate (3.9% annual prevalence), even though crack use still continued to spread to new communities. Annual prevalence dropped sharply in the next few years, reaching 1.5% by 1991, where it remained through 1993. Then it rose gradually to 2.7% by 1999.

Among eighth and tenth graders, crack use has risen gradually in the 1990s: from 0.7% in 1991 to 2.1% by 1998 among eighth graders, and from 0.9% in 1992 to 2.5% in 1998 among tenth graders. In 1999 there was a significant decrease in use among eighth graders while use among tenth graders leveled. In contrast, among young adults one to ten years past high school, annual prevalence was 1.4% in 1999, virtually unchanged since 1992. Nor was there much change in the low rates of crack use among college students during the 1990s. Except for the recent decline among eighth graders, there does not yet seem to be a turnaround (as we have seen for most other drugs) in the crack situation, and perceived risk continued to decline in 1999 at all grade levels.

Among seniors, annual crack prevalence among the college-bound is considerably lower than among those not bound for college (1.9% for college-bound versus 5.0% for noncollege-bound, in 1999).

We believe that the particularly intense and early media coverage of the hazards of crack cocaine likely had the effect of “capping” an epidemic early, by deterring many would-be users and by motivating many experimenters to desist use. When we first measured crack use in 1987, we found that it had the highest level of perceived risk of any of the illicit drugs. While 4.6% of seniors in 1999 reported ever having tried crack, only 1.1% reported use in the past month, indicating that 76% of those who tried crack did not establish a pattern of continued use.

In 1993, although crack use did not increase, the levels of perceived risk and disapproval associated with crack dropped in all three grade levels, predicting the rise in use in all three grades between 1994 and 1998. Because more than a decade has now passed since the media frenzy about crack use peaked in 1986, it is quite possible that “generational forgetting” of the risks of that drug has been occurring.

• *Cocaine*⁷ in general began to decline a year earlier than crack, probably because crack was still in the process of diffusing to new parts of the country since it was still quite new. Between 1986 and 1987 the annual prevalence rate for cocaine dropped dramatically, by roughly one-fifth in all three populations then studied—seniors, college students, and young adults. The decline occurred when young people began to view experimental and occasional use—the type of use in which they are most likely to engage—as more dangerous. This change first began to occur in 1987, probably partly because the hazards of cocaine use received extensive media coverage during the preceding year, but almost surely in part because of the highly-publicized cocaine-related deaths in 1986 of sports stars Len Bias and Don Rogers. By 1992, the annual prevalence of cocaine use had fallen by about two-thirds among the three populations for which long-term data are available (twelfth graders, college students, and young adults).

In 1993, cocaine use remained stable among secondary students but continued to decline among college students and young adults through 1994. From 1994 through 1996, annual use continued to rise among eighth, tenth, and twelfth graders, and possibly started to rise among college students; however, it remained stable among young adults. All groups (except eighth graders, who showed a small decline in 1999) have exhibited some continued upward drift in overall cocaine use since 1996.

Again, the story regarding attitudes and beliefs is informative. Having risen substantially since 1986, the perceived risk of using cocaine actually showed some (nonsignificant) decline in 1992 among seniors. In 1993, perceived risk for cocaine other than crack fell sharply in all grades and

⁷Unless otherwise specified, all references to “cocaine” refer to the use of cocaine in any form, including crack.

disapproval began to decline in all grades, though not as sharply as perceived risk. Perceived risk declined until 1995 for eighth and twelfth graders and until 1998 for tenth graders. It increased some for all three grades in 1999. Disapproval declined between 1991 and 1995 among eighth graders, before leveling, and in 1992 through 1998 among tenth and twelfth graders, with the exception of an increase for twelfth graders in 1995. These changes foretold a subsequent leveling of use at each grade level.

Through 1989, there was no decline in perceived availability of cocaine among twelfth graders; in fact, it rose steadily from 1983 to 1989, suggesting that availability played no role in bringing about the substantial downturn in use after 1986. After 1989, however, perceived availability fell some among seniors; the decline may be explained by the greatly reduced proportions of seniors who said they have any friends who use, because friendship circles are an important part of the supply system. Since 1992 there has been rather little change in eighth and tenth grade reports of availability of powder cocaine. Among seniors, reported availability declined from 1992 to 1994, before leveling.

As with all the illicit drugs, lifetime cocaine prevalence climbs with age, reaching 25% by age 32 (among the 1999 survey respondents). Unlike all of the other illicit drugs, active use of cocaine—i.e., annual prevalence or monthly prevalence—holds fairly steady after high school (and until recent years increased in use after high school) rather than declining.

- **PCP** use fell sharply among high school seniors between 1979 and 1982, from an annual prevalence of 7.0% to 2.2%. It reached a low point of 1.2% in 1988, rose some in the 1990s to 2.6% in 1996, then declined to 1.8% by 1999. For the young adults, the annual prevalence rate is now only 0.6% (although this is the highest rate it has reached in the 1990s).
- Looking at the long-term trends, we see that the annual prevalence of **heroin** use among twelfth graders fell by half between 1975 (1.0%) and 1979 (0.5%). It then stabilized for fifteen years until 1994 (0.6%), before rising significantly to 1.1% in 1995, where it leveled. There has been little change since then (1.1% in 1999). Among young adults and college students, heroin statistics also were quite stable at low rates (about 0.1% to 0.2%) through 1994, followed by an increase in 1995 and then a leveling.

Shorter-term trends for eighth and tenth graders show an increase in heroin use from 1993 through 1996. Then, eighth graders' use of heroin decreased significantly to 1.3% in 1997, where it stayed, while tenth graders' use leveled after 1997. Their annual prevalence rates are roughly double what they were in the early 1990s. Two factors very likely contributed to the upturn in heroin use in the 1990s. One is that there was

a long-term decline in the perceived risk of harm from heroin use, probably due to “generational forgetting.” The second factor is that in recent years the increased purity of heroin allowed it to be used by means other than injection. This may have lowered an important psychological barrier for some potential users by making heroin use less aversive, and by making it seem less addictive as well as safer because non-injection reduces the likelihood of transmission of HIV, hepatitis, or other serious diseases. Using some new questions on heroin use introduced in 1995, we were able to show that significant proportions of past-year users in grades eight, ten, and twelve, have indeed been taking heroin by means other than injection. (See Chapter 4 for details.)

The risk perceived to be associated with heroin fell for more than a decade after the study began, with 60% of the 1975 seniors seeing a great risk of trying heroin once or twice and only 46% of the 1986 seniors saying the same. Between 1986 and 1991 perceived risk rose some, from 46% to 55%, undoubtedly reflecting the newly recognized threat of HIV infection associated with heroin injection. After 1991, however, perceived risk fell again (to 51% by 1995), this time perhaps reflecting the fact that the newer heroin available on the street could be administered by methods other than injection because it was so much purer. In 1996, perceived risk among seniors began to rise once again, and then rose sharply by 1997 and continued to rise in 1998—this time perhaps as the result of an anti-heroin campaign launched by the Partnership for a Drug-Free America in June 1996, as well as the visibility of heroin-related deaths of some celebrities in the entertainment and fashion design worlds.

Questions about the degree of risk perceived to be associated with heroin use were first introduced into the questionnaires for eighth and tenth graders in 1995. The questions asked specifically about use “without using a needle,” because we thought this was the form of heroin use of greatest concern at that point. (Similar questions were asked of twelfth graders, as well, in one of the six questionnaire forms.) In general, perceived risk in all three grades rose in 1996 and 1997, before leveling.

- The use of *narcotics other than heroin* had been fairly level over most of the life of the study. Seniors had an annual prevalence rate of 4% to 6% from 1975 to 1990. In 1991, however, a significant decline (from 4.5% to 3.5%) was observed. Use stayed at this level for a few years, before increasing significantly from 3.6% in 1993 to 6.7% by 1999. Young adults in their twenties generally showed a very gradual decline from 3.1% in 1986 to 2.2% in 1993; college students likewise showed a slow decrease, from 3.8% between 1982 and 1984 to 2.5% in 1993. Over the last five years, however, the young adults have shown a modest increase, to 3.8% in 1999, as have the college students (to 4.3% in 1999). (Data are not reported for eighth and tenth graders because we believe younger

students are not accurately discriminating among the drugs that should be included or excluded from this general class.) The specific drugs in this class are listed in Table E-4 in Appendix E, which shows that codeine and opium are among the ones most commonly mentioned in recent years.

- A long, substantial decline, which began in 1977, occurred for *tranquilizer* use among high school seniors. By 1992, annual prevalence reached 2.8%, down from 11% in 1977. Since 1992, use increased significantly (as has been true with most of the drugs), reaching 5.8% in 1999. Reported tranquilizer use also exhibited some recent, modest increase among eighth graders, from 1.8% in 1991 to 3.3% in 1996, before declining to 2.6% in 1998. Among tenth graders, annual prevalence remained stable between 1991 and 1994, at around 3.3%, increased significantly to 4.6% by 1996 and then leveled. After a period of stability, college students also showed some increase between 1994 and 1998. For the young adult sample, annual prevalence increased significantly in 1998, after a long period of decline. Most of the reported tranquilizer use in recent years has involved taking Valium™. (See Table E-3 in Appendix E.)
- The long-term gradual decline in *barbiturate* use, which began at least as early as 1975, when the study began, halted in 1988. Annual prevalence among seniors had fallen by more than two-thirds, from 10.7% in 1975 to 3.2% in 1988. It then hovered around 3.4% through 1991 before dropping further to 2.8% by 1992. Use then rose steadily to 5.8% in 1999—still only about half of the rate in the peak year. The 1999 annual prevalence of this class of sedative drugs is lower among young adults (2.8%) and college students (3.2%) than among seniors (5.8%). Use among college students began to rise a couple of years later than it did among twelfth graders, no doubt reflecting the impact of generational replacement. Use has increased only slightly so far among young adults. (Data are not included here for eighth and tenth grades, because we believe the younger students have more problems with the proper classification of the relevant drugs.)
- *Methaqualone*, another sedative drug, has shown quite a different trend pattern than barbiturates. Its use rose among seniors from 1975 to 1981, when annual prevalence reached 8%. Its use then fell very sharply, declining to 0.2% by 1993, before rising significantly during the general drug resurgence in the 1990s, to 1.1% by 1996, where it has leveled. Use also fell among all young adults and among college students, who had annual prevalence rates of only 0.3% and 0.2%, respectively, by 1989—the last year they were asked about this drug. In the late 1980s, shrinking availability may well have played a role in this drop, as legal manufacture and distribution of the drug ceased. Because of its very low usage rates, only the seniors are now asked about use of this drug.

- Questions about the use of *MDMA (ecstasy)* have been included in the follow-up surveys of college students and young adults since 1991; however, because of our concern about stimulating interest in an attractive-sounding and little-known drug, these questions were not added to the secondary school surveys until 1996. From 1991 to 1994, the annual prevalence rates tended to be quite low in the older age groups for whom we had data, but in 1995 there was a substantial increase (from 0.5% to 2.4% among college students, and from 0.7% to 1.6% among young adults).

When data were first gathered on secondary school students in 1996, the tenth and twelfth graders showed higher rates of annual use (both 4.6%) than the college students (2.8%). Ecstasy use then fell steadily at all three grades between 1996 and 1998 (though it continued to rise among college students and young adults through 1999). In 1999 there was a significant jump in use among both the tenth and twelfth graders—one which we found to be concentrated primarily in the Northeast and in large cities. Thus, this “club drug” made a clear comeback among teens in one region in 1999, and it is possible that its popularity will spread more widely next year.

- In sum, five classes of illicitly used drugs, *marijuana*, *cocaine*, *amphetamines*, *LSD*, and *inhalants* have had an impact on appreciable proportions of young Americans in their late teens and twenties. In 1999, high school seniors showed annual prevalence rates of 38%, 6%, 10%, 8%, and 6%, respectively, all unchanged from 1998. Among college students in 1999, the comparable annual prevalence rates are 35%, 5%, 6%, 5%, and 3%; and for all high school graduates one to ten years past high school (young adults) the rates are 28%, 5%, 5%, 4%, and 2%. Joining this set of long-established drugs in 1999 as among the more prevalent is *MDMA (ecstasy)*, which has annual prevalence rates of nearly 6% among twelfth graders and college students and nearly 4% among young adults.

It is worth noting that LSD has climbed in the rankings because its use has not declined, and in some cases has increased, during a period in which use of cocaine, amphetamines, and other drugs declined appreciably.

For similar reasons the inhalants have become relatively more important for the younger segments of the population. In fact, in eighth grade, inhalants are second to marijuana as the most widely used of the illicit drugs.

Because of their importance among the younger adolescents, a new index of illicit drug use including inhalants was introduced in Table 2-1 through 2-2 in recent years. Certainly the use of inhalants reflects a form of illicit,

psychoactive drug use; its inclusion makes relatively little difference in the illicit drug index prevalence rates for the older age groups, but considerable difference for the younger ones. For example, in 1999 the proportion of eighth graders reporting any illicit drug use in their lifetime, exclusive of inhalants, was 28%, whereas including inhalants raised the figure to 37%.

- The annual prevalence among twelfth graders of over-the-counter *stay-awake pills*, which usually contain caffeine as their active ingredient, nearly doubled between 1982 and 1990, increasing from 12% to 23%. After 1990 this statistic fell to 19% in 1998, and then to 16% in 1999. Earlier decreases also occurred among the college-aged young adult population (ages 19 to 22), in which annual prevalence was 26% in 1989, declined to 19% in 1998, and then to 16% in 1999—its lowest level since 1986.

The *look-alikes* also have shown some falloff in recent years. Among high school seniors, annual prevalence decreased slightly from 6.8% in 1995 to 5.0% in 1999; among young adults aged 19 to 22, the corresponding figures are 6.0% and 4.0%. Over-the-counter *diet pills* have not shown a recent decline. Among high schools seniors, annual prevalence declined from 1986 to 1995, from 15% to 10%, where it still stands in 1999. (Among twelfth-grade girls in 1999, some 27% had tried diet pills by the end of senior year, 16% used them in the past year, and 5% used them in just the past 30 days.) Among young adults aged 19 to 22 there also had been an earlier decline from 1986 to 1995, with annual prevalence going from 17% to 6.9%; by 1998, however, it had risen slightly, to 8.6% before climbing to 11.4% in 1999.

College-Noncollege Differences in Illicit Drug Use

- American college students (defined here as those respondents one to four years past high school who were actively enrolled full-time in a two- or four-year college) show annual usage rates for several categories of drugs which are about average for all high school graduates their age; these categories include *any illicit drug, marijuana, inhalants, hallucinogens other than LSD, and narcotics other than heroin*. For several other categories of drugs, however, college students have rates of use that are below those of their age peers, including *any illicit drug other than marijuana, hallucinogens, LSD specifically, cocaine, crack cocaine specifically, heroin, amphetamines, ice, barbiturates and tranquilizers*. Their use of hallucinogens other than LSD is slightly higher than it is among their noncollege peers in 1999.

Because college-bound seniors had below average rates of use on all of these illicit drugs while they were in high school, the eventual attainment

of parity on many of them reflects some closure of the gap. As results from the study published elsewhere have shown, this college effect of "catching up" is largely explainable in terms of differential rates of leaving the parental home after high school graduation, and of getting married. College students are more likely than their age peers to have left the parental home and its constraining influences and less likely to have entered marriage, with its constraining influences.⁸

- In general, the trends since 1980 in illicit substance use among American college students have paralleled those of their age peers not in college. Most drugs showed a period of substantial decline in use sometime after 1980. Further, all young adult high school graduates through age 28, as well as college students taken separately, showed trends highly parallel for the most part to the trends among high school seniors until about 1992. After 1992, a number of drugs showed an increase in use among seniors (as well as eighth and tenth graders), but not among college students and young adults.

This divergence, combined with the fact that the upturn began first among the eighth graders (in 1992), suggests that cohort effects are emerging for illicit drug use. In fact, as those heavier-using cohorts of high school seniors enter the college years, we are beginning to see a lagged increase in the use of several drugs in college. For example, annual prevalence reached a low point among twelfth graders in 1992 for a number of drugs (e.g. *cocaine, amphetamines, barbiturates, tranquilizers, other narcotics, and any illicit drug other than marijuana*) before rising thereafter; among college students, those same drugs reached a low two years later in 1994, and then began to rise gradually. Then, in 1998, as *marijuana* use was declining in the three grades of secondary school, we saw a sharp increase among college students. The evidence for cohort effects resulting from generational replacement is impressive and consistent with our earlier predictions.

Male-Female Differences in Illicit Drug Use

- Regarding gender differences in three older populations (seniors, college students, and young adults), males are more likely to use *most illicit drugs*, and the differences tend to be largest at the higher frequency levels. *Daily marijuana use* among high school seniors in 1999, for example, is reported by 7.9% of males versus 3.9% of females; among all adults (aged 19 to 32 years) by 5.5% of males versus 2.6% of females; and among college students, specifically, by 5.9% of males versus 2.7% of females.

⁸ Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities*. Mahwah, NJ: Lawrence Erlbaum Associates.

- In the eighth and tenth grade samples there are fewer gender differences in the use of drugs—perhaps because girls tend to date and then emulate older boys, who are in age groups considerably more likely to use drugs. There is little male-female difference in eighth and tenth grades in the use of *cocaine* and *crack*. *Amphetamine* use is slightly higher among females.

TRENDS IN ALCOHOL USE

- Several findings about *alcohol* use in these age groups are noteworthy. First, despite the fact that it is illegal for virtually all secondary school students and most college students to purchase alcoholic beverages, experience with alcohol is almost universal among them. That is, alcohol has been tried by 52% of eighth graders, 71% of tenth graders, 80% of twelfth graders, and 88% of college students; and active use is widespread. Most important, perhaps, is the widespread occurrence of *occasions of heavy drinking*—measured by the percent reporting five or more drinks in a row at least once in the prior two-week period. Among eighth graders this statistic stands at 15%, among tenth graders at 26%, among twelfth graders at 31%, and among college students at 40%. After the early twenties this behavior recedes somewhat with age, reflected by the 33% rate found in the entire young adult sample and the 24% rate found among 31- to 32-year-olds.
- Alcohol use did not increase as use of other illicit drugs decreased among seniors from the late 1970s to the early 1990s, although it was common to hear such a “displacement hypothesis” asserted. This study demonstrates that the opposite seems to be true. After 1980, when illicit drug use was declining, the monthly prevalence of alcohol use among seniors also declined gradually, but substantially, from 72% in 1980 to 51% in 1993. *Daily alcohol use* declined from a peak of 6.9% in 1979 to 2.5% in 1993; and the prevalence of drinking *five or more drinks in a row* during the prior two-week interval fell from 41% in 1983 to 28% in 1993—nearly a one-third decline. When illicit drug use rose again in the 1990s, there was evidence that alcohol use (particularly binge drinking) was rising some as well—albeit not nearly as sharply as did marijuana use. In the late 1990s, as illicit drug use leveled in secondary schools and began a gradual decline, similar trends are observed for alcohol.

Male-Female Differences in Alcohol Use

- There is a substantial gender difference among high school seniors in the prevalence of *occasions of heavy drinking* (24% for females versus 38% for males in 1999); this difference generally had been diminishing very

gradually since the study began. (In 1975 there was a 23 percentage point difference between them, versus a 15 point difference in 1999.)

- As just discussed, there also are substantial gender differences in alcohol use among college students, and young adults generally, with males drinking more. For example, 50% of college males report having **five or more drinks in a row** over the previous two weeks versus 34% of college females. There has not been a great deal of change in this gender difference since 1980.

College-Noncollege Differences in Alcohol Use

- The data from college students show a quite different pattern of change in relation to alcohol use than that of twelfth graders or noncollege respondents of the same age. (See Figure 9-13 in Volume II). From 1980 to 1993, college students showed less drop-off in monthly prevalence of **alcohol** use (82% to 70%) than did high school seniors (72% to 51%) and slightly less decline in daily prevalence (6.5% to 3.9%) compared to a decline from 6.0% to 2.5% among high school seniors. **Occasions of heavy drinking** also declined less among college students from 1980 to 1993, from 44% to 40%, compared to a decline from 41% to 28% among high school seniors. Among noncollege-aged peers, the decline was from 41% to 34%. Thus, because both their noncollege-aged peers and high school students were showing greater declines, the college students stood out as having maintained a high rate of binge or party drinking. Between 1993 and 1999, the college students changed little (40% in 1999—the same rate observed in 1993), while their noncollege-aged peers increased by 1 percentage point, to 35%; high school seniors increased by 3 percentage points, to 31%. Still, college students stand out as having a relatively high rate of binge or party drinking.

Because the college-bound seniors in high school are consistently less likely to report occasions of heavy drinking than the noncollege-bound, the higher rates of such drinking in college indicate that they “catch up to and pass” their peers in binge drinking after high school graduation.

- Since 1980, college students have generally had **daily drinking** rates that were slightly lower than their age peers, suggesting that they were more likely to confine their drinking to weekends, when they tend to drink a lot. College men have much higher rates of daily drinking than college women (6.1% versus 3.4% in 1999). This gender difference is also reflected in the noncollege group (8.1% versus 3.6%, respectively).
- The rate of daily drinking fell considerably among the noncollege group, from 8.3% in 1980 to 3.2% in 1994, but is now back to 5.5%. Daily

drinking by the college group went from 6.5% to 3.0% in 1995, and stands at 4.5% in 1999.

- In 1999, college males had a somewhat higher binge drinking rate (50%) than noncollege males the same age (44%).

TRENDS IN CIGARETTE SMOKING

- Quite a number of very important findings about *cigarette smoking* among American adolescents and young adults have emerged during the life of the study. Despite the demonstrated health risks associated with smoking, sizeable and, in recent years, growing proportions of young people continued to establish regular cigarette habits during late adolescence. In fact, since the study began in 1975, cigarettes have consistently comprised the class of abusable substance most frequently used on a daily basis by high school students.
- During most of the 1980s, when smoking rates were falling steadily among adults, we reported that smoking among adolescents was not declining. Then, the situation went from bad to worse.
- Among eighth and tenth graders, the current smoking rate increased by about half between 1991 (when their use was first measured) and 1996; and among twelfth graders, the current smoking rate rose by nearly one-third between 1992 (their recent low point) and 1997. This study played an important role in bringing these increases to public attention.

Fortunately, there has been some decline in current smoking since 1996 in the case of eighth and tenth graders, and since 1997 in the case of twelfth graders (nonsignificant for twelfth graders). In 1999, 18% of eighth graders, 26% of tenth graders, and 35% of twelfth graders reported smoking one or more cigarettes in the prior 30 days. Thus, at present over a third of American young people are current smokers by the time they complete high school; and other research consistently shows that smoking rates are substantially higher among those who drop out before graduating.

Daily smoking rates also increased by about half among eighth graders (from a low of 7.0% in 1992 to 10.4% in 1996) and tenth graders (from a low of 12.3% in 1992 to 18.3% in 1996), while daily smoking among twelfth graders increased by 43% (from a low of 17.2% in 1992 to 24.6% in 1997). In 1997, we saw the first evidence of a change in the situation, as daily smoking rates declined among eighth graders and leveled among tenth graders. There was a significant decline in tenth and twelfth graders' daily smoking rates by 1998.

Monitoring the Future

- For seniors, the upturn in the 1990s followed a substantial decline in smoking during a much earlier period (from 1977 to 1981), a leveling for nearly a decade (through 1990), and a slight decline in 1991 and 1992. Rates then started up, and the 1998 decline in daily smoking rates was the first decline in use by seniors since 1992.
- The dangers perceived to be associated with *pack-a-day* smoking differ greatly by grade level and seem to be unrealistically low at all grade levels. Currently, only between two-thirds and three-quarters of the seniors (71%) report that pack-a-day smokers run a great risk of harming themselves physically or in other ways: more importantly, only about half (55%) of the eighth graders say the same. All three grades showed a decrease in perceived risk between 1993 and 1995, as use was rising rapidly, but a slightly larger and offsetting increase between 1995 and 1999, presaging the turnaround in smoking.

Disapproval of cigarette smoking had been in decline longer: from 1991 through 1996 among eighth and tenth graders, and from 1992 to 1996 among twelfth graders. Since then there has been an increase in disapproval in all three grades, though it is not yet large enough to offset the earlier decline completely. Undoubtedly the heavy media coverage of the tobacco issue (the proposed settlement with the state attorneys general, the congressional debate, the eventual state settlements, etc.) had an important influence on these attitudes. However, that coverage diminished considerably in 1998, raising the question of whether these changes in youth attitudes will continue. It may well be, of course, that the removal of certain kinds of cigarette advertising and promotion, combined with national and state-level anti-smoking campaigns, will sustain these changes.

Age and Cohort-Related Differences in Cigarette Smoking

- Initiation of smoking most often occurs in grades 6 through 9 (i.e., at modal ages 11-12 to 14-15), with rather little further initiation after high school, although a number of light smokers make the transition to heavy smoking in the first two years after high school. Analyses presented in this volume and elsewhere have shown that cigarette smoking shows a clear "cohort effect." That is, if a class (or birth) cohort establishes an unusually high rate of smoking at an early age relative to other cohorts, the rate is likely to remain high throughout the life cycle relative to that of other birth cohorts at equivalent ages.
- As we reported in the "Other Findings from the Study" chapter in the 1986 volume in this series, some 53% of the half-pack-a-day (or more) smokers in senior year said that they had tried to quit smoking and found they could not. Of those who had been daily smokers in twelfth grade, nearly

three-quarters were daily smokers seven to nine years later (based on the 1985 follow-up survey), despite the fact that in high school only 5% of them thought they would “definitely” be smoking five years hence. A more recent analysis, based on the 1995 follow-up survey, showed similar results. Nearly two-thirds (63%) of those who had been daily smokers in the twelfth grade still were daily smokers seven to nine years later, although in high school only 3% of them had thought they would “definitely” be smoking five years hence. Clearly, the smoking habit is established at an early age; it is difficult to break for those young people who have it; and young people greatly overrate their own ability to quit. Additional data from the eighth and tenth grade students show us that younger children are even more likely than older ones to underestimate seriously the dangers of smoking.

- The surveys of eighth and tenth graders also show that cigarettes are almost universally available to teens. Nearly three-quarters (72%) of eighth graders and nearly nine-tenths (88%) of tenth graders say that cigarettes are “fairly easy” or “very easy” for them to get, if they want them. Until 1997 there had been little change in reported availability since these questions were first asked in 1992. Over the last three years, however, perceived availability of cigarettes decreased significantly for eighth and tenth graders, quite likely reflecting the impact of new regulations and related enforcement efforts aimed at reducing the sale of cigarettes to children.

College-Noncollege Differences in Cigarette Smoking

- A striking difference in smoking rates has long existed between college-bound and noncollege-bound high school seniors. For example, in 1999 smoking a half-pack or more per day is nearly two and one-half times as prevalent among the noncollege-bound seniors (23% versus 10%). Among respondents of college age (one to four years past high school), those not in college show the same dramatically higher rate of smoking compared to that found among those who are in college, with half-pack-a-day smoking standing at 23% and 11%, respectively.
- In the first half of the 1990s, smoking rose some among college students and their same-age peers, although the increases were not as steep for either group as they were among high school seniors. But in 1998 and 1999, while smoking was declining among secondary school students at all grades, smoking increased significantly for college students, no doubt reflecting the cohort effect from earlier, heavier-smoking classes of high school seniors moving into the older age groups. Between 1991 and 1999, the 30-day prevalence of cigarette smoking rose from 23% to 31%, or by about one-third, and daily smoking rose from 14% to 19%—or by about 40%.

Male-Female Differences in Cigarette Smoking

- In the 1970s, high school senior females caught up to, and passed, senior males in their rates of *current smoking*. Both genders then showed a decline in use followed by a long, fairly level period, with use by females consistently higher, but with the gender difference diminishing. In the early 1990s there was another crossover—rates rose among males and declined among females. Both genders showed increasing use between 1992 and 1997 and some decline in use since.

Among college students, females had slightly higher probabilities of being daily smokers from 1980 through 1994—although this long-standing gender difference was not true among their age peers not in college. However, there was a crossover in 1995—no doubt an echo of the crossover among seniors in 1991—and since 1995, smoking rates among college males have tended to be slightly higher than among females.

RACIAL/ETHNIC COMPARISONS

The three largest ethnic groupings—Whites, African Americans, and Hispanics taken as a group—are examined here. (Sample size limitations simply do not allow finer subgroup breakdowns unless many years are combined.) A number of interesting findings emerge in these comparisons, and the reader is referred to Chapters 4 and 5 of Volume I for a full discussion of them.

- African American seniors have consistently shown lower usage rates on most drugs, licit and illicit, than White seniors; this also is true at the lower grade levels where little dropping out of school has yet occurred. In some cases, the differences are quite large.
- African American students have a much lower prevalence of *daily cigarette smoking* than White students (8% versus 27% in senior year, in 1999) because their smoking rate continued to decline after 1983, while the rate for White students stabilized for some years. (Smoking rates had been rising among White seniors after 1992 and among African American seniors after 1994, but by 1998 there was evidence of a leveling or reversal in both groups in the lower grades.)
- In twelfth grade, *occasions of heavy drinking* are much less likely to be reported by African American students (12%) than by White students (36%) or Hispanic students (29%).
- In twelfth grade, of the three racial/ethnic groups, Whites have the highest rates of use on a number of drugs, including *marijuana, inhalants, hallucinogens, LSD* specifically, *heroin, amphetamines, barbiturates,*

tranquilizers, narcotics other than heroin, alcohol, cigarettes, and smokeless tobacco.

- However, in senior year, Hispanics have the highest usage rate for a number of the most dangerous drugs, e.g., *cocaine* and *crack*. Further, in eighth grade, Hispanics have the highest rates not only on these drugs, but on many of the others, as well. For example, in eighth grade, the annual prevalence of *marijuana* for Hispanics is 23%, versus 15% for Whites and 16% for African Americans; for *binge drinking*, 21%, 14%, and 10%, respectively. In other words, Hispanics have the highest rates of use for many drugs in eighth grade, but not in twelfth, which suggests that their considerably higher dropout rate (compared to Whites and African Americans) may change their relative ranking by twelfth grade.
- With regard to trends, seniors in all three racial/ethnic groups exhibited the decline in *cocaine* use from 1986 through 1992, although the decline was less steep among African American seniors because their earlier increase in use was not as large as the increase among White and Hispanic students.
- For virtually *all of the illicit drugs*, the three groups have tended to trend in parallel. Because White seniors had achieved the highest level of use on a number of drugs—including *amphetamines, barbiturates, and tranquilizers*—they also had the largest declines; African Americans have had the lowest rates, and therefore, the smallest declines.
- The important racial/ethnic differences in *cigarette smoking* noted earlier among seniors have emerged during the life of the study. The three groups were fairly similar in their smoking rates during the late 1970s, and all three mirrored the general decline in smoking from 1977 through 1981. From 1981 through 1992, however, smoking rates declined very little, if at all, for Whites and Hispanics, but the rates for African Americans continued to decline steadily. As a result, by 1992 the daily smoking rate for African Americans was one-fifth that for Whites. Subsequently, all three ethnic groups of twelfth graders exhibited fairly parallel trends in smoking.

DRUG USE IN EIGHTH GRADE

It may be useful to focus specifically on the youngest age group in the study—the eighth graders, most of whom are 13 or 14 years old—because the exceptional levels of both licit and illicit drug use that they already have attained help illustrate the nation's urgent need to continue to address the substance abuse problems among its young.

Monitoring the Future

- By eighth grade 52% of youngsters report having tried *alcohol* (more than just a few sips) and a quarter (25%) say they have already been drunk at least once.
- Nearly half of the eighth graders (44%) have tried *cigarettes*, and nearly one in five (18%) say they have smoked in the prior month. Shocking to most adults is the fact that only 55% of eighth graders recognize great risk associated with being a pack-a-day smoker.
- *Smokeless tobacco* has been tried by 21% of male eighth graders, is used currently by 7% of them, and is used daily by 1.6%. (Rates are far lower among females than among males.)
- Among eighth graders, one in five (20%) have used *inhalants*, and one in twenty (5%) said they have used them in the past month. This is the only class of drugs for which use is substantially higher in eighth grade than in tenth or twelfth grade.
- *Marijuana* has been tried by more than one in every five eighth graders (22%), and has been used in the prior month by one in every ten (10%).
- A surprisingly large number of eighth-grade students (11%) say they have tried prescription-type *amphetamines*; 3.4% say they have used them in the prior 30 days.
- Relatively few eighth graders say they have tried most of the other illicit drugs yet. (This is consistent with the retrospective reports from seniors.) But the proportions having at least some experience with them is not inconsequential when considering the fact that a 3.3% prevalence rate, for example, on average represents one child in every 30-student classroom. The 1999 eighth-grade proportions reporting experience with illicit drugs are *tranquilizers* (4.4%), *LSD* (4.1%), *other hallucinogens* (2.4%), *crack* (3.1%), *other cocaine* (3.8%), *heroin* (2.3%), and *steroids* (2.7% overall, and 3.9% among males).
- Overall, 16% of all eighth graders in 1999—one in every six—have tried *some illicit drug other than marijuana* (excluding inhalants).
- The very large number who have already begun use of the so-called “gateway drugs” (*tobacco*, *alcohol*, *inhalants*, and *marijuana*) suggests that a substantial number of eighth-grade students are already at risk of proceeding further to such drugs as LSD, cocaine, amphetamines, and heroin.

SUMMARY AND CONCLUSIONS

We can summarize the findings on trends as follows: over more than a decade—from the late 1970s to the early 1990s—there were very appreciable declines in use of several *illicit drugs* among twelfth-grade students, and even larger declines in their use among American college students and young adults. These substantial improvements—which seem largely explainable in terms of changes in attitudes about drug use, beliefs about the risks of drug use, and peer norms against drug use—have some extremely important policy implications. One is that these various substance-using behaviors among American young people are malleable—they *can* be changed. It has been done before. The second is that demand-side factors appear to have been pivotal in bringing about those changes. The reported levels of availability of marijuana, as reported by high school seniors, has held fairly steady throughout the life of the study. (Moreover, both abstainers and quitters rank availability and price very low on their list of reasons for not using.) And, in fact, the perceived availability of cocaine actually was rising during the beginning of the sharp decline in cocaine and crack use.

However, improvements are not inevitable; and, when they occur, they should not be taken for granted because relapse is always possible. Indeed, just such a “relapse” in the longer-term epidemic occurred in the early to mid-1990s.

In 1992, eighth graders exhibited a significant increase in annual use of *marijuana*, *cocaine*, *LSD*, and *hallucinogens other than LSD*, as well as an increase in *inhalant* use. (In fact, all five populations showed some increase in *LSD* use, continuing a longer-term trend for college students and young adults.) Further, the attitudes and beliefs of seniors regarding drug use began to soften.

In 1993, use of a number of drugs began to rise among tenth and twelfth graders, as well, fulfilling our earlier predictions that we had made based on their eroding beliefs about the dangers of drugs and their attitudes about drug use. Increases occurred in a number of the so-called “gateway drugs”—*marijuana*, *cigarettes*, and *inhalants*—increases that we argued boded ill for the use of later drugs in the usual sequence of drug-use involvement. Indeed, the proportion of students reporting the use of *any illicit drug other than marijuana* rose steadily after 1991 among eighth and tenth graders and after 1992 among twelfth graders. (This proportion increased by more than half among eighth graders with annual prevalence rising from 8.4% in 1991 to 13.1% in 1996.) The softening attitudes about *crack* and other forms of *cocaine* also provided a basis for concern—the use of both increased fairly steadily through 1998.

Over the years, this study has demonstrated that changes in perceived risk and disapproval have been important causes of change in the use of several drugs. These beliefs and attitudes surely are influenced by the amount and nature of public attention paid to the drug issue in the historical period during which young people are growing up. A substantial decline in attention to this issue in the early 1990s very likely helps to explain why the increases in perceived risk and disapproval among students ceased and began to backslide. News coverage of the drug issue plummeted between 1989 and 1993

(although it made a considerable comeback as surveys—including this one—began to document that the problem was worsening again), and the media's *pro bono* placement of ads from the Partnership for a Drug-Free America also fell considerably. (The twelfth graders in this study showed a steady decline in their recalled exposure to such ads and in the judged impact of such ads on their own drug-taking behavior.)

Also, the deterioration in the drug abuse situation first began among our youngest cohorts—perhaps because they had not had the same opportunities for vicarious learning from the adverse drug experiences of people around them and people they learn about through the media. Clearly there was a danger that, as the drug epidemic subsided in the 1980s and early 1990s, newer cohorts would have far less opportunity to learn through informal means about the dangers of drugs—that what we have called a “generational forgetting” of those risks would occur through a process of generational replacement of older, more drug-savvy cohorts with newer, more naive ones. If true, this suggests that as drug use subsides, as it did by the early 1990s, the nation must redouble its efforts to ensure that such naive cohorts learn these lessons about the dangers of drugs through more formal means—from schools, parents, and focused messages in the media, for example—and that this more formalized prevention effort be institutionalized so that it will endure for the long term. Clearly, for the foreseeable future, American young people will be aware of the psychoactive potential of a host of drugs and will continue to have access to them. That means that each new generation of young people must learn the reasons that they should *not* use drugs. Otherwise their natural curiosity and desires for new experiences will lead a great many of them to use drugs.

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

- By the end of eighth grade, nearly four in every ten (37%) American eighth-grade students have tried an *illicit drug* (if inhalants are included as an illicit drug), and by twelfth grade, more than half (56%) have done so.
- By their late twenties, two-thirds (65%) of today's American young adults have tried an *illicit drug*, including 36% who have tried some *illicit drug other than marijuana* (usually in addition to marijuana). (These figures do not include inhalants.)
- One out of five young Americans (20% in 1999) has tried *cocaine* by the age of 30, and 10% have tried it by their senior year of high school (i.e., by age 17 or 18). More than one in every twenty-five seniors (4.6%) has tried the particularly dangerous form of cocaine called *crack*. In the young adult sample, 4.8% have tried crack, including 5.6% by age 29-30.
- Over one in every twenty (6.0%) high school seniors in 1999 currently smokes *marijuana daily*. Among young adults aged 19 to 28, the percentage is slightly less (4.4%). Among seniors in 1999, one in every five or six (17.9%) had been daily marijuana smokers at some time in their

lives for at least a month, and among young adults the comparable figure is one in seven (14.2%).

- About a third of all seniors (31%) had consumed *five or more drinks in a row* at least once in the two weeks prior to the survey, and such behavior tends to increase among young adults one to four years past high school. The prevalence of such behavior among male college students reaches 50%.
- Over one-third (35%) of seniors in 1999 were current *cigarette* smokers and 23% already were current daily smokers. In addition, we know from studying previous cohorts that many young adults increase their rates of smoking within a year or so after they leave high school.
- Despite the substantial improvement in this country's drug situation between 1979 and 1991, it is still true that this nation's secondary school students and young adults show a level of involvement with illicit drugs that is as great as has been documented in any other industrialized nation in the world.⁹ Even by longer-term historical standards in this country, these rates remain extremely high, though in general they are not as high as in the peak years of the epidemic in the late 1970s. Heavy drinking also remains widespread and troublesome; and certainly the continuing initiation of a large and (until recently) growing proportion of young people to cigarette smoking is a matter of the greatest public health concern.
- Finally, we note the seemingly unending capacity of pharmacological experts and amateurs to discover new substances with abuse potential that can be used to alter mood and consciousness. There is also a great capacity for our young people to discover the abuse potential of existing products, such as RobitussinTM, and to rediscover older drugs, such as *LSD* and *heroin*. While as a society we have made significant progress on a number of fronts in the fight against drug abuse, we must remain vigilant against the opening of new fronts, as well as the reemergence of trouble on older ones.
- In fact, one of the dynamics that keeps the drug epidemic rolling is the emergence of new drugs, whose hazards are little known. In 1999 we saw this happen with the drug *MDMA (ecstasy)*. Other drugs like *ketamine* and *GHB* have arrived so recently that we do not yet have questions in the survey about their use. The spread of such new drugs appears to be

⁹A recently published report from an international collaborative study, modeled largely after the Monitoring the Future study, suggests that in 1995 the United Kingdom had illicit drug use rates among fifteen-year-old students about comparable to those observed in the United States. All the other European countries had substantially lower rates. See B. Hibell et al. (Eds.). (1997). *The 1995 ESPAD Report. (European School Survey Project on Alcohol and Other Drugs) Use among students in 26 European countries*. Stockholm: The Swedish Council for Information on Alcohol and Other Drugs and the Council of Europe.

facilitated and hastened today by young people's widespread use of chat rooms and other sites on the Internet. We predict a continuous flow of such new substances onto the scene and believe that the task of rapidly identifying their emergence and quickly demystifying them will be increasingly important.

- The drug problem is not an enemy that can be vanquished, as in a war. It is more a recurring and relapsing problem that must be contained to the extent possible on a long-term, ongoing basis. Therefore, it is a problem which requires an ongoing, dynamic response from our society—one which takes into account the continuing generational replacement of our children and the generational forgetting of the dangers of drugs that can occur with that replacement.

TABLE 2-1
Trends in Lifetime Prevalence of Use of Various Drugs
for Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)
(Entries are percentages)

	Lifetime										'98-'99 change
	1991	1992	1993	1994	1995	1996	1997	1998	1999		
Any Illicit Drug^a	18.7	20.6	22.5	25.7	28.5	31.2	29.4	29.0	28.3	28.3	-0.7
8th Grade	30.6	29.8	32.8	37.4	40.9	45.4	47.3	44.9	46.2	46.2	+1.3
10th Grade	44.1	40.7	42.9	45.6	48.4	50.8	54.3	54.1	54.7	54.7	+0.6
College Students	50.4	48.8	45.9	45.5	45.5	47.4	49.0	52.9	53.2	53.2	+0.3
Young Adults	62.2	60.2	59.6	57.5	57.4	56.4	56.7	57.0	57.4	57.4	+0.4
Any Illicit Drug Other Than Marijuana^a	14.3	15.6	16.8	17.5	18.8	19.2	17.7	16.9	16.3	16.3	-0.6
8th Grade	19.1	19.2	20.9	21.7	24.3	25.5	25.0	23.6	24.0	24.0	+0.4
10th Grade	26.9	25.1	26.7	27.6	28.1	28.5	30.0	29.4	29.4	29.4	0.0
College Students	25.8	26.1	24.3	22.0	24.5	22.7	24.4	24.8	25.5	25.5	+0.7
Young Adults	37.8	37.0	34.6	33.4	32.8	31.0	30.5	29.9	30.2	30.2	+0.3
Any Illicit Drug Including Inhalants^{ab}	28.5	29.6	32.3	35.1	38.1	39.4	38.1	37.8	37.2	37.2	-0.6
8th Grade	36.1	36.2	38.7	42.7	45.9	49.8	50.9	49.3	49.9	49.9	+0.6
10th Grade	47.6	44.4	46.6	49.1	51.5	53.5	56.3	56.1	56.3	56.3	+0.2
College Students	52.0	50.3	49.1	47.0	47.0	49.1	50.7	55.4	54.4	54.4	-0.9
Young Adults	63.4	61.2	61.2	58.5	59.0	58.2	58.4	58.5	58.5	58.5	0.0
Marijuana/Hashish	10.2	11.2	12.6	16.7	19.9	23.1	22.6	22.2	22.0	22.0	-0.2
8th Grade	23.4	21.4	24.4	30.4	34.1	39.8	42.3	39.6	40.9	40.9	+1.3
10th Grade	36.7	32.6	35.3	38.2	41.7	44.9	49.6	49.1	49.7	49.7	+0.6
College Students	46.3	44.1	42.0	42.2	41.7	45.1	46.1	49.9	50.8	50.8	+0.9
Young Adults	58.6	56.4	55.9	53.7	53.6	53.4	53.8	54.4	54.6	54.6	+0.2
Inhalants^{bc}	17.6	17.4	19.4	19.9	21.6	21.2	21.0	20.5	19.7	19.7	-0.8
8th Grade	15.7	16.6	17.5	18.0	19.0	19.3	18.3	18.3	17.0	17.0	-1.3
10th Grade	17.6	16.6	17.4	17.7	17.4	16.6	16.1	16.2	16.4	16.4	+0.2
College Students	14.4	14.2	14.8	12.0	13.8	11.4	12.4	12.8	12.4	12.4	-0.4
Young Adults	13.4	13.5	14.1	13.2	14.5	14.1	14.1	14.2	14.2	14.2	0.0
Nitrites^d	—	—	—	—	—	—	—	—	—	—	—
8th Grade	—	—	—	—	—	—	—	—	—	—	—
10th Grade	1.6	1.5	1.4	1.7	1.5	1.8	2.0	2.7	1.7	1.7	-1.0
College Students	—	—	—	—	—	—	—	—	—	—	—
Young Adults	1.4	1.2	1.3	1.0	—	—	—	—	—	—	—

(Table continued on next page)

**TABLE 2-1 (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs
for Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)**

	Lifetime										'98-'99 change	
	1991	1992	1993	1994	1995	1996	1997	1998	1999			
Hallucinogens^c												
8th Grade	3.2	3.8	3.9	4.3	5.2	5.9	5.4	4.9	4.8	4.8	-0.1	
10th Grade	6.1	6.4	6.8	8.1	9.3	10.5	10.5	9.8	9.7	9.7	-0.1	
12th Grade	9.6	9.2	10.9	11.4	12.7	14.0	15.1	14.1	13.7	13.7	-0.4	
College Students	11.3	12.0	11.8	10.0	13.0	12.6	13.8	15.2	14.8	14.8	-0.4	
Young Adults	15.7	15.7	15.4	15.4	16.1	16.4	16.8	17.4	18.0	18.0	+0.5	
LSD												
8th Grade	2.7	3.2	3.5	3.7	4.4	5.1	4.7	4.1	4.1	4.1	0.0	
10th Grade	5.6	5.8	6.2	7.2	8.4	9.4	9.5	8.5	8.5	8.5	0.0	
12th Grade	8.8	8.6	10.3	10.5	11.7	12.6	13.6	12.6	12.2	12.2	-0.4	
College Students	9.6	10.6	10.6	9.2	11.5	10.8	11.7	13.1	12.7	12.7	-0.5	
Young Adults	13.5	13.8	13.6	13.8	14.5	15.0	15.0	15.7	16.2	16.2	+0.5	
Hallucinogens Other Than LSD												
8th Grade	1.4	1.7	1.7	2.2	2.5	3.0	2.6	2.5	2.4	2.4	-0.1	
10th Grade	2.2	2.5	2.8	3.8	3.9	4.7	4.8	5.0	4.7	4.7	-0.3	
12th Grade	3.7	3.3	3.9	4.9	5.4	6.8	7.5	7.1	6.7	6.7	-0.4	
College Students	6.0	5.7	5.4	4.4	6.5	6.5	7.5	8.7	8.8	8.8	+0.1	
Young Adults	8.4	8.0	7.6	7.4	7.8	7.9	8.5	9.4	9.3	9.3	-0.1	
PCP^d												
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	-0.5	
College Students	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	3.1	2.0	1.9	2.0	2.2	1.9	2.4	2.7	2.3	2.3	-0.4	
MDMA (Ecstasy)^d												
8th Grade	—	—	—	—	—	3.4	3.2	2.7	2.7	2.7	0.0	
10th Grade	—	—	—	—	—	5.6	5.7	5.1	6.0	6.0	+0.9	
12th Grade	—	—	—	—	—	6.1	6.9	5.8	8.0	8.0	+2.3s	
College Students	2.0	2.9	2.3	2.1	3.1	4.3	4.7	6.8	8.4	8.4	+1.5	
Young Adults	3.2	3.9	3.8	3.8	4.5	5.2	5.1	7.2	7.1	7.1	-0.1	

(Table continued on next page)

**TABLE 2-1 (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs
for Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)**

	Lifetime								98-'99 change	
	1991	1992	1993	1994	1995	1996	1997	1998		1999
Cocaine										
8th Grade	2.3	2.9	2.9	3.6	4.2	4.5	4.4	4.6	4.7	+0.1
10th Grade	4.1	3.3	3.6	4.3	5.0	6.5	7.1	7.2	7.7	+0.5
12th Grade	7.8	6.1	6.1	5.9	6.0	7.1	8.7	9.3	9.8	+0.5
College Students	9.4	7.9	6.3	5.0	5.5	5.0	5.6	8.1	8.4	+0.3
Young Adults	21.0	19.5	16.9	15.2	13.7	12.9	12.1	12.3	12.8	+0.5
Crack										
8th Grade	1.3	1.6	1.7	2.4	2.7	2.9	2.7	3.2	3.1	-0.1
10th Grade	1.7	1.5	1.8	2.1	2.8	3.3	3.6	3.9	4.0	+0.1
12th Grade	3.1	2.6	2.6	3.0	3.0	3.3	3.9	4.4	4.6	+0.2
College Students	1.5	1.7	1.3	1.0	1.8	1.2	1.4	2.2	2.4	+0.2
Young Adults	4.8	5.1	4.3	4.4	3.8	3.9	3.6	3.8	4.3	+0.5
Other Cocaine^a										
8th Grade	2.0	2.4	2.4	3.0	3.4	3.8	3.5	3.7	3.8	+0.1
10th Grade	3.8	3.0	3.3	3.8	4.4	5.5	6.1	6.4	6.8	+0.4
12th Grade	7.0	5.3	5.4	5.2	5.1	6.4	8.2	8.4	8.8	+0.4
College Students	9.0	7.6	6.3	4.6	5.2	4.6	5.0	7.4	7.8	+0.5
Young Adults	19.8	18.4	15.1	13.9	12.4	11.9	11.3	11.5	11.8	+0.3
Heroin^c										
8th Grade	1.2	1.4	1.4	2.0	2.3	2.4	2.1	2.3	2.3	0.0
10th Grade	1.2	1.2	1.3	1.5	1.7	2.1	2.1	2.3	2.3	0.0
12th Grade	0.9	1.2	1.1	1.2	1.6	1.8	2.1	2.0	2.0	0.0
College Students	0.5	0.5	0.6	0.1	0.6	0.7	0.9	1.7	0.9	-0.8s
Young Adults	0.9	0.9	0.9	0.8	1.1	1.3	1.3	1.6	1.7	+0.1
With a needle^e										
8th Grade	—	—	—	—	1.5	1.6	1.3	1.4	1.6	+0.2
10th Grade	—	—	—	—	1.0	1.1	1.1	1.2	1.3	+0.1
12th Grade	—	—	—	—	0.7	0.8	0.9	0.8	0.9	+0.1
College Students	—	—	—	—	0.4	0.1	0.2	0.5	0.8	+0.3
Young Adults	—	—	—	—	0.4	0.4	0.3	0.4	0.6	+0.2
Without a needle^e										
8th Grade	—	—	—	—	1.5	1.6	1.4	1.5	1.4	-0.1
10th Grade	—	—	—	—	1.1	1.7	1.7	1.7	1.6	-0.1
12th Grade	—	—	—	—	1.4	1.7	2.1	1.6	1.8	+0.2
College Students	—	—	—	—	0.5	1.0	1.2	2.1	1.0	-1.1
Young Adults	—	—	—	—	0.9	1.3	1.5	1.7	1.9	+0.2
Other Narcotics^b										
8th Grade	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—
12th Grade	6.6	6.1	6.4	6.6	7.2	8.2	9.7	9.8	10.2	+0.4
College Students	7.3	7.3	6.2	5.1	7.2	5.7	8.2	8.7	8.7	+0.1
Young Adults	9.3	8.9	8.1	8.2	9.0	8.3	9.2	9.1	9.5	+0.4

(Table continued on next page)

**TABLE 2-1 (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs
for Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)**

	Lifetime										'98-'99 change	
	1991	1992	1993	1994	1995	1996	1997	1998	1999			
Amphetamines^b												
8th Grade	10.5	10.8	11.8	12.3	13.1	13.5	12.3	11.3	10.7	10.7	-0.6	
10th Grade	13.2	13.1	14.9	15.1	17.4	17.7	17.0	16.0	15.7	15.7	-0.3	
12th Grade	15.4	13.9	15.1	15.7	15.3	16.3	16.5	16.4	16.3	16.3	-0.1	
College Students	13.0	10.5	10.1	9.2	10.7	9.5	10.6	10.6	11.9	11.9	+1.3	
Young Adults	22.4	20.2	18.7	17.1	16.6	15.3	14.6	14.3	14.1	14.1	-0.2	
Methamphetamine^u												
8th Grade	—	—	—	—	—	—	—	—	4.5	—	—	
10th Grade	—	—	—	—	—	—	—	—	7.3	—	—	
12th Grade	—	—	—	—	—	—	—	—	8.2	—	—	
College Students	—	—	—	—	—	—	—	—	7.1	—	—	
Young Adults	—	—	—	—	—	—	—	—	8.8	—	—	
Ice^r												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	3.3	2.9	3.1	3.4	3.9	4.4	4.4	5.3	4.8	4.8	-0.5	
College Students	1.3	0.6	1.6	1.3	1.0	0.8	1.6	2.2	2.8	2.8	+0.5	
Young Adults	2.9	2.2	2.7	2.5	2.1	3.1	2.5	3.4	3.3	3.3	0.0	
Barbiturates^b												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	6.2	5.5	6.3	7.0	7.4	7.6	8.1	8.7	8.9	8.9	+0.2	
College Students	3.5	3.8	3.5	3.2	4.0	4.6	5.2	5.7	6.7	6.7	+1.0	
Young Adults	8.2	7.4	6.5	6.4	6.7	6.6	6.5	6.9	7.4	7.4	+0.4	
Tranquilizers^b												
8th Grade	3.8	4.1	4.4	4.6	4.5	5.3	4.8	4.6	4.4	4.4	-0.2	
10th Grade	5.8	5.9	5.7	5.4	6.0	7.1	7.3	7.8	7.9	7.9	+0.1	
12th Grade	7.2	6.0	6.4	6.6	7.1	7.2	7.8	8.5	9.3	9.3	+0.8	
College Students	6.8	6.9	6.3	4.4	5.4	5.3	6.9	7.7	8.2	8.2	+0.5	
Young Adults	11.8	11.3	10.5	9.9	9.7	9.3	8.6	9.6	9.6	9.6	-0.1	
Rohypnol^{dx}												
8th Grade	—	—	—	—	—	—	—	—	1.5	1.1	1.4	
10th Grade	—	—	—	—	—	—	—	—	1.5	1.7	2.0	
12th Grade	—	—	—	—	—	—	—	—	1.2	1.8	3.0	
College Students	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	

(Table continued on next page)

**TABLE 2-1 (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs
for Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)**

	Lifetime										'98-'99 change	
	1991	1992	1993	1994	1995	1996	1997	1998	1999			
Alcohol¹												
Any use	70.1	69.3	67.1	—	—	—	—	—	—	—	—	—
8th Grade	55.7	55.7	55.7	55.8	54.5	55.3	53.8	52.5	52.1	—	-0.4	
10th Grade	83.8	82.3	80.8	—	—	—	—	—	—	—	—	
12th Grade	88.0	87.5	87.0	71.6	71.1	70.5	71.8	72.0	69.8	70.6	+0.8	
College Students	93.6	91.8	89.3	80.0	80.4	80.7	79.2	81.7	81.4	80.0	-1.4	
Young Adults	94.1	93.4	92.1	88.2	88.5	88.4	87.3	88.5	88.0	88.0	-0.5	
Been Drunk¹												
8th Grade	26.7	26.8	26.4	25.9	25.3	26.8	25.2	24.8	24.8	24.8	0.0	
10th Grade	50.0	47.7	47.9	47.2	46.9	48.5	49.4	46.7	48.9	48.9	+2.2	
12th Grade	65.4	63.4	62.5	62.9	63.2	61.8	64.2	62.4	62.3	62.3	-0.1	
College Students	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	
Cigarettes												
Any use	44.0	45.2	45.3	46.1	46.4	49.2	47.3	45.7	44.1	—	-1.6	
8th Grade	55.1	53.5	56.3	56.9	57.6	61.2	60.2	57.7	57.6	—	-0.1	
10th Grade	63.1	61.8	61.9	62.0	64.2	63.5	65.4	65.3	64.6	—	-0.7	
College Students	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	
Smokeless Tobacco^d												
8th Grade	22.2	20.7	18.7	19.9	20.0	20.4	16.8	15.0	14.4	—	-0.6	
10th Grade	28.2	26.6	28.1	29.2	27.6	27.4	26.3	22.7	20.4	—	-2.3	
12th Grade	—	32.4	31.0	30.7	30.9	29.8	25.3	26.2	23.4	—	-2.8	
College Students	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	
Steroids^d												
8th Grade	1.9	1.7	1.6	2.0	2.0	1.8	1.8	2.3	2.7	—	+0.4	
10th Grade	1.8	1.7	1.7	1.8	2.0	1.8	2.0	2.0	2.7	—	+0.7 ^{ss}	
12th Grade	2.1	2.1	2.0	2.4	2.3	1.9	2.4	2.7	2.9	—	+0.2	
College Students	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	1.7	1.9	1.5	1.3	1.5	1.5	1.4	1.4	1.9	—	+0.4	

Footnotes for Table 2-1 to Table 2-3

NOTES: Level of significance of difference between the two years: $s = .05$, $ss = .01$, $sss = .001$.
 — indicates data not available. * indicates less than .05 percent but greater than 0 percent.
 Any apparent inconsistency between the change estimate and the prevalence of use estimates for the two years is due to rounding error.

SOURCE: The Monitoring the Future Study, the University of Michigan.

Approximate Weighted Ns	1991	1992	1993	1994	1995	1996	1997	1998	1999
8th Graders	17,500	18,600	18,300	17,300	17,500	17,800	18,600	18,100	16,700
10th Graders	14,800	14,800	15,300	15,800	17,000	15,600	15,500	15,000	13,600
12th Graders	15,000	15,800	16,300	15,400	15,400	14,300	15,400	15,200	13,600
College Students	1,410	1,490	1,490	1,410	1,450	1,450	1,480	1,440	1,440
Young Adults	6,600	6,800	6,700	6,500	6,400	6,300	6,400	6,200	6,000

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

^bFor 12th graders, college students, and young adults only: Data based on on five of six forms in 1991-98; N is five-sixths of N indicated. Data based on three of six forms in 1999; N is three-sixths of N indicated.

^cInhalants are unadjusted for underreporting of amyl and butyl nitrites; hallucinogens are unadjusted for underreporting of PCP.

^dFor 8th and 10th graders only: MDMA data based on one form in 1996; N is one-half of N indicated. Beginning in 1997, data based on one-third of N indicated due to changes in the questionnaire forms. Rohypnol data based on one-third of N due to changes in the questionnaire forms. Smokeless tobacco data based on one of two forms for 1991-96 and on two of four forms beginning in 1997; N is one-half of N indicated. For 12th graders only: Data based on one form; N is one-sixth of N indicated. For college students and young adults only: Data based on two forms; N is one-third of N indicated. Questions about nitrite use were dropped from the college student and young adult questionnaires in 1995. Questions about smokeless tobacco use were dropped from the college student and young adult analyses in 1989.

^eFor 12th graders, college students, and young adults only: Data based on four of six forms; N is four-sixths of N indicated for each group.

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

^gFor 8th and 10th graders only: Data based on one of two forms in 1995; N is one-half of N indicated. For 12th graders only: Data based on three of six forms; N is three-sixths of N indicated.

^hOnly drug use which was not under a doctor's orders is included here.

ⁱFor 8th and 10th graders only: Data based on one of four forms; N is one-third of N indicated.

^jFor 12th graders, college students, and young adults only: Data based on two of six forms; N is two-sixths of N indicated for each group.

^kFor 8th and 10th graders only: Data based on one of two forms in 1996-97; N is one-half of N indicated. Data based on three of four forms in 1998; N is two-thirds of N indicated. Data based on two of four forms beginning in 1999; N is one-third of N indicated.

^lFor 8th, 10th, and 12th graders only: In 1993, the question text was changed slightly in half of the forms to indicate that a "drink" meant "more than just a few sips." The data in the upper line for alcohol came from forms using the original wording, while the data in the lower line came from forms using the revised wording. In 1993, each line of data was based on one of two forms for the 8th and 10th graders and on three of six forms for the 12th graders. N is one-half of N indicated for these groups. Beginning in 1994, data were based on all forms for all grades. For college students and young adults, the revision of the question text resulted in rather little change in the reported prevalence of use. The data for all forms are used to provide the most reliable estimate of change.

^mDaily used is defined as use on twenty or more occasions in the past thirty 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.

TABLE 2-2
Trends in Annual and 30-Day Prevalence of Use of Various Drugs
for Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)

	Annual										'98-'99 change	30-Day					'98-'99 change			
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change		1991	1992	1993	1994	1995		1996	1997	1998
Any Illicit Drug*	11.3	12.9	15.1	18.5	21.4	23.6	22.1	21.0	20.5	-0.5	5.7	6.8	8.4	10.9	12.4	14.6	12.9	12.1	12.2	+0.1
8th Grade	21.4	20.4	24.7	30.0	33.3	37.5	35.0	35.9	+0.9	11.6	11.0	14.0	18.5	20.2	23.2	23.0	21.5	22.1	22.1	+0.6
10th Grade	29.4	27.1	31.0	35.8	39.0	40.2	42.4	41.4	42.1	+0.7	16.4	14.4	18.3	21.9	23.8	24.6	26.2	25.6	25.9	+0.3
College Students	29.2	30.6	30.6	31.4	33.5	34.2	34.1	37.8	36.9	-0.9	15.2	16.1	15.1	16.0	19.1	17.6	19.2	19.7	21.6	+1.8
Young Adults	27.0	28.3	28.4	28.4	29.8	29.2	29.2	29.9	30.3	+0.4	15.1	14.8	14.9	15.3	15.8	15.8	16.4	16.1	17.1	+1.0
Any Illicit Drug																				
Other Than Marijuana*	8.4	9.3	10.4	11.3	12.6	13.1	11.8	11.0	10.5	-0.5	3.8	4.7	5.3	5.6	6.5	6.9	6.0	5.5	5.5	0.0
8th Grade	12.2	12.3	13.9	15.2	17.5	18.4	18.2	16.6	16.7	+0.1	5.5	5.7	6.5	7.1	8.9	8.9	8.8	8.6	8.6	0.0
10th Grade	16.2	14.9	17.1	18.0	19.4	19.8	20.7	20.2	20.7	+0.5	7.1	6.3	7.9	8.8	10.0	9.5	10.7	10.7	10.4	-0.3
College Students	13.2	13.1	12.5	12.2	15.9	12.8	15.8	14.0	15.4	+1.3	4.3	4.6	5.4	4.6	6.3	4.5	6.8	6.1	6.4	+0.2
Young Adults	14.3	14.1	13.0	13.0	13.8	13.2	13.6	13.2	13.7	+0.5	5.4	5.5	4.9	5.3	5.7	4.7	5.5	5.5	6.0	+0.5
Any Illicit Drug																				
Including Inhalants**	16.7	18.2	21.1	24.2	27.1	28.7	27.2	26.2	25.3	-0.9	8.8	10.0	12.0	14.3	16.1	17.5	16.0	14.9	15.1	+0.2
8th Grade	23.9	23.5	27.4	32.5	35.6	39.6	40.3	37.1	37.7	+0.6	13.1	12.6	15.5	20.0	21.6	24.5	24.1	22.5	23.1	+0.6
10th Grade	31.2	28.8	32.5	37.6	40.2	41.9	43.3	42.4	42.8	+0.4	17.8	15.5	19.3	23.0	24.8	25.5	26.9	26.6	26.4	-0.2
College Students	29.8	31.1	31.7	31.9	33.7	35.1	35.5	39.1	37.4	-1.6	15.1	16.5	15.7	16.4	19.6	18.0	19.6	21.0	21.8	+0.9
Young Adults	27.8	29.2	28.9	29.2	30.4	30.2	30.1	30.6	30.6	+0.1	15.4	15.3	15.1	16.1	16.1	16.4	16.9	16.7	17.4	+0.7
Marijuana/Hashish	6.2	7.2	9.2	13.0	15.8	18.3	17.7	16.9	16.5	-0.4	3.2	3.7	5.1	7.8	9.1	11.3	10.2	9.7	9.7	0.0
8th Grade	16.5	15.2	19.2	25.2	28.7	33.6	34.8	31.1	32.1	+1.0	8.7	8.1	10.9	15.8	17.2	20.4	20.5	18.7	19.4	+0.7
10th Grade	23.9	21.9	26.0	30.7	34.7	35.8	38.5	37.5	37.8	+0.3	13.8	11.9	15.5	19.0	21.2	21.9	23.7	22.8	23.1	+0.3
College Students	26.5	27.7	27.9	29.3	31.2	33.1	31.6	35.9	35.2	-0.7	14.1	14.6	14.2	15.1	18.6	17.5	17.7	18.6	20.7	+2.0
Young Adults	23.8	25.2	25.1	25.5	26.5	27.0	26.8	27.4	27.6	+0.2	13.5	13.3	13.4	14.1	14.0	15.1	15.0	14.9	15.6	+0.7
Inhalants**	9.0	9.5	11.0	11.7	12.8	12.2	11.8	11.1	10.3	-0.8	4.4	4.7	5.4	5.6	6.1	5.8	5.6	4.8	5.0	+0.2
8th Grade	7.1	7.5	8.4	9.1	9.6	9.5	8.7	8.0	7.2	-0.8	2.7	2.7	3.3	3.6	3.5	3.3	3.0	2.9	2.6	-0.3
10th Grade	6.6	6.2	7.0	7.7	8.0	7.6	6.7	6.2	5.6	-0.6	2.4	2.3	2.5	2.7	3.2	2.5	2.5	2.3	2.0	-0.3
College Students	3.5	3.1	3.8	3.0	3.9	3.6	4.1	3.0	3.2	+0.2	0.9	1.1	1.3	0.6	1.6	0.8	0.8	0.6	1.5	+0.8
Young Adults	2.0	1.9	2.1	2.1	2.4	2.2	2.3	2.1	2.3	+0.2	0.5	0.6	0.7	0.5	0.7	0.5	0.5	0.7	0.8	+0.1
Nitrites^d																				
8th Grade																				
10th Grade																				
12th Grade	0.9	0.5	0.9	1.1	1.1	1.6	1.2	1.4	0.9	-0.5	0.4	0.3	0.6	0.4	0.4	0.7	0.7	1.0	0.4	-0.6s
College Students																				
Young Adults	0.2	0.1	0.4	0.3							*	0.1	0.2	0.1						

(Table continued on next page)

**TABLE 2-2 (cont.)
Trends in Annual and 30-Day Prevalence of Use of Various Drugs
for Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)**

	Annual										30-Day									
	1991	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change	1991	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change
Hallucinogens^c	1.9	2.5	2.6	2.7	3.6	4.1	3.7	3.4	2.9	-0.5	0.8	1.1	1.2	1.3	1.7	1.9	1.8	1.4	1.3	-0.1
8th Grade	4.0	4.3	4.7	5.8	7.2	7.8	7.6	6.9	6.9	0.0	1.6	1.8	1.9	2.4	3.3	2.8	3.3	3.2	2.9	-0.3
10th Grade	5.8	5.9	7.4	7.6	9.3	10.1	9.8	9.0	9.4	+0.4	2.2	2.1	2.7	3.1	4.4	3.5	3.9	3.8	3.5	-0.3
12th Grade	6.3	6.8	6.0	6.2	8.2	6.9	7.7	7.2	7.8	+0.7	1.2	2.3	2.5	2.1	3.3	1.9	2.1	2.1	2.0	-0.1
College Students	4.5	5.0	4.5	4.8	5.6	5.6	5.9	5.2	5.4	+0.3	1.1	1.5	1.2	1.4	1.7	1.2	1.5	1.4	1.3	-0.1
Young Adults																				
LSD	1.7	2.1	2.3	2.4	3.2	3.5	3.2	2.8	2.4	-0.4	0.6	0.9	1.0	1.1	1.4	1.5	1.5	1.1	1.1	0.0
8th Grade	3.7	4.0	4.2	5.2	6.5	6.9	6.7	5.9	6.0	+0.1	1.5	1.6	1.6	2.0	3.0	2.4	2.8	2.7	2.3	-0.4
10th Grade	5.2	5.6	6.8	6.9	8.4	8.8	8.4	7.6	8.1	+0.5	1.9	2.0	2.4	2.6	4.0	2.5	3.1	3.2	2.7	-0.5
12th Grade	5.1	5.7	5.1	5.2	6.9	5.2	5.0	4.4	5.4	+1.0	0.8	1.8	1.6	1.8	2.5	0.9	1.1	1.5	1.2	-0.3
College Students	3.8	4.3	3.8	4.0	4.6	4.5	4.4	3.5	4.0	+0.6	0.8	1.1	0.8	1.1	1.3	0.7	0.9	1.0	0.8	-0.1
Young Adults																				
Hallucinogens Other Than LSD	0.7	1.1	1.0	1.3	1.7	2.0	1.8	1.6	1.5	-0.1	0.3	0.4	0.5	0.7	0.8	0.9	0.7	0.7	0.6	-0.1
8th Grade	1.3	1.4	1.9	2.4	2.8	3.3	3.3	3.4	3.2	-0.2	0.4	0.5	0.7	1.0	1.0	1.0	1.2	1.4	1.2	-0.2
10th Grade	2.0	1.7	2.2	3.1	3.8	4.4	4.6	4.6	4.3	-0.3	0.7	0.5	0.8	1.2	1.3	1.6	1.7	1.6	1.6	0.0
12th Grade	3.1	2.6	2.7	2.8	4.0	4.1	4.9	4.4	4.5	+0.1	0.6	0.7	1.1	0.8	1.6	1.2	1.2	0.7	1.2	+0.5
College Students	1.7	1.9	1.9	2.0	2.5	2.8	3.1	3.0	3.0	-0.1	0.3	0.5	0.6	0.6	0.6	0.6	0.7	0.5	0.6	+0.1
Young Adults																				
PCP^d	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8th Grade	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10th Grade	1.4	1.4	1.4	1.6	1.8	2.6	2.3	2.1	1.8	-0.3	0.5	0.6	1.0	0.7	0.6	1.3	0.7	1.0	0.8	-0.2
12th Grade	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
College Students	0.3	0.3	0.2	0.3	0.3	0.2	0.5	0.6	0.6	0.0	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.2	0.2	0.0
Young Adults																				
MDMA (Ecstasy)^d	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8th Grade	--	--	--	--	--	2.3	2.3	1.8	1.7	-0.1	--	--	--	--	--	1.0	1.0	0.9	0.8	-0.1
10th Grade	--	--	--	--	--	4.6	3.9	3.3	4.4	+1.1s	--	--	--	--	--	1.8	1.3	1.3	1.8	+0.5
12th Grade	--	--	--	--	--	4.6	4.0	3.6	5.6	+2.0ss	--	--	--	--	--	2.0	1.6	1.5	2.5	+1.0s
College Students	0.9	2.0	0.8	0.5	2.4	2.8	2.4	3.9	5.5	+1.6	0.2	0.4	0.3	0.2	0.7	0.7	0.8	0.8	2.1	+1.3
Young Adults	0.8	1.0	0.8	0.7	1.6	1.7	2.1	2.9	3.6	+0.7	0.1	0.3	0.3	0.2	0.4	0.3	0.6	0.8	1.3	+0.6

(Table continued on next page)

**TABLE 2-2 (cont.)
Trends in Annual and 30-Day Prevalence of Use of Various Drugs
for Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)**

	Annual										30-Day					'98-'99 change				
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995		1996	1997	1998	1999
Cocaine																				
8th Grade	1.1	1.5	1.7	2.1	2.6	3.0	2.8	3.1	2.7	-0.4	0.5	0.7	0.7	1.0	1.2	1.3	1.1	1.4	1.3	-0.1
10th Grade	2.2	1.9	2.1	2.8	3.5	4.2	4.7	4.7	4.9	+0.2	0.7	0.7	0.9	1.2	1.7	1.7	2.0	2.1	1.8	-0.3
12th Grade	3.5	3.1	3.3	3.6	4.0	4.9	5.5	5.7	6.2	+0.5	1.4	1.3	1.3	1.5	1.8	2.0	2.3	2.4	2.6	+0.2
College Students	3.6	3.0	2.7	2.0	3.6	2.9	3.4	4.6	4.6	0.0	1.0	1.0	0.7	0.6	0.7	0.8	1.6	1.6	1.2	-0.4
Young Adults	6.2	5.7	4.7	4.3	4.4	4.1	4.7	4.9	5.4	+0.5	2.0	1.8	1.4	1.3	1.5	1.2	1.6	1.7	1.9	+0.3
Crack																				
8th Grade	0.7	0.9	1.0	1.3	1.6	1.8	1.7	2.1	1.8	-0.4s	0.3	0.5	0.4	0.7	0.7	0.8	0.7	0.9	0.8	-0.1
10th Grade	0.9	0.9	1.1	1.4	1.8	2.1	2.2	2.5	2.4	-0.1	0.3	0.4	0.5	0.6	0.9	0.8	0.9	1.1	0.8	-0.3s
12th Grade	1.5	1.5	1.5	1.9	2.1	2.1	2.4	2.5	2.7	+0.2	0.7	0.6	0.7	0.8	1.0	1.0	0.9	1.0	1.1	+0.1
College Students	0.5	0.4	0.6	0.5	1.1	0.6	0.4	1.0	0.9	-0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	+0.1
Young Adults	1.2	1.4	1.3	1.1	1.1	1.1	1.0	1.1	1.4	+0.3	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.4	+0.2
Other Cocaine^a																				
8th Grade	1.0	1.2	1.3	1.7	2.1	2.5	2.2	2.4	2.3	-0.1	0.5	0.5	0.6	0.9	1.0	1.0	0.8	1.0	1.1	+0.1
10th Grade	2.1	1.7	1.8	2.4	3.0	3.5	4.1	4.0	4.4	+0.4	0.6	0.6	0.7	1.0	1.4	1.3	1.6	1.8	1.6	-0.2
12th Grade	3.2	2.6	2.9	3.0	3.4	4.2	5.0	4.9	5.8	+0.9	1.2	1.0	1.2	1.3	1.3	1.6	2.0	2.0	2.5	+0.5
College Students	3.2	2.4	2.5	1.8	3.3	2.3	3.0	4.2	4.2	0.0	1.0	0.9	0.6	0.3	0.8	0.6	1.3	1.5	1.0	-0.5
Young Adults	5.4	5.1	3.9	3.6	3.9	3.8	4.3	4.5	4.8	+0.4	1.8	1.7	1.1	1.1	1.3	1.1	1.5	1.5	1.6	+0.2
Heroin^a																				
8th Grade	0.7	0.7	0.7	1.2	1.4	1.6	1.3	1.3	1.4	+0.1	0.3	0.4	0.4	0.4	0.6	0.6	0.7	0.6	0.6	0.0
10th Grade	0.5	0.6	0.7	0.9	1.1	1.2	1.4	1.4	1.4	0.0	0.2	0.2	0.3	0.2	0.3	0.4	0.5	0.6	0.7	0.0
12th Grade	0.4	0.6	0.5	0.6	1.1	1.0	1.2	1.0	1.1	+0.1	0.2	0.3	0.2	0.3	0.6	0.5	0.5	0.5	0.5	0.0
College Students	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.6	0.2	-0.4	0.1	0.0	*	0.0	0.1	*	0.2	0.1	0.1	0.0
Young Adults	0.1	0.2	0.2	0.1	0.4	0.4	0.3	0.4	0.4	0.0	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
With a needle^a																				
8th Grade	—	—	—	—	0.9	1.0	0.8	0.8	0.9	+0.1	—	—	—	—	0.4	0.5	0.4	0.5	0.4	-0.1
10th Grade	—	—	—	—	0.6	0.7	0.7	0.8	0.6	-0.2	—	—	—	—	0.3	0.3	0.3	0.4	0.3	-0.1
12th Grade	—	—	—	—	0.5	0.5	0.5	0.4	0.4	0.0	—	—	—	—	0.3	0.4	0.3	0.2	0.2	0.0
College Students	—	—	—	—	0.1	0.0	0.1	0.2	0.1	-0.1	—	—	—	—	0.0	0.0	0.1	0.0	0.1	+0.1
Young Adults	—	—	—	—	0.1	0.1	0.1	0.1	0.1	0.0	—	—	—	—	0.0	0.0	0.1	*	0.1	+0.1
Without a needle^a																				
8th Grade	—	—	—	—	0.8	1.0	0.8	0.8	0.9	+0.1	—	—	—	—	0.3	0.4	0.4	0.3	0.4	+0.1
10th Grade	—	—	—	—	0.8	0.9	1.1	1.0	1.1	+0.1	—	—	—	—	0.3	0.3	0.4	0.5	0.5	0.0
12th Grade	—	—	—	—	1.0	1.0	1.2	0.8	1.0	+0.2	—	—	—	—	0.6	0.4	0.6	0.4	0.4	0.0
College Students	—	—	—	—	0.0	0.8	0.4	0.9	0.3	-0.5	—	—	—	—	0.0	0.1	0.2	0.2	0.3	+0.1
Young Adults	—	—	—	—	0.3	0.4	0.4	0.4	0.7	0.6	-0.1	—	—	—	—	0.1	*	0.1	0.2	+0.1
Other Narcotics^b																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.5	3.3	3.6	3.8	4.7	5.4	6.2	6.3	6.7	+0.4	1.1	1.2	1.3	1.5	1.8	2.0	2.3	2.4	2.6	+0.2
College Students	2.7	2.7	2.5	2.4	3.8	3.1	4.2	4.2	4.3	+0.1	0.6	1.0	0.7	0.4	1.2	0.7	1.3	1.1	1.0	-0.1
Young Adults	2.5	2.5	2.2	2.5	3.0	2.9	3.3	3.4	3.8	+0.4	0.6	0.7	0.7	0.6	0.9	0.7	0.9	0.9	1.2	+0.3

(Table continued on next page)

**TABLE 2-2 (cont.)
Trends in Annual and 30-Day Prevalence of Use of Various Drugs
for Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)**

	Annual										30-Day										'98-'99 change
	1991	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change	1991	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change	
Amphetamines^b																					
8th Grade	6.2	6.5	7.2	7.9	8.7	9.1	8.1	7.2	6.9	-0.3	2.6	3.3	3.6	3.6	4.2	4.6	3.8	3.3	3.4	+0.1	
10th Grade	8.2	8.2	9.6	10.2	11.9	12.4	12.1	10.7	10.4	-0.3	3.3	3.6	4.3	4.5	5.3	5.5	5.1	5.1	5.0	-0.1	
12th Grade	8.2	7.1	8.4	9.4	9.3	9.5	10.2	10.1	10.2	+0.1	3.2	2.8	3.7	4.0	4.0	4.1	4.8	4.6	4.5	-0.1	
College Students	3.9	3.6	4.2	4.2	5.4	4.2	5.7	5.1	5.8	+0.8	1.0	1.1	1.5	1.5	2.2	0.9	2.1	1.7	2.3	+0.6	
Young Adults	4.3	4.1	4.0	4.5	4.6	4.2	4.6	4.5	4.7	+0.2	1.5	1.5	1.5	1.7	1.7	1.5	1.7	1.7	1.9	+0.2	
Methamphetamine^{ij}																					
8th Grade	—	—	—	—	—	—	—	—	3.2	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	4.6	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	—	—	—	—	—	—	—	—	4.7	—	—	—	—	—	—	—	—	—	—	—	
College Students	—	—	—	—	—	—	—	—	3.3	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	2.8	—	—	—	—	—	—	—	—	—	—	—	
Ice^k																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	1.4	1.3	1.7	1.8	2.4	2.8	2.3	3.0	1.9	-1.1ss	0.6	0.5	0.6	0.7	1.1	1.1	0.8	1.2	0.8	-0.4	
College Students	0.1	0.2	0.7	0.8	1.1	0.3	0.8	1.0	0.5	-0.5	0.0	0.0	0.3	0.5	0.3	0.1	0.2	0.3	0.0	-0.3	
Young Adults	0.3	0.4	0.8	0.9	1.2	0.9	0.9	1.1	0.9	-0.2	*	0.1	0.3	0.5	0.3	0.3	0.3	0.3	0.4	+0.1	
Barbiturates^b																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	3.4	2.8	3.4	4.1	4.7	4.9	5.1	5.5	5.8	+0.3	1.4	1.1	1.3	1.7	2.2	2.1	2.1	2.6	2.6	0.0	
College Students	1.2	1.4	1.5	1.2	2.0	2.3	3.0	2.5	3.2	+0.7	0.3	0.7	0.4	0.4	0.5	0.8	1.2	1.1	1.1	0.0	
Young Adults	1.8	1.6	1.9	1.8	2.1	2.2	2.4	2.5	2.8	+0.2	0.5	0.5	0.6	0.6	0.8	0.8	0.9	0.9	1.1	+0.2	
Tranquilizers^b																					
8th Grade	1.8	2.0	2.1	2.4	2.7	3.3	2.9	2.6	2.5	-0.1	0.8	0.8	0.9	1.1	1.2	1.5	1.2	1.2	1.1	-0.1	
10th Grade	3.2	3.5	3.3	3.3	4.0	4.6	4.9	5.1	5.4	+0.3	1.2	1.5	1.1	1.1	1.7	1.7	2.2	2.2	2.2	0.0	
12th Grade	3.6	2.8	3.5	3.7	4.4	4.6	4.7	5.5	5.8	+0.3	1.4	1.0	1.2	1.4	1.8	2.0	1.8	2.4	2.5	+0.1	
College Students	2.4	2.9	2.4	1.8	2.9	2.8	3.8	3.9	3.8	-0.1	0.6	0.6	0.4	0.4	0.5	0.7	1.2	1.3	1.1	-0.3	
Young Adults	3.5	3.4	3.1	2.9	3.4	3.2	3.1	3.8	3.7	-0.1	0.9	1.0	1.0	0.8	1.1	0.7	1.1	1.2	1.3	+0.1	
Rohypnol^{kl}																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	1.0	0.8	—	—	—	—	—	—	—	—	—	—	
12th Grade	—	—	—	—	—	—	—	—	1.1	1.3	—	—	—	—	—	—	—	—	—	—	
College Students	—	—	—	—	—	—	—	—	1.1	1.2	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

(Table continued on next page)

**TABLE 2-2 (cont.)
Trends in Annual and 30-Day Prevalence of Use of Various Drugs
for Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)**

	Annual										30-Day					'98-'99 change				
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995		1996	1997	1998	1999
Alcohol¹																				
Any use	54.0	53.7	51.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8th Grade	—	45.4	46.8	46.8	45.3	46.5	45.5	43.7	43.5	-0.2	—	—	—	—	—	—	—	—	—	—
10th Grade	72.3	70.2	69.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	77.7	76.8	76.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	88.3	86.9	85.1	82.7	83.2	82.9	82.4	84.6	83.6	-1.0	—	—	—	—	—	—	—	—	—	—
Young Adults	86.9	86.2	85.3	83.7	84.7	84.0	84.3	84.0	84.1	+0.1	—	—	—	—	—	—	—	—	—	—
Been Drunk¹																				
8th Grade	17.5	18.3	18.2	18.2	18.4	19.8	18.4	17.9	18.5	+0.6	—	—	—	—	—	—	—	—	—	—
10th Grade	40.1	37.0	37.8	38.0	38.5	40.1	40.7	38.3	40.9	+2.6s	—	—	—	—	—	—	—	—	—	—
12th Grade	52.7	50.3	49.6	51.7	52.5	51.9	53.2	52.0	53.2	+1.2	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes																				
Any use	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	35.6	37.3	38.8	37.6	39.3	41.4	43.6	44.3	44.5	+0.2	—	—	—	—	—	—	—	—	—	—
Young Adults	37.7	37.9	37.8	38.3	38.8	40.3	41.8	41.6	41.1	-0.4	—	—	—	—	—	—	—	—	—	—
Smokeless Tobacco^d																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stemoids²																				
8th Grade	1.0	1.1	0.9	1.2	1.0	0.9	1.0	1.2	1.7	+0.5sss	—	—	—	—	—	—	—	—	—	—
10th Grade	1.1	1.1	1.0	1.1	1.2	1.2	1.2	1.2	1.7	+0.5ss	—	—	—	—	—	—	—	—	—	—
12th Grade	1.4	1.1	1.2	1.3	1.5	1.4	1.4	1.7	1.8	+0.1	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	0.5	0.4	0.3	0.4	0.5	0.3	0.5	0.4	0.6	+0.2	—	—	—	—	—	—	—	—	—	—

TABLE 2-3

Trends in 30-Day Prevalence of Daily Use of Various Drugs for Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)

	Daily									'98-'99 change
	1991	1992	1993	1994	1995	1996	1997	1998	1999	
Marijuana/Hashish, daily ^m										
8th Grade	0.2	0.2	0.4	0.7	0.8	1.5	1.1	1.1	1.4	+0.3
10th Grade	0.8	0.8	1.0	2.2	2.8	3.5	3.7	3.6	3.8	+0.2
12th Grade	2.0	1.9	2.4	3.6	4.6	4.9	5.8	5.6	6.0	+0.4
College Students	1.8	1.6	1.9	1.8	3.7	2.8	3.7	4.0	4.0	0.0
Young Adults	2.3	2.3	2.4	2.8	3.3	3.3	3.8	3.7	4.4	+0.7
Alcohol ^{l,m}										
Any daily use										
8th Grade	0.5	0.6	0.8	—	—	—	—	—	—	—
10th Grade	1.3	1.2	1.6	1.0	0.7	1.0	0.8	0.9	1.0	+0.1
12th Grade	3.6	3.4	1.8	1.7	1.7	1.6	1.7	1.9	1.9	0.0
College Students	4.1	3.7	3.4	2.9	3.5	3.7	3.9	3.9	3.4	-0.6s
Young Adults	4.9	4.5	3.9	3.7	3.0	3.2	4.5	3.9	4.5	+0.6
Young Adults	4.9	4.5	4.5	3.9	3.9	4.0	4.6	4.0	4.8	+0.9s
Been Drunk, daily ^{l,m}										
8th Grade	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.3	0.4	+0.1
10th Grade	0.2	0.3	0.4	0.4	0.6	0.4	0.6	0.6	0.7	+0.1
12th Grade	0.9	0.8	0.9	1.2	1.3	1.6	2.0	1.5	1.9	+0.4
College Students	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—
5+ drinks in a row in last 2 weeks										
8th Grade	12.9	13.4	13.5	14.5	14.5	15.6	14.5	13.7	15.2	+1.5s
10th Grade	22.9	21.1	23.0	23.6	24.0	24.8	25.1	24.3	25.6	+1.3
12th Grade	29.8	27.9	27.5	28.2	29.8	30.2	31.3	31.5	30.8	-0.7
College Students	42.8	41.4	40.2	40.2	38.6	38.3	40.7	38.9	40.0	+1.1
Young Adults	34.7	34.2	34.4	33.7	32.6	33.6	34.4	34.1	35.8	+1.7
Cigarettes										
Any daily use										
8th Grade	7.2	7.0	8.3	8.8	9.3	10.4	9.0	8.8	8.1	-0.7
10th Grade	12.6	12.3	14.2	14.6	16.3	18.3	18.0	15.8	15.9	+0.1
12th Grade	18.5	17.2	19.0	19.4	21.6	22.2	24.6	22.4	23.1	+0.7
College Students	13.8	14.1	15.2	13.2	15.8	15.9	15.2	18.0	19.3	+1.3
Young Adults	21.7	20.9	20.8	20.7	21.2	21.8	20.6	21.9	21.5	-0.3
1/2 pack+/day										
8th Grade	3.1	2.9	3.5	3.6	3.4	4.3	3.5	3.6	3.3	-0.3
10th Grade	6.5	6.0	7.0	7.6	8.3	9.4	8.6	7.9	7.6	-0.3
12th Grade	10.7	10.0	10.9	11.2	12.4	13.0	14.3	12.6	13.2	+0.6
College Students	8.0	8.9	8.9	8.0	10.2	8.4	9.1	11.3	11.0	-0.3
Young Adults	16.0	15.7	15.5	15.3	15.7	15.3	14.6	15.6	15.1	-0.5
Smokeless Tobacco, daily ^d										
8th Grade	1.6	1.8	1.5	1.9	1.2	1.5	1.0	1.0	0.9	-0.1
10th Grade	3.3	3.0	3.3	3.0	2.7	2.2	2.2	2.2	1.5	-0.7
12th Grade	—	4.3	3.3	3.9	3.6	3.3	4.4	3.2	2.9	-0.3
College Students	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—

NOTE: See Table 2-1 for relevant footnotes

Chapter 3

STUDY DESIGN AND PROCEDURES

Monitoring the Future has a complex cohort sequential design appropriate for distinguishing and explaining three different types of change: period related, age related, and cohort related. This chapter contains a description of this research design, including the sampling plans and field procedures used in both the in-school surveys of the eighth-, tenth-, and twelfth-grade students and the follow-up surveys of young adults. Related methodological issues such as response rates, population coverage, and the validity of the measures are also discussed. We begin with a description of the design that has been used consistently over twenty-five years to survey high school seniors; then we describe the more recently instituted design for eighth and tenth graders. Finally, the designs for the *follow-up* surveys of former twelfth graders, and former eighth and tenth graders, are covered.^{10,11}

RESEARCH DESIGN AND PROCEDURES FOR THE SURVEYS OF SENIORS

The data from high school seniors have been collected during the spring of each year starting with the class of 1975. Each year's data collection takes place in approximately 125 to 145 public and private high schools selected to provide an accurate representative cross-section of high school seniors throughout the coterminous United States (see Figure 3-1).

The Population under Study

The senior year of high school was chosen as an optimal point for monitoring the drug use and related attitudes of youth for several reasons. First, completion of high school represents the end of an important developmental stage in this society because it demarcates both the end of universal education and, for many, the end of living in the parental home. Therefore, it is a logical point at which to take stock of the cumulated influences of these two environments on American youth. Further, completion of high school represents the jumping-off point from which young people diverge into widely differing social environments and experiences. Senior year, then, represents a good time

¹⁰For a more detailed description of the study design, see Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (1996). *Monitoring the Future project after twenty-two years: Design and procedures*. (Monitoring the Future Occasional Paper 38.) Ann Arbor, MI: Institute for Social Research.

¹¹For a more detailed description of the full range of research objectives of Monitoring the Future, see Johnston, L. D., O'Malley, P. M., Schulenberg, J., & Bachman, J. G. (1996). *The aims and objectives of the Monitoring the Future study and progress toward fulfilling them* (2nd ed.). Ann Arbor, MI: Institute for Social Research.

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to take a "before" measure that allows calculation of changes that may be attributable to the many environmental and role transitions that occur in young adulthood. Finally, there were some important practical advantages to building the original system of data collections around samples of high school seniors. The need for systematically repeated, large-scale samples from which to make reliable estimates of change requires that considerable stress be laid on cost efficiency as well as feasibility. The last year of high school constitutes the final point at which a reasonably good national sample of an age-specific cohort can be drawn and studied economically.

The Omission of Dropouts

One limitation in the study design is the exclusion of those young men and women who drop out of high school before graduation—between 15 and 20 percent of each age cohort nationally, according to U.S. Census statistics. Clearly, the omission of high school dropouts introduces biases in the estimation of certain characteristics of the entire age group; however, for most purposes, the small proportion of dropouts sets outer limits on the bias. Further, since the bias from missing dropouts should remain just about constant from year to year, their omission should introduce little or no bias in *change* estimates. Indeed, we believe the changes observed over time for those who finish high school are likely to parallel the changes for dropouts in most instances. Appendix A to Volume I addresses the likely effects of the exclusion of dropouts on estimates of prevalence of drug use and trends in drug use among the entire age cohort; the reader is referred there for a more detailed discussion of this issue.

Sampling Procedures

A multi-stage random sampling procedure is used to secure the nationwide sample of high school seniors each year. Stage 1 is the selection of particular geographic areas, Stage 2 is the selection (with probability proportionate to size) of one or more high schools in each area, and Stage 3 is the selection of seniors within each high school. Within each school, up to about 350 seniors may be included. In schools with fewer seniors, the usual procedure is to include all of them in the data collection. In larger schools, a subset of seniors is selected either by randomly sampling entire classrooms or by some other unbiased, random method. Weights are assigned to compensate for differential probabilities of selection at each stage. Final weights are normalized to average 1.0 (so that the weighted number of cases equals the unweighted number of cases overall). This three-stage sampling procedure has yielded the number of participating schools and students over the years shown in Table 3-1.

Questionnaire Administration

About ten days before the questionnaire administration date, the seniors are given flyers explaining the study. Local Institute for Social Research representatives and their assistants conduct the actual questionnaire administrations following standardized procedures that are detailed in a project instruction manual. The questionnaires are

administered in classrooms during a normal class period whenever possible; however, circumstances in some schools require the use of larger group administrations.

Questionnaire Format

Because many questions are needed to cover all of the topic areas in the study, much of the questionnaire content intended for high school seniors is divided into six different questionnaire forms that are distributed to participants in an ordered sequence that ensures six virtually identical random subsamples. (Five questionnaire forms were used between 1975 and 1988.) About one-third of each questionnaire form consists of key, or "core," variables that are common to all forms. All demographic variables, and nearly all of the drug *use* variables included in this report, are contained in this core set of measures. Many of the questions dealing with attitudes, beliefs, and perceptions of relevant features of the social environment are in a single form only, and the data are thus based on one-fifth as many cases in 1975-1988 (approximately 3,300) and on one-sixth as many cases in 1989-1999 (approximately 2,600). All tables in this report list the sample sizes upon which the statistics are based, stated in terms of the weighted number of cases (which is roughly equivalent to the actual number of cases).

RESEARCH DESIGN AND PROCEDURES FOR THE SURVEYS OF LOWER GRADES

Beginning in 1991, there was an important expansion of the study to include nationally representative samples of eighth- and tenth-grade students. Surveys at these two grade levels have been conducted on an annual basis since 1991.

In general, the procedures used for the annual in-school surveys of eighth- and tenth-grade students closely parallel those used for high school seniors, including the procedures for selecting schools and students, questionnaire administration, and questionnaire formats. A major exception is that only two different questionnaire forms were used from 1991 to 1996, expanding to four forms beginning in 1997 rather than the six used with seniors. Eighth and tenth grades receive identical forms, and, for the most part, questionnaire content is drawn from the twelfth-grade questionnaires. Thus, key demographic variables and measures of drug use and related attitudes and beliefs are generally identical for all three grades. The forms used in both eighth and tenth grades have a common core (Parts B and C) that parallels the core used in twelfth-grade forms. Many fewer questions about lifestyles and values are included in the eighth- and tenth-grade forms, in part because we think that many of these attitudes are likely to be more fully formed by twelfth grade and, therefore, are best monitored there. For the national survey of eighth graders each year, approximately 155 schools (mostly junior high schools and middle schools) are sampled, and approximately 17,000 to 19,000 students are surveyed. For the tenth graders, approximately 130 high schools are sampled, and from 14,000 to 17,000 students are surveyed.

The research design originally called for follow-up surveys of subsamples of the eighth and tenth graders participating in the study, carried out at two-year intervals, similar to the twelfth-grade follow-up samples. From 1991 to 1994, this plan influenced the design of the cross-sectional studies of eighth and tenth graders in an important way. In order to "recapture" many of the eighth-grade participants two years later in the normal tenth-grade cross-sectional study for that year, we selected the eighth-grade schools by drawing a sample of high schools and then selecting a sample of their "feeder schools" that contained eighth graders. This extra stage in the sampling process meant that many of the eighth-grade participants in, say, the 1991 cross-sectional survey were also participants in the 1993 cross-sectional survey of tenth graders. Thus, a fair amount of panel data were generated at no additional cost. However, having followed this design in 1993, we concluded that the saving in follow-up costs did not justify the complexities in sampling, administration, and interpretation. Therefore, since 1994, we have used a simplified design in which eighth-grade schools were drawn independently of the tenth-grade school sample. Further follow-ups (at two-year intervals) were conducted only on panels of students drawn from the first three cohorts of students surveyed in the eighth and tenth grades, i.e., those surveyed in school in 1991, 1992, and 1993.

When follow-up surveys of new cohorts of eighth and tenth graders were no longer being conducted, the collection of personal identification information for follow-up purposes was no longer a necessity. For confidentiality reasons, this personal information had been gathered on a tear-off sheet at the back of each questionnaire. We felt that there were potential advantages in moving toward a fully anonymous procedure for these grade levels, including the following: (a) school cooperation might be easier to obtain; (b) any suppression effect the confidential mode of administration might have could be both eliminated and quantified; and (c) if there *were* any mode of administration effect, it would be removed from the national data, which are widely used for comparison purposes in state and local surveys (nearly all of which use anonymous questionnaires), and thus make those comparisons more valid. Therefore, in 1998 for the first time, in half of the eighth- and tenth-grade schools surveyed, the questionnaires administered were made fully anonymous. Specifically the matched half-sample of schools beginning their two-year participation in Monitoring the Future in 1998 received the anonymous questionnaires, while the half-sample participating in the study for their second and final year continued to get the confidential questionnaires. A careful examination of the 1998 results, based on the two equivalent half-samples at grade 8, and also at grade 10, revealed that there was no effect of this methodological change among tenth graders, and, at most, only a very modest effect in the self-reported substance use rates among eighth graders (with prevalence rates slightly higher in the anonymous condition). The net effect of this methodological change is to increase very slightly the observed eighth-grade prevalence estimates for marijuana, alcohol, and cigarettes in 1998 from what they would have been if there was no change in questionnaire administration. For those three drugs, that means that the declines in use in 1998 may be slightly understated for the eighth graders only. In other words, the direction of the change is the same as shown in the tables, but the actual declines may be slightly larger than those shown. For example, the annual prevalence of marijuana use among eighth graders is shown to have fallen by 0.8 percentage points between 1997-1998; however, the half-sample of eighth-grade schools

receiving exactly the same type of questionnaire that was used in 1997 showed a slightly greater decline of 1.5 percentage points.

For cigarettes, this change in method appeared to have no effect on self-reported rates of daily use or half-pack per day use, and to have had only a very small effect on 30-day prevalence. Thus, for example, the 30-day prevalence of cigarette use among eighth graders is shown to have fallen 0.3 percentage points between 1997-1998; however, the half-sample of eighth-grade schools receiving exactly the same type of questionnaire that was used in 1997 showed a slightly greater decline of 0.6 percentage points. Finally, lifetime cigarette prevalence is shown as falling by 1.6 percentage points between 1997 and 1998, but in the half-sample of schools with a constant methodology, it fell by 2.6 percentage points.

We have examined the effects of mode of administration in detail in a published journal article, in which we use multivariate controls to assess the effects of the change on the eighth-grade self-report data. It generally shows even less effect than is to be found without such controls.¹²

All tables and figures in Volume I use data from both samples of eighth graders, combined. This is also true for the tenth graders (for whom we found no methodological effect) and the twelfth graders (for whom it is assumed there is no such effect since none was found among the tenth graders). In 1999 the remaining half of the participating schools (all beginning the first of their two years of participation) received anonymous questionnaires, as well. Thus, from 1999 on, all data from eighth- and tenth-grade students are gathered using anonymous questionnaires. We continue to use confidential questionnaires with twelfth graders in order to permit follow-up of those who are randomly selected into the panel studies.

RESEARCH DESIGN AND PROCEDURES FOR THE FOLLOW-UP SURVEYS OF SENIORS

Beginning with the graduating class of 1976, each senior class has been followed up annually on a continuing basis after high school for seven follow-up data collections, which corresponds to their reaching a modal age of 32.¹³ From the roughly 15,000 to 17,000 seniors originally participating in a given senior class, a representative sample of 2,400 individuals is chosen for follow-up. In order to ensure sufficient numbers of drug users in the follow-up surveys, seniors reporting 20 or more occasions of using marijuana, or any use of any of the other illicit drugs in the previous 30 days, are selected with higher probability (by a factor of 3.0) than the remaining seniors. Differential weighting is then used in all follow-up analyses to compensate for these differential

¹² O'Malley, P. M., Johnston, L. D., Bachman, J. G., & Schulenberg, J. (2000). A comparison of confidential versus anonymous survey procedures: Effects on reporting of drug use and related attitudes and beliefs in a national study of students. *Journal of Drug Issues*, 30, 35-54.

¹³ Further follow-ups occur (or will occur) at half-decade intervals, beginning with age 35.

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sampling probabilities. Because those in the drug-using stratum receive a weight of only 0.33 in the calculation of all statistics to correct for their over-representation at the selection stage, there are actually more follow-up respondents than are reported in the weighted N's given in the tables.

The 2,400 selected respondents from each class are randomly split into two matching groups of 1,200 each; one group to be surveyed on even-numbered calendar years, and the other group to be surveyed on odd-numbered years. This two-year cycle is intended to reduce the burden on individual respondents, thus yielding a better retention rate across the years. By alternating the two half-samples, we have data from a given graduating class every year, even though any given respondent participates only every other year.

Follow-up Procedures

Using information provided by high school senior respondents on a tear-off card (containing the respondent's name, address, phone number, and the name and address of someone who would always know how to reach them), mail contact is maintained with the subset of people selected for inclusion in the follow-up panels. Newsletters are sent to them each year, and name and address corrections are requested. Questionnaires are sent to each individual biennially in the spring of each year by certified mail. A check for \$10.00, made payable to the respondent, is attached to the front of each questionnaire.¹⁴ Reminder letters and postcards are sent at fixed intervals thereafter; finally, those who have not responded receive a prompting phone call from the Survey Research Center's phone interviewing facility in Ann Arbor. If requested, a second copy of the questionnaire is sent; but no questionnaire content is administered by phone. If a respondent asks not to be bothered further, that wish is honored.

Panel Retention Rates

To date, an average of about 77% of those selected for inclusion in follow-up panels have returned questionnaires in the first follow-up after high school. The retention rate declines with time, as would be expected. The 1999 panel retention from the class of 1985—the oldest of the panels in the seven biennial follow-ups, now age 32 (14 years past their first data collection in high school)—was 53%.

Corrections for Panel Attrition

Because, to a modest degree, attrition is associated with drug use, we have introduced corrections into the prevalence of use estimates for the follow-up panels. These corrections raise the prevalence estimates from the uncorrected ones, but only slightly. We believe the resulting estimates to be the most accurate obtainable for the population

¹⁴Note that, for the class of 1991 and all prior classes, the follow-up checks were for \$5.00. The rate was raised, beginning with the class of 1992, to compensate for the effects of inflation over the life of the study. An experiment was first conducted that suggested that the increased payment was justified based on the increased panel retention it achieved.

of high school senior graduates but still low for the age group as a whole, due to the omission of dropouts and absentees from the population covered by the original panels.¹⁵

Follow-up Questionnaire Format

The questionnaires used in the follow-up surveys are very much like those used in the senior year. They are optically scanned; they contain a core section on drug use and background and demographic factors common to all forms; and they have questions about a wide range of topics at the beginning and ending sections, many of which are unique to each questionnaire form. Many of the questions asked of seniors are retained in the follow-up questionnaires, and respondents are consistently mailed the same version (or form) of the questionnaire that they first received in senior year, so that changes over time in their behaviors, attitudes, experiences, and so forth can be measured. Questions specific to high school status and experiences are dropped in the follow-up, of course, and questions relevant to post-high school status and experiences are added. Thus, there are questions about college, military service, civilian employment, marriage, parenthood, and so on.

For the early follow-up cohorts, the numbers of cases on single-form questions were one-fifth the size of the total follow-up sample because five different questionnaire forms were used. Beginning with the Class of 1989, a sixth form was introduced in senior year. That new questionnaire form was first sent to follow-up respondents in 1990; single-form data since then have N's one-sixth the total follow-up sample size. In the follow-up studies, single-form samples from a single cohort are too small to make reliable estimates; therefore, in most cases where they are reported, the data from several adjacent cohorts are combined.

REPRESENTATIVENESS AND SAMPLE ACCURACY

School Participation

Schools are invited to participate in the study for a two-year period. For each school that declines to participate, a similar school (in terms of size, geographic area, urbanicity, etc.) is recruited as a replacement for that "slot." In 1999, either an original school or a replacement school was obtained in 99% of the sample units, or "slots." With very few exceptions, each school participating in the first year has agreed to participate in the second year as well. Figure 3-2 provides the year-specific school participation rates and

¹⁵The intent of the weighting process is to correct for the effects of differential attrition on follow-up drug use estimates. Different weights are used for different substances. Cigarettes, alcohol, and marijuana each have one weight for every follow-up of each graduating class. The weights are based on the observed differences in the distribution on an index of twelfth-grade use of the relevant substance for the follow-up sample compared to the distribution based on the full base-year sample. For example, the distribution on the index of marijuana use in the 1988 follow-up of approximately 1,000 respondents from the class of 1976 was compared to the original 1976 base-year distribution for the entire participating base-year class of 17,000 respondents; and weights were derived that, when applied to the base-year data for only those participating in the 1988 follow-up, would reproduce the original base-year frequency distribution. A similar procedure is used to determine a weight for all illicit drugs other than marijuana combined. In this case, however, an average weight is derived across graduating classes. Thus, the same weight is applied, for example, to all respondents in the follow-up of 1988, regardless of when they graduated from high school.

the percentage of "slots" filled since 1977. (The data for the years prior to 1991 are for twelfth grade only; beginning in 1991, the data are for eighth, tenth, and twelfth grades combined.) As shown in the table, replacement schools are obtained in the vast majority of cases.

There are two questions that are sometimes raised with respect to school participation rates: (1) Are participation rates so low as to compromise the representativeness of the sample? (2) Does variation in participation rates over time contribute to changes in estimates of drug use?

With respect to the first issue, the selection of replacement schools (which occurs in practically all instances of an original school refusal) almost entirely removes problems of bias in region, urbanicity, and the like, that might result from certain schools refusing to participate. Other potential biases could be more subtle, however. If, for example, it turned out that most schools with "drug problems" refused to participate, the sample would be seriously biased. And if any other single factor were dominant in most refusals, that reason for refusal also might suggest a source of serious bias. In fact, however, the reasons given for a school refusing to participate tend to be varied and are often a function of happenstance events specific to that particular year; only a very small proportion specifically object to the drug-related or "sensitive" nature of the content of the survey.

If it were the case that schools differed substantially in drug use, then which particular schools participated could have a greater effect on estimates of drug use. However, the great majority of variance in drug use lies within schools, not between schools. For example, for tenth graders in 1992, between-schools variance for marijuana use was 4%-6% of the total variance (depending on the specific measure); for inhalant use, 1%-2%; for LSD, 2%-4%; for crack cocaine, 1.0%-1.5%; for alcohol use, 4%-5%; and for cigarette use, 3%-4%. (Eighth- and twelfth-grade values are similar.) To the extent that schools tend to be fairly similar in drug use, then which particular schools participate (within a selection framework that seeks national representation) has a smaller effect on estimates of drug use. The fact that the overwhelming majority of variance in drug use lies within schools implies that, at least with respect to drug use, schools are for the most part fairly similar.¹⁶ Further, some, if not most, of the between-schools variance is due to differences related to region, urbanicity, etc.—factors that remain well controlled in the present sampling design because of the way in which replacement schools are selected.

With respect to the second issue, the observed data from the series make it extremely unlikely that results have been significantly affected by changes in response rate. If changes in response rates seriously affected prevalence estimates, there would be noticeable bumps up or down in concert with the changing rates. But in fact the trend

¹⁶ Among the schools that actually participated in the study, there is very little difference in substance use rates between the schools that were original selections, taken as a set, and the schools that were replacement schools. Averaged over the years 1991 through 1996, for grades 8 and 10 combined, the difference between original schools and replacement schools averaged less than one percentage point in the observed prevalence rates for monthly cigarette use, binge drinking, and annual marijuana use. (Original schools were slightly higher in cigarette and marijuana use and slightly lower in binge drinking.)

figures that result from this series of surveys are very smooth and change in a very orderly fashion from one year to the next. This suggests very strongly that the level of school-related error in the estimates does not vary much over time. Moreover, the fact that different substances trend in very different ways further refutes any likelihood that changes in response rates are affecting prevalence estimates. We have observed, for example, marijuana use decreasing while cocaine use was stable (in the early 1980s); alcohol use declining while cigarette use was stable (in the mid- to late 1980s); marijuana use increasing while inhalant use was decreasing (from 1994 to 1997). All of these patterns are explainable in terms of psychological, social, and cultural factors (as described in this and previous volumes in this series), and cannot be explained by changes in response rates.

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

At each grade level, schools are selected in such a way that half of each year's sample is comprised of schools that participated the previous year, and half is comprised of schools that will participate the next year. (Both of these samples are national replicates, meaning that each is drawn to be nationally representative by itself.) This staggered half-sample design is used to check on possible errors in the year-to-year trend estimates due to school turnover. For example, separate sets of one-year trend estimates are computed based on students in the half-sample of schools that participated in both 1997 and 1998, then based on the students in the half-sample that participated in both 1998 and 1999, and so on. Thus, each one-year *matched half-sample* trend estimate derived in this way is based on a constant set of about 65 schools (in 12th grade). When the trend data derived from the matched half-sample (examined separately for each class of drugs) are compared with trends based on the total sample of schools, the results are usually highly similar, indicating that the trend estimates are little affected by turnover or shifting refusal rates in the school samples. As would be expected, the *absolute* prevalence of use estimates for a given year are not as accurate using just the half-sample because the sample size is only half as large.

Student Participation

In 1999, completed questionnaires were obtained from 87% of all sampled students in eighth grade, 85% in tenth grade, and 83% in twelfth grade. (See Table 3-1 for response rates in earlier years.) The single most important reason that students are missed is absence from class at the time of data collection; in most cases, for reasons of cost efficiency, we do not schedule special follow-up data collections for absent students. Students with fairly high rates of absenteeism also report above-average rates of drug use; therefore, some degree of bias is introduced into the prevalence estimates by missing the absentees. Much of that bias could be corrected through the use of special weighting based on the reported absentee rates of the students who *did* respond; however, we

decided not to use such a weighting procedure because the bias in overall drug use estimates was determined to be quite small *and* because the necessary weighting procedures would have introduced greater sampling variance in the estimates. Appendix A in an earlier report¹⁷ provides a discussion of this point, and Appendix A in the current Volume I illustrates the changes in trend and prevalence estimates that would result if corrections for absentees had been included. Of course, some students are not absent from class but simply refuse, when asked, to complete a questionnaire. However, the proportion of explicit refusals amounts to less than 1.5% of the target sample for each grade.

Sampling Accuracy of the Estimates

Confidence intervals (95%) are provided in Tables 4-1a through 4-1d (Chapter 4, Volume I) for lifetime, annual, 30-day, and daily prevalence of use for eighth-, tenth-, and twelfth-grade students. As can be seen in Table 4-1a, confidence intervals for lifetime prevalence for seniors average about $\pm 1.5\%$ across a variety of drug classes. That is, if we took a large number of samples of this size from the universe of all schools containing twelfth graders in the coterminous United States, 95 times out of 100 the sample would yield a result that would be 1.5 percentage points *or less* divergent from the result we would get from a comparable massive survey of *all* seniors in *all* schools. This is a high level of sampling accuracy, and it should permit detection of fairly small changes from one year to the next. Confidence intervals for the other prevalence periods (past 12 months, past 30 days, and current daily use) are generally smaller than those for lifetime use. In general, confidence intervals for eighth and tenth graders are very similar to those observed for twelfth graders. Some drugs are measured on only one or two forms (smokeless tobacco, PCP, nitrites, and others, as indicated in Table 2-1 footnotes); these drugs will have somewhat larger confidence intervals due to their smaller sample sizes. Appendix C of Volume I contains information for the interested reader on how to calculate confidence intervals around other point estimates; it also provides the information needed to compare trends across time or to test the significance of differences between subgroups in any given year.

VALIDITY OF THE MEASURES OF SELF-REPORTED DRUG USE

Are sensitive behaviors such as drug use honestly reported? Like most studies dealing with sensitive behaviors, we have no direct, totally objective validation of the present measures; however, the considerable amount of existing inferential evidence strongly suggests that the self-report questions produce largely valid data. A more complete discussion of the contributing evidence that leads to this conclusion may be found in other publications; here we will only briefly summarize the evidence.¹⁸

¹⁷Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1984). *Drugs and American high school students: 1975-1983*. DHHS (ADM) 85-1374. Washington, D.C.: U.S. Government Printing Office.

¹⁸Johnston, L. D., & O'Malley, P. M. (1985). Issues of validity and population coverage in student surveys of drug use. In B. A. Rouse, N. J. Kozel, & L. G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57 (ADM) 85-1402). Washington, D.C.: U.S. Government Printing Office; Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1984). *Drugs and American high school students: 1975-1983*. DHHS (ADM) 85-1374.

First, using a three-wave panel design, we established that the various measures of self-reported drug use have a high degree of reliability—a necessary condition for validity.¹⁹ In essence, respondents were highly consistent in their self-reported behaviors over a three- to four-year time interval. Second, we found a high degree of consistency among logically-related measures of use within the same questionnaire administration. Third, the proportion of seniors reporting some illicit drug use by senior year has reached two-thirds of all respondents in peak years and nearly 80% in some follow-up years, constituting *prima facie* evidence that the degree of under-reporting must be very limited. Fourth, the seniors' reports of use by their unnamed friends—about whom they would presumably have less reason to distort reports of use—has been highly consistent with self-reported use in the aggregate in terms of both prevalence *and* trends in prevalence, as will be discussed later in this report. Fifth, we have found self-reported drug use to relate in consistent and expected ways to a number of other attitudes, behaviors, beliefs, and social situations—in other words, there is strong evidence of “construct validity.” Sixth, the missing data rates for the self-reported use questions are only very slightly higher than for the preceding nonsensitive questions, in spite of explicit instructions to respondents to leave blank those drug use questions they felt they could not answer honestly. Seventh, an examination of consistency in reporting of lifetime use conducted on the long-term panels of graduating seniors found quite low levels of recanting of earlier-reported use of the illegal drugs.²⁰ There was a higher level of recanting for the psychotherapeutic drugs, which we interpreted as suggesting that adolescents actually may overestimate their use of some of these drugs because of misunderstanding definitions which get cleared up as they get older. Finally, the great majority of respondents, when asked, say they would answer such questions honestly if they were users.²¹

This is not to argue that self-reported measures of drug use are valid in all cases. In the present study we have gone to great lengths to create a situation and set of procedures in which students feel that their confidentiality will be protected. We have also tried to present a convincing case as to why such research is needed. We think the evidence suggests that a high level of validity has been obtained. Nevertheless, insofar as any remaining reporting bias exists, we believe it to be in the direction of under-reporting.

Washington, D.C.: U.S. Government Printing Office; Wallace, J. M., Jr., & Bachman, J. G. (1993). Validity of self-reports in student-based studies on minority populations: Issues and concerns. In M. de LaRosa (Ed.), *Drug abuse among minority youth: Advances in research and methodology*. NIDA Research Monograph. Rockville, MD: National Institute on Drug Abuse.

¹⁹O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1983). Reliability and consistency in self-reports of drug use. *International Journal of the Addictions*, 18, 805-824.

²⁰Johnston, L. D. & O'Malley, P. M. (1997). The recanting of earlier reported drug use by young adults. In Harrison, L. (Ed.), *The validity of self-reported drug use: Improving the accuracy of survey estimates* (pp. 59-80). (NIDA Research Monograph 167, pp 59-79). Rockville, MD: National Institute on Drug Abuse.

²¹For a discussion of reliability and validity of student self-report measures of drug use like those used in *Monitoring the Future* across varied cultural settings, see also Johnston, L. D., Driessen, F. M. H. M., & Kokkevi, A. (1994). *Surveying student drug misuse: A six-country pilot study*. Strasbourg, France: Council of Europe.

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Thus, we believe our estimates to be lower than their true values, even for the obtained samples, but not substantially so.

One procedure we undertake to help assure the validity of our data is worth noting. We check for logical inconsistencies in the triplets of answers about the use of each drug (i.e., about lifetime, past year, and past 30-day use), and if a respondent exceeds a minimum number of inconsistencies, his or her record is deleted from the dataset. Similarly, we check for improbably high rates of use of multiple drugs and delete such cases, on the assumption that the respondents are not taking the task seriously. Relatively few cases are eliminated for these reasons.

Consistency and the Measurement of Trends

One further point is worth noting in a discussion of the validity of the findings. The Monitoring the Future project is designed to be sensitive to changes from one time period to another. One great strength of this study, in our opinion, is that the measures and procedures have been standardized and applied consistently across many years. To the extent that any biases remain because of limits in school and/or student participation, and to the extent that there are distortions (lack of validity) in the responses of some students, it seems very likely that such problems will exist in much the same way from one year to the next. In other words, biases in the survey estimates will tend to be consistent from one year to another, which means that our measurement of *trends* should be affected very little by any such biases. The smooth and consistent nature of most trend curves reported for the various drugs provides rather compelling empirical support for this assertion.

TABLE 3-1
Sample Sizes and Response Rates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
<i>Twelfth Grade</i>																										
Number public schools	111	108	108	111	111	107	109	116	112	117	115	113	117	113	111	114	117	120	121	119	120	118	120	125	124	124
Number private schools	14	15	16	20	20	20	19	21	22	17	17	16	18	19	22	23	19	18	18	20	24	21	21	21	20	19
Total number schools	125	123	124	131	131	127	128	137	134	134	132	129	135	132	133	137	136	138	139	139	144	139	144	146	144	143
Total number students	15,791	16,678	18,436	18,924	16,662	16,524	18,267	18,348	16,947	16,499	16,502	15,713	16,843	16,795	17,142	15,676	15,483	16,251	16,763	15,929	15,876	14,824	15,963	15,780	14,056	
Student response rate	78%	77%	79%	83%	82%	82%	81%	83%	84%	83%	84%	83%	84%	83%	86%	86%	83%	84%	84%	84%	84%	83%	83%	83%	82%	83%
<i>Tenth Grade</i>																										
Number public schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	107	106	111	116	117	113	110	117	
Number private schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	19	17	14	22	20	18	19	23	
Total number schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	125	128	130	139	133	131	129	
Total number students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14,996	14,997	15,516	16,080	17,285	15,873	15,778	15,419	13,885	
Student response rate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87%	88%	86%	88%	87%	87%	86%	87%	85%	
<i>Eighth Grade</i>																										
Number public schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	131	133	126	116	118	122	125	122	
Number private schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31	26	30	34	34	30	27	27	30	
Total number schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	162	159	156	150	152	152	152	152	149	
Total number students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17,844	19,015	18,820	17,708	17,929	18,368	19,066	18,667	17,287	
Student response rate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90%	90%	90%	89%	89%	91%	89%	88%	87%	

SOURCE: The Monitoring the Future Study, the University of Michigan.

FIGURE 3-1
Counties Included in One Year's Data Collection

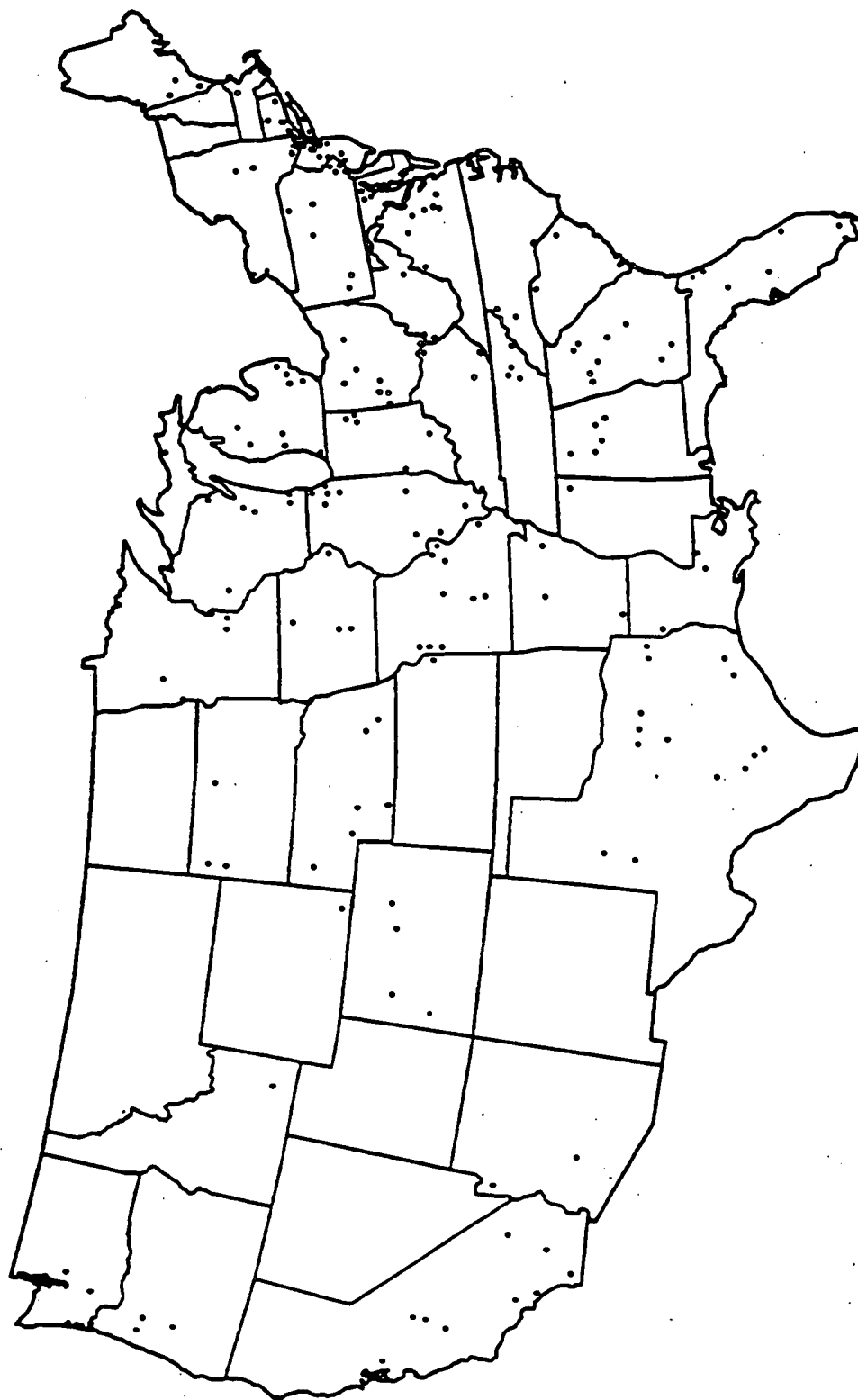
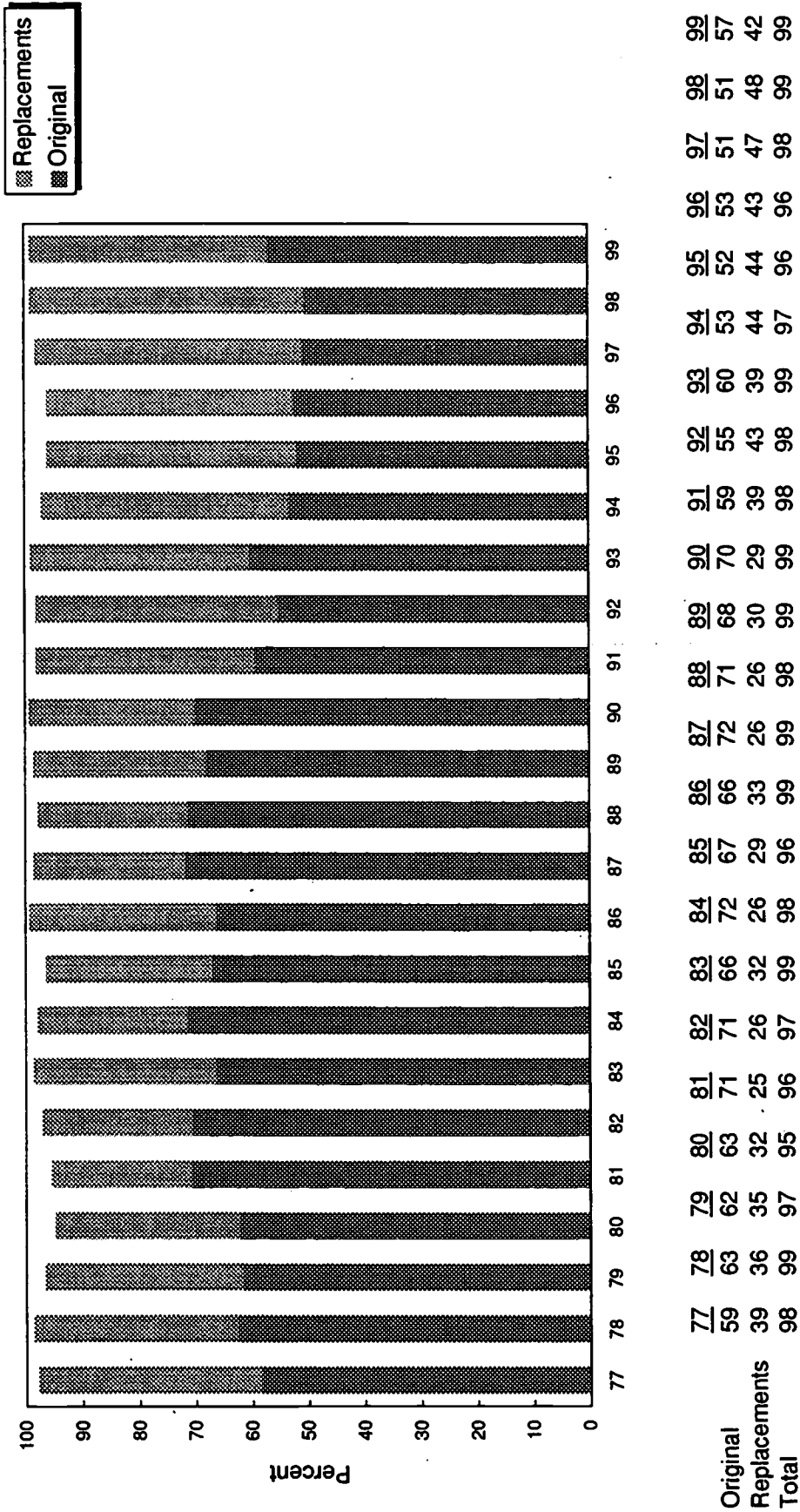


FIGURE 3-2
School Response Rates



Chapter 4

PREVALENCE OF DRUG USE AMONG EIGHTH-, TENTH-, AND TWELFTH-GRADE STUDENTS

Data for 1999 on both *prevalence* and *frequency* of use are included in this chapter for lifetime use, use in the past 12 months, and use in the prior 30 days. The prevalence of current daily use also is provided, as are the prevalence and frequency of having five or more drinks in a row. For cigarettes, rates of daily use and of smoking a half-pack or more per day are included. In addition, for each grade level, comparisons are given for key subgroups in the population based on six cross-break dimensions: gender, college plans, region of the country, population density (or urbanicity); socioeconomic status (as measured by the average educational level of the parents), and racial/ethnic identification.

It should be noted that all of the prevalence statistics given in this section are based on students in attendance on the day of the survey administration. Selected prevalence rate estimates for twelfth-grade students, reflecting adjustments for absentees as well as for dropouts, may be found in Appendix A to this report (17% of twelfth graders were absent from the 1999 administration). For eighth and tenth graders, the adjustments for absenteeism and dropping out would be much smaller than those given for twelfth graders in Appendix A, because eighth and tenth graders have lower rates of absenteeism (13% and 15%, respectively, in 1999) and much lower rates of dropping out.

PREVALENCE AND FREQUENCY OF DRUG USE IN 1999: ALL STUDENTS

Prevalence of Lifetime, Annual, and 30-Day Use

Prevalence of use estimates are provided in Tables 4-1a through 4-1d for lifetime, past 12 months, past 30 days, and daily use in the past 30 days, respectively. These tables also include the 95% confidence intervals around each estimate, which means that, if samples of this size and type were drawn repeatedly from all students at that grade level in the coterminous United States, they should generate observed prevalence rates within the confidence interval 95 times out of 100. The confidence intervals take into account the effects of sample stratification, clustering, and unequal weighting. Of course, the single best estimate that we can make is the actual value observed in the sample. Table 4-2 combines the estimates for all prevalence periods across all

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three grades into a single page to facilitate comparisons, and Table 4-3 gives a separate breakdown for *heroin* by the mode of administration.

Table 4-4a provides data on frequency of use for lifetime, 12-month, and 30-day periods. Table 4-4b provides additional frequency of use estimates for alcohol, cigarettes, and smokeless tobacco.

- More than half of all seniors (55%) reported **any illicit drug use** at some time in their lives (see Table 4-2). Some 46% of tenth graders and 28% of eighth graders said they have used an illicit drug at some time.²²
- Of all the students in each grade reporting some illicit drug use in their lifetime, fewer than half reported using **only marijuana**: 42% of all eighth-grade users of any illicit drug (or 12% of the total eighth-grade sample), 48% of all tenth-grade users of any illicit drug (or 22% of the total tenth-grade sample), and 46% of the twelfth-grade users of any illicit drug (or 25% of the total twelfth-grade sample). Put another way, more than half of those students at each grade level who have ever used an illicit drug have used something in addition to (or other than) marijuana.
- When inhalants are also included in the index of illicit drug use, the proportions categorized as having ever used an illicit drug rise, especially for eighth graders. The percentages using **any illicit drug including inhalants** in their lifetime are 37% for eighth graders, 50% for tenth graders, and 56% for twelfth graders.
- **Marijuana** is by far the most widely used illicit drug. Fifty percent of seniors reported some marijuana use in their lifetime, 38% reported some use in the past year, and 23% reported some use in the past month. Among tenth graders, the corresponding rates are 41%, 32%, and 19%, respectively. Even among eighth-grade students, marijuana has been used by almost one in four (22%), with 17% reporting use in the prior year and 10% use in the prior month. Current **daily marijuana use** (defined as use on 20 or more occasions in the past 30 days) is also noteworthy. One in 17 twelfth graders (6%) uses marijuana daily, as do one in 26 tenth graders (3.8%) and about one in 71 eighth graders (1.4%).

²²For twelfth graders, use of "other illicit drugs" includes any use of hallucinogens, cocaine, or heroin *or* any use of other narcotics, amphetamines, barbiturates, methaqualone (excluded since 1990), or tranquilizers that is not under a doctor's orders. For eighth and tenth graders the list of drugs is the same except that the use of other narcotics and barbiturates has been excluded both from the illicit drug indexes and from separate presentation in this volume. Questions on these drugs were included in the questionnaires given to eighth and tenth graders, but the results led us to believe that some respondents were including nonprescription drugs in their answers, resulting in exaggerated prevalence of use rates.

- **Inhalants** have become an important class of drugs, showing the second highest lifetime prevalence of use rate among eighth and tenth graders and the third highest among twelfth graders of any of the illicit drugs used, with lifetime prevalence rates of 20%, 17%, and 15%, respectively. However, in terms of any use in the past 30 days (current use), inhalants rank lower in the upper grade levels because many who had used them at a younger age have discontinued use.
- Only 1.7% of seniors have tried the specific class of inhalants known as **amyl and butyl nitrites**. These inhalants have been sold legally in the past and have gone by such street names as “poppers” or “snappers” and such brand names as Locker Room and Rush. When questions specifically about nitrite use were included for the first time in one 1979 senior questionnaire form, we discovered that some users of amyl and butyl nitrites did not report themselves as inhalant users, although they should have. We were able to make estimates of the degree to which inhalant use was being under-reported. As a result, we introduced **inhalants adjusted** prevalence estimates, which correct for the under-inclusion of nitrite use. Such correction has made very little difference in recent years because of the low rates of nitrite use.²³
- For eighth and tenth graders, inhalant use is followed closely in the rankings by **amphetamines**, with lifetime prevalence of use rates of 11% for eighth graders and 16% for tenth graders. Amphetamine use comes ahead of inhalant use in the rankings for twelfth graders, with 16% reporting some use in their lifetime.
- **Hallucinogens** are the next most widely used class of substances. Lifetime prevalence of use is 4.8% for eighth graders, 9.7% for tenth graders, and 14% for twelfth graders. Hallucinogen prevalence rates rank this high primarily due to the prevalence of **LSD** use (4.1%, 8.5%, and 12%, respectively).
- When specific questions about **PCP** use were added, in 1979, we discovered that some users of PCP did not report themselves as users of hallucinogens, even though PCP is explicitly included as an example in the questions about hallucinogens. Thus, from 1979 onward, we have included the **hallucinogens adjusted** prevalence and trend estimates for seniors to correct for this known under-reporting. Again, such correction has made very little difference in recent years among seniors, because the rate of PCP use is so low. (See previous footnote.)

²³Because the data to adjust inhalant and hallucinogen use for seniors are available from only a single questionnaire form in a given year, the original uncorrected variables will be used in most relational analyses. We believe relational analyses will be least affected by these underestimates and that the most serious impact is on prevalence estimates, which have been adjusted appropriately. Today, the very low levels of use for nitrites and PCP—the two drugs that were used to adjust the estimates for inhalants and hallucinogens, respectively—are so low that these adjustments are hardly relevant any longer. Therefore, questions about their use were not even included in the eighth- and tenth-grade questionnaires.

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- Lifetime prevalence of use among seniors for the specific hallucinogenic drug *PCP* now stands at 3.4%, substantially lower than the lifetime prevalence of the other most widely used hallucinogen, *LSD* (12.2%).
- Lifetime prevalence rates for *cocaine* use by eighth, tenth, and twelfth graders are 4.7%, 7.7%, and 9.8%, respectively.
- *Crack*, a form of cocaine that comes in small chunks or “rocks,” can be smoked to produce a rapid and intense high. It has a relatively low lifetime prevalence of use rate in all grade levels: 3.1% for eighth graders, 4% for tenth graders, and 4.6% for twelfth graders.

Of all students reporting any cocaine use, a significant proportion have some experience with crack: two-thirds of the eighth graders (66%), one-half of the tenth graders (52%), and nearly one-half of the twelfth graders (47%) who reported any cocaine use reported using crack.

- *Heroin* is one of the least commonly used of the illicit drugs for each grade level. Lifetime use is 2% for twelfth graders and 2.3% for both eighth and tenth graders. This unusual pattern of younger students reporting an equal or higher prevalence of use level appears in a number of studies, and it may reflect the fact that teenagers who use heroin at an early age are considerably more likely than average to drop out of high school. It is also possible that the “noise” level is slightly higher in the earlier grades, with slightly more false reporting, either intentionally or unintentionally.

For many years the heroin available in the United States had such a low purity that the only practical way to ingest it was by injection, usually intravenously. However, due to high production at the world level, purity has risen substantially and, as a result, smoking and snorting have become more common modes of ingestion. Because of these changes, in 1995 we added separate questions on taking heroin with and without a needle. We found that significant proportions of those reporting any heroin use in the past 12 months indicated use only *without* a needle: this is true of more than one-third (36%) of the eighth-grade heroin users in 1999 (0.5% out of the 1.4% indicating any use), more than one-half (57%) of the tenth graders (0.8% out of 1.4%), and almost three-quarters of the twelfth-grade users (0.8% out of 1.1%). In addition, roughly half of the remaining users of heroin in each grade reported use *both* with and without a needle (see Table 4-3).

- **Other narcotics** are in the top third of the ranking for seniors (9.8% lifetime prevalence). (Data for eighth and tenth graders are not reported for other narcotics because the data are of questionable validity.)
- **Tranquilizers** fall in the middle of the prevalence rankings of illicit drugs, with lifetime prevalence rates of 4.4%, 7.9%, and 9.3% for grades 8, 10, and 12, respectively.
- Within the general class of sedatives, the specific drug **methaqualone** is used by considerably fewer seniors (1.8% lifetime prevalence of use) than the much broader subclass of sedatives, **barbiturates** (8.9% lifetime prevalence of use). Because methaqualone use has become so limited, questions about its use have not been included in the eighth- and tenth-grade questionnaires.
- The illicit drug classes remain in roughly the same order whether ranked by lifetime, annual, or monthly prevalence of use, as the data in Figure 4-1 illustrate. The only important change in ranking occurs for **inhalant** use among the tenth and twelfth graders, for whom inhalants rank lower in terms of current use than was true for lifetime use, because use of a number of the inhalants, such as glues and aerosols, tends to be discontinued at a relatively early age. Among the eighth graders, however, it should be noted that one in ten (10%) sniffed or “huffed” some inhalant in the prior 12 months, and one in twenty (5%) did so in the 30 days prior to the survey.
- Use of either of the two major licit drugs, alcohol and cigarettes, remains more widespread than use of any of the illicit drugs. Four out of every five students (80%) have at least tried **alcohol** by twelfth grade, and half of all twelfth graders (51%) reported using alcohol in the month prior to the survey (Table 4-2). Even among eighth graders, the number of students who reported some alcohol use in their lifetime is high: more than half (52%) said they have tried alcohol and almost a quarter (24%) are current (past 30 days) drinkers.²⁴
- Of greater concern than just any use of alcohol is its use to the point of inebriation: 25% of the eighth graders, 49% of the tenth graders, and 62% of the twelfth graders said they have **been drunk** at least once in their lifetime. The prevalence rates of self-reported drunkenness during the 30 days preceding the survey are 9.4%, 23%, and 33%, respectively.

²⁴In 1993 the text of the alcohol prevalence of use question was changed slightly in half of the questionnaire forms used at each grade such that the respondent was told explicitly to *exclude* those occasions when the respondent had “just a few sips” of an alcoholic beverage. In 1994 this change was made to the remaining forms. The 1999 data presented here are all based on the revised question. In later tables and graphs in this volume, the 1993 data are presented for both the original question and the revised question. As would be expected, the prevalence of use rates dropped slightly as a result of this methodological change, with the largest shifts observed in the lifetime prevalence of use measures and among the eighth-grade respondents. See Table 2-1 to examine the effects of this change.

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- Another measure of heavy drinking asks respondents to report how many occasions during the previous two-week period they had consumed **five or more drinks in a row**. Prevalence rates for this behavior are 15%, 26%, and 31% for the three grades, respectively.²⁵
- Nearly two-thirds (65%) of seniors reported having tried **cigarettes** at some time, and more than one-third (35%) smoked at least some in the prior month. Even among eighth graders, nearly half (44%) reported having tried cigarettes and 18% smoked in the prior month.
- **Smokeless tobacco** is used by a surprisingly large number of young people. Among eighth, tenth, and twelfth graders, lifetime prevalence of use rates are 14%, 20%, and 23%, respectively, while current (past 30 days) prevalence of use rates are 4.5%, 6.5%, and 8.4%, respectively. As will be discussed later in this chapter, the rates are considerably higher among boys, who account for most of the use of smokeless, or “spit,” tobacco.
- Questions about **anabolic steroids** were added to the study in 1989. These drugs bear some resemblance to a number of other drugs in the study in that their distribution and sale are legally controlled (with some important exceptions) and, like those other drugs, they often find their way into an illicit market. They also carry a particular danger for HIV transmission since they are often taken by injection. However, they differ from all the other drugs discussed here in one important way: they are not usually taken for their direct psychoactive effects (although they may have some) but rather for their enhancement of the user’s musculature and for healing physical injuries. Clearly their potential unintended consequences, including the transmission of HIV, make their illicit use a public health concern. It is for these reasons that they were added to the study.

The prevalence of use rates for anabolic steroids are relatively low. For eighth, tenth, and twelfth graders, lifetime prevalence rates are 2.7%, 2.7%, and 2.9%, respectively, while current (past 30 days) prevalence of use rates are 0.7%, 0.9%, and 0.9%, respectively. (Rates for males are distinctly higher, however.)

²⁵We have noted previously that the prevalence of heavy drinking (five or more drinks in a row at least once in the past two weeks) seems inconsistent with eighth-grade students’ reported prevalence of getting drunk. In 1999, 15% of eighth graders said they had had five or more drinks in a row at least once in the past two weeks. However, only 9% said they had been drunk or very high from drinking in the past 30 days. It seems unlikely that about one-half of eighth graders who reported having five or more drinks in a row would not have become intoxicated from such an amount. We suspect that they may be over-reporting their occasions of heavy drinking, perhaps forgetting what a drink means, even though the questionnaire explicitly tells them that a drink means a bottle of beer, a glass of wine, a wine cooler, a shot of liquor, or a mixed drink. We believe that the reports of getting drunk or very high are likely to be the more accurate of the two for eighth graders, at least.

Frequency of Lifetime, Annual, and 30-Day Use

While most of the discussion in this volume focuses on prevalence of use rates for different time periods (i.e., lifetime, annual, and 30-day), some readers may be interested in more detailed information about the frequency with which various drugs have been used in these same time periods. Tables 4-4a and 4-4b present frequency-of-use information in the full detail contained in the original question and answer sets.

Prevalence of Current Daily Use

Frequent use of illicit or licit drugs is a great concern for the health and safety of adolescents. Tables 4-8 and 5-4 (Chapter 5) and Figure 4-2 show the prevalence of current daily or near-daily use of the various classes of drugs. For all drugs, except cigarettes and smokeless tobacco, respondents are considered current daily users if they indicated that they had used the drug on 20 or more occasions in the preceding 30 days. Respondents are considered daily users of cigarettes if they explicitly stated the use of one or more cigarettes per day and users of smokeless tobacco if they stated using “about once a day” or more often.

- Across all three grade levels, there are more current daily users of ***cigarettes*** than of any of the other drug classes: 8.1%, 16%, and 23% in grades 8, 10, and 12, respectively, in 1999. Many of these daily smokers say they currently smoke a half pack or more per day (3.3%, 7.6%, and 13% of all respondents in grades 8, 10, and 12, respectively).
- Daily use of ***smokeless tobacco*** is considerably lower than daily use of cigarettes, at 0.9%, 1.5%, and 2.9%, respectively.
- The proportions of students who consume ***tobacco*** daily in either (or both) forms are slightly higher than the prevalence of use rates for cigarettes alone and close to the sum of the prevalence of use rates for the two different types of tobacco consumption: 9%, 17%, and 24% for grades 8, 10, and 12, respectively.
- For many years ***alcohol*** was the next most frequently used drug on a daily basis at all three grade levels, but because daily marijuana use rose substantially in the 1990s, it now exceeds daily alcohol use. The daily alcohol use rates in 1999 were 1%, 1.9%, and 3.4% in grades 8, 10, and 12, respectively.
- ***Marijuana*** is now used on a daily or near-daily basis by 1 of every 17 seniors (6%); somewhat fewer tenth-grade and considerably fewer eighth-grade students use it daily (3.8% and 1.4%, respectively). (See Chapter 10 for information on levels of *past daily use* and *cumulative daily use* of marijuana.)

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- Less than 1% of the twelfth-grade respondents reported daily use of any one of the illicit drugs other than marijuana. Only 0.3% reported daily use of *amphetamines*, followed by 0.2% or fewer using a number of drug classes (see Table 5-4). While very low, these figures are not inconsequential because 1% of the high school class of 1999 represents roughly 30,000 individuals nationwide.

NONCONTINUATION RATES

One indication of the proportion of people who try a drug but do not continue to use it can be derived from calculating the percentage of those who ever used a drug (once or more) who did not use it in the 12 months preceding the survey.²⁶ We use the word “noncontinuation” to describe this operational definition, rather than “discontinuation,” because the latter might imply discontinuing an established pattern of use, whereas our current operational definition includes noncontinuation by experimental users as well as established users. In Figure 4-3 these noncontinuation rates are provided for all drug classes for all grades in 1999. It may be seen in Figure 4-3 that noncontinuation rates vary widely among the different drugs.

- The highest twelfth-grade noncontinuation rates observed are for inhalants (63%). Many inhalants are used primarily at a younger age, so often use is not continued into the senior year. After inhalants, the rank ordering for noncontinuation rates is as follows: *crystal methamphetamine* (60%); *nitrite inhalants* and *PCP* (both 47%); *heroin* (45%); *crack cocaine* (41%); *methaqualone* (39%); *tranquilizers* and *steroids* (both 38%); *amphetamines* and *cocaine* (both 37%); *barbiturates* (35%); *powder cocaine*, *narcotics other than heroin*, and *LSD*, (all 34%); *hallucinogens in general* (31%); and *MDMA or “ecstasy”* (30%). Ecstasy very likely has the lowest non-continuation rate at present among the illicit drugs other than marijuana because it has become more popular very recently, particularly among the older teens.
- Because a relatively high proportion of users continue to use *marijuana* at some level over an extended period, it consistently has had one of the lowest noncontinuation rates in senior year of any of the illicit drugs (24% in 1999).
- It is noteworthy that of all the seniors who have ever used *crack* (4.6%), less than one-quarter (1.1%) are current users and only 0.2% of the total sample are current daily users. While there is no question that crack is highly addictive, the evidence here suggests that it is not usually addictive on the first use as was sometimes alleged.

²⁶This operationalization of noncontinuation has an inherent problem in that users of a given drug who initiated use during the past year by definition cannot be noncontinuers. Thus, the definition tends to understate the noncontinuation rate, particularly for drug use that tends to be initiated late in high school rather than in earlier years.

- In contrast to illicit drugs, noncontinuation rates for the two licit drugs are extremely low. *Alcohol*, tried by the great majority of seniors (80%), is still used in the senior year by nearly all who have ever tried it (74% of all seniors), yielding a noncontinuation rate for alcohol of only 7.8%.²⁷
- Noncontinuation is defined differently for *cigarettes*, because cigarette use in the past year is not asked of respondents. The noncontinuation rate is the percentage of those who say they ever smoked “regularly” who also reported not smoking at all during the past 30 days. Of the seniors who said they were regular smokers, only 16% have ceased active use.
- Noncontinuation is defined for *smokeless tobacco* much the same way as for cigarettes. It also has a relatively low rate of noncontinuation by senior year—only 21% of the lifetime “regular” users had not used it in the past 30 days.

PREVALENCE COMPARISONS FOR IMPORTANT SUBGROUPS

The differences in prevalence of use for the various drugs associated with gender, college plans, region of the country, population density, parents’ education level, and racial/ethnic identification are presented and discussed below. Tables 4-5 through 4-9 provide the statistics on the usage rates for the various subgroups defined on these dimensions.

Gender Differences

In general, higher proportions of males than females are involved in illicit drug use, especially heavy drug use; however, this picture is a somewhat complicated one (see Tables 4-5 through 4-8).

- Overall, the proportion of twelfth graders using *marijuana* is higher among males (annual prevalence of use 41% versus 34% among females), and daily use of marijuana is even more concentrated among males (7.9% versus 3.9% for females). This is also true among eighth- and tenth-grade students (see Tables 4-6 and 4-8).
- Males have considerably higher prevalence of use rates on most other illicit drugs, too. The annual prevalence of use rates in the senior year tend to be at least one and one-half to two times as high among males as among females for *hallucinogens, LSD, other cocaine, heroin, other narcotics, and steroids*. Further, males account for an even greater share of the frequent or heavy users of these various classes of drugs. For many of these drugs, there is little gender difference in use among eighth and tenth graders, however. In fact, for some

²⁷Specifically, dividing the 73.8% annual rate by the 80% lifetime rate yields a *continuation* rate of 92.3%; the *noncontinuation* rate is thus 7.8%.

drugs, including *any illicit drug other than marijuana, inhalants, amphetamines, and tranquilizers*, females have slightly higher rates of annual use in eighth grade. Thus, the gender differences in twelfth grade, with males more likely to use the drugs, seem to emerge over the course of middle to late adolescence.

- In twelfth grade, females have annual prevalence of use rates for *amphetamines* (9.6%) that are close to those for males (10.6%), and in the earlier grades females actually have higher rates of amphetamine use.
- The number of high school seniors who reported using *some illicit drug other than marijuana* during the last year are not very different between genders (23% for males versus 19% for females; see Figure 5-7 in Chapter 5). If going beyond marijuana is an important threshold point in the sequence of illicit drug use, then fairly similar proportions of both sexes were willing to cross that threshold at least once during the year. However, on average, female users take fewer types of drugs and tend to use them with less frequency than their male counterparts.
- The use of *anabolic steroids* is heavily concentrated among males: twelfth-grade males have an annual prevalence of use rate of 3.1% compared to 0.6% among females. In eighth grade, the difference is 2.5% versus 0.9%, respectively.
- Frequent use of *alcohol* also tends to be disproportionately concentrated among males. *Daily use*, for example, is reported by 5.2% of the twelfth-grade males versus only 1.4% of the twelfth-grade females. Males are more likely than females to drink large quantities of alcohol in a single sitting: 38% of twelfth-grade males reported drinking *five or more drinks in a row* in the prior two weeks versus 24% of twelfth-grade females.²⁸ These gender differences are observable at all three grade levels, but they become considerably larger at the higher grade levels.
- In recent years, *smoking rates* among seniors have been similar for males and females. In 1999, twelfth-grade males and females reported almost equal rates of *daily smoking* in the past month (24% for males versus 22% for females), but slightly more males reported smoking *a half-pack or more per day* (15% versus 12% for females). In eighth grade, daily smoking rates are very close for both

²⁸Because females tend to weigh less than males, and may metabolize alcohol somewhat differently, a given quantity of ingested alcohol would, on average, lead to higher blood alcohol concentrations for females, compared to males. Therefore, the difference in terms of a fixed number of drinks, such as five or more drinks, may not reflect the difference in intoxication rates. The difference in self-reported 30-day prevalence of drunkenness among seniors is 10% (38% for males versus 28% for females), which is two-thirds of the 15% gender difference in having five or more drinks in a row (38% versus 24%).

genders (7.4% for males versus 8.4% for females), and in tenth grade the rates of daily smoking are the same (16%) for the two genders.

- The use of *smokeless tobacco* is almost exclusively a male pastime. Although 16% of the twelfth-grade males reported some use in the prior month, only 1.3% of the females did. Rates of daily use by males are 1.6% among eighth graders, 3.2% among tenth graders, and 5.7% among twelfth graders. The comparable statistics for females are only 0.2%, 0.1%, and 0%, respectively.

Differences Related to College Plans

Overall, students who say they probably or definitely will complete four years of college (referred to here as the “college-bound”) have lower rates of illicit drug use in secondary school than those who say they probably or definitely will not. (See Tables 4-5 through 4-8 and Figures 5-8 through 5-9 in Chapter 5.) It is interesting to note that while the great majority of students at all three grade levels expect to complete college (see Table 4-7), the proportion who indicate college plans is lower at the upper grade levels than the lower ones, even though the lower grades contain the 15% to 20% of each cohort who eventually will drop out of high school.

For any given drug, the differences between these two self-identified groups of college- or noncollege-bound students tend to be greatest in the eighth grade. This could reflect an earlier age of initiation of drug use for the noncollege-bound and/or the fact that fewer of the eventual dropouts have left school yet, thus increasing the differences in the lower grades.

- Annual *marijuana* use is reported by 36% of the college-bound seniors versus 43% of the noncollege-bound, but among eighth graders it is reported by only 14% of the college-bound versus 35% of the noncollege-bound.
- Among 1999 seniors who reported using *any illicit drug other than marijuana* in the past year, 19% of the college-bound reported any such behavior in the prior year versus 24% of the noncollege-bound.
- Frequent use of many of these illicit drugs shows even larger contrasts related to college plans (see Table 4-8). *Daily marijuana* use among twelfth graders, for example, is twice as high among those who do not plan to attend college (9.2%) as among the college-bound (4.7%). Among eighth graders, it is seven times as high, and among tenth graders it is almost four times as high.
- Frequent alcohol use also is more prevalent among the noncollege-bound. For example, *daily drinking* is reported by 5.9% of the noncollege-bound seniors versus 2.6% of the college-bound seniors. *Binge drinking* (five or more drinks in a row at least once during the preceding two weeks) is reported by 35% of the noncollege-bound seniors versus 30% of the college-bound. There are also

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modest differences between the noncollege-bound and college-bound seniors in lifetime (84% versus 79%), annual (78% versus 73%), or 30-day (55% versus 50%) prevalence of alcohol use. In the lower grades, there are even larger differences in the various drinking measures, including annual prevalence of use, between those who say they expect to go to college and those who do not (see Tables 4-6 through 4-8).

- At all three grade levels, more noncollege-bound students use *steroids* compared to college-bound students.
- By far, the largest and most dramatic difference in substance use between the college- and noncollege-bound involves *cigarette* smoking—10% of the college-bound seniors reported smoking *a half-pack or more daily* compared to 23% of the noncollege-bound seniors. The proportional differences are even larger in the lower grades: 2% versus 13%, respectively, in eighth grade and 5.7% versus 19% in tenth grade. (The absence of dropouts by twelfth grade undoubtedly reduces the ratio, since dropouts have a particularly high rate of smoking.)

Regional Differences

Some regional differences in the rates of illicit drug use among high school seniors may be observed in Tables 4-5 through 4-8 and Figure 5-10a-c in Chapter 5. See Figure 4-4 for a *regional division* map showing the states included in the four regions of the country as defined by the Census Bureau.

- In 1999, the overall rates of illicit drug use were very similar among the regions: the highest rate was in the West, where 44% of seniors said they had used an *illicit drug* in the past year, followed by the Northeast (43%), the North Central (42%), and the South (41%) (see Figure 5-10a in Chapter 5).
- At present, there is very little regional variation in terms of the percentage of seniors using some *illicit drug other than marijuana* in the past year, with all four regions at 20-21%.
- Among twelfth graders, there generally has been little difference in *marijuana* use among the regions, except that use in the South typically has been lower than in the other three regions.
- In the past, there consistently was a large regional difference in the use of *ice*, or crystal methamphetamine, with the West having the highest rate. The highest rate in 1999 among seniors was still in the West, with 2.5% annual prevalence of use,

closely followed by the South (2.3%), the North Central (1.7%), and the Northwest (1%).

- In the past, the largest observed regional differences have been in *cocaine* use, and the West has tended to have the highest level of use. At present the South and the West have the highest rates of *cocaine* use overall at all three grade levels, though the regional differences are not large, and the West has the highest *crack* use rates in grades 10 and 12.
- The South has had the highest rate of *tranquilizer* use at all three grades for some years and also the highest rate of *barbiturate* use in twelfth grade (the only grade for which it is reported).
- The use of *ecstasy* is currently highest in the Northeast in grades 10 and 12.
- For some years, the annual prevalence rates of *alcohol* use among seniors have been somewhat lower in the South and West than in the Northeast and North Central regions, though there has been little regional difference in the lower grades. This year, annual prevalence of use is highest in the Northeast and lowest in the West at all grade levels.
- *Crystal methamphetamine (ice)* use is currently highest in the West and the South.
- *Rohypnol* use is twice as high in the South as in any other region.
- The West continues to have considerably lower rates of *daily smoking* than the other regions at all three grade levels (Table 4-8).
- The use of *smokeless tobacco*, particularly current daily use, tends to be concentrated in the South and North Central.

Differences Related to Population Density

Three levels of population density (or urbanicity) have been distinguished for analytical purposes: (1) large MSAs, which are the largest Metropolitan Statistical Areas in the 1990 Census; (2) other MSAs, which are the remaining Metropolitan Statistical Areas; and (3) non-MSAs, which are the sampling areas not designated as metropolitan by the Census. See Appendix B for further details.

In general, the differences in the use of most illicit drugs across these various-sized communities are small, reflecting how widely illicit drug use has diffused through the population (see Tables 4-5 through 4-8).

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- In twelfth grade, annual *marijuana* use is somewhat lower in the non-urban areas (35%) than in the large metropolitan areas (39%) or in the other metropolitan areas (39%).
- On the other hand, *stimulant* use is somewhat higher among eighth-, tenth- and twelfth-grade students in non-urban areas than in the metropolitan areas.
- In all grades, *binge drinking* is lowest in the large urban areas, although the differences are not large (Table 4-8).
- *Daily cigarette* use is inversely related to community size at all three grade levels. (See Table 4-8.) The proportional differences are larger at the lower grades and are, indeed, quite large. In 1999 the daily smoking rates for eighth graders were 5% in the large cities, 7% in the other cities, and 13% in the non-metropolitan areas.
- *Smokeless tobacco* use also is highest in the non-urban areas at all three grade levels and, again, the differences are large. Current prevalence of use (past 30 days) is two to five times as high in the non-urban areas as in the most urban (e.g., for eighth graders, 30-day prevalence is 1.8% in the large MSAs, 3.9% in the other MSAs, and 8.9% in the non-MSAs). Daily use of smokeless tobacco is even more concentrated in the more rural areas (see Table 4-8). Clearly, the use of smokeless or "spit" tobacco continues to be a largely rural phenomenon, particularly among rural males in the South and North Central regions of the country.

Differences Related to Parental Education

The best measure of family socioeconomic status available in the study is an index of parental education, which is based on the average of the educational levels reported for both parents by the respondent (or on the data for one parent, if data for both are not available). The scale values on the original questions are: (1) completed grade school or less, (2) some high school, (3) completed high school, (4) some college, (5) completed college, and (6) graduate or professional school after college. The respondent is instructed to indicate on this scale the highest level of education each parent attained. The average educational level obtained by students' parents has been rising over the years. Tables 4-5 through 4-8 give the distributions for 1999 for each grade level.

- By senior year there is rather little association with family socioeconomic status for the use of *most drugs*. This again speaks to the extent to which illicit drug use has permeated all social strata in American society.

- However, an examination of Table 4-6 shows that in eighth grade, the lowest socioeconomic stratum (which represents less than 10% of the population) has a somewhat higher annual prevalence of use for nearly all drugs. Few of these relationships are ordinal: rather, the bottom category, or sometimes the bottom two, stands out as having higher usage rates at this early age than the others do.

Many of these differences have disappeared by tenth grade or twelfth grade. This is true for *marijuana*, *inhalants*, *hallucinogens*, *LSD*, and *tranquilizers* but *not* for *cocaine*, *crack*, *heroin*, or *amphetamines*. For most of these latter drugs the lower strata (or lowest stratum in some cases) contain the heaviest users even at the upper grade levels.

The diminished socioeconomic differences by twelfth grade could be explained by the upper- and middle-class teenagers “catching up” with their more precocious peers from poorer backgrounds. But the diminished differences may also be explained by the fact that dropping out of school is correlated both with socioeconomic status (negatively) and with drug use (positively). Thus, the lower strata may have lost more of their drug users to dropping out by the time they reach the upper grades.

- *Cigarette smoking* tends to bear an inverse relationship with parental education (Figure 4-7), but this relationship attenuates considerably by grade 12.

Racial/Ethnic Differences

Racial/ethnic comparisons for African Americans, Hispanics, and Whites were added to this monograph series for the first time in 1991.²⁹ Although the design of this project did not include an oversampling of any minority groups, the large overall sample sizes at each grade level do produce fair numbers of African American and Hispanic respondents each year. However, in the findings presented in this volume, we routinely present combined data from two adjacent years to increase the sample sizes on which they are based and, thus, the reliability of the estimates. Otherwise, misleading findings about the size of racial/ethnic differences may emerge as well as, perhaps more importantly, misleading findings about their trends. We caution the reader that the sampling error of differences between groups is likely to be larger than would be true for other demographic and background variables such as gender or college plans, because African Americans and Hispanics are more likely to be clustered by school. Table 4-9 gives the combined 1998-1999 lifetime, annual, 30-day, and daily use statistics for the three racial/ethnic

²⁹We recognize that the Hispanic category is a broad one, encompassing people with various Latin American, Caribbean, and European origins, but for the purposes of this monograph the sample sizes unfortunately are too small to differentiate among them. For a more complete treatment of racial/ethnic differences, in which additional subgroups are distinguished and males and females are examined separately within each racial/ethnic category, see Bachman, J. G., Wallace, J. M., Jr., O'Malley, P. M., Johnston, L. D., Kurth, C. L., & Neighbors, H. W. (1991). Racial/ethnic differences in smoking, drinking, and illicit drug use among American high school seniors, 1976-1989. *American Journal of Public Health*, 81, 372-377.

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groups at all three grade levels, along with the numbers of cases upon which the estimates are based.

- Several general points can be derived from Table 4-9. First, for *all drugs*, licit and illicit, African American seniors reported lifetime, annual, 30-day, and daily prevalence of use rates that are lower—sometimes dramatically lower—than those for White or Hispanic seniors.

Second, the same can be said for African American students in eighth and tenth grades (except for eighth-grade marijuana use, in which Whites have slightly lower rates of use than Blacks); therefore, the low usage rates in twelfth grade almost certainly are not due to differential dropout rates.
- The third general point is that by twelfth grade, Whites have the highest lifetime and annual prevalence of use rates for many substances, including: *inhalants, hallucinogens, LSD* specifically, *heroin, other narcotics, amphetamines, ice, barbiturates, Rohypnol, tranquilizers, alcohol, cigarettes, and smokeless tobacco*. Not all of these findings are replicated at lower grade levels, however.
- Hispanics, taken as a group, have the highest lifetime and annual prevalence of use rates in their senior year for *cocaine, crack, and steroids*. Their rate of *cocaine* use has tended to be particularly high, compared to the other two racial/ethnic groups, particularly in the lower grades. It should be remembered that Hispanics have a considerably higher dropout rate than Whites or African Americans, based on Census Bureau statistics, and this would tend to diminish any such differences by senior year.
- An examination of the racial/ethnic comparisons at lower grade levels shows Hispanics having higher rates of use of nearly all the substances on which they have the highest prevalence of use in twelfth grade, as well as of several other drugs. For example, in eighth grade 30% of Hispanic students reported ever having used *marijuana*, compared to 20% of White students and 24% of African American students. For *tranquilizers*, the lifetime prevalence of use in eighth grade for Hispanics, Whites, and African Americans is 6.3%, 4.8%, and 1.7%, respectively, and for *cigarettes*, 49%, 46%, and 41%, respectively. In other words, in eighth grade—before most dropping out occurs—Hispanics have the highest rates of use of all the substances except *other narcotics, amphetamines, barbiturates, tranquilizers, alcohol, cigarettes, and smokeless tobacco*; whereas, by twelfth grade, Whites have the highest rates of use of most drugs. Certainly the considerably higher dropout rate among Hispanics could explain this shift, and it may be the most plausible explanation. Another explanation worth considering is that Hispanics may tend to start using drugs at a younger age, but that Whites

overtake them at older ages. These explanations are not mutually exclusive, of course, and to some degree both explanations may hold true.

- Looking at the daily use figures (Table 4-9), we find exceptionally large absolute and proportional differences between the three groups in their rates of *daily cigarette smoking*. Among twelfth graders, Whites have a 27% daily smoking rate, Hispanics 14% (which may be low, in part, because of their higher dropout rate), and African Americans only 8%. In fact, African Americans have dramatically lower smoking rates than Whites or Hispanics at all grade levels.
- Not only do African American students have the lowest lifetime, annual, and 30-day prevalence rates for alcohol use, they also tend to have the lowest rates for *self-reports of having been drunk*.
- Recent *binge drinking* (having 5 or more drinks in a row during the prior two weeks) is also lowest among African Americans at all grade levels: in twelfth grade, 12% versus 36% for Whites and 29% for Hispanics. In eighth grade, Hispanics have the highest rate at 21%, compared to 14% for Whites and 10% for African Americans.

TABLE 4-1a

Ninety-Five Percent Confidence Limits: Lifetime Prevalence of Use for Eighth, Tenth, and Twelfth Graders, 1999

(Approx. Ns: 8th grade = 16,700, 10th grade = 13,600, 12th grade = 13,600)

	8th Grade			10th Grade			12th Grade		
	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit
Any Illicit Drug ^a	26.7	28.3	30.0	43.9	46.2	48.5	52.0	54.7	57.4
Any Illicit Drug ^a									
Other Than Marijuana	15.0	16.3	17.7	22.3	24.0	25.8	27.3	29.4	31.5
Any Illicit Drug ^{a,b}									
Including Inhalants	35.4	37.2	38.9	47.6	49.9	52.2	52.4	56.3	60.1
Marijuana/Hashish	20.6	22.0	23.6	38.7	40.9	43.2	46.9	49.7	52.4
Inhalants ^b	18.4	19.7	21.0	15.7	17.0	18.5	13.6	15.4	17.3
<i>Inhalants, Adjusted^{b,c}</i>	—	—	—	—	—	—	14.2	16.0	18.0
Amyl/Butyl Nitrites ^d	—	—	—	—	—	—	1.1	1.7	2.6
Hallucinogens	4.0	4.8	5.6	8.5	9.7	11.0	12.3	13.7	15.2
<i>Hallucinogens, Adjusted^c</i>	—	—	—	—	—	—	12.8	14.2	15.7
LSD	3.4	4.1	4.9	7.4	8.5	9.8	10.9	12.2	13.6
Hallucinogens									
Other Than LSD	2.0	2.4	2.8	4.1	4.7	5.3	6.0	6.7	7.4
PCP ^d	—	—	—	—	—	—	2.5	3.4	4.7
MDMA (Ecstasy) ^d	2.2	2.7	3.4	5.1	6.0	7.0	6.6	8.0	9.8
Cocaine	4.0	4.7	5.6	6.7	7.7	8.9	8.6	9.8	11.1
Crack	2.8	3.1	3.5	3.6	4.0	4.5	4.1	4.6	5.1
Other Cocaine ^e	3.2	3.8	4.6	5.8	6.8	8.0	7.4	8.8	10.3
Heroin	2.0	2.3	2.6	2.0	2.3	2.7	1.7	2.0	2.4
With a Needle ^b	1.3	1.6	1.9	1.0	1.3	1.6	0.6	0.9	1.3
Without a Needle ^b	1.2	1.4	1.7	1.4	1.7	2.0	1.4	1.8	2.3
Other Narcotics ^f	—	—	—	—	—	—	9.4	10.2	11.1
Amphetamines ^f	9.7	10.7	11.8	14.4	15.7	17.0	15.0	16.3	17.7
Methamphetamine ^{g,h}	3.8	4.5	5.4	6.3	7.3	8.5	7.1	8.2	9.3
Crystal Meth. (Ice) ^h	—	—	—	—	—	—	4.0	4.8	5.7
Sedatives ^h	—	—	—	—	—	—	8.7	9.5	10.4
Barbiturates ^f	—	—	—	—	—	—	8.2	8.9	9.8
Methaqualone ^h	—	—	—	—	—	—	1.2	1.9	2.8
Tranquilizers ^f	3.9	4.4	4.9	7.2	7.9	8.7	8.5	9.3	10.2
Rohypnol ^d	0.9	1.3	1.8	1.3	1.8	2.4	1.3	2.0	3.0
Alcohol	50.4	52.1	53.8	68.8	70.6	72.3	78.5	80.0	81.5
Been Drunk ^h	23.4	24.8	26.3	47.0	48.9	50.8	59.0	62.3	65.4
Cigarettes	42.3	44.1	45.8	55.6	57.6	59.5	62.7	64.6	66.4
Smokeless Tobacco ^d	12.7	14.4	16.2	18.3	20.4	22.7	19.6	23.4	27.7
Steroids ^h	2.4	2.7	3.1	2.3	2.7	3.1	2.3	2.9	3.7

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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

^bFor 12th graders only: Data based on three of six forms; N is one-half of N indicated.

^cFor 12th graders only: Adjusted for underreporting of certain drugs. See text for details.

^dFor 8th and 10th graders only: Smokeless tobacco data based on two of four forms; N is one-half of N indicated. MDMA and Rohypnol data based on one-third of N indicated due to changes in the questionnaire forms. For 12th graders only: Data based on one of six forms; N is one-sixth of N indicated.

^eFor 12th graders only: Data based on four of six forms; N is four-sixths of N indicated.

^fOnly drug use which was not under a doctor's orders is included here.

^gFor 8th and 10th graders only: Data based on one of four forms; N is one-third of N indicated.

^hFor 12th graders only: Data based on two of six forms; N is two-sixths of N indicated.

ⁱFor 12th graders only: Data based on six forms adjusted by one form data.

TABLE 4-1b

**Ninety-Five Percent Confidence Limits: Annual Prevalence of Use
for Eighth, Tenth, and Twelfth Graders, 1999**

(Approx. Ns: 8th grade = 16,700, 10th grade = 13,600, 12th grade = 13,600)

	8th Grade			10th Grade			12th Grade		
	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit
Any Illicit Drug ^a	19.2	20.5	21.9	33.9	35.9	37.9	39.5	42.1	44.8
Any Illicit Drug ^a									
Other Than Marijuana	9.6	10.5	11.6	15.4	16.7	18.2	19.1	20.7	22.5
Any Illicit Drug ^{a,b}									
Including Inhalants	23.9	25.3	26.8	35.7	37.7	39.8	39.1	42.8	46.6
Marijuana/Hashish	15.3	16.5	17.8	30.1	32.1	34.0	35.2	37.8	40.4
Inhalants ^b	9.4	10.3	11.2	6.4	7.2	8.2	4.6	5.6	6.8
<i>Inhalants, Adjusted^{b,c}</i>	—	—	—	—	—	—	5.0	6.0	7.3
Amyl/Butyl Nitrites ^d	—	—	—	—	—	—	0.5	0.9	1.5
Hallucinogens	2.4	2.9	3.5	6.0	6.9	7.9	8.4	9.4	10.6
<i>Hallucinogens, Adjusted^c</i>	—	—	—	—	—	—	8.8	9.8	11.0
LSD	1.9	2.4	2.9	5.2	6.0	7.0	7.1	8.1	9.1
Hallucinogens									
Other Than LSD	1.2	1.5	1.8	2.8	3.2	3.7	3.8	4.3	4.9
PCP ^d	—	—	—	—	—	—	1.3	1.8	2.6
MDMA (Ecstasy) ^d	1.3	1.7	2.1	3.7	4.4	5.2	4.5	5.6	6.9
Cocaine	2.2	2.7	3.3	4.2	4.9	5.8	5.4	6.2	7.2
Crack	1.6	1.8	2.1	2.1	2.4	2.7	2.3	2.7	3.0
Other Cocaine ^e	1.8	2.3	2.8	3.7	4.4	5.2	4.8	5.8	7.0
Heroin	1.2	1.4	1.6	1.2	1.4	1.7	0.9	1.1	1.3
With a Needle ^b	0.8	0.9	1.1	0.5	0.6	0.8	0.3	0.4	0.6
Without a Needle ^b	0.7	0.9	1.1	0.9	1.1	1.3	0.8	1.0	1.4
Other Narcotics ^f	—	—	—	—	—	—	6.1	6.7	7.4
Amphetamines ^f	6.2	6.9	7.7	9.4	10.4	11.5	9.2	10.2	11.2
Methamphetamine ^{g,h}	2.7	3.2	3.8	3.9	4.6	5.4	4.0	4.7	5.5
Crystal Meth. (Ice) ^h	—	—	—	—	—	—	1.5	1.9	2.5
Sedatives ^{g,i}	—	—	—	—	—	—	5.7	6.3	7.0
Barbiturates ^f	—	—	—	—	—	—	5.2	5.8	6.5
Methaqualone ^{g,f}	—	—	—	—	—	—	0.7	1.1	1.8
Tranquilizers ^f	2.1	2.5	2.9	4.8	5.4	6.0	5.2	5.8	6.5
Rohypnol ^d	0.3	0.5	0.8	0.7	1.0	1.5	0.6	1.0	1.6
Alcohol	41.8	43.5	45.2	61.8	63.7	65.5	72.0	73.8	75.4
Been Drunk ^h	17.2	18.5	19.9	39.0	40.9	42.8	49.8	53.2	56.4
Cigarettes	—	—	—	—	—	—	—	—	—
Smokeless Tobacco ^d	—	—	—	—	—	—	—	—	—
Steroids ^h	1.4	1.7	1.9	1.5	1.7	2.0	1.4	1.8	2.3

NOTE: "—" indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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

^bFor 12th graders only: Data based on three of six forms; N is one-half of N indicated.

^cFor 12th graders only: Adjusted for underreporting of certain drugs. See text for details.

^dFor 8th and 10th graders only: Smokeless tobacco data based on two of four forms; N is one-half of N indicated. MDMA and Rohypnol data based on one-third of N indicated due to changes in the questionnaire forms. For 12th graders only: Data based on one of six forms; N is one-sixth of N indicated.

^eFor 12th graders only: Data based on four of six forms; N is four-sixths of N indicated.

^fOnly drug use which was not under a doctor's orders is included here.

^gFor 8th and 10th graders only: Data based on one of four forms; N is one-third of N indicated.

^hFor 12th graders only: Data based on two of six forms; N is two-sixths of N indicated.

ⁱFor 12th graders only: Data based on six forms adjusted by one form data.

TABLE 4-1c

Ninety-Five Percent Confidence Limits: Thirty-Day Prevalence of Use for Eighth, Tenth, and Twelfth Graders, 1999

(Approx. Ns: 8th grade = 16,700, 10th grade = 13,600, 12th grade = 13,600)

	8th Grade			10th Grade			12th Grade		
	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit
Any Illicit Drug ^a	11.2	12.2	13.3	20.6	22.1	23.6	23.8	25.9	28.0
Any Illicit Drug ^a									
Other Than Marijuana	4.9	5.5	6.1	7.7	8.6	9.5	9.4	10.4	11.6
Any Illicit Drug ^{a,b}									
Including Inhalants	14.1	15.1	16.3	21.6	23.1	24.7	23.5	26.4	29.5
Marijuana/Hashish	8.8	9.7	10.7	18.0	19.4	20.9	21.2	23.1	25.2
Inhalants ^b	4.5	5.0	5.5	2.2	2.6	3.0	1.5	2.0	2.6
<i>Inhalants, Adjusted^{b,c}</i>	—	—	—	—	—	—	1.9	2.4	3.1
Amyl/Butyl Nitrites ^d	—	—	—	—	—	—	0.2	0.4	0.9
Hallucinogens	1.0	1.3	1.6	2.4	2.9	3.4	3.0	3.5	4.1
<i>Hallucinogens, Adjusted^c</i>	—	—	—	—	—	—	3.4	3.9	4.5
LSD	0.8	1.1	1.4	1.9	2.3	2.8	2.3	2.7	3.2
Hallucinogens									
Other Than LSD	0.5	0.6	0.8	1.0	1.2	1.5	1.3	1.6	1.9
PCP ^d	—	—	—	—	—	—	0.4	0.8	1.3
MDMA (Ecstasy) ^d	0.5	0.8	1.1	1.4	1.8	2.3	1.8	2.5	3.4
Cocaine	1.0	1.3	1.7	1.5	1.8	2.3	2.2	2.6	3.1
Crack	0.7	0.8	1.0	0.7	0.8	1.0	0.9	1.1	1.3
Other Cocaine ^e	0.9	1.1	1.4	1.2	1.6	2.0	1.9	2.5	3.1
Heroin	0.5	0.6	0.8	0.5	0.7	0.8	0.4	0.5	0.7
With a Needle ^b	0.3	0.4	0.6	0.2	0.3	0.5	0.1	0.2	0.4
Without a Needle ^b	0.3	0.4	0.5	0.4	0.5	0.7	0.3	0.4	0.6
Other Narcotics ^f	—	—	—	—	—	—	2.3	2.6	3.0
Amphetamines ^f	3.0	3.4	3.8	4.4	5.0	5.6	4.0	4.5	5.0
Methamphetamine ^{g,h}	0.8	1.1	1.5	1.4	1.8	2.3	1.3	1.7	2.3
Crystal Meth. (Ice) ^h	—	—	—	—	—	—	0.5	0.8	1.2
Sedatives ^{g,i}	—	—	—	—	—	—	2.4	2.8	3.1
Barbiturates ^f	—	—	—	—	—	—	2.3	2.6	2.9
Methaqualone ^{d,f}	—	—	—	—	—	—	0.2	0.4	0.9
Tranquilizers ^f	0.9	1.1	1.3	1.9	2.2	2.5	2.2	2.5	2.8
Rohypnol ^d	0.1	0.3	0.5	0.3	0.5	0.9	0.1	0.3	0.8
Alcohol	22.6	24.0	25.5	38.2	40.0	41.9	49.1	51.0	52.9
Been Drunk ^h	8.4	9.4	10.5	21.0	22.5	24.2	29.9	32.9	36.1
Cigarettes	16.2	17.5	18.8	24.0	25.7	27.4	32.8	34.6	36.5
Smokeless Tobacco ^d	3.6	4.5	5.6	5.3	6.5	8.0	6.1	8.4	11.4
Steroids ^h	0.6	0.7	0.9	0.8	0.9	1.1	0.6	0.9	1.3

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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

^bFor 12th graders only: Data based on three of six forms; N is one-half of N indicated.

^cFor 12th graders only: Adjusted for underreporting of certain drugs. See text for details.

^dFor 8th and 10th graders only: Smokeless tobacco data based on two of four forms; N is one-half of N indicated. MDMA and Rohypnol data based on one-third of N indicated due to changes in the questionnaire forms. For 12th graders only: Data based on one of six forms; N is one-sixth of N indicated.

^eFor 12th graders only: Data based on four of six forms; N is four-sixths of N indicated.

^fOnly drug use which was not under a doctor's orders is included here.

^gFor 8th and 10th graders only: Data based on one of four forms; N is one-third of N indicated

^hFor 12th graders only: Data based on two of six forms; N is two-sixths of N indicated.

ⁱFor 12th graders only: Data based on six forms adjusted by one form data.

TABLE 4-1d

**Ninety-Five Percent Confidence Limits: Daily Prevalence of Use
for Eighth, Tenth, and Twelfth Graders, 1999**

(Approx. Ns: 8th grade = 16,700, 10th grade = 13,600, 12th grade = 13,600)

	<u>8th Grade</u>			<u>10th Grade</u>			<u>12th Grade</u>		
	<u>Lower limit</u>	<u>Observed estimate</u>	<u>Upper limit</u>	<u>Lower limit</u>	<u>Observed estimate</u>	<u>Upper limit</u>	<u>Lower limit</u>	<u>Observed estimate</u>	<u>Upper limit</u>
Marijuana/Hashish ^a	1.2	1.4	1.6	3.4	3.8	4.2	5.3	6.0	6.8
Alcohol									
Daily ^a	0.9	1.0	1.2	1.6	1.9	2.2	3.0	3.4	3.7
Been Drunk ^b	0.3	0.4	0.5	0.5	0.7	0.9	1.5	1.9	2.4
5+ Drinks in a Row in Last 2 Weeks	14.0	15.2	16.5	24.0	25.6	27.3	29.1	30.8	32.6
Cigarettes									
Daily	7.2	8.1	9.1	14.5	15.9	17.3	21.5	23.1	24.8
1/2 Pack+/Day	2.8	3.3	3.8	6.7	7.6	8.5	12.1	13.2	14.3
Smokeless Tobacco ^c	0.5	0.9	1.5	1.0	1.5	2.4	1.7	2.9	5.0

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aDaily use of marijuana and alcohol is defined as use on twenty or more occasions in the past thirty days.

^bFor 12th graders only: Data based on two of six forms; N is two-sixths of N indicated.

^cFor 8th and 10th graders only: Data based on two of four forms; 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.

TABLE 4-2
Prevalence of Use of Various Drugs
for Eighth, Tenth, and Twelfth Graders, 1999

	Lifetime			Annual			30-Day			Daily		
	Grade: 8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
	Approx. N = 16700 13600 13600 16700 13600 13600 16700 13600 13600 16700 13600 13600											
Any Illicit Drug ^a	28.3	46.2	54.7	20.5	35.9	42.1	12.2	22.1	25.9	—	—	—
Any Illicit Drug ^a												
Other Than Marijuana	16.3	24.0	29.4	10.5	16.7	20.7	5.5	8.6	10.4	—	—	—
Any Illicit Drug ^{a,b}												
Including Inhalants	37.2	49.9	56.3	25.3	37.7	42.8	15.1	23.1	26.4	—	—	—
Marijuana/Hashish	22.0	40.9	49.7	16.5	32.1	37.8	9.7	19.4	23.1	1.4	3.8	6.0
Inhalants ^b	19.7	17.0	15.4	10.3	7.2	5.6	5.0	2.6	2.0	—	—	0.2
<i>Inhalants, Adjusted^{b,c}</i>	—	—	16.0	—	—	6.0	—	—	2.4	—	—	—
Amyl/Butyl Nitrites ^d	—	—	1.7	—	—	0.9	—	—	0.4	—	—	0.2
Hallucinogens	4.8	9.7	13.7	2.9	6.9	9.4	1.3	2.9	3.5	—	—	0.1
<i>Hallucinogens, Adjusted^c</i>	—	—	14.2	—	—	9.8	—	—	3.9	—	—	—
LSD	4.1	8.5	12.2	2.4	6.0	8.1	1.1	2.3	2.7	—	—	0.1
Hallucinogens Other Than PCP ^d	2.4	4.7	6.7	1.5	3.2	4.3	0.6	1.2	1.6	—	—	*
MDMA (Ecstasy) ^d	2.7	6.0	8.0	1.7	4.4	5.6	0.8	1.8	2.5	—	—	0.1
Cocaine	4.7	7.7	9.8	2.7	4.9	6.2	1.3	1.8	2.6	—	—	0.2
Crack	3.1	4.0	4.6	1.8	2.4	2.7	0.8	0.8	1.1	—	—	0.2
Other Cocaine ^e	3.8	6.8	8.8	2.3	4.4	5.8	1.1	1.6	2.5	—	—	0.2
Heroin												
Any Use ^f	2.3	2.3	2.0	1.4	1.4	1.1	0.6	0.7	0.5	—	—	0.1
With a Needle	1.6	1.3	0.9	0.9	0.6	0.4	0.4	0.3	0.2	—	—	*
Without a Needle	1.4	1.6	1.8	0.9	1.1	1.0	0.4	0.5	0.4	—	—	0.0
Other Narcotics ^g	—	—	10.2	—	—	6.7	—	—	2.6	—	—	0.2
Amphetamines ^g	10.7	15.7	16.3	6.9	10.4	10.2	3.4	5.0	4.5	—	—	0.3
Methamphetamine ^{h,i}	4.5	7.3	8.2	3.2	4.6	4.7	1.1	1.8	1.7	—	—	0.1
Crystal Meth. (Ice) ^j	—	—	4.8	—	—	1.9	—	—	0.8	—	—	*
Sedatives ^{g,j}	—	—	9.5	—	—	6.3	—	—	2.8	—	—	0.2
Barbiturates ^g	—	—	8.9	—	—	5.8	—	—	2.6	—	—	0.2
Methaqualone ^{g,k}	—	—	1.8	—	—	1.1	—	—	0.4	—	—	0.0
Tranquilizers ^g	4.4	7.9	9.3	2.5	5.4	5.8	1.1	2.2	2.5	—	—	0.1
Rohypnol ^d	1.3	1.8	2.0	0.5	1.0	1.0	0.3	0.5	0.3	—	—	0.1
Alcohol												
Any Use	52.1	70.6	80.0	43.5	63.7	73.8	24.0	40.0	51.0	1.0	1.9	3.4
Been Drunk ^l	24.8	48.9	62.3	18.5	40.9	53.2	9.4	22.5	32.9	0.4	0.7	1.9
5+ Drinks in a Row in Last 2 Weeks	—	—	—	—	—	—	—	—	—	15.2	25.6	30.8
Cigarettes												
Any Use	44.1	57.6	64.6	—	—	—	17.5	25.7	34.6	8.1	15.9	23.1
1/2 Pack+/Day	—	—	—	—	—	—	—	—	—	3.3	7.6	13.2
Smokeless Tobacco ^d	14.4	20.4	23.4	—	—	—	4.5	6.5	8.4	0.9	1.5	2.9
Steroids ^l	2.7	2.7	2.9	1.7	1.7	1.8	0.7	0.9	0.9	—	—	0.2

NOTES: '—' indicates data not available. "**" indicates less than .05 percent but greater than 0 percent.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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

^bFor 12th graders only: Data based on three of six forms; N is one-half of N indicated.

^cFor 12th graders only: Adjusted for underreporting of certain drugs. See text for details.

^dFor 8th and 10th graders only: Smokeless tobacco data based on two of four forms; N is one-half of N indicated.

^eMDMA and Rohypnol data based on one-third of N indicated due to changes in the questionnaire forms. For 12th graders only: Data based on one of six forms; N is one-sixth of N indicated.

^fFor 12th graders only: Data based on four of six forms; N is four-sixths of N indicated.

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

^hOnly drug use which was not under a doctor's orders is included here.

ⁱFor 8th and 10th graders only: Data based on one of four forms; N is one-third of N indicated.

^jFor 12th graders only: Data based on two of six forms; N is two-sixths of N indicated.

^kFor 12th graders only: Data based on six forms adjusted by one form data.

TABLE 4-3
Prevalence of Use of Heroin *with* and *without* a Needle
for Eighth, Tenth, and Twelfth Graders, 1999

(Entries are percentages of all respondents)

	<u>Percent who used in:</u>		
	<u>Lifetime</u>	<u>Past year</u>	<u>Past month</u>
Eighth Graders			
Used heroin only without a needle	0.7	0.5	0.2
Used heroin only with a needle	0.9	0.5	0.3
Used heroin both ways	0.7	0.4	0.2
Used heroin at all	2.3	1.4	0.6
<i>Approx. weighted N =</i>	16,700	16,700	16,700
Tenth Graders			
Used heroin only without a needle	1.1	0.8	0.4
Used heroin only with a needle	0.7	0.3	0.1
Used heroin both ways	0.6	0.3	0.2
Used heroin at all	2.3	1.4	0.7
<i>Approx. weighted N =</i>	13,600	13,600	13,600
Twelfth Graders			
Used heroin only without a needle	1.2	0.8	0.3
Used heroin only with a needle	0.4	0.2	0.1
Used heroin both ways	0.4	0.2	0.1
Used heroin at all	2.0	1.1	0.5
<i>Approx. weighted N =</i>	6,800	6,800	6,800

NOTES: Any apparent inconsistency between the total who used heroin at all and the sum of those who used without a needle, with a needle, and both ways is due to rounding error.
 Twelfth grade data based on three of six forms.

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 4-4a
Frequency of Use of Various Drugs: Lifetime, Annual, and Thirty-Day
Eighth, Tenth, and Twelfth Graders, 1999
(Entries are percentages)

	Marijuana			Inhalants ^{a,b}			Amyl/Butyl ^c Nitrites			Hallucinogens ^a			LSD			Hallucinogens Other Than LSD			PCP ^e			MDMA ^d					
	Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th		
Lifetime Frequency																											
	Approx. N =	16700	13600	13600	16700	13600	6800	—	—	2300	16700	13600	13600	16700	13600	13600	16700	13600	13600	—	—	2300	5600	4500	2300		
No occasions	78.0	59.1	50.3	80.3	83.0	84.6	—	—	98.3	95.2	90.3	86.3	95.9	91.5	87.8	97.6	95.3	93.3	—	—	—	96.6	97.3	94.0	92.0		
1-2 occasions	7.9	10.2	9.9	11.5	10.2	8.0	—	—	1.0	2.4	4.1	4.7	2.6	4.4	4.9	1.4	2.6	3.1	—	—	—	2.2	1.6	3.2	4.6		
3-5 occasions	3.2	5.4	6.7	3.7	3.2	2.9	—	—	0.3	1.2	2.5	3.0	0.6	1.7	2.2	0.4	0.8	1.4	—	—	—	0.3	0.3	1.0	1.3		
6-9 occasions	2.4	3.9	4.9	1.7	1.5	1.9	—	—	0.1	0.4	1.0	1.8	0.3	1.0	1.8	0.2	0.5	0.8	—	—	—	0.4	0.3	0.7	0.6		
10-19 occasions	2.5	4.9	6.3	1.2	1.0	1.1	—	—	0.0	0.4	1.1	1.9	0.2	0.7	1.4	0.2	0.4	0.6	—	—	—	0.1	0.2	0.4	0.9		
20-39 occasions	2.0	4.0	4.9	0.6	0.5	0.5	—	—	0.0	0.2	0.5	0.9	0.2	0.4	1.0	0.1	0.2	0.3	—	—	—	0.1	0.1	0.3	0.4		
40 or more	4.2	12.5	17.1	1.0	0.7	1.0	—	—	0.3	0.4	0.6	1.3	0.2	0.3	0.9	0.1	0.2	0.4	—	—	—	0.3	0.2	0.3	0.4		
Annual Frequency																											
No occasions	83.5	67.9	62.2	89.8	92.8	94.4	—	—	99.1	97.1	93.1	90.6	97.6	94.0	91.9	98.5	96.8	95.7	—	—	—	98.2	98.3	95.6	94.4		
1-2 occasions	6.3	8.9	9.8	6.2	4.4	3.0	—	—	0.6	1.4	3.3	4.0	1.5	3.6	4.0	0.9	2.0	2.4	—	—	—	1.1	0.8	2.6	3.3		
3-5 occasions	2.9	4.9	6.4	1.9	1.3	1.2	—	—	*	0.8	2.0	2.6	0.4	1.1	1.9	0.3	0.7	1.0	—	—	—	0.2	0.3	0.8	0.9		
6-9 occasions	2.2	4.2	4.1	1.0	0.8	0.5	—	—	0.1	0.2	0.6	1.2	0.3	0.7	1.0	0.2	0.3	0.4	—	—	—	0.1	0.3	0.5	0.4		
10-19 occasions	1.8	4.3	4.5	0.6	0.5	0.4	—	—	0.0	0.3	0.7	0.9	0.2	0.4	0.5	0.1	0.2	0.4	—	—	—	0.1	0.1	0.3	0.5		
20-39 occasions	1.5	3.4	3.7	0.3	0.3	0.2	—	—	0.0	0.1	0.2	0.4	0.1	0.2	0.3	0.1	0.1	0.1	—	—	—	0.1	0.1	0.1	0.2		
40 or more	1.9	6.4	9.3	0.3	0.1	0.3	—	—	0.2	0.1	0.2	0.4	*	0.1	0.2	*	0.1	0.1	—	—	—	0.2	0.1	0.1	0.2		
30-Day Frequency																											
No occasions	90.3	80.6	76.9	95.0	97.4	98.0	—	—	99.6	98.7	97.1	96.5	98.9	97.7	97.3	99.4	98.8	98.4	—	—	—	99.2	99.2	98.2	97.5		
1-2 occasions	4.3	6.7	7.7	3.3	1.8	1.2	—	—	0.2	0.6	1.8	2.1	0.7	1.7	1.9	0.3	0.9	1.1	—	—	—	0.4	0.5	1.1	1.7		
3-5 occasions	1.8	3.7	3.7	0.9	0.4	0.3	—	—	0.0	0.4	0.7	0.9	0.2	0.4	0.4	0.1	0.2	0.3	—	—	—	0.1	0.1	0.4	0.4		
6-9 occasions	1.1	2.5	2.5	0.4	0.2	0.2	—	—	*	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.2	—	—	—	0.0	0.1	0.1	0.2		
10-19 occasions	1.2	2.8	3.1	0.2	0.1	0.2	—	—	0.0	0.1	0.1	0.2	*	*	0.1	*	0.1	*	—	—	—	0.1	0.1	0.1	*		
20-39 occasions	0.7	1.8	2.6	0.1	*	0.1	—	—	*	*	*	*	*	*	*	*	*	*	0.0	—	—	*	0.0	0.1	0.1	*	
40 or more	0.7	2.0	3.4	0.1	*	0.1	—	—	0.2	0.1	0.1	0.1	*	*	*	*	*	*	0.0	—	—	0.2	0.1	0.1	0.1	*	

NOTES: — indicates data not available. * indicates less than .05 percent but greater than 0 percent.
SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 4-4a (cont.)

Frequency of Use of Various Drugs: Lifetime, Annual, and Thirty-Day Eighth, Tenth, and Twelfth Graders, 1999

(Entries are percentages)

	Cocaine			Crack			Other Cocaine ^e			Heroin ^f			Other Narcotics			Amphetamines ^{g,h}			Methamphetamine ^{i,j}			
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	
	16700	13600	13600	16700	13600	13600	16700	13600	9100	16700	13600	13600	13600	16700	13600	13600	16700	13600	13600	16700	13600	4500
Approx. N =	16700	13600	13600	16700	13600	13600	16700	13600	9100	16700	13600	13600	13600	16700	13600	13600	16700	13600	13600	16700	13600	4500
Lifetime Frequency																						
No occasions	95.3	92.3	90.2	96.9	96.0	95.4	96.2	93.2	91.3	97.7	97.7	98.0	—	—	89.8	89.3	84.4	83.7	95.5	92.7	91.8	91.8
1-2 occasions	2.0	3.0	3.6	2.0	2.4	2.1	2.4	3.7	3.7	1.2	1.2	1.1	—	—	4.2	6.1	7.2	6.6	2.6	3.7	3.6	3.6
3-5 occasions	1.5	2.1	1.8	0.4	0.5	0.6	0.5	1.1	1.3	0.5	0.5	0.3	—	—	2.3	1.6	3.0	3.2	0.7	1.6	1.4	1.4
6-9 occasions	0.3	0.7	1.1	0.3	0.3	0.7	0.3	0.7	1.0	0.1	0.2	0.1	—	—	1.3	1.2	1.9	1.7	0.8	1.1	0.8	0.8
10-19 occasions	0.4	0.9	1.2	0.2	0.3	0.3	0.2	0.6	1.0	0.2	0.2	0.1	—	—	0.9	0.7	1.4	1.9	0.2	0.4	0.9	0.9
20-39 occasions	0.1	0.4	0.7	0.1	0.1	0.3	0.2	0.3	0.7	*	0.1	0.1	—	—	0.5	0.5	0.9	0.9	0.1	0.3	0.3	0.3
40 or more	0.4	0.6	1.3	0.2	0.3	0.5	0.2	0.4	1.2	0.2	0.2	0.3	—	—	1.0	0.6	1.3	2.1	0.2	0.3	1.1	1.1
Annual Frequency																						
No occasions	97.3	95.1	93.8	98.2	97.6	97.3	97.7	95.6	94.2	98.6	98.6	98.9	—	—	93.3	93.1	89.6	89.8	96.8	95.4	95.3	95.3
1-2 occasions	1.1	2.0	2.3	1.1	1.5	1.3	1.4	2.4	2.5	0.7	0.7	0.5	—	—	3.2	4.0	5.2	4.5	1.8	2.8	2.0	2.0
3-5 occasions	0.9	1.4	1.2	0.3	0.4	0.4	0.4	0.9	0.9	0.3	0.3	0.2	—	—	1.3	1.3	2.2	2.0	0.7	0.8	1.0	1.0
6-9 occasions	0.2	0.6	0.8	0.2	0.2	0.2	0.2	0.5	0.8	0.1	0.1	0.1	—	—	0.8	0.7	1.2	1.2	0.4	0.5	0.6	0.6
10-19 occasions	0.3	0.5	0.8	0.1	0.1	0.2	0.1	0.4	0.8	0.2	0.1	0.1	—	—	0.7	0.5	1.0	1.1	0.1	0.3	0.4	0.4
20-39 occasions	0.1	0.2	0.5	0.1	0.1	0.2	0.1	0.1	0.4	*	0.1	0.1	—	—	0.3	0.2	0.5	0.7	0.1	0.1	0.1	0.1
40 or more	0.2	0.2	0.6	*	0.1	0.3	0.1	0.1	0.5	0.1	0.1	0.1	—	—	0.4	0.2	0.4	0.6	0.1	0.1	0.1	0.5
30-Day Frequency																						
No occasions	98.7	98.2	97.4	99.2	99.2	98.9	98.9	98.4	97.6	99.4	99.3	99.5	—	—	97.4	96.6	95.0	95.5	98.9	98.2	98.3	98.3
1-2 occasions	0.6	0.9	1.2	0.6	0.5	0.6	0.8	1.0	1.4	0.3	0.3	0.3	—	—	1.5	2.0	2.8	2.2	0.7	1.2	0.8	0.8
3-5 occasions	0.4	0.5	0.7	0.1	0.2	0.2	0.2	0.3	0.4	0.2	0.1	0.1	—	—	0.4	0.7	1.1	0.8	0.2	0.3	0.5	0.5
6-9 occasions	0.1	0.2	0.3	0.1	*	0.1	0.1	0.1	0.3	0.1	*	*	—	—	0.3	0.4	0.6	0.7	0.1	0.1	0.2	0.2
10-19 occasions	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	*	0.1	0.1	—	—	0.2	0.2	0.4	0.5	*	*	*	*
20-39 occasions	*	*	0.1	*	*	*	*	0.0	0.1	*	*	*	—	—	0.1	0.1	0.2	0.1	*	0.1	*	*
40 or more	*	*	0.2	0.0	*	0.2	*	0.1	0.1	*	0.1	*	—	—	0.1	0.1	0.2	0.2	0.1	0.1	*	0.1

NOTES: — indicates data not available. * indicates less than .05 percent but greater than 0 percent. SOURCE: The Monitoring the Future Study, the University of Michigan.

(Table continued on next page)

TABLE 4-4a (cont.)
Frequency of Use of Various Drugs: Lifetime, Annual, and Thirty-Day
Eighth, Tenth, and Twelfth Graders, 1999
(Entries are percentages)

	Crystal Meth. (Ice)			Barbiturates ^b			Methaqualone ^{ch}			Tranquilizers ^b			Rohypnol ^f			Alcohol			Been Drunk ^g			Steroids ^f			
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	
Approx. N =	—	—	4500	—	—	13600	—	—	2300	16700	13600	13600	5600	4500	2300	16700	13600	13600	16700	13600	4500	16700	13600	4500	
Lifetime Frequency																									
No occasions	—	—	95.2	—	—	91.1	—	—	98.2	95.6	92.1	90.7	98.7	98.2	98.0	47.9	29.4	20.0	75.2	51.1	37.7	97.3	97.3	97.3	97.1
1-2 occasions	—	—	2.8	—	—	3.6	—	—	1.2	2.8	4.1	4.2	1.0	1.2	1.1	13.0	10.9	8.1	12.0	16.4	14.2	1.5	1.5	1.5	1.6
3-5 occasions	—	—	0.6	—	—	1.8	—	—	0.3	0.6	1.5	1.8	0.1	0.2	0.2	11.0	11.9	10.0	4.7	9.3	9.2	0.5	0.4	0.5	0.5
6-9 occasions	—	—	0.4	—	—	1.0	—	—	0.0	0.4	0.9	1.1	0.1	0.2	0.2	7.9	10.6	9.1	3.1	6.2	8.0	0.3	0.2	0.2	0.2
10-19 occasions	—	—	0.3	—	—	1.0	—	—	0.0	0.3	0.8	0.9	*	0.1	0.3	7.7	12.0	13.2	2.2	6.4	8.8	0.2	0.2	0.2	0.2
20-39 occasions	—	—	0.2	—	—	0.6	—	—	0.1	0.1	0.3	0.6	0.1	0.1	0.2	5.3	9.0	12.1	1.3	4.7	7.6	*	0.1	0.1	0.1
40 or more	—	—	0.5	—	—	0.9	—	—	0.3	0.2	0.4	0.8	*	0.1	0.1	7.2	16.1	27.5	1.6	6.0	14.6	0.2	0.2	0.2	0.3
Annual Frequency																									
No occasions	—	—	98.1	—	—	94.2	—	—	98.9	97.5	94.6	94.2	99.5	99.0	99.0	56.5	36.3	26.2	81.5	59.1	46.9	98.3	98.3	98.3	98.2
1-2 occasions	—	—	0.9	—	—	2.7	—	—	0.8	1.5	3.1	2.8	0.3	0.6	0.5	18.0	18.6	16.4	10.3	17.6	16.6	1.0	0.9	1.0	1.0
3-5 occasions	—	—	0.4	—	—	1.0	—	—	0.2	0.4	0.9	1.2	0.1	0.3	0.2	10.2	13.7	12.6	3.9	8.5	10.3	0.2	0.3	0.2	0.2
6-9 occasions	—	—	0.2	—	—	0.8	—	—	0.0	0.3	0.7	0.7	*	0.1	0.2	6.1	10.5	11.1	2.0	5.4	7.3	0.2	0.2	0.2	0.2
10-19 occasions	—	—	0.2	—	—	0.7	—	—	*	0.1	0.5	0.6	0.1	0.1	*	5.0	10.1	13.1	1.2	4.7	6.9	0.1	0.1	0.1	0.1
20-39 occasions	—	—	0.1	—	—	0.2	—	—	0.1	0.1	0.2	0.3	*	0.0	0.0	2.4	5.4	9.0	0.6	2.4	5.6	0.1	0.1	0.1	0.1
40 or more	—	—	0.1	—	—	0.4	—	—	0.0	*	0.1	0.3	0.0	*	0.1	1.8	5.5	11.4	0.5	2.4	6.5	0.1	0.1	0.1	0.2
30-Day Frequency																									
No occasions	—	—	99.2	—	—	97.4	—	—	99.6	98.9	97.8	97.5	99.7	99.5	99.7	76.0	60.0	49.0	90.6	77.5	67.1	99.3	99.1	99.1	99.1
1-2 occasions	—	—	0.4	—	—	1.2	—	—	0.3	0.8	1.2	1.5	0.1	0.4	0.2	13.5	19.5	20.7	6.3	13.0	14.7	0.4	0.5	0.5	0.5
3-5 occasions	—	—	0.1	—	—	0.7	—	—	0.0	0.2	0.5	0.6	0.1	0.1	0.1	5.4	9.9	12.6	1.6	4.8	8.3	0.1	0.2	0.1	0.1
6-9 occasions	—	—	0.1	—	—	0.2	—	—	0.0	0.1	0.3	0.2	*	0.0	0.0	2.7	5.6	8.5	0.7	2.8	4.9	0.1	0.1	0.1	0.2
10-19 occasions	—	—	0.1	—	—	0.2	—	—	0.1	0.1	0.1	0.2	*	0.0	0.0	1.5	3.2	5.8	0.5	1.2	3.2	0.1	0.1	0.1	0.1
20-39 occasions	—	—	*	—	—	0.1	—	—	0.0	*	*	0.1	*	0.0	0.0	0.5	1.0	1.7	0.2	0.4	1.1	*	*	*	0.1
40 or more	—	—	*	—	—	0.1	—	—	0.0	*	0.1	0.1	*	0.1	0.1	0.5	0.9	1.6	0.2	0.3	0.8	0.1	0.1	0.1	0.2

NOTES: — indicates data not available. * indicates less than .05 percent but greater than 0 percent.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aUnadjusted for known underreporting of certain drugs. See text for details.

^b12th grade only: Data based on three of six forms.

^c8th and 10th grade only: Data based on two of four forms. 12th grade only: Data based on one of six forms.

^d8th and 10th grade only: Data based on one of four forms. 12th grade only: Data based on one of six forms.

^e12th grade only: Data based on four of six forms.

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

^gBased on data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription stimulants.

^hOnly drug use not under a doctor's orders is included here.

ⁱ8th and 10th grade only: Data based on one of four forms.

^j12th grade only: Data based on two of six forms.

TABLE 4-4b

**Frequency of Occasions of Heavy Drinking, and
Cigarette and Smokeless Tobacco Use
Eighth, Tenth, and Twelfth Graders, 1999**

(Entries are percentages)

	<u>Percent who used</u>		
	<u>8th Grade</u>	<u>10th Grade</u>	<u>12th Grade</u>
Q. Think back over the LAST TWO WEEKS.			
<i>How many times have you had five or more drinks in a row?</i>			
None	84.8	74.4	69.2
Once	6.0	8.7	10.2
Twice	4.3	7.0	7.6
3 to 5 times	2.8	6.1	8.7
6 to 9 times	1.2	2.1	2.7
10 or more times	0.9	1.7	1.7
<i>Approx. N =</i>	16700	13600	13600
Q. Have you ever smoked cigarettes?			
Never	55.9	42.4	35.4
Once or twice	22.8	23.1	21.8
Occasionally but not regularly	9.8	13.7	16.3
Regularly in the past	5.5	8.3	7.8
Regularly now	6.0	12.4	18.7
<i>Approx. N =</i>	16700	13600	13600
Q. How frequently have you smoked cigarettes during the past 30 days?			
Not at all (includes "never" category from question above)	82.5	74.3	65.4
Less than one cigarette per day	9.4	9.8	11.5
One to five cigarettes per day	4.8	8.3	10.0
About one-half pack per day	1.9	4.5	7.1
About one pack per day	0.8	2.0	4.4
About one and one-half packs per day	0.4	0.7	1.1
Two packs or more per day	0.3	0.4	0.5
<i>Approx. N =</i>	16700	13600	13600
Q. Have you ever taken or used smokeless tobacco (snuff, plug, dipping tobacco, chewing tobacco)?			
Never	85.6	79.6	76.6
Once or twice	9.7	12.8	12.9
Occasionally but not regularly	2.5	4.4	5.6
Regularly in the past	1.3	1.6	2.3
Regularly now	0.9	1.6	2.7
<i>Approx. N =</i>	8400	6800	2300
Q. How frequently have you taken smokeless tobacco during the past 30 days?			
Not at all (includes "never" category from question above)	95.5	93.5	91.6
Once or twice	2.6	3.7	3.7
Once or twice per week	0.6	0.9	0.8
Three to five times per week	0.4	0.4	1.0
About once a day	0.3	0.4	0.8
More than once a day	0.6	1.1	2.1
<i>Approx. N =</i>	8400	6800	2300

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 4-5
Lifetime Prevalence of Use of Various Drugs by Subgroups
Eighth, Tenth, and Twelfth Graders, 1999
(Entries are percentages)

	Approx. N ^a		Any Illicit Drug		Any Illicit Drug Other Than Marijuana		Marijuana		Inhalants ^{b,c}		Amyl/Butyl Nitrites ^d		Hallucinogens ^e	
	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th
Total	16,700	13,600 13,600	28.3	46.2 54.7	16.3	24.0 29.4	22.0	40.9 49.7	19.7	17.0 15.4	—	—	1.7	4.8 9.7 13.7
Sex:														
Male	7,800	6,300 6,300	29.2	47.5 56.0	15.5	22.6 29.6	24.3	43.3 52.1	19.2	17.1 16.2	—	—	2.2	5.5 11.1 15.5
Female	8,400	7,000 6,700	27.3	44.7 52.8	17.0	25.0 28.3	19.8	38.4 47.0	20.3	16.7 14.7	—	—	1.0	4.0 8.2 11.8
College Plans:														
None or under 4 yrs.	1,700	1,900 2,800	50.7	63.8 62.5	33.8	37.9 35.0	44.1	59.6 57.2	29.5	25.6 19.8	—	—	4.4	13.9 19.9 15.3
Complete 4 yrs.	14,500	11,500 10,200	25.3	43.2 52.1	14.2	21.7 27.4	19.1	37.8 47.0	18.7	15.7 14.4	—	—	1.0	3.7 7.9 12.9
Region:														
Northeast	3,000	3,000 2,500	24.4	46.6 55.0	14.1	25.3 27.6	18.2	41.0 50.8	20.0	17.5 14.1	—	—	2.5	3.9 11.1 13.8
North Central	4,200	3,100 3,600	30.8	44.9 53.4	17.9	23.1 28.8	24.6	40.3 48.1	19.4	17.8 17.3	—	—	1.3	5.2 9.4 13.4
South	6,100	4,700 4,900	29.0	45.2 54.1	16.6	23.7 30.0	23.0	39.6 48.8	19.4	16.5 14.4	—	—	1.6	5.3 8.9 12.9
West	3,400	2,800 2,600	27.5	48.7 57.4	16.0	24.3 30.7	20.6	43.6 52.3	20.2	16.6 15.7	—	—	1.7	4.2 9.9 15.4
Population Density:														
Large MSA	4,800	3,700 3,800	26.1	45.3 54.7	13.3	21.7 25.5	20.5	40.3 50.3	17.0	16.2 12.9	—	—	1.2	4.0 8.5 12.1
Other MSA	7,900	6,700 6,200	27.3	47.4 55.2	16.2	24.4 29.9	21.2	42.0 50.6	19.4	16.5 15.4	—	—	2.2	4.9 10.2 15.2
Non-MSA	4,000	3,200 3,600	32.9	44.7 53.7	20.2	25.9 32.5	25.6	39.2 47.4	23.3	19.2 17.8	—	—	1.2	5.4 10.0 12.7
Parental Education: ^f														
1.0-2.0 (Low)	1,300	1,100 960	40.8	55.3 57.3	23.2	28.8 32.2	35.1	49.0 50.5	24.7	21.4 15.3	—	—	3.2	7.7 9.4 14.6
2.5-3.0	3,800	3,200 3,200	34.5	50.6 57.4	19.4	26.9 31.1	28.3	45.2 51.5	22.1	18.5 16.2	—	—	0.9	6.0 11.0 13.3
3.5-4.0	3,800	3,600 3,900	28.5	45.6 56.0	17.1	23.6 31.1	21.7	40.9 51.2	20.6	16.4 16.9	—	—	2.4	4.5 9.8 15.2
4.5-5.0	4,000	3,300 3,200	22.4	42.3 50.7	13.2	22.0 25.9	16.2	36.8 46.2	17.4	15.7 13.1	—	—	1.5	3.5 8.8 12.7
5.5-6.0 (High)	2,200	1,700 1,800	20.8	41.4 51.5	12.5	21.5 27.0	15.2	36.2 47.6	17.3	16.3 15.8	—	—	0.7	4.0 9.4 12.5

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aSubgroup Ns may vary depending on the number of forms in which the use of each drug was asked about.

^b12th grade only; Data based on three of six forms; N is one-half of N indicated.

^cUnadjusted for known underreporting of certain drugs. See text for details.

^d12th grade only; Data based on one of six forms; N is one-sixth of N indicated.

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

(Table continued on next page)

TABLE 4-5 (cont.)
Lifetime Prevalence of Use of Various Drugs by Subgroups
Eighth, Tenth, and Twelfth Graders, 1999
 (Entries are percentages)

	<u>LSD</u>		<u>Hallucinogens Other Than LSD</u>		<u>PCP^a</u>		<u>MDMA^a</u>		<u>Cocaine</u>		<u>Crack</u>		<u>Other Cocaine^b</u>	
	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th
Total	4.1	8.5 12.2	2.4	4.7 6.7	—	—	3.4	2.7 6.0 8.0	4.7	7.7 9.8	3.1	4.0 4.6	3.8	6.8 8.8
Sex:														
Male	4.7	9.6 14.0	3.1	5.9 8.0	—	—	4.0	3.0 6.3 8.3	4.6	7.8 10.6	2.9	3.9 4.6	4.0	6.9 9.8
Female	3.5	7.3 10.4	1.7	3.5 5.2	—	—	2.9	2.5 5.8 8.0	4.7	7.7 8.7	3.2	4.1 4.3	3.8	6.7 7.3
College Plans:														
None or under 4 yrs.	12.3	18.1 14.0	7.3	10.2 7.3	—	—	5.0	7.9 11.2 7.2	13.0	17.6 14.1	8.6	9.1 8.1	10.8	16.0 11.9
Complete 4 yrs.	3.1	6.9 11.4	1.8	3.7 6.2	—	—	3.1	2.1 5.1 8.4	3.7	6.1 8.5	2.4	3.1 3.6	3.0	5.3 7.7
Region:														
Northeast	3.5	9.6 11.2	2.0	6.0 7.9	—	—	4.6	2.6 8.5 12.3	3.3	6.8 7.4	2.4	3.6 4.0	2.4	5.8 6.2
North Central	4.2	8.3 12.4	2.5	4.2 6.1	—	—	3.0	2.3 3.5 4.7	4.4	6.7 9.7	3.1	3.4 4.7	3.5	5.8 8.5
South	4.6	8.0 11.9	2.6	3.9 5.4	—	—	3.0	3.1 5.6 8.6	5.3	8.1 10.3	3.3	3.4 4.1	4.5	7.3 9.9
West	3.6	8.4 13.4	2.1	5.0 8.7	—	—	3.7	2.6 6.5 7.5	5.2	9.3 11.1	3.4	6.0 5.9	4.4	8.3 9.4
Population Density:														
Large MSA	3.6	7.6 10.5	1.9	4.3 6.1	—	—	3.2	2.3 6.9 8.9	3.4	6.9 7.8	2.1	3.6 3.4	2.8	6.1 7.3
Other MSA	4.3	8.9 13.9	2.4	4.9 6.9	—	—	4.6	3.0 6.1 8.9	5.0	7.8 10.2	3.4	4.0 4.5	4.0	6.8 8.9
Non-MSA	4.3	8.8 11.1	3.0	4.7 6.8	—	—	1.8	2.7 4.6 5.7	5.6	8.7 11.1	3.8	4.5 6.0	4.8	7.8 10.0
Parental Education: ^c														
1.0-2.0 (Low)	6.2	8.7 13.5	4.1	4.7 5.9	—	—	3.8	3.0 4.8 7.8	8.6	14.1 13.1	5.2	7.5 7.1	7.6	12.6 10.4
2.5-3.0	5.2	10.0 11.7	2.7	4.1 5.5	—	—	2.5	2.9 6.2 8.4	5.8	9.1 9.6	3.8	4.7 5.0	5.0	8.1 8.2
3.5-4.0	4.0	8.6 13.8	2.3	4.7 7.5	—	—	4.1	2.7 6.2 8.8	4.8	7.4 11.0	3.4	4.0 5.0	4.0	6.5 10.5
4.5-5.0	2.8	7.7 11.3	1.8	4.9 6.8	—	—	2.6	2.2 6.0 7.9	3.0	6.1 8.1	1.9	2.9 3.6	2.3	5.4 7.6
5.5-6.0 (High)	3.5	7.3 10.3	2.4	5.5 6.6	—	—	5.0	3.5 6.3 6.6	3.3	5.6 8.1	2.5	3.0 3.0	2.5	5.0 5.8

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^a8th and 10th grade only: Data based on one-third of N indicated due to changes in the questionnaire forms. 12th grade only: Data based on one of six forms; N is one-sixth of N indicated.

^b12th grade only: Data based on four of six forms; N is four-sixths of N indicated.

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

(Table continued on next page)

TABLE 4-5 (cont.)
Lifetime Prevalence of Use of Various Drugs by Subgroups
Eighth, Tenth, and Twelfth Graders, 1999
(Entries are percentages)

	Methaqualone ^{a,b}		Tranquilizers ^b		Rohypnol ^a		Alcohol		Been Drunk ^c		Cigarettes		Smokeless Tobacco ^d		Steroids ^e	
	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th
Total	—	—	1.8	4.4 7.9 9.3	1.3	1.8 2.0	52.1	70.6 80.0	24.8	48.9 62.3	44.1	57.6 64.6	14.4	20.4 23.4	2.7	2.7 2.9
Sex:																
Male	—	—	2.2	3.9 7.4 10.2	1.2	2.1 2.3	52.9	70.3 79.8	25.9	49.5 64.5	44.2	57.4 64.6	21.4	33.1 38.0	3.9	4.2 5.2
Female	—	—	0.7	4.8 8.3 8.4	1.3	1.5 1.5	51.4	70.8 80.5	23.7	48.2 60.2	43.5	57.5 64.4	7.7	8.7 9.5	1.6	1.4 0.8
College Plans:																
None or under 4 yrs.	—	—	1.2	9.9 12.7 11.2	3.3	4.2 2.3	68.8	80.7 83.6	43.5	63.3 65.5	69.0	73.1 73.0	31.6	32.8 32.2	5.9	3.9 6.1
Complete 4 yrs.	—	—	1.4	3.7 7.1 8.8	1.1	1.4 2.1	50.3	69.0 79.1	22.7	46.7 61.0	40.8	55.0 61.9	12.2	18.4 21.2	2.3	2.5 2.1
Region:																
Northeast	—	—	2.3	4.0 8.3 8.7	1.3	1.1 1.8	55.1	73.1 84.0	24.8	52.8 68.1	40.0	59.3 65.3	9.1	18.6 15.4	2.3	2.9 2.2
North Central	—	—	0.7	4.3 6.8 8.4	0.6	1.3 1.1	51.8	70.9 79.9	26.7	50.8 62.0	46.6	59.8 66.7	17.0	24.0 26.8	2.7	2.9 3.4
South	—	—	2.6	4.8 8.8 11.1	1.8	2.8 3.8	53.2	70.3 79.5	25.6	46.9 59.3	48.3	58.5 65.0	17.8	22.8 26.1	3.2	2.6 3.0
West	—	—	1.5	4.2 7.3 7.9	1.3	1.4 0.2	48.0	68.0 77.4	21.3	46.1 62.8	37.0	51.9 60.4	9.9	14.3 21.6	2.2	2.3 2.6
Population Density:																
Large MSA	—	—	0.8	3.6 7.1 6.5	1.2	1.6 0.8	49.5	69.8 79.4	22.5	47.3 58.9	37.5	55.1 61.0	8.3	16.2 16.4	2.0	2.2 2.8
Other MSA	—	—	2.4	4.3 7.9 10.4	1.4	2.1 3.0	51.3	70.1 80.8	23.5	48.6 63.7	42.1	56.6 64.1	12.8	17.6 24.2	2.9	2.7 3.0
Non-MSA	—	—	1.9	5.6 8.9 10.4	1.2	1.3 1.6	56.8	72.5 79.4	30.3	51.4 63.3	55.7	62.7 69.3	24.6	30.9 29.4	3.1	3.1 2.8
Parental Education: ^f																
1.0-2.0 (Low)	—	—	0.4	7.1 8.7 9.3	1.9	2.0 4.7	61.9	74.0 78.9	34.3	52.0 50.0	59.2	64.0 63.1	19.1	22.6 10.6	3.1	2.6 4.3
2.5-3.0	—	—	1.5	5.8 8.4 9.7	1.4	2.7 1.7	59.3	74.3 81.7	30.2	51.9 64.6	53.2	62.9 65.9	17.6	22.6 24.5	3.2	3.0 2.1
3.5-4.0	—	—	2.6	4.2 7.9 10.1	1.2	1.5 1.5	53.2	71.7 81.0	25.7	49.3 63.6	45.8	59.2 65.7	15.9	22.3 25.9	2.7	2.8 3.2
4.5-5.0	—	—	1.3	3.3 7.9 9.0	0.8	1.3 1.8	47.2	68.1 78.2	20.5	46.1 61.9	36.9	53.0 63.5	10.8	18.1 22.0	2.4	2.0 3.7
5.5-6.0 (High)	—	—	0.3	3.6 7.2 8.4	1.6	1.5 2.5	46.7	66.4 80.0	21.2	48.6 63.4	32.1	50.2 62.9	10.6	16.5 27.9	2.7	3.4 1.1

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^a8th and 10th grade only: Data based on two of four forms; N is one-third of N indicated. 12th grade only: Data based on one of six forms; N is one-sixth of N indicated. ^bOnly drug use not under a doctor's orders is included here.

^c12th grade only: Data based on two of six forms; N is two-sixths of N indicated.

^d8th and 10th grade only: Data based on two of four forms; N is one-half of N indicated. 12th grade only: Data based on one of six forms; N is one-sixth of N indicated. ^eParental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

TABLE 4-6 (cont.)
Annual Prevalence of Use of Various Drugs by Subgroups
Eighth, Tenth, and Twelfth Graders, 1999
 (Entries are percentages)

	LSD			Hallucinogens Other Than LSD			PCP ^a			MDMA ^a			Cocaine			Crack			Other Cocaine ^b			
	Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	2.4	6.0	8.1	1.5	3.2	4.3	—	—	1.8	1.7	4.4	5.6	2.7	4.9	6.2	1.8	2.4	2.7	2.3	4.4	5.8	
Sex:																						
Male	2.7	7.0	10.0	1.8	4.1	5.4	—	—	2.0	1.7	4.7	5.6	2.8	5.2	7.3	1.8	2.5	2.9	2.3	4.6	7.1	
Female	2.0	5.1	6.1	1.1	2.3	3.1	—	—	1.6	1.7	4.2	5.6	2.7	4.6	5.0	1.8	2.3	2.2	2.2	4.1	4.2	
College Plans:																						
None or under 4 yrs.	8.2	13.1	9.4	5.3	6.7	4.4	—	—	2.8	5.3	8.5	4.2	8.1	11.6	9.1	5.3	5.5	5.0	7.1	10.5	7.6	
Complete 4 yrs.	1.7	4.9	7.3	1.0	2.6	4.0	—	—	1.5	1.2	3.7	6.2	2.0	3.8	5.4	1.4	1.8	1.9	1.7	3.4	5.2	
Region:																						
Northeast	2.2	7.5	7.8	1.4	4.5	5.5	—	—	2.7	1.8	7.0	9.4	2.2	4.6	4.3	1.5	2.5	2.4	1.7	4.1	4.1	
North Central	2.7	6.0	9.1	1.7	2.8	3.7	—	—	1.7	1.4	2.3	3.3	2.6	4.4	6.2	1.9	2.1	2.8	2.2	3.9	5.7	
South	2.5	5.8	7.7	1.6	2.7	3.3	—	—	1.9	1.8	4.1	5.7	3.1	5.2	6.9	1.9	2.0	2.3	2.6	4.7	6.6	
West	1.9	5.1	7.7	1.1	3.3	5.7	—	—	1.1	1.7	4.4	5.0	2.7	5.3	6.9	1.8	3.2	3.4	2.2	4.6	6.1	
Population Density:																						
Large MSA	2.2	4.9	6.8	1.1	3.1	4.5	—	—	1.6	1.6	5.2	6.1	2.1	4.1	5.0	1.2	2.2	2.0	1.8	3.7	4.8	
Other MSA	2.7	6.7	9.2	1.5	3.5	4.2	—	—	2.4	1.8	4.7	6.1	2.8	5.1	6.6	2.0	2.3	2.5	2.3	4.5	6.0	
Non-MSA	1.9	5.9	7.4	1.9	2.7	4.2	—	—	1.1	1.6	2.8	4.2	3.2	5.4	6.9	2.1	2.8	3.6	2.8	4.8	6.7	
Parental Education: ^c																						
1.0-2.0 (Low)	3.7	6.3	8.6	2.6	3.4	2.2	—	—	1.0	2.5	3.7	6.8	5.6	8.2	9.0	3.6	3.4	3.2	5.1	7.6	7.4	
2.5-3.0	2.7	7.3	7.6	1.9	3.0	3.3	—	—	1.5	2.0	4.4	5.1	3.1	5.9	6.0	2.0	2.9	2.8	2.8	5.1	5.0	
3.5-4.0	2.4	5.8	9.0	1.3	2.8	5.1	—	—	2.7	1.5	4.0	5.7	2.8	4.7	6.8	2.0	2.5	3.0	2.3	4.2	6.9	
4.5-5.0	1.9	5.7	8.0	0.9	3.7	4.4	—	—	1.2	1.2	4.3	6.2	1.7	3.9	5.4	1.0	1.9	2.2	1.3	3.5	5.5	
5.5-6.0 (High)	1.9	5.3	6.4	1.5	3.7	4.7	—	—	2.0	2.3	5.6	4.7	2.5	3.9	5.2	1.9	1.8	1.6	1.8	3.5	3.6	

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^a8th and 10th grade only: Data based on one-third of N indicated due to changes in the questionnaire forms. 12th grade only: Data based on one of six forms; N is one-sixth of N indicated.

^b12th grade only: Data based on four of six forms; N is four-sixths of N indicated.

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

(Table continued on next page)

TABLE 4-6 (cont.)
Annual Prevalence of Use of Various Drugs by Subgroups
Eighth, Tenth, and Twelfth Graders, 1999
 (Entries are percentages)

	Methaqualone ^{a,b}		Tranquilizers ^b		Rohypnol ^a		Alcohol		Been Drunk ^c		Cigarettes		Smokeless Tobacco		Steroids ^c							
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th				
Total	—	—	1.1	2.5	5.4	5.8	0.5	1.0	1.0	43.5	63.7	73.8	18.5	40.9	53.2	—	—	—	1.7	1.7	1.8	
Sex:																						
Male	—	—	1.4	2.1	5.2	6.9	0.6	1.2	1.0	43.9	63.5	74.3	19.0	42.4	56.8	—	—	—	2.5	2.8	3.1	
Female	—	—	0.1	2.9	5.4	4.8	0.2	0.9	1.0	43.2	63.9	73.4	17.9	39.6	49.8	—	—	—	0.9	0.7	0.6	
College Plans:																						
None or under 4 yrs.	—	—	0.4	5.8	8.6	6.4	0.9	2.8	1.0	58.4	74.5	77.9	33.7	54.2	55.6	—	—	—	4.0	2.6	3.6	
Complete 4 yrs.	—	—	0.7	2.0	4.8	5.6	0.4	0.8	1.0	42.0	62.1	72.7	16.8	38.9	51.9	—	—	—	1.4	1.6	1.3	
Region:																						
Northeast	—	—	1.6	2.3	5.5	5.6	0.3	0.4	0.8	46.9	68.4	78.8	18.7	45.4	59.7	—	—	—	1.6	2.0	1.3	
North Central	—	—	0.4	2.6	4.6	5.1	0.3	0.9	0.8	44.3	64.6	74.6	21.0	44.2	53.8	—	—	—	1.6	1.8	1.6	
South	—	—	1.4	2.8	6.0	7.6	0.7	1.8	1.6	43.6	62.5	72.5	18.6	38.5	50.1	—	—	—	1.9	1.7	2.6	
West	—	—	1.0	1.9	4.9	3.9	0.5	0.6	0.2	39.5	59.6	70.2	15.0	36.6	52.0	—	—	—	1.4	1.4	1.2	
Population Density:																						
Large MSA	—	—	0.4	1.8	5.0	4.0	0.4	0.9	0.3	40.8	63.0	73.5	16.4	39.4	50.8	—	—	—	1.3	1.2	1.3	
Other MSA	—	—	1.7	2.4	5.5	6.6	0.6	1.3	1.4	43.1	63.3	74.5	17.2	40.6	54.8	—	—	—	1.9	1.9	2.0	
Non-MSA	—	—	1.0	3.4	5.6	6.5	0.3	0.7	0.9	47.5	65.4	72.8	23.7	43.4	52.7	—	—	—	1.7	2.0	1.9	
Parental Education: ^d																						
1.0-2.0 (Low)	—	—	0.4	5.0	5.0	5.2	0.2	1.2	4.7	50.6	66.2	70.7	24.7	40.7	37.6	—	—	—	2.2	1.2	1.5	
2.5-3.0	—	—	0.4	3.3	5.9	6.2	0.3	1.6	0.3	49.2	66.6	75.1	22.5	43.3	55.0	—	—	—	1.9	1.7	0.8	
3.5-4.0	—	—	1.8	2.1	5.2	6.4	0.6	0.8	1.1	44.4	65.6	74.3	19.7	41.4	53.0	—	—	—	1.6	2.0	2.5	
4.5-5.0	—	—	0.6	1.7	5.7	5.4	0.5	0.6	0.3	39.9	61.1	72.8	15.3	39.2	53.3	—	—	—	1.4	1.5	2.2	
5.5-6.0 (High)	—	—	0.3	1.9	5.3	5.6	0.7	1.1	0.7	40.9	62.0	75.5	16.5	42.5	57.7	—	—	—	2.0	2.4	1.1	

NOTE: '—' indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^a8th and 10th grade only: Data based on two of four forms; N is one-third of N indicated. For 12th grade only: Data based on one of six forms; N is one-sixth of N indicated.

^bOnly drug use not under a doctor's orders is included here.

^c12th grade only: Data based on two of six forms; N is two-sixths of N indicated.

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

TABLE 4-7
Thirty-Day Prevalence of Use of Various Drugs by Subgroups
Eighth, Tenth, and Twelfth Graders, 1999
(Entries are percentages)

	Approx. N ^a		Any Illicit Drug		Any Illicit Drug Other Than Marijuana		Marijuana		Inhalants ^{b,c}		Amyl/Butyl Nitrites ^d		Hallucinogens ^e												
	8th	10th	8th	10th	8th	10th	8th	10th	8th	10th	8th	10th	8th	10th											
Total	16,700	13,600	13,600	13,600	12.2	22.1	25.9	5.5	8.6	10.4	9.7	19.4	23.1	5.0	2.6	2.0	—	—	0.4	1.3	2.9	3.5			
Sex:																									
Male	7,800	6,300	6,300	6,300	12.6	23.7	28.6	5.1	8.6	12.0	10.5	21.8	26.3	4.6	2.9	2.5	—	—	—	0.7	1.6	3.6	4.5		
Female	8,400	7,000	6,700	6,700	11.7	20.4	22.7	5.6	8.5	8.4	8.8	17.0	19.7	5.3	2.2	1.5	—	—	—	0.1	1.0	2.2	2.3		
College Plans:																									
None or under 4 yrs.	1,700	1,900	2,800	2,800	29.6	36.6	29.7	14.2	15.6	12.4	25.9	33.8	26.6	8.7	4.5	2.0	—	—	—	1.3	4.6	6.4	3.4		
Complete 4 yrs.	14,500	11,500	10,200	10,200	10.0	19.6	24.5	4.3	7.4	9.5	7.7	17.0	21.8	4.6	2.2	2.0	—	—	—	0.2	0.8	2.3	3.2		
Region:																									
Northeast	3,000	3,000	2,500	2,500	9.7	24.8	26.9	4.3	9.6	10.5	7.6	22.0	24.2	5.3	2.8	3.0	—	—	—	0.3	1.3	3.8	4.5		
North Central	4,200	3,100	3,600	3,600	14.6	21.4	25.8	6.6	7.2	10.2	11.7	19.6	23.2	4.8	3.0	2.2	—	—	—	0.3	1.4	2.3	3.0		
South	6,100	4,700	4,900	4,900	12.8	21.4	25.0	5.8	9.4	10.9	10.1	18.1	22.1	4.8	2.4	1.4	—	—	—	0.7	1.3	2.8	3.4		
West	3,400	2,800	2,600	2,600	10.4	21.1	26.7	4.5	7.7	9.8	8.4	18.8	24.2	5.1	2.2	1.9	—	—	—	0.3	1.2	2.7	3.3		
Population Density:																									
Large MSA	4,800	3,700	3,800	3,800	11.0	21.6	25.4	4.4	7.4	8.7	8.6	19.0	23.2	4.5	2.5	1.8	—	—	—	0.5	1.1	2.5	3.4		
Other MSA	7,900	6,700	6,200	6,200	11.6	22.8	27.2	5.2	8.8	11.2	9.4	20.3	24.4	4.8	2.4	1.9	—	—	—	0.5	1.4	3.2	4.0		
Non-MSA	4,000	3,200	3,600	3,600	15.0	21.1	24.1	7.3	9.3	11.0	11.6	18.1	21.0	6.0	2.9	2.3	—	—	—	0.3	1.2	2.7	2.8		
Parental Education: ^f																									
1.0-2.0 (Low)	1,300	1,100	960	960	20.9	28.2	24.8	9.5	10.6	12.2	17.5	25.0	22.2	7.3	2.9	1.9	—	—	—	0.5	2.1	3.0	4.2		
2.5-3.0	3,800	3,200	3,200	3,200	14.4	24.5	26.2	6.0	9.5	10.3	12.1	22.0	23.6	5.8	2.9	1.9	—	—	—	0.3	1.4	3.2	3.2		
3.5-4.0	3,800	3,600	3,900	3,900	12.1	21.7	26.1	6.3	8.4	10.8	9.1	19.3	23.0	5.1	2.4	2.4	—	—	—	0.7	1.1	2.4	3.5		
4.5-5.0	4,000	3,300	3,200	3,200	9.0	19.5	25.1	3.9	8.1	9.2	6.7	16.6	22.4	4.3	2.0	1.9	—	—	—	0.2	0.9	3.1	3.1		
5.5-6.0 (High)	2,200	1,700	1,800	1,800	9.3	20.9	26.1	4.2	7.1	10.5	7.5	18.2	23.4	4.3	3.0	1.7	—	—	—	0.0	1.5	2.9	3.5		

NOTE: '-' indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aSubgroup Ns may vary depending on the number of forms in which the use of each drug was asked about.

^b12th grade only: Data based on three of six forms; N is one-half of N indicated.

^cUnadjusted for known underreporting of certain drugs. See text for details.

^d12th grade only: Data based on one of six forms; N is one-sixth of N indicated.

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

(Table continued on next page)

TABLE 4-7 (cont.)
Thirty-Day Prevalence of Use of Various Drugs by Subgroups
Eighth, Tenth, and Twelfth Graders, 1999
 (Entries are percentages)

	LSD		Hallucinogens Other Than LSD		PCP ^a		MDMA ^a		Cocaine		Crack		Other Cocaine ^b	
	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th
Total	1.1	2.3 2.7	0.6	1.2 1.6	—	— 0.8	0.8	1.8 2.5	1.3	1.8 2.6	0.8	0.8 1.1	1.1	1.6 2.5
Sex:														
Male	1.3	2.7 3.6	0.9	1.7 1.9	—	— 1.1	0.9	1.7 2.6	1.4	2.2 3.3	0.9	0.9 1.4	1.2	1.8 3.2
Female	0.9	1.9 1.7	0.3	0.8 1.0	—	— 0.4	0.7	1.9 2.5	1.2	1.6 1.8	0.8	0.8 0.7	1.0	1.4 1.5
College Plans:														
None or under 4 yrs.	3.9	5.3 2.9	2.4	3.1 1.5	—	— 1.3	3.0	4.2 1.3	4.4	5.1 3.7	3.2	2.1 2.2	4.1	4.4 3.2
Complete 4 yrs.	0.7	1.9 2.4	0.4	0.9 1.4	—	— 0.6	0.5	1.4 3.0	0.9	1.3 2.2	0.6	0.6 0.7	0.7	1.1 2.1
Region:														
Northeast	1.2	3.0 3.5	0.7	1.5 2.2	—	— 1.7	0.7	3.6 4.8	1.1	1.6 1.7	0.7	0.7 1.0	0.9	1.4 1.8
North Central	1.2	1.9 2.6	0.6	1.2 1.0	—	— 0.5	0.7	1.1 0.8	1.2	1.7 2.6	0.9	0.6 1.0	1.1	1.4 2.4
South	1.2	2.4 2.8	0.6	1.0 1.4	—	— 0.8	0.9	1.3 3.0	1.6	2.1 2.9	0.9	0.9 1.0	1.4	1.8 2.8
West	0.8	2.0 2.0	0.5	1.3 2.0	—	— 0.3	0.7	1.4 1.6	1.2	1.8 2.9	0.9	1.0 1.5	0.9	1.6 2.5
Population Density:														
Large MSA	1.0	1.9 2.3	0.6	1.3 1.9	—	— 0.9	0.8	2.3 2.9	1.0	1.4 2.1	0.6	0.7 0.9	0.9	1.2 2.0
Other MSA	1.3	2.6 3.4	0.5	1.2 1.4	—	— 1.0	0.9	2.1 3.0	1.4	1.9 2.5	0.9	0.8 1.0	1.2	1.6 2.1
Non-MSA	0.9	2.2 2.0	0.7	1.2 1.6	—	— 0.3	0.5	0.5 1.2	1.5	2.3 3.4	1.1	1.1 1.5	1.3	2.0 3.6
Parental Education: ^c														
1.0-2.0 (Low)	1.8	2.3 3.8	0.7	1.7 1.3	—	— 0.7	1.4	2.0 3.1	3.2	3.6 4.1	2.1	1.9 2.0	3.3	3.0 3.2
2.5-3.0	1.2	2.5 2.6	0.7	1.2 1.3	—	— 0.5	1.0	1.7 2.2	1.4	2.0 2.2	1.0	0.7 1.0	1.2	1.9 2.3
3.5-4.0	1.0	1.9 2.7	0.4	1.0 1.6	—	— 1.2	0.4	1.6 2.5	1.2	1.8 3.1	0.8	0.8 1.5	1.0	1.4 2.8
4.5-5.0	0.8	2.6 2.4	0.4	1.2 1.6	—	— 0.2	0.6	1.6 2.4	0.7	1.4 2.0	0.4	0.5 0.6	0.6	1.2 2.1
5.5-6.0 (High)	1.1	2.2 2.3	1.0	1.4 1.7	—	— 1.0	1.0	2.3 3.1	1.5	1.5 2.0	1.0	0.9 0.5	1.1	1.2 1.4

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^a8th and 10th grade only; Data based on one-third of N indicated due to changes in the questionnaire forms. 12th grade only: Data based on one of six forms; N is one-sixth of N indicated.

^b12th grade only; Data based on four of six forms; N is four-sixths of N indicated.

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

(Table continued on next page)

TABLE 4-7 (cont.)
Thirty-Day Prevalence of Use of Various Drugs by Subgroups
Eighth, Tenth, and Twelfth Graders, 1999
 (Entries are percentages)

	Heroin Any Use ^a		Heroin with a Needle ^b		Heroin without a Needle ^b		Other Narcotics ^c		Amphetamines ^d		Meth-amphetamine ^{d,e}		Crystal Meth. (Ice) ^f		Barbiturates ^g											
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th								
Total	0.6	0.7	0.5	0.4	0.3	0.2	0.4	0.5	0.4	—	—	2.6	3.4	5.0	4.5	1.1	1.8	1.7	—	—	0.8	—	—	2.6		
Sex:																										
Male	0.7	0.9	0.6	0.5	0.5	0.3	0.4	0.7	0.3	—	—	3.5	2.9	4.3	4.7	1.1	2.1	2.1	—	—	1.1	—	—	—	2.8	
Female	0.5	0.5	0.4	0.3	0.2	0.1	0.3	0.4	0.5	—	—	1.6	3.8	5.5	4.1	1.1	1.5	1.5	—	—	0.6	—	—	—	2.2	
College Plans:																										
None or under 4 yrs.	2.0	1.8	0.6	1.4	1.0	0.3	1.3	1.2	0.4	—	—	2.8	8.6	8.3	6.0	3.5	3.9	3.4	—	—	1.0	—	—	—	2.9	
Complete 4 yrs.	0.5	0.5	0.5	0.3	0.2	0.2	0.3	0.4	0.4	—	—	2.5	2.8	4.4	3.9	0.9	1.5	1.1	—	—	0.7	—	—	—	2.4	
Region:																										
Northeast	0.8	0.6	0.3	0.6	0.3	0.1	0.3	0.5	0.5	—	—	2.4	2.7	5.6	4.7	0.8	1.9	1.0	—	—	0.4	—	—	—	1.7	
North Central	0.8	0.8	0.5	0.5	0.3	0.3	0.5	0.7	0.3	—	—	2.6	4.6	4.4	4.7	1.7	1.8	1.9	—	—	0.5	—	—	—	2.5	
South	0.5	0.7	0.8	0.3	0.4	0.3	0.3	0.5	0.5	—	—	3.2	3.4	5.7	4.5	1.1	1.4	1.5	—	—	0.9	—	—	—	3.3	
West	0.6	0.5	0.2	0.3	0.3	0.2	0.5	0.4	0.2	—	—	1.6	2.5	3.8	3.9	0.8	2.3	2.8	—	—	1.3	—	—	—	2.0	
Population Density:																										
Large MSA	0.6	0.5	0.4	0.4	0.3	0.3	0.4	0.4	0.4	—	—	1.9	2.5	4.1	3.5	1.4	1.3	1.3	—	—	0.7	—	—	—	1.6	
Other MSA	0.6	0.7	0.7	0.4	0.2	0.2	0.4	0.6	0.6	—	—	2.8	3.1	4.9	4.7	1.0	1.9	1.5	—	—	1.1	—	—	—	2.7	
Non-MSA	0.7	0.7	0.4	0.5	0.6	0.3	0.4	0.5	0.2	—	—	2.9	5.1	6.1	5.0	1.2	2.1	2.7	—	—	0.4	—	—	—	3.3	
Parental Education: ^f																										
1.0-2.0 (Low)	1.2	1.5	1.4	0.8	0.9	0.9	1.0	1.0	0.7	—	—	3.0	4.3	5.8	4.3	2.7	3.0	3.0	—	—	1.9	—	—	—	3.6	
2.5-3.0	0.6	0.6	0.5	0.3	0.3	0.1	0.4	0.5	0.2	—	—	2.2	3.6	5.2	5.1	1.3	1.7	1.2	—	—	0.6	—	—	—	2.6	
3.5-4.0	0.4	0.7	0.5	0.3	0.3	0.2	0.1	0.7	0.4	—	—	2.8	4.4	5.0	4.5	1.2	1.9	2.1	—	—	0.8	—	—	—	2.6	
4.5-5.0	0.5	0.5	0.5	0.3	0.2	0.2	0.4	0.4	0.6	—	—	2.6	2.5	5.0	4.1	0.5	1.7	1.6	—	—	0.5	—	—	—	2.2	
5.5-6.0 (High)	0.8	0.4	0.4	0.6	0.3	0.3	0.5	0.3	0.4	—	—	2.6	2.9	4.1	4.2	1.5	1.2	1.4	—	—	0.9	—	—	—	2.4	

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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

^b12th grade only: Data based on three of six forms; N is one-half of N indicated.

^cOnly drug use not under a doctor's orders is included here.

^d8th and 10th grade only: Data based on one of four forms; N is one-third of N indicated.

^e12th grade only: Data based on two of six forms; N is two-sixths of N indicated.

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

(Table continued on next page)

TABLE 4-7 (cont.)
Thirty-Day Prevalence of Use of Various Drugs by Subgroups
Eighth, Tenth, and Twelfth Graders, 1999
 (Entries are percentages)

	Methaqualone ^{a,b}		Tranquilizers ^b		Rohypnol ^a		Alcohol		Been Drunk ^c		Cigarettes		Smokeless Tobacco ^d		Steroids ^e										
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th							
Total	—	—	0.4	1.1	2.2	2.5	0.3	0.5	0.3	24.0	40.0	51.0	9.4	22.5	32.9	17.5	25.7	34.6	4.5	6.5	8.4	0.7	0.9	0.9	
Sex:																									
Male	—	—	0.4	0.9	2.0	3.2	0.3	0.7	0.7	24.8	42.3	55.3	10.2	25.4	37.9	16.7	25.2	35.4	6.9	12.2	15.5	1.1	1.7	1.5	
Female	—	—	0.0	1.3	2.3	1.7	0.1	0.4	0.1	23.3	38.1	46.8	8.6	19.8	27.7	17.7	25.8	33.5	2.1	1.3	1.3	0.4	0.2	0.4	
College Plans:																									
None or under 4 yrs.	—	—	0.2	3.7	4.0	2.6	0.7	1.9	0.6	41.6	53.7	55.2	22.4	34.6	36.1	40.3	44.0	44.9	13.2	13.2	10.5	1.9	1.5	2.0	
Complete 4 yrs.	—	—	0.4	0.8	1.8	2.4	0.2	0.3	0.3	22.0	37.9	49.8	8.0	20.7	31.7	14.5	22.7	31.4	3.5	5.4	7.6	0.6	0.8	0.7	
Region:																									
Northeast	—	—	0.3	0.9	1.6	2.7	0.5	0.2	0.7	25.7	44.8	57.2	9.4	25.8	37.5	15.7	28.0	34.2	2.5	5.2	4.3	0.9	1.1	0.5	
North Central	—	—	0.0	1.3	2.0	2.3	0.1	0.6	0.6	25.7	40.9	51.1	11.6	26.0	33.4	21.3	30.2	37.8	5.3	8.1	8.9	0.6	0.9	1.0	
South	—	—	0.9	1.3	2.7	3.2	0.3	0.8	0.2	24.4	38.8	49.5	9.5	20.3	30.8	18.7	26.3	36.2	5.9	7.9	10.7	0.9	0.9	1.3	
West	—	—	0.3	0.8	2.0	1.2	0.2	0.3	0.0	19.8	36.1	47.8	6.6	19.0	32.2	12.1	17.5	27.6	2.9	4.0	7.0	0.6	0.8	0.6	
Population Density:																									
Large MSA	—	—	0.2	0.8	2.3	1.8	0.2	0.3	0.1	21.7	39.7	48.9	7.8	21.6	29.2	12.7	22.9	30.0	1.8	4.6	4.9	0.7	0.7	1.0	
Other MSA	—	—	0.5	1.0	2.0	2.9	0.3	0.7	0.6	23.4	39.7	52.8	8.4	22.7	35.4	16.0	25.0	35.0	3.9	5.3	8.5	0.8	1.0	1.0	
Non-MSA	—	—	0.5	1.8	2.4	2.5	0.2	0.5	0.1	28.1	41.0	50.1	13.3	23.4	32.5	26.1	30.4	38.7	8.9	11.3	11.7	0.6	1.0	0.8	
Parental Education: ^f																									
1.0-2.0 (Low)	—	—	0.4	3.1	2.7	2.3	0.5	0.9	1.4	30.7	40.6	46.8	14.5	21.8	20.8	26.6	30.5	33.0	6.6	7.2	5.4	1.1	0.7	0.9	
2.5-3.0	—	—	0.1	1.6	2.6	2.6	0.1	0.9	0.0	27.9	42.3	50.5	11.7	23.4	30.5	23.5	29.6	37.3	5.7	7.0	9.1	1.0	0.9	0.6	
3.5-4.0	—	—	0.7	1.0	2.0	2.8	0.3	0.3	0.4	25.2	40.2	51.1	9.9	23.3	34.0	17.0	26.0	35.0	4.5	7.3	8.8	0.6	1.0	1.3	
4.5-5.0	—	—	0.0	0.6	2.0	2.3	0.2	0.3	0.2	20.4	38.7	50.2	6.9	21.7	32.8	12.3	22.4	32.4	3.3	6.1	8.5	0.4	0.7	0.8	
5.5-6.0 (High)	—	—	0.3	0.6	1.9	2.4	0.2	0.4	0.0	22.1	40.9	56.0	8.7	24.0	40.6	12.2	21.4	34.4	3.1	4.8	7.9	0.9	1.5	0.7	

NOTE: '—' indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^a8th and 10th grade only: Data based on two of four forms; N is one-third of N indicated. For 12th grade only: Data based on one of six forms; N is one-sixth of N indicated.

^bOnly drug use not under a doctor's orders is included here.

^c12th grade only: Data based on two of six forms; N is two-sixths of N indicated.

^d8th and 10th grade only: Data based on two of four forms; N is one-half of N indicated. 12th grade only: Data based on one of six forms; N is one-sixth of N indicated.

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

TABLE 4-8
Thirty-Day Prevalence of Daily Use of Marijuana, Alcohol, and Tobacco by Subgroups
Eighth, Tenth, and Twelfth Graders, 1999

	Percent who used daily in last thirty days																					
	Marijuana			Alcohol			Cigarettes			Smokeless Tobacco ^a												
	Approx. N ^b	Daily		Daily		5+ drinks ^c		One or more daily		Half-pack or more daily		Daily										
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th							
Total	16,700	13,600	13,600	1.4	3.8	6.0	1.0	1.9	3.4	15.2	25.6	30.8	8.1	15.9	23.1	3.3	7.6	13.2	0.9	1.5	2.9	
Sex:																						
Male	7,800	6,300	6,300	1.9	5.2	7.9	1.3	2.9	5.2	16.4	29.7	38.1	7.4	15.6	23.6	3.1	7.8	14.5	1.6	3.2	5.7	
Female	8,400	7,000	6,700	0.8	2.4	3.9	0.6	0.9	1.4	13.9	21.8	23.6	8.4	15.9	22.2	3.3	7.3	11.5	0.2	0.1	0.0	
College Plans:																						
None or under 4 yrs.	1,700	1,900	2,800	5.6	10.3	9.2	3.4	4.5	5.9	33.9	39.3	35.4	25.2	32.1	34.2	13.4	18.9	23.2	3.8	3.6	3.4	
Complete 4 yrs.	14,500	11,500	10,200	0.8	2.7	4.7	0.7	1.5	2.6	13.0	23.4	29.5	5.9	13.2	19.5	2.0	5.7	10.1	0.5	1.2	2.6	
Region:																						
Northeast	3,000	3,000	2,500	1.0	3.9	5.7	1.0	1.9	2.8	14.5	28.1	33.7	7.2	17.7	23.2	3.1	9.1	13.4	0.1	1.2	1.0	
North Central	4,200	3,100	3,600	1.7	4.2	6.2	1.3	2.3	3.2	17.4	27.1	31.6	11.5	19.6	25.9	5.7	9.9	15.0	0.9	2.0	3.4	
South	6,100	4,700	4,900	1.5	3.6	5.2	1.0	1.6	3.9	15.7	24.2	30.0	8.5	16.3	24.2	2.9	7.8	13.9	1.6	2.0	4.0	
West	3,400	2,800	2,600	1.0	3.7	7.6	0.9	1.9	3.2	12.2	23.8	28.6	3.8	9.1	17.3	1.2	3.0	9.0	0.3	0.7	1.9	
Population Density:																						
Large MSA	4,800	3,700	3,800	1.1	3.1	5.4	1.0	2.0	2.3	13.1	24.3	27.1	5.4	13.2	18.6	1.8	6.0	9.6	0.3	0.8	0.5	
Other MSA	7,900	6,700	6,200	1.5	4.1	5.8	0.8	1.7	3.4	14.2	24.6	32.2	7.4	15.5	22.8	2.8	7.6	12.6	0.8	1.0	3.1	
Non-MSA	4,000	3,200	3,600	1.3	3.9	7.1	1.5	2.2	4.4	19.7	29.3	32.4	12.7	19.7	28.5	5.9	9.4	18.0	1.8	3.5	4.9	
Parental Education: ^d																						
1.0-2.0 (Low)	1,300	1,100	960	3.2	4.6	8.8	1.9	2.4	4.0	23.7	28.4	27.4	14.7	20.1	23.8	6.2	11.3	15.0	0.9	1.7	2.1	
2.5-3.0	3,800	3,200	3,200	1.3	5.5	6.2	0.9	2.1	3.6	19.6	28.7	30.8	11.4	19.1	26.9	4.8	10.4	16.6	1.6	1.7	3.7	
3.5-4.0	3,800	3,600	3,900	1.5	3.5	5.5	1.2	1.9	3.3	16.1	25.6	30.5	8.1	16.6	23.6	3.4	7.4	13.1	0.8	1.6	3.5	
4.5-5.0	4,000	3,300	3,200	0.8	2.6	5.5	0.4	1.5	2.9	11.0	23.3	30.6	4.6	13.0	20.6	1.5	5.5	10.7	0.5	1.6	1.9	
5.5-6.0 (High)	2,200	1,700	1,800	0.7	2.5	4.6	1.1	2.0	3.2	11.2	24.9	34.2	5.1	11.2	19.0	1.8	4.5	9.5	0.4	0.8	2.1	

SOURCE: The Monitoring the Future Study, the University of Michigan.

^a8th and 10th grade only: Data based on two of four forms; N is one-half of N indicated. 12th grade only: Data based on one of six forms; N is one-sixth of N indicated.

^bSubgroup Ns may vary depending on the number of forms in which the use of each drug was asked about.

^cThis measure refers to use of five or more drinks in a row in the last two weeks.

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

TABLE 4-9

Racial/Ethnic Comparisons of Lifetime, Annual, Thirty-Day, and Daily Prevalence of Use of Various Drugs Eighth, Tenth, and Twelfth Graders

NOTE: Percentages are based on 1998 and 1999 data combined.^a

	Any Illicit Drug ^b		Any Illicit Drug Other Than Marijuana ^b		Marijuana		Inhalants ^{c,d}		Hallucinogens ^d		LSD		Hallucinogens Other Than LSD		MDMA ^e									
	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th	8th	10th 12th								
Lifetime:																								
White	27.0	45.2	17.2	25.8	32.1	20.0	39.9	50.3	21.6	19.7	17.6	5.0	11.2	15.9	4.2	9.7	14.2	2.4	5.7	7.9	2.8	6.3	8.0	
Black	28.0	41.0	47.9	7.9	8.3	11.3	23.9	37.3	45.1	11.0	7.2	4.9	1.3	1.4	1.1	1.2	1.4	0.6	0.7	1.0	0.7	1.5	0.5	
Hispanic	37.6	52.5	57.1	23.2	28.0	30.2	29.7	46.5	51.1	23.3	18.9	13.4	7.2	10.1	6.3	8.9	12.3	3.8	4.4	5.0	3.6	4.9	7.1	
Annual:																								
White	19.9	36.4	43.3	11.5	18.7	22.9	15.4	32.5	39.1	12.1	8.9	7.0	3.2	8.2	10.7	2.6	7.0	9.1	1.6	4.0	5.2	1.9	4.4	5.1
Black	18.6	28.4	32.8	4.1	4.5	6.8	16.3	26.3	30.4	4.2	2.0	1.4	0.6	1.0	1.2	0.5	0.9	0.8	0.3	0.5	0.6	0.5	1.3	0.5
Hispanic	27.4	38.4	42.5	14.5	17.9	18.5	22.8	34.0	37.8	12.7	7.3	5.5	4.5	6.4	7.9	3.9	5.6	7.0	2.2	2.6	3.0	1.9	2.4	6.0
30-Day:																								
White	11.3	22.6	27.0	5.6	9.6	11.9	8.7	19.8	23.8	5.5	3.1	2.4	1.2	3.5	4.1	1.0	2.8	3.3	0.6	1.5	1.7	0.9	1.7	2.2
Black	11.1	15.8	20.2	2.3	2.5	3.1	9.7	14.6	19.3	2.2	1.0	0.8	0.4	0.6	0.6	0.3	0.5	0.5	0.2	0.1	0.3	0.4	0.5	0.1
Hispanic	17.0	23.8	24.4	7.7	9.0	8.9	14.3	20.6	22.0	6.0	2.6	2.3	2.3	3.0	3.1	1.9	2.3	2.6	1.0	1.6	1.1	0.9	0.9	2.2
Daily:																								
White	—	—	—	—	—	—	1.0	3.8	5.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Black	—	—	—	—	—	—	1.0	3.0	4.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hispanic	—	—	—	—	—	—	2.0	3.2	6.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTES: '—' indicates data not available.

The following sample sizes are based on the 1998 and 1999 surveys combined:

Sample Sizes:	8th Grade	10th Grade	12th Grade
White	19,800	18,400	19,500
Black	5,000	3,600	3,400
Hispanic	4,100	3,200	2,500

SOURCE: The Monitoring the Future Study, the University of Michigan.

(Table continued on next page)

TABLE 4-9 (cont.)
Racial/Ethnic Comparisons of Lifetime, Annual, Thirty-Day, and Daily Prevalence of Use of Various Drugs Eighth, Tenth, and Twelfth Graders

NOTE: Percentages are based on 1998 and 1999 data combined.^a

	Cocaine			Crack			Other Cocaine ^f			Heroin ^g			Heroin with a Needle ^e			Heroin without a Needle ^e			Other Narcotics ^h			Amphetamines ^h			Crystal Meth. (Ice) ⁱ			
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	
Lifetime:																												
White	4.0	7.5	10.3	2.7	3.8	4.7	3.3	6.6	9.3	2.0	2.4	2.1	1.3	1.1	1.0	1.3	1.8	2.1	—	—	—	11.8	12.5	18.3	18.9	—	—	5.2
Black	1.4	1.4	1.5	1.0	0.7	0.6	1.0	1.2	1.5	1.0	0.7	0.3	0.8	0.4	0.2	0.7	0.5	0.1	—	—	—	3.1	4.9	5.5	4.9	—	—	1.6
Hispanic	10.2	13.7	12.7	6.8	7.5	6.2	8.6	12.1	10.8	4.1	3.0	1.9	2.5	1.7	1.0	2.8	2.2	1.0	—	—	—	6.4	11.7	14.2	13.4	—	—	6.4
Annual:																												
White	2.6	4.9	6.7	1.8	2.4	2.8	2.1	4.3	6.0	1.2	1.5	1.1	0.8	0.6	0.4	0.8	1.1	1.1	—	—	—	7.7	8.4	12.6	11.9	—	—	2.8
Black	0.8	0.9	0.9	0.5	0.5	0.4	0.7	0.8	0.8	0.7	0.5	0.3	0.4	0.3	0.2	0.5	0.3	0.1	—	—	—	2.0	2.7	2.8	2.5	—	—	0.7
Hispanic	5.9	8.2	7.5	3.9	4.4	3.5	4.9	6.8	5.8	2.2	1.7	1.0	1.5	1.0	0.6	1.4	1.3	0.6	—	—	—	3.6	7.0	8.8	7.6	—	—	1.7
30-Day:																												
White	1.1	2.0	2.7	0.7	0.9	1.1	0.9	1.7	2.4	0.5	0.7	0.5	0.4	0.3	0.2	0.2	0.5	0.5	—	—	—	2.8	3.8	6.1	5.3	—	—	1.1
Black	0.4	0.5	0.4	0.3	0.3	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.3	0.2	0.1	0.3	0.2	0.1	—	—	—	0.9	1.4	1.3	1.2	—	—	0.4
Hispanic	3.2	3.6	2.8	2.1	1.8	1.2	2.7	3.0	2.2	1.2	0.9	0.4	0.9	0.4	0.3	0.7	0.8	0.1	—	—	—	1.4	3.3	4.0	3.3	—	—	0.6
Daily:																												
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 4-9 (cont.)
Racial/Ethnic Comparisons of Lifetime, Annual, Thirty-Day, and Daily Prevalence of Use of Various Drugs Eighth, Tenth, and Twelfth Graders

NOTE: Percentages are based on 1998 and 1999 data combined.^a

	Barbiturates ^b		Methaqualone ^c		Tranquilizers ^b		Alcohol		Been Drunk ^d		5+ Drinks ^e		Cigarettes		Smokeless Tobacco ^f		Steroids ^g							
	8th	10th	8th	10th	8th	10th	8th	10th	8th	10th	8th	10th	8th	10th	8th	10th	8th	10th						
Lifetime:																								
White	--	10.3	--	1.5	4.8	9.0	10.4	52.3	72.3	82.9	26.0	52.2	67.2	--	45.5	60.8	68.9	17.3	25.8	31.4	2.6	2.3	2.8	
Black	--	2.5	--	0.2	1.7	2.1	1.9	48.1	60.7	71.8	17.8	29.5	40.6	--	41.0	43.9	47.2	7.4	7.6	5.1	1.7	1.4	1.1	
Hispanic	--	6.9	--	0.7	6.3	7.0	6.9	59.6	73.2	82.8	29.3	47.4	62.7	--	49.4	58.2	63.9	12.7	15.8	13.4	3.0	2.8	4.1	
Annual:																								
White	--	6.7	--	0.8	2.9	6.1	6.8	45.1	66.5	77.5	19.9	44.8	58.4	--	--	--	--	--	--	--	1.5	1.5	1.7	
Black	--	1.4	--	0.2	0.7	1.2	1.0	33.7	48.8	60.0	10.3	19.9	29.0	--	--	--	--	--	--	--	0.8	0.7	0.7	
Hispanic	--	4.0	--	0.4	3.5	3.7	3.5	50.6	65.8	74.7	21.0	36.5	49.1	--	--	--	--	--	--	--	1.8	1.5	2.9	
30-Day:																								
White	--	3.1	--	0.3	1.2	2.5	2.9	24.7	43.0	56.3	9.8	25.7	37.8	--	20.1	30.8	40.1	5.4	8.7	11.0	0.6	0.7	0.9	
Black	--	0.7	--	0.0	0.3	0.6	0.4	16.1	24.4	32.2	4.9	7.6	14.9	--	10.7	12.5	14.9	2.3	1.6	1.5	0.5	0.6	0.6	
Hispanic	--	1.6	--	0.4	1.8	1.7	1.7	29.0	39.6	50.2	9.9	17.8	27.5	--	20.5	21.1	27.3	4.6	4.8	3.9	1.0	1.0	2.2	
Daily:																								
White	--	--	--	--	--	--	--	0.8	1.9	3.9	--	--	--	14.3	27.2	35.7	9.7	19.1	26.9	1.1	2.4	4.3	--	--
Black	--	--	--	--	--	--	--	0.9	1.0	1.6	--	--	--	9.9	12.7	12.3	3.8	5.3	7.7	0.4	0.3	0.0	--	--
Hispanic	--	--	--	--	--	--	--	1.3	2.4	4.8	--	--	--	20.9	27.5	29.3	8.5	9.1	14.0	1.0	0.8	0.4	--	--

NOTE: "--" indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

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

^c12th grade only: Data based on three of six forms; N is one-half of N indicated.

^dUnadjusted for known underreporting of certain drugs. See text for details.

^e8th and 10th grade only: Data based on one form; N is one-third of N indicated. 12th grade only: Data based on one of six forms; N is one-sixth of N indicated

^f12th grade only: Data based on four of six forms; N is four-sixths of N indicated.

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

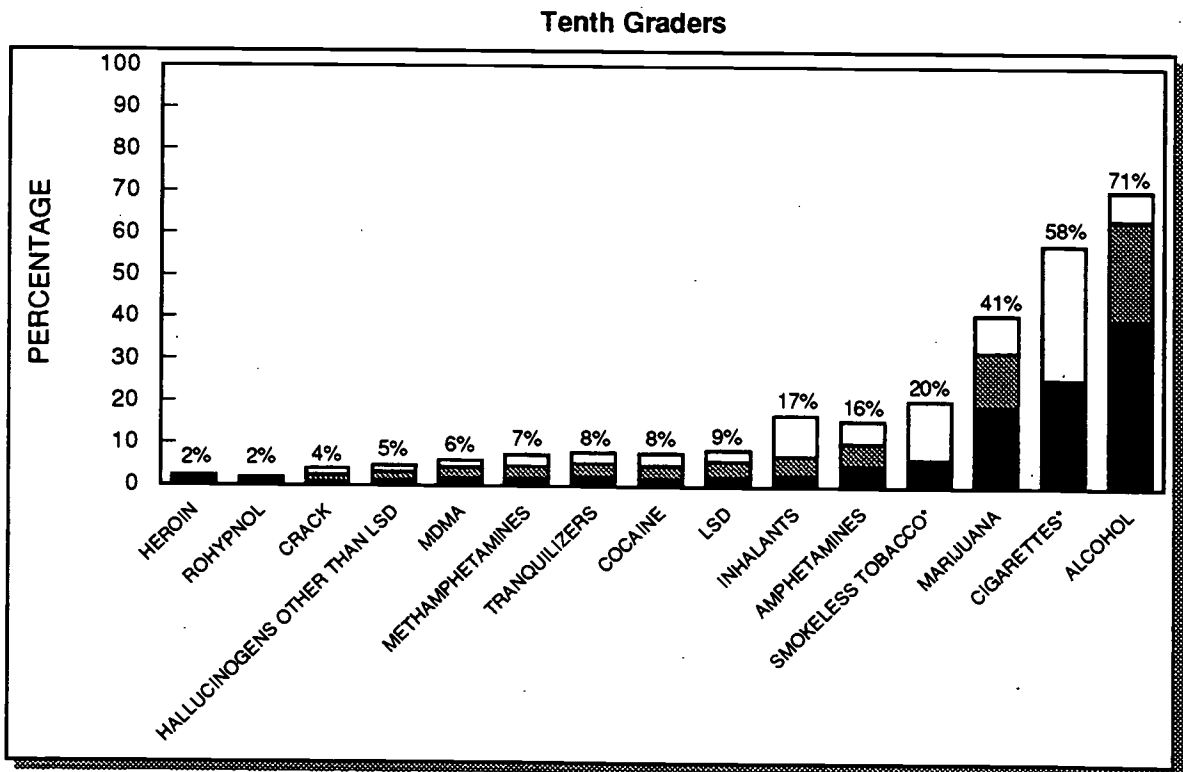
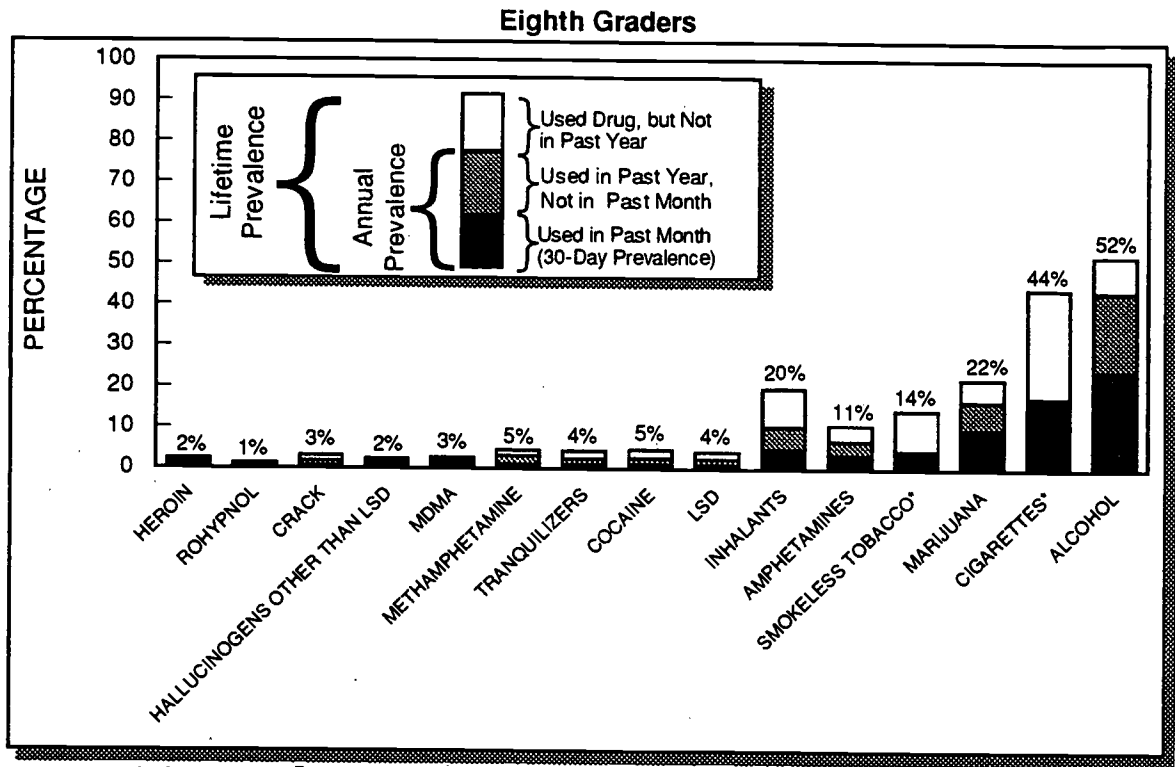
^hOnly drug use which was not under a doctor's orders is included here.

ⁱ12th grade only: Data based on two of six forms; N is two-sixths of N indicated.

^jThis measure refers to having five or more drinks in a row in the last two weeks.

^k8th and 10th grade only: Data based on two of four forms; N is one-half of N indicated. 12th grade only: Data based on one of six forms; N is one-sixth of N indicated.

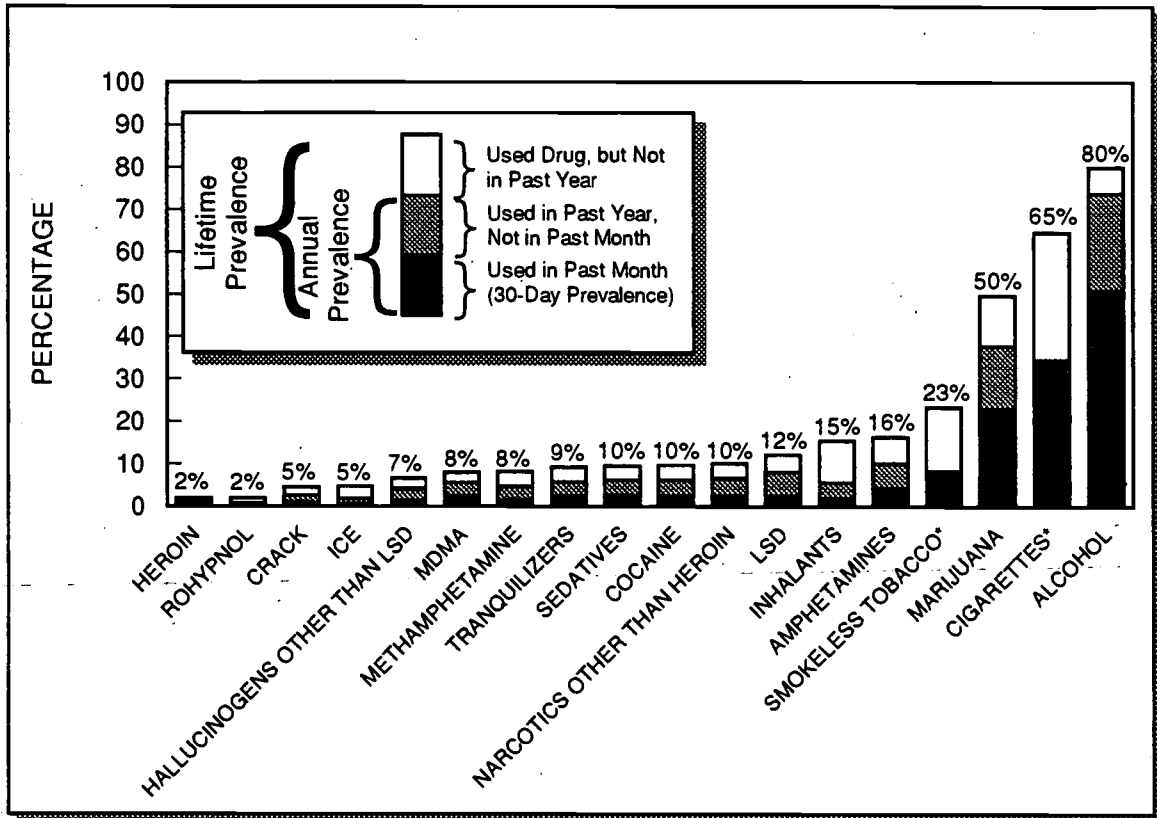
FIGURE 4-1
Prevalence and Recency of Use
Various Types of Drugs for Eighth, Tenth, and Twelfth Graders, 1999



*Annual use not measured for cigarettes and smokeless tobacco.

FIGURE 4-1 (cont.)
Prevalence and Recency of Use
Various Types of Drugs for Eighth, Tenth, and Twelfth Graders, 1999

Twelfth Graders



*Annual use not measured for cigarettes and smokeless tobacco.

FIGURE 4-2

**Thirty-Day Prevalence of Daily Use of
Various Types of Drugs for Twelfth Graders, 1999**

Twelfth Graders

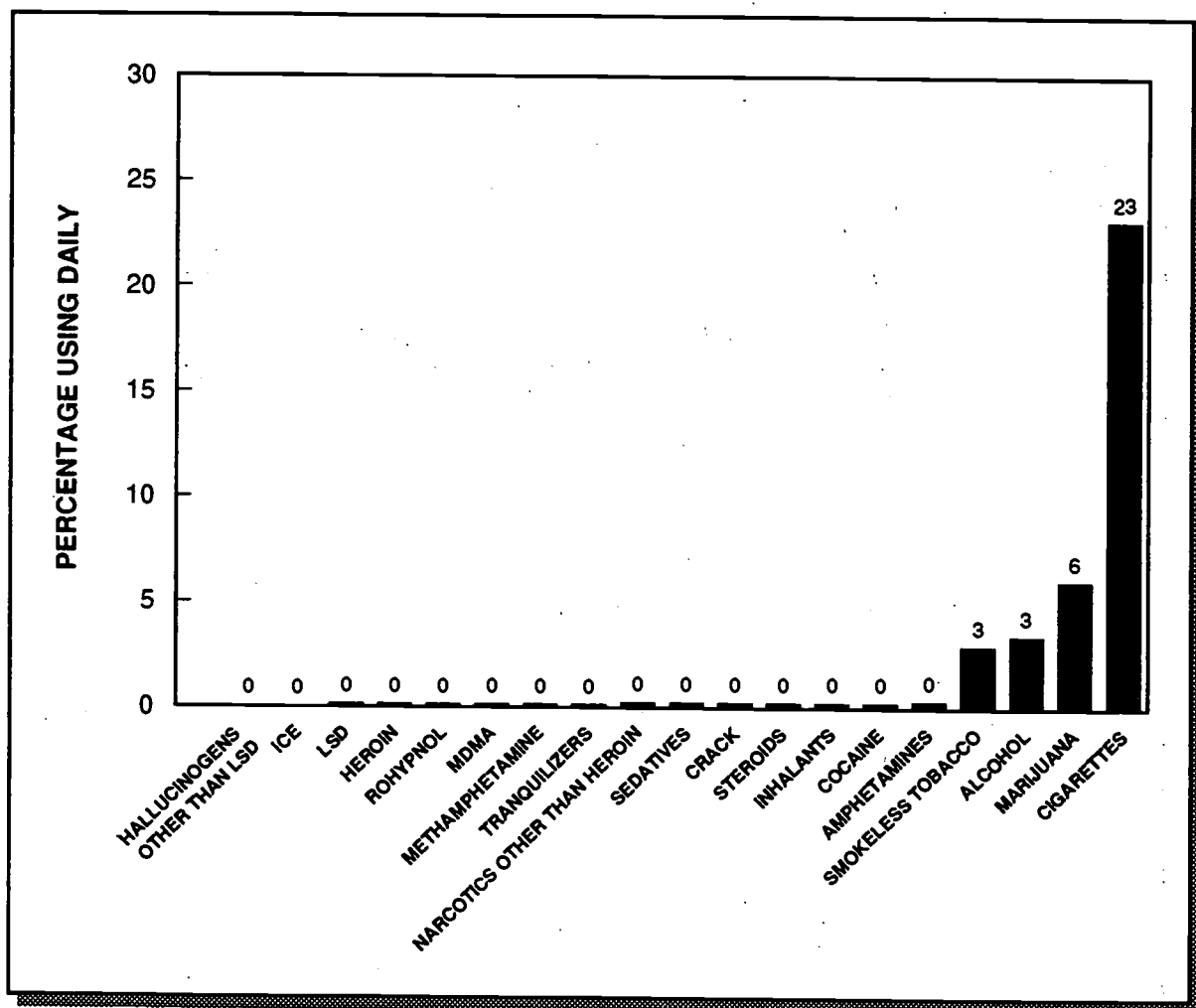
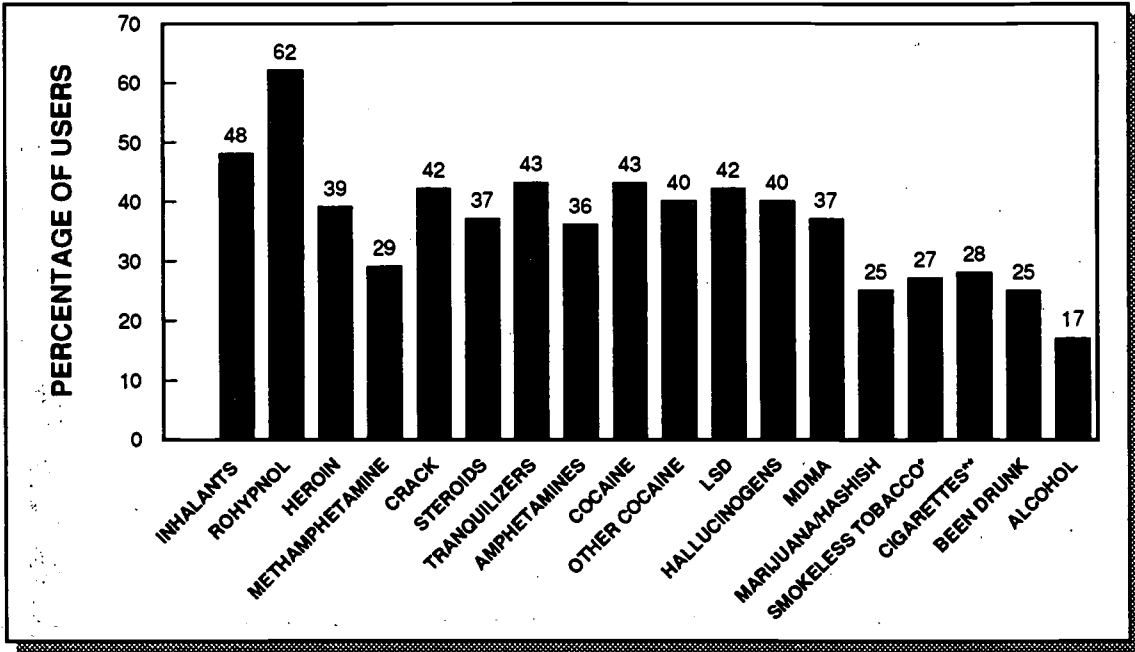


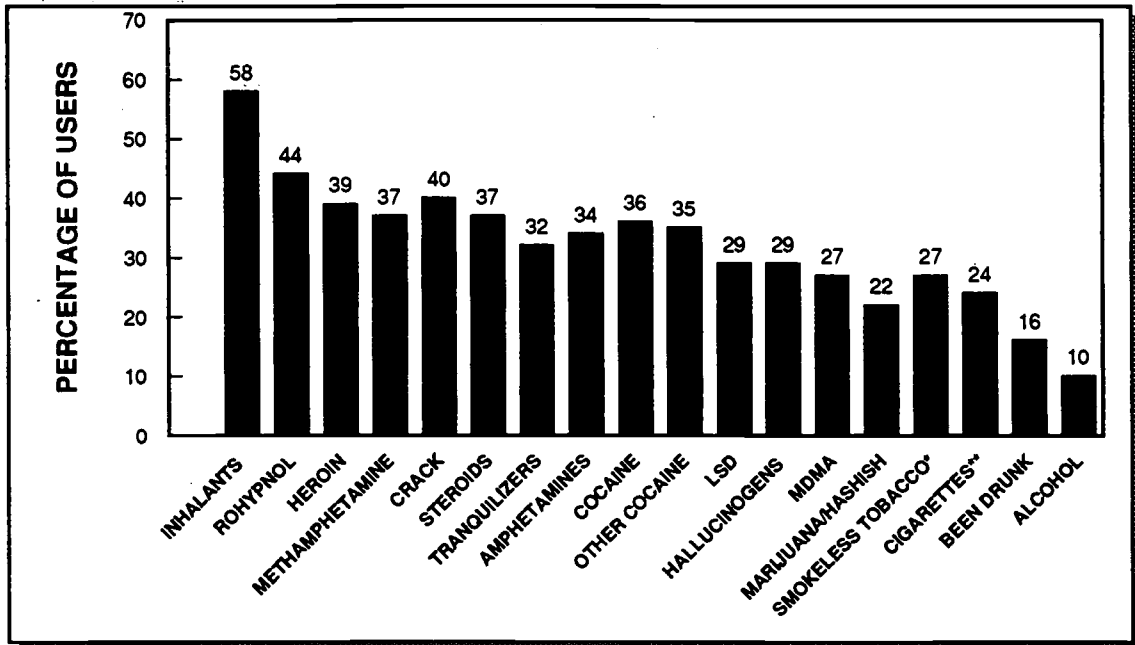
FIGURE 4-3

**Noncontinuation Rates: Percent Who Used Drug
Once or More in Lifetime Who Did Not Use in Past Year for
Eighth, Tenth, and Twelfth Graders, 1999**

Eighth Graders



Tenth Graders



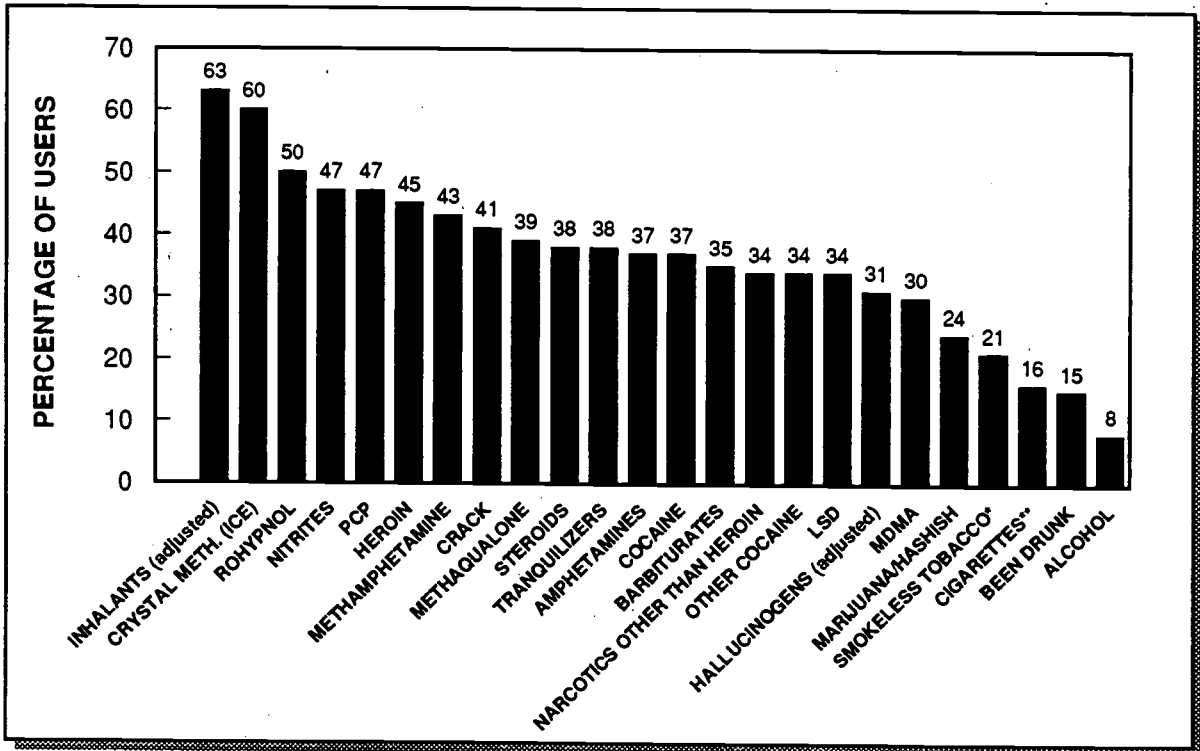
*Percent of regular smokeless tobacco users (ever) who did not use smokeless tobacco in the last thirty days.

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

FIGURE 4-3 (cont.)

**Noncontinuation Rates: Percent Who Used Drug
Once or More in Lifetime Who Did Not Use in Past Year for
Eighth, Tenth, and Twelfth Graders, 1999**

Twelfth Graders

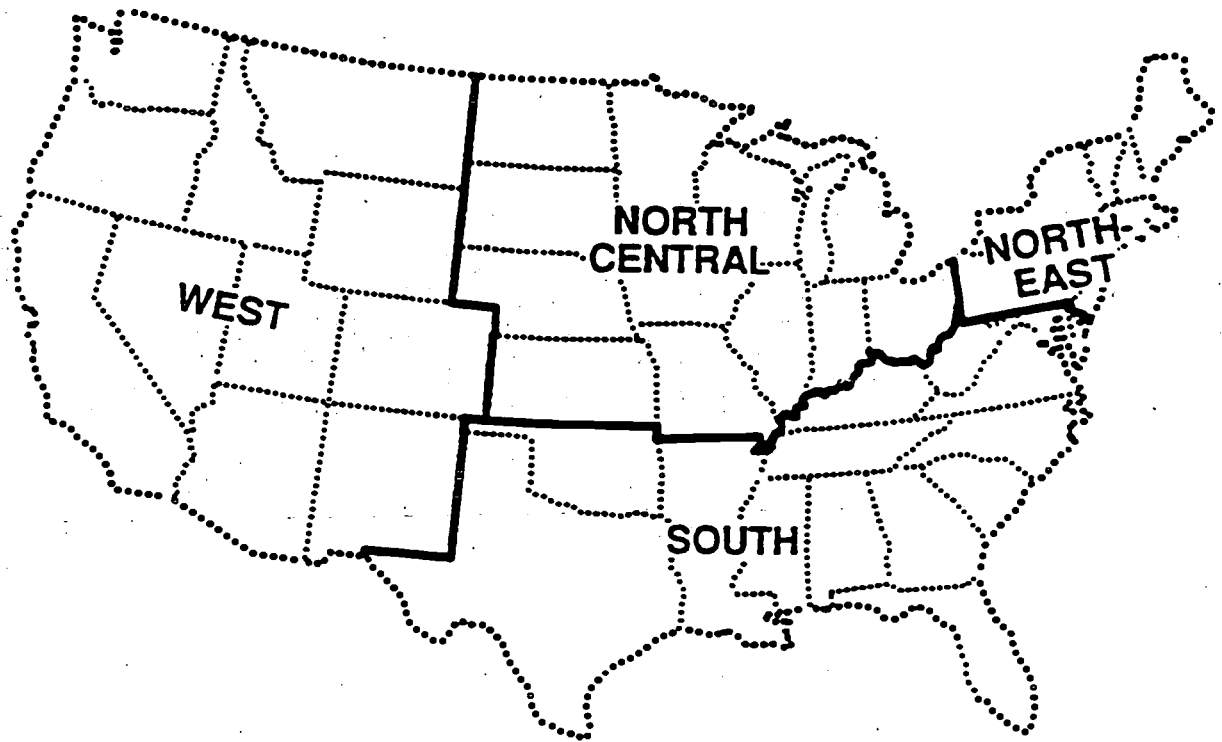


*Percent of regular smokeless tobacco users (ever) who did not use smokeless tobacco in the last thirty days.

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

FIGURE 4-4

States Included in the Four Regions of the Country



These are the four major regions of the country as defined by the U.S. Bureau of the Census.

Chapter 5

TRENDS IN DRUG USE

In this chapter we present the long-term trends in substance use for both licit and illicit substances among American young people. Trends are presented and discussed first for twelfth graders, based on 25 years of data (1975 through 1999), then for eighth and tenth graders, based on 9 years of survey data (1991 through 1999). As in the previous chapter, the outcomes to be discussed include measures of lifetime use, use during the past year, use during the past month, and daily use.³⁰ Trends in noncontinuation rates among twelfth graders are examined next. Finally, there is a substantial section on the trends in use observed for the key demographic subgroups considered earlier: that is, those defined on the dimensions of gender, college plans, region of the country, population density, socioeconomic status, and racial/ethnic group. We will discuss the extent to which trends differ among the subgroups defined on these dimensions.

TRENDS IN PREVALENCE 1975-1999: TWELFTH GRADERS

Tables 5-1 through 5-4 give trends in lifetime, annual, 30-day, and current daily prevalence of use for all drugs, based on the past 25 graduating classes. Figures 5-1 through 5-4n provide graphic depictions of these trends.

- The years 1978 and 1979 marked the crest of a long and dramatic rise in *marijuana* use among American high school seniors (and, for that matter, among young people generally). As Tables 5-2 through 5-3 and Figure 5-4a illustrate, annual and 30-day prevalence of marijuana use leveled between 1978 and 1979, following a steady rise in the preceding years. In 1980, both statistics dropped for the first time and continued to decline every year through 1992, except for a brief pause in 1985. Following this twelve-year decline, annual use among twelfth graders began to rise sharply beginning in 1993. In all, it nearly doubled between 1992 and 1997, from 22% to 39%. Thirty-day use also rose significantly, doubling from the 1992 level of 12% to 24% in 1997. It wasn't until 1998 that these statistics turned around, although neither declined by a significant amount, and neither declined any further in 1999.

³⁰The definitions of these behaviors remain the same as in the previous chapter. "Lifetime prevalence" refers to use on one or more occasions ever. "Annual prevalence" refers to use on one or more occasions in the 12 months preceding the survey. "monthly prevalence" (sometimes referred to as "current use" or "past 30-day use") refers to use on one or more occasions in the 30-day period preceding the survey, and for most drugs "daily use" refers to use on 20 or more occasions during the prior 30 days. (Daily use is defined differently for cigarettes and smokeless tobacco. See text.)

Lifetime prevalence of marijuana use first began to drop after 1980, though more gradually than annual or 30-day use.³¹ It reached a low 12 years later, in 1992, when it was 33%, but by 1997, 50% of all seniors had tried marijuana before leaving high school. This is still somewhat below the peak level of 60% in 1980. Lifetime use remained level between 1997 and 1999.

Important changes in the attitudes and beliefs that young people hold in relation to marijuana have also occurred over this period, and these changes can account for much of the long-term decline in use, as well as the increase in use during much of the 1990s. (See Chapter 8 for a thorough discussion of the issue.)

- Of particular importance were the even sharper fluctuations that have occurred for active *daily marijuana use* (Table 5-4 and Figure 5-4m). Between 1975 and 1978 there was an almost two-fold increase in daily use. The proportion reporting daily use in the class of 1975 (6%) came as a surprise to many; and then that proportion rose rapidly, so that by 1978 one in every nine high school seniors (11%) indicated that he or she used the drug on a daily or nearly daily basis (defined as use on 20 or more occasions in the last 30 days). In 1979 this rapid and troublesome increase halted, followed by a rapid reversal. By 1992 the daily usage rate had dropped to 1.9%, well below the peak rate of 11% or even the 6% level first observed in 1975. As is discussed in Chapter 8, we attribute much of this dramatic decline to a very substantial increase in concerns about possible adverse effects from regular use, and to a growing perception that peers would disapprove of marijuana use, particularly regular use. In 1993, for the first time in 15 years, daily marijuana use increased significantly, and it continued to increase significantly through 1997, reaching 5.8%—three times the rate in 1992. It then leveled through 1999. (See Chapter 10 for an expanded discussion of daily marijuana use among high school seniors.)
- Until 1978, the proportion of seniors involved in *any illicit drug use* increased steadily, primarily because of the increase in marijuana use (see Figures 5-1 to 5-4a). About 54% of the classes of 1978 and 1979 reported taking at least one illicit drug during the prior twelve months, up from our first observation of 45% in the class of 1975. Between 1979 and 1984, however, the proportion who reported using any illicit drug during the prior year dropped by 1% to 3% annually until 1985, when there was a brief pause in the decline. In 1986 the decline resumed, with annual prevalence dropping significantly to 27% by 1992, exactly half the level observed in 1979. As with marijuana, the annual prevalence of using any

³¹Lifetime use declines more gradually than annual use or 30-day use because it reflects changes in initiation rates only, whereas annual and 30-day statistics reflect changes in both initiation rates and noncontinuation rates.

illicit drug then increased substantially from 27% in 1992 to 42% in 1997, where it has remained through 1999.

- As Table 5-1 and Figure 5-1 illustrate, between 1976 and 1981 there was a steady increase in the proportion of twelfth graders using some *illicit drug other than marijuana*.³² The annual prevalence of such behaviors (Table 5-2 and Figure 5-2), which rose by 9 percentage points between 1976 and 1981 (from 25% to 34%), then began a steady decline to 15% by 1992. After 1992, however, annual prevalence of use rose again, to 21% by 1997 before leveling. The 30-day prevalence of use numbers exhibited the largest proportional drop—a 71% decline—from 22% in 1981 to 6% in 1992 (see Table 5-3 and Figure 5-3). In 1993, both annual and 30-day prevalence rates showed some increases, indicating that the turnaround in the early 1990s was not confined to marijuana use. Annual prevalence rose from 15% in 1992 to 21% in 1997. When compared to the larger increases seen in the any-illicit-use index, it is apparent that the increase in the use of illicit drugs *other than marijuana*, taken as a whole, was not as sharp in either absolute or proportional terms as the increase in marijuana use.

Most of the earlier rise in the use of some *illicit drug other than marijuana* appeared to be due to the increasing popularity of cocaine with this age group between 1976 and 1979 and, then, to the increasing use of amphetamines between 1979 and 1981. As stated earlier in this volume, we believe that the upward shift in amphetamine use was exaggerated because some respondents included instances of using over-the-counter amphetamines in their reports of amphetamine use. Figures 5-1 through 5-3 show trends that, beginning in 1982, were based on questions reworded to encourage respondents to exclude the inappropriate reporting of these nonprescription amphetamines.

- Although the overall proportion using *illicit drugs other than marijuana* has changed gradually and steadily over the years, much greater fluctuations have occurred for specific drugs within this general class. This fact is important to recognize because it shows that, while the proportion willing to try any illicit drug may put outer limits on the amplitude of fluctuations for any single drug, the various subclasses of drugs must have important determinants specific to them—variables such as perceived risks, peer normative attitudes, assumed benefits, and availability as well as novelty. Such variables will be discussed in Chapters 8 and 9. (See Tables 5-1 through 5-3 for the long-term trends in

³²Included under the definition of “any illicit drug other than marijuana” is any use of LSD, other hallucinogens, crack, other cocaine, heroin, and/or any use that is not under a doctor’s orders of other narcotics, amphetamines, barbiturates, methaqualone (excluded since 1990), or tranquilizers. Not included are the following: alcohol, tobacco, and inhalants. Nitrites, PCP, and ice are included only to the extent the respondents included their use in the more general questions asking about inhalants, hallucinogens, or amphetamines, respectively.

twelfth graders' lifetime, annual, and monthly prevalence for each class of drugs. Figures 5-4a through 5-4n graph these trends for annual prevalence, along with the trends for eighth and tenth graders.) We will next discuss the trends in these specific classes of drugs.

- From 1976 to 1979, *cocaine* (Figure 5-4e) exhibited a substantial increase in popularity, with annual prevalence doubling in just three years from 6% in the class of 1976 to 12% in the class of 1979. Then, there was little or no further change observed in any of the cocaine prevalence statistics for seniors between 1979 and 1984, at least in the overall national statistics. (Subgroup differences in trends are discussed below.) In 1985, we reported statistically significant increases in annual and monthly use, then a leveling again in 1986. Between 1986 and 1992, however, both indicators of use decreased appreciably by three-quarters or more: annual use decreased from 12.7% to 3.1% and monthly use decreased from 6.2% to 1.3%. (Reasons for this decrease are discussed in the chapter on attitudes and beliefs.) Annual prevalence then rebounded; in fact, it doubled from 3.1% in 1992 to 6.2% in 1999, as did 30-day prevalence, from 1.3% to 2.6%.
- Use of *crack cocaine* was first measured in 1986 by a single question contained in one questionnaire form and asked only of those respondents who had reported any use of cocaine in the past 12 months. It simply asked if crack was one of the forms of cocaine they had used. It was thus an estimate of the annual prevalence of crack use.

However, prior to 1986, other indicators gathered routinely in the study showed some indirect evidence of the rapid spread of crack. For example, we found that the proportion of all seniors reporting that they had smoked cocaine (as well as having used it in the past year) more than doubled between 1983 and 1986, from 2.4% to 5.7%. In the same period, the proportion of all seniors who said that they had both used cocaine during the prior year *and* at some time been unable to stop using it when they tried to stop doubled (from 0.4% to 0.8%). In addition, between 1984 and 1986 the proportion of seniors reporting active daily use of cocaine doubled (from 0.2% to 0.4%). We think it likely that the rapid advent of crack use during this period is reflected in all of these changes.

- In 1987 questions about crack use were introduced into two questionnaire forms, using our standard set of three questions that ask separately about frequency of use in lifetime, past 12 months, and past 30 days. These were added subsequently to all questionnaire forms beginning in 1990.

Between 1986 and 1991, annual *crack* prevalence of use declined from 4.1% to 1.5%, or by about 60% (see Figure 5-4e). Lifetime prevalence rates were 5.4% in 1987 (the first year this measure was available) and

were down by half to a low of 2.6% by 1992. The figures for 30-day prevalence dropped from 1.3% in 1987 to 0.7% in 1990; then for several years rates remained relatively stable, before starting to inch up again in 1994. Since 1993, annual prevalence has risen steadily from 1.5% to 2.7% in 1999.

It is important to note that *crack* use may be disproportionately located in the out-of-school population relative to most other drugs. In general, it would seem likely that the trends there would parallel those seen among high school seniors, who represent the majority of that age population, but there could be exceptions.

- Like cocaine use, *inhalant* use rose steadily, but more slowly, in the late 1970s (see Figure 5-4b). Annual prevalence (unadjusted for the omission of nitrite inhalants) rose from 3.0% in 1976 to peak at 5.4% in 1979. Starting in 1979, when separate questions were introduced to measure the rising use of nitrite inhalants, an adjustment was introduced into the overall inhalant use measure to correct for the underreporting of nitrite inhalants, which we had determined existed. Between 1979 and 1983, we reported some overall decline in this adjusted version—in part due to a substantial drop in the use of *amyl and butyl nitrites*, for which annual prevalence declined from 6.5% in 1979 to 3.6% in 1983. Both the inhalant adjusted and unadjusted measures increased modestly between 1983 and 1986, with annual use of inhalants (adjusted) increasing from 6.2% in 1983 to 8.9% in 1986 and that of nitrites increasing less, from 3.6% to 4.7%.

After 1986, there was a steep decline in annual *nitrite* use (from 4.7% to 0.5% in 1992) but only a modest decline in overall inhalant use (adjusted), with annual prevalence of use falling from 8.9% in 1986 to 6.4% in 1992, before rising again to 8.5% by 1996. The gradual convergence of the unadjusted and adjusted inhalant prevalence rates, seen in Figure 5-4b, suggests that the number of seniors who used nitrites, but did not report themselves as inhalant users on the general inhalant use question, diminished considerably by 1992, as would be expected in light of the overall decline in nitrite use. Since 1992, however, the annual prevalence of nitrite use had been rising slightly, from 0.5% to 1.6% in 1996—a large proportional change, but on a very low base. Starting in 1997, nitrite use began a gradual decline.

This unusual pattern of change, in which inhalant use *unadjusted* for nitrites rose sharply over much of the life of the study while the version adjusted for nitrites stayed fairly level over most of the life of the study (Figure 5-4b), is worth further consideration. Essentially, *inhalants other than nitrites* rose in use, but after 1979 the increase was largely offset or masked in the adjusted inhalants measure by the sharp decline in the use

of nitrites. In the class of 1976, when the inhalant questions were first introduced, 10.3% indicated any lifetime use (unadjusted), (versus 17.4% in 1995—a substantial increase). Annual prevalence (unadjusted) more than doubled over the same interval, from 3.0% to 8.0%. Since 1995, annual prevalence has declined steadily, from 8.0% in 1995 to 5.6% in 1999.

- **Amphetamine** use remained relatively unchanged between 1975 and 1978, began to increase in 1979, and then increased sharply between 1979 and 1981 (Figure 5-4a). Between 1976 and 1981, reported annual prevalence rose by 10 percentage points (from 16% to 26%) and daily use tripled, from 0.4% to 1.2%. As stated earlier, we think these increases were somewhat exaggerated in the 1980 and 1981 surveys, in particular, by respondents who included nonamphetamine over-the-counter diet and stay-awake pills, as well as “look-alike” and “sound-alike” pills in their answers. In 1982, we added new versions of the amphetamine use questions, which were more explicit in instructing respondents not to include such nonprescription pills. (These were added to only three of the five forms of the questionnaire being used; the amphetamine questions were left unchanged in the other two forms until 1984.) Between 1981 and 1982, prevalence rates dropped slightly as a result of this methodological change. In all tables and figures, data for 1975 through 1981 are based on the unchanged questions, providing comparable data across time for longer-term trend estimates; data for 1982 through 1999 are based on the revised questions, providing our best assessments of current prevalence and recent trends in true amphetamine use.³³

In 1982 and 1983, the two years for which both adjusted and unadjusted statistics are available, the unadjusted data showed a modest amount of overreporting (see Figure 5-4a). Both statistics suggest that a downturn in the use of amphetamines began in 1982 and continued for a decade. For example, between 1982 and 1992 the annual prevalence for amphetamines (revised) fell by nearly two-thirds from 20% to 7%. Current use and current daily use both fell by more than two-thirds. As with a number of other drugs, the trend lines veered upwards after 1992. Annual prevalence rose significantly from 7% in 1992 to 10% by 1997, before leveling in 1998 and 1999.

- In 1990, questions were added about twelfth graders' use of *ice*, a crystallized form of methamphetamine that can be smoked much like crack. Despite the widespread concern at the time that an epidemic of ice use would develop, it has not made much of an inroad into the national population of seniors, quite possibly because the dangerous reputation of

³³We think the unadjusted estimates for the earliest years of the survey were probably little affected by the improper inclusion of nonprescription amphetamines, since sales of the latter did not burgeon until after the 1979 data collection.

crack “rubbed off” on it. Annual prevalence of use held at about 1.3% from 1990, the first measurement point, through 1992, and then use began to rise gradually to 2.8% by 1996. This over twofold increase gave ice a slightly higher prevalence rate than crack had (2.1%) in 1996. A decline of 0.5% in ice use in 1997 (nonsignificant) brought them to equivalent levels of use. Ice showed a (nonsignificant) increase in 1998 to 3.0%, followed by a significant 1.1 percentage point decrease in 1999, bringing the annual prevalence rate down to 1.9%.

- A general measure of *methamphetamine* use was introduced in 1999, so no trend data are yet available on it. The annual prevalence in 1999 was 4.7%.
- The sustained, gradual decline in *sedative* use (Figure 5-4c) between 1975 and 1979 halted in 1980 and 1981. Annual prevalence, which had dropped steadily from 12% in 1975 to 10% in 1979, increased slightly to 11% by 1981. This increase may reflect the inclusion of some “look-alike” pills in the reporting of this drug class, as appeared to happen with amphetamines. The longer-term decline resumed again in 1982, and over the next decade annual prevalence dropped to 3%, a decline of three-quarters from the peak level in 1975. After 1992, along with a number of other drugs, an increase began in the annual measure, which doubled to 6% by 1998.

The overall trends for sedatives mask differential trends occurring for the two components of the measure, as illustrated in Figure 5-4c. *Barbiturate* use declined steadily between 1975 and 1987 before leveling off. By 1992, annual prevalence of use (3%) was less than one-third of the 1975 level (11%). It then rose back to 6% by 1998. *Methaqualone* use, on the other hand, rose sharply from 1978 until 1981. In fact, it was the only drug other than amphetamines that was still rising in 1981. But in 1982, the use of methaqualone also began to decline, accounting for the overall sedative category resuming its decline that year. Annual use inched up a bit in the 1990s to 1% in 1996, where it held steady through 1999, but it still stands at a small fraction of its peak level observed in 1981 (8%). Because of the very low prevalence rates, methaqualone questions were dropped from five of the six questionnaire forms, beginning in 1990. Therefore, since 1990 the overall sedative data have been based on the six-form barbiturate data adjusted by the one-form methaqualone data.

- The rising usage statistics for *tranquilizers* (Figure 5-4b) peaked in 1977—near the beginning of the study—probably following a considerable period of increase. They then showed a long, steady decline for 15 years, through 1992. Lifetime prevalence of use dropped by two-thirds (from 18% in 1977 to 6% in 1992), annual prevalence by three-fourths (from 11% to 3%), and 30-day prevalence by more than three-

fourths (from 5% to 1%). Following this significant decline, use began to rise after 1992, reaching nearly 6% in 1999.

- The prevalence of *heroin* use dropped rather steadily between 1975 and 1979 (Table 5-2 and Figure 5-4f). Lifetime prevalence dropped by exactly half, from 2.2% in 1975 to 1.1% in 1979, and annual prevalence also dropped by half, from 1.0% in 1975 to 0.5% in 1979. This decline halted in 1979 and the statistics remained almost constant for a decade and a half. In 1994, all prevalence rates remained similar to those in 1979, with very little change in the intervening years. However, in 1995 a sharp (and statistically significant) increase occurred, with annual and 30-day prevalence rates roughly doubling, to 1.1% and 0.6%, respectively. (As discussed in the previous chapter [see also Table 5-6], we believe that the advent of noninjectable forms of heroin has played a role in this increase.) However, there has been no further increase in annual or 30-day prevalence of use rates since 1995 (Tables 5-2 and 5-3) or in the use of heroin by injection or by other means (Table 5-6). The increase in heroin use was recognized fairly quickly and gave rise to some ameliorative actions, including an anti-heroin campaign by the Partnership for a Drug-Free America. This response may well explain the unusually quick leveling in use after one year of sharp increase.

The questions on heroin use were elaborated beginning in 1995 to differentiate use with and without a needle. As can be seen in Table 5-6, use without a needle has accounted for much of the heroin use among seniors since 1995. About one-fourth of the users have used heroin both ways, but of the remainder, three to four times as many have used heroin without a needle as have used with a needle. (The ratios are different in the lower grades, as will be discussed below.)

- For the first 13 years of the study, the use of *narcotics other than heroin* remained quite stable, with annual prevalence fluctuating between 5.1% and 6.4% (see Figure 5-4g). After 1987, there was a gradual decline in annual prevalence from 5.3% in 1987 to 3.3% by 1992. As with so many of the drugs, use rose gradually, but steadily, from 1992 through 1997, doubling to 6.7% in 1999.
- *Hallucinogen* use (unadjusted for underreporting of PCP) declined some in the mid-1970s (Figure 5-4d) from an annual prevalence of 11.2% in 1975 to 9.6% in 1978. This may well have been the tail end of a longer period of decline precipitated by rising concerns about the adverse effects of hallucinogens—particularly LSD—and especially concerns about possible brain and genetic damage. The use of hallucinogens (unadjusted for PCP use) then leveled for several years before beginning another sustained decline. The first hallucinogen figures adjusted for the underreporting of PCP use were available in 1979. Between then and

1984, annual prevalence of *hallucinogens* (adjusted) declined steadily from 11.8% to 7.3%. The rate remained fairly level through 1986, dropped a little more through 1988, and then remained level again through 1992. In 1993 this pattern of irregular declines ended, as annual prevalence rose significantly from 6.2% in 1989 to 10.7% by 1996. Since then use has fallen off a bit, to 9.8% by 1999.

- *LSD*, one of the major drugs constituting the hallucinogen class, showed a modest decline from 1975 to 1977, followed by considerable stability through 1981 (Figure 5-4d). Between 1981 and 1985, there was a second period of gradual decline, with annual prevalence of use falling from 6.5% to 4.4%. However, after 1985, annual prevalence began to rise gradually to 5.6% in 1992. The rate of increase accelerated in 1993, as annual prevalence jumped to 6.8%. The increase continued through 1996, with annual prevalence reaching 8.8%, double the low point in 1985. Since 1996, annual prevalence has declined some (to 8.1% in 1999).
- Prevalence of use statistics for the specific hallucinogen *PCP* showed a very sharp decline after 1979, when the use of this drug was first measured (see Figure 5-4d). Annual prevalence dropped from 7% in the class of 1979, to 2.2% in the class of 1982. After leveling for a few years, it dropped further to 1.3% by 1987, which is about where it remained until 1993. The speed with which this drug fell from popularity strongly suggests that it achieved a reputation as a dangerous drug very quickly. From 1993 to 1996, annual use increased, as did the use of most of the other illicit drugs, to 2.6% by 1996. Also, as with most other drugs, the increase halted in 1997. Annual prevalence for twelfth graders was 1.8% in 1999.
- The drug *MDMA*, or *ecstasy*, had been in the surveys of young adults for several years before we added them in 1996 to the questionnaires given to secondary school students. We had been concerned about the possibility of stimulating an interest in a previously little known drug among secondary school students—particularly given its alluring name. In 1996, we found that 6% of the seniors had tried the drug and that 4.6% reported use in the prior twelve months. Over the next two years annual prevalence fell to 3.6% in 1998, but in 1999 it increased sharply to 5.6%. As we will see in a later chapter, the reported availability of ecstasy has risen substantially in recent years, quite probably playing a role in its sudden resurgence. This drug appears to be particularly popular at “raves” and dance clubs, making it one of the so-called “club drugs.”
- Another “club drug,” *Rohypnol*, was added to the study in 1996, in part because of the extensive publicity it received as a “date rape” drug. The annual prevalence rate on this drug has remained low (between 1.0% and

1.4%) in the years since, no doubt in part due to the early and extensive negative publicity it received.

- The use of *steroids*, specifically anabolic steroids, has been included in the study since 1989. Among twelfth graders annual prevalence stood at 1.9% in 1989, fell to a low of 1.1% by 1992, and then rose gradually during the 1990s to 1.8% by 1999.
- As these varied patterns of use show, the overall proportion of seniors using *any illicit drugs other than marijuana* in their lifetime has changed over the years, but the mix of drugs they used has changed even more. A number of drug classes showed dramatic declines (particularly in the 1980s), some showed substantial increases, and some remained fairly stable. Further, the periods in which they either increased or declined varied considerably for the different drugs, although between 1992 and 1996 the use of many drugs increased and by 1997 the use of most had stabilized.
- Turning to the licit drugs, in the last half of the 1970s there was a small upward shift in the prevalence of *alcohol* use among seniors (see Figure 5-4i). To illustrate, between 1975 and 1979 the annual prevalence of use rate rose steadily from 85% to 88%, the monthly from 68% to 72%, and the daily from 5.7% to 6.9%. As with marijuana, 1979 was the peak year for annual use. Over the next six years, between 1979 and 1985, these prevalence rates fell. Annual prevalence fell from 88% to 86%, monthly from 72% to 66%, and daily from 6.9% to 5%. All three rates remained fairly level from about 1985 to 1987, after which they showed some further decline. Thirty-day prevalence, for example, fell from 66% in 1987 to 51% in 1993, down by more than a quarter from its peak level in 1978 (72%). The prevalence of daily alcohol use fell from 4.8% to 3.4% between 1987 and 1992, followed by a sharper drop to 2.5% in 1993, down by almost two-thirds from its peak level in 1979 (6.9%). No further declines were observed in 1994, however, based on a slightly revised set of alcohol usage questions.³⁴ If anything, there was evidence of some increase in use, though none of the changes reached statistical significance. From 1993 through 1997, there was a slight upward drift in the annual, 30-day, and daily prevalence of use rates. Between 1997 and 1999 there was a slight decline in all alcohol prevalence statistics.
- A similar pattern was observed in the prevalence of *occasional heavy drinking* (Table 5-4 and Figure 5-4j). When asked whether they had taken five or more drinks in a row during the prior two weeks, 37% of the

³⁴A slight revision was introduced in the question wording in three of the six forms in 1993 and in all six forms beginning in 1994. It added the qualifier of "more than just a few sips" to the definition of a drink of an alcoholic beverage. The 1993 data show the extent of the correction that resulted (see Tables 5-1 to 5-4). For twelfth graders, it was a relatively small correction.

seniors in 1975 said they had. This proportion rose gradually to 41% by 1979, where it remained through 1983. In both 1984 and 1985, we observed drops of 2 percentage points in this troublesome statistic, bringing it down to 37%, exactly where it had been in 1975. There was no further change in 1986 or 1987, but over the next six years it dropped another 10 percentage points, from 38% in 1987 to 28% in 1993—two-thirds of its peak level of 41%. After 1992, it increased gradually to 31% in 1997, and then remained essentially unchanged in 1998 and 1999.

Beginning in 1991, respondents were asked to report how often they had *been drunk* in their lifetime, in the past 12 months, and in the past 30 days. Thirty-day prevalence of drunkenness showed declines between 1991 and 1993 (from 32% to 29%), followed by gradual increases through 1997 (34%), as would be expected given the data above (Tables 5-1 through 5-4 and Figure 5-4i). This statistic declined to 33% in 1998, where it remained in 1999.

- Note that there is no evidence that the 13-year decline in *marijuana* use observed between 1979 and 1992 led to any concomitant increase in *alcohol* use, as many observers suggested would happen. In fact, through 1992 there was some parallel decline in annual, monthly, and daily alcohol use as well as in occasional heavy drinking. Earlier, when marijuana use rose in the late 1970s, alcohol use moved along with it. As marijuana use rose again in the 1990s, alcohol use seemed to be edging up with it, although certainly not rising as sharply. In sum, there is little evidence here to support what we have termed “the displacement hypothesis,” which implies that an increase in marijuana use will lead to a decline in alcohol use, or vice versa.
- *Cigarette use* among seniors peaked in 1976 and 1977, as measured by lifetime, 30-day, and daily prevalence. (Annual prevalence of use is not asked.) Over the next four years, 30-day prevalence dropped substantially, from 38% in the class of 1977 to 29% in the class of 1981 (see Tables 5-3 and 5-4 and Figure 5-4k). More importantly, *daily cigarette use* dropped over that same interval from 29% to 20%, and daily use of a half-pack or more from 19% to 14%. But by 1982 and 1983 the decline had clearly halted. The earlier decline resumed briefly in 1984; daily use fell from 21% (in 1983) to 19% and daily use of a half-pack or more dropped from 14% to 12%. In the eight years between 1984 and 1992, there was very little further change: 30-day prevalence fell from 29% to 28%, daily use from 19% to 17%, and daily use of a half-pack or more from 12% to 10%. Despite the general decline during this period in the use of most other drugs, despite the restrictive legislation with regard to smoking debated and enacted at state and local levels, and despite prevention efforts made in many school systems, there was a noteworthy lack of any appreciable decline in smoking rates. After 1992, both the 30-

day smoking rate and the current daily smoking rate actually rose significantly, with monthly use increasing steadily from 28% in 1992 to 37% by 1997 and daily use increasing from 17% to 25%. Finally, by 1998, a turnaround of this upward trend appeared: 30-day prevalence rates declined by 1.4 percentage points and daily smoking by 2.2 percentage points (significant). We believe that the intense public debate over cigarette policies may have played an important role in bringing about this turnaround. In 1999, the rates were still lower than they were in 1997, but not all of them continued to decline.

- Questions about the use of *smokeless tobacco* (Figure 5-4L), which includes chewing tobacco and snuff, were first introduced in 1986. They were omitted in 1990 and 1991 and then reintroduced in 1992. Results show a high rate of use for the sample overall, particularly for males, who account for nearly all of the use. The trends for the period 1986 to 1989 showed a decline in use, with 30-day prevalence falling steadily from 11.5% to 8.4%. When the questions were reintroduced in 1992, the usage rate (11.4%) almost matched the 1986 level. Use rose to 12.2% in 1995 and then fell back to 8.4% by 1999. In 1999, nearly one-fourth (23%) of all seniors had tried smokeless tobacco and 2.9% were current daily users. Because these questions are in a single questionnaire form, the estimates are based on smaller samples than for most other drugs; it is possible to conclude that the usage level between 1992 and 1995 was fairly flat, with random fluctuations in samples accounting for the apparent changes. Since 1995, it appears that there has been a falloff in use.

TRENDS IN PREVALENCE OF USE 1991-1999: EIGHTH AND TENTH GRADERS

To facilitate cross-grade comparisons, trend data for all three grades (eighth, tenth, and twelfth) are included in Table 5-5 and Figures 5-4a through 5-4n. (Tables 2-1 through 2-3 in Chapter 2, "Overview of Key Findings," augments Table 5-5 with data from college students and young adults.)

- Since data first became available on all three grade levels in 1991, the eighth-, tenth-, and twelfth-grade trends in the use of illicit drugs have moved largely in parallel. From 1991 through 1996, this has meant some increase in use at all grade levels for most drugs (although the eighth graders were the first to show the increase for many of the drugs over the 1991-1992 interval). In 1997, the prevalence rates for most drugs leveled off, or began to level off, in all grades and in 1998 most showed some decline in all grades. Just as the eighth graders were the first to show an increase in the early 1990s, they also were the first to show a decrease in the late 1990s.

- **Marijuana use** (Figure 5-4a) rose particularly sharply among eighth graders in the 1990s, with annual prevalence tripling between 1991 and 1996, from 6% to 18%. Starting a year later, use rose significantly among tenth and twelfth graders as well. Between 1992 and 1997, annual prevalence of use more than doubled, rising from 15% to 35% among tenth graders. It increased by more than two-thirds, from 22% to 39%, among twelfth graders. In 1997, the prevalence rates began to decline among eighth graders. (Figure 5-4a shows that the increase was decelerating in grades 10 and 12.) By 1998, the prevalence of use rates for all three grades had started to decline, though this decline continued only among the eighth graders in 1999.

It is important to note that the two directional changes that have occurred so far have occurred first among eighth graders. This suggests that eighth graders may be the most immediately responsive to changing influences in the larger social environment. The lag in the decline in the later grades could also reflect some cohort effects (i.e., lingering effects of changes in use that occurred in earlier years).

Daily marijuana use also went up sharply in the 1990s in all three grades (see Figure 5-4m). In fact, in proportional terms, the increases were larger than those for annual prevalence. For the period 1992-1996, daily use among eighth graders increased, from 0.2% to 1.5%, before declining significantly to 1.1% in 1997. For the period 1992-1997, daily use among tenth graders rose more, from 0.8% to 3.7%, and among twelfth graders, from 1.9% to 5.8%. Since 1997 the daily prevalence rates have remained quite level in all grades.

- Annual **hallucinogen** use (Figure 5-4d) rose in all three grade levels from 1991 to 1996, followed by some decline in all three grades from 1996 to 1998. In 1999 the decline continued for eighth graders and halted for tenth and twelfth graders. The two components of the hallucinogens class, **LSD** and **hallucinogens other than LSD**, have generally followed the same pattern. Note that LSD currently accounts for most of the hallucinogen use at all grade levels.
- The increase in **LSD** use (Figure 5-4d) is of particular interest because it was one of the first drugs to decline in use in the long-term epidemic, almost surely due to growing concerns in the early to mid-1970s about its dangers. The more recent increase in its use in the 1990s may have reflected the effects of what we have labeled “generational forgetting”—that is, replacement cohorts do not have as much concern about its dangers as their predecessors did because they have not had comparable

opportunities for direct and vicarious learning about the consequences of using the drug.³⁵

- **Crack** use was at quite low levels in 1991 (Table 5-5 and Figure 5-4e). It began to rise among eighth graders after 1991, among tenth graders after 1992, and among twelfth graders after 1993. From these quite low rates, the annual prevalence of use rate roughly tripled among eighth graders (from 0.7% in 1991 to 2.1% in 1998) and tenth graders (from 0.9% in 1992 to 2.5% in 1998), and it has risen by two-thirds among twelfth graders (from 1.5% in 1993 to 2.5% in 1998). Crack was one of the very few drug classes still showing evidence of continued increase in 1998. The increase was statistically significant only at the eighth grade level, however. The increases stalled for tenth and twelfth graders in 1999, while eighth graders showed a significant decrease in 1999.
- The use of **other cocaine** also rose some during the 1990s at all three grade levels, though it did not attain the levels observed in the mid-1980s. Among eighth graders, annual prevalence of use rose from 1.0% in 1991 to 2.5% in 1996, before leveling. Increases began after 1992 in the older grades, paused in 1998, and then continued into 1999. Between 1992 and 1999, the increase rose from 1.7% to 4.4% among tenth graders and from 2.6% to 5.8% among twelfth graders. Thus, both powder cocaine and crack cocaine use increased considerably in proportional terms during the 1990s, but because each started from a very low base, the absolute increases were relatively small, and neither class of drugs has reached the levels they had attained in the mid-1980s.
- The use of **amphetamines** (Figure 5-4a) also has increased at all three grade levels, reaching annual prevalence rates by 1996 of 9.1% for eighth graders (versus 6.2% in 1991), 12.4% for tenth graders (versus 8.2% in 1992), and 9.5% for twelfth graders (versus 7.1% in 1992). Like several other drugs, the rise in amphetamine use appears to have begun a year earlier (in 1992) among eighth graders than among tenth and twelfth graders. These trends diverged a little in 1997, as use fell significantly in eighth grade, leveled in tenth grade, and continued to increase in twelfth grade. By 1998, and continuing into 1999, both eighth graders and tenth graders were declining and use at twelfth grade had leveled. Thus, we once again see a staggered inflection point in the trends, quite likely reflecting a cohort effect.
- Between 1991 and 1995, **inhalant** use (Figure 5-4b) rose by more than a third among eighth and tenth graders, with annual prevalence of use reaching 12.8% and 9.6%, respectively. (Recall that use tends to be higher

³⁵See Johnston, L. D. (1991). Toward a theory of drug epidemics. In R. L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93-132). Hillsdale, NJ: Lawrence Erlbaum.

in the lower grades.) Among twelfth graders, use rose from 6.2% to 8.0% between 1992 and 1995. Since 1995, however, inhalant use has been declining gradually at all grade levels.

As Figure 5-4b illustrates, inhalant use, unadjusted for the use of nitrite inhalants, had been on the rise among twelfth graders for a long time. Very likely the same was true among eighth and tenth graders, although our data only cover 1991 forward. The anti-inhalant campaign launched by the Partnership for a Drug-Free America in 1995 (partly in response to the results reported from Monitoring the Future) may have played an important role in reversing this troublesome long-term trend.

- *Tranquilizer* use is not nearly as prevalent today as it was 25 years ago, but it showed a very gradual increase at all three grade levels in the early 1990s (see Table 5-5 and Figure 5-4b). From 1991 to 1996, annual prevalence increased at the eighth-grade level, from 1.8% to 3.3%, before starting a decline. The increase at tenth and twelfth grades started later and still continues: from 3.3% in 1994 to 5.4% in 1999 among tenth graders, and from 2.8% in 1992 to 5.8% in 1999 among twelfth graders. This divergence over the past three years between the downward trend for eighth graders and the continuing increase among tenth and twelfth graders is quite unusual.
- There was a large proportional increase in *heroin* use between 1991 and 1996 at all three grade levels. Use peaked in 1996 among eighth graders and a year later in the upper two grades after doubling or tripling at each grade level (see Figure 5-4f). Usage rates have remained quite stable since.

As mentioned, we believe that the availability of very pure heroin, which could be taken by non-injection means, contributed in an important way to the sharp rise in heroin use in the early 1990s. The importance of non-injectable heroin use by 1995 is documented in Table 5-6, which shows for each grade the proportion of users (based on several prevalence periods) who used either injection or non-injection means, or both means. For eighth graders, the table shows a rough equivalence between the two methods of administration (with and without a needle) from 1995 to 1999. Among tenth graders over the same time interval, somewhat more have used heroin without than with a needle, and the same is even truer for twelfth graders.

- As already mentioned, *ecstasy* use fell among twelfth graders from 1996 (when it was first measured) through 1998 (see Table 5-5a). The same happened at eighth and tenth grade, as well. But in 1999 there was a significant increase in the upper two grades—one of the more important

increases to occur in 1999. The eighth grade did not show this resurgence, however, at least not so far.

- The annual prevalence of *Rohypnol* use has remained fairly stable at all three grade levels since it was first measured in 1996. (It actually may have declined in eighth grade.) In 1999 the annual prevalence rates were quite low: 0.5% in eighth grade and 1.0% in both tenth and twelfth grades.
- The use of *steroids* among eighth and tenth graders had fluctuated rather little between 1991 and 1998, but both grades showed a sharp and highly statistically significant jump in use in 1999. (As we shall see below, this jump occurred almost entirely among boys.) Twelfth grade is the only grade level at which there is a measure of perceived risk for steroids, and, even though twelfth grade use did not jump in 1999, perceived risk fell sharply that year. It seems likely that it fell among eighth and tenth graders, as well, in which case it may have contributed to the sudden increase in use.
- From 1991 to 1993, the lifetime, annual, and 30-day prevalence measures for *alcohol* (Figure 5-4i) all showed a small decline in all three grades (except for 30-day use among eighth graders). Between 1993 and 1996 in the case of eighth and tenth graders, and 1993 to 1997 in the case of twelfth graders, there was a slight upward drift in the annual and 30-day prevalence rates. Since 1997, a little downward drift has occurred in all of these statistics.

Occasional heavy drinking (Figure 5-4j) had been rising gradually among eighth graders after 1991, among tenth graders after 1992, and among twelfth graders after 1993. In 1997, it began to decline in eighth grade, level in tenth grade, and continued to rise in twelfth grade. In 1998, there was some evidence of further decline in eighth grade, the beginning of a decline in tenth grade, and a leveling in twelfth grade, but in 1999 things reversed—eighth and tenth grade showed some increase and twelfth grade finally began to decline. Self-reported *drunkenness* in the past 30 days (Figure 5-4i) shows a roughly similar pattern.

- *Cigarette smoking* generally is not expected to move synchronously across the three grade levels because changes have usually been the result of cohort effects rather than secular trends. (See Chapter 6 for a further discussion of this point.) However, the prevalence of current smoking began to rise among eighth and tenth graders after 1991 and among twelfth graders after 1992, and until 1996 it had been moving steadily upward in all three grades (see Figure 5-4k). Because of this general parallel movement, which is more characteristic of a secular trend, we are inclined to look for some contemporaneous historical correlates. One possibility is that cigarette prices dropped on average because of increased

price competition among brands. Another is that cigarette advertising and promotion had grown and/or become more effective at reaching youth. Still a third possibility is that the portrayal of smoking had increased appreciably in the entertainment media. We think there is some evidence supportive of all three possibilities; but whatever the causes, they seemed to reach young people across the spectrum. Therefore, we infer that these changes must have resulted from culture-wide influences of the type just mentioned. After 1996, the three grades began to diverge again. In 1997, the 30-day smoking rate began to decline among eighth graders, to level among tenth graders, and to continue to increase among twelfth graders; but by 1998 there was evidence of a decline in all three grades, one which continued into 1999. As mentioned earlier, we think that the extensive adverse publicity generated by the state attorneys general, the President, and Congress in the debate over a possible legal settlement with the tobacco companies, may have contributed importantly to this turnaround. Price increases and the removal of some forms of advertising may also have contributed.

- While there may have been some growth in the use of *smokeless tobacco* in the early 1990s (Figure 5-4L), there is evidence of a fair decline over the last few years at all three grade levels.

TRENDS IN NONCONTINUATION RATES: TWELFTH GRADERS

Table 5-7a shows how the user noncontinuation rates observed for the various classes of drugs have changed over time among twelfth graders. The noncontinuation rate is defined here as the percentage of those who ever used the drug but who did not use it in the 12 months prior to the survey.

- *Marijuana* showed some increase in noncontinuation rates between 1979 (16%) and 1984 (27%). This increase gave rise to the greater drop in annual than in lifetime prevalence of use, because the latter is influenced only by changes in the initiation rate, whereas the former is influenced by both the initiation rate *and* the noncontinuation rate. Between 1984 and 1987 there was no further increase, followed by another rise to 35% in 1991. The noncontinuation rate's sharp fall after 1991 to 17% by 1995 helps to explain the sharp turnaround in the annual and 30-day prevalence of use rates during the 1990s. By 1998, the noncontinuation rate had climbed some to 24%, where it remained in 1999.
- The noncontinuation rate for *cocaine* decreased from 38% in 1976 to 22% in 1979, corresponding to a period of increase in the overall prevalence of use. It then remained fairly stable through 1986, corresponding to a period of stability in the actual prevalence statistics. After 1986, the noncontinuation rate rose substantially—from 25% in 1986 to 55% in

1991—as use fell dramatically. This strongly suggests that the sharp increase in perceived risk, which began in 1986, influenced *both* the initiation rate *and* the quitting rates. After 1991, the noncontinuation rate began declining fairly rapidly once again, reaching 31% by 1996. (Recall that the overall use of cocaine was increasing during that period.) After 1996, noncontinuation rates rose again, corresponding to a period of leveling in overall use—reaching 37% by 1999.

- **Crack cocaine** showed a sharp rise in noncontinuation, from 28% in 1987 to 52% in 1991, as prevalence of use rates declined. Then, the noncontinuation rate fell back to 30% by 1995, as usage rates rose. Noncontinuation rates for crack then began to increase once again, reaching 43% by 1998, when overall use leveled.
- Noncontinuation of **amphetamine** use has also fluctuated widely over the years. It rose between 1982 (27%) and 1992 (49%). (Earlier data, based on the unrevised questions, suggest that the change probably began after 1981.) Between 1992 and 1996, when overall use began to rise, noncontinuation fell from 49% among lifetime users to 38% by 1996. This statistic has remained level since, corresponding to a period of leveling in use.
- Much of the previous decline in **sedative** use also was accounted for by a changing rate of noncontinuation for the specific substances involved. For example, in the case of **barbiturates**, the noncontinuation rate rose from 36% in 1979 to 52% in 1988. (It then declined in the 1990s to 37% by 1995, where it leveled.) The figures for **methaqualone** are 29% in 1979, 61% in 1988, and 39% in 1999.
- As overall use declined, **tranquilizer** users showed a steady, gradual increase in their noncontinuation rates between 1975 and 1982, from 38% to 50%. Then, until 1992, there was little further systematic change. After 1992, though, there was a decline, from 53% in 1992 to 36% in 1996, where it leveled.
- Between 1982 and 1991, the **LSD** noncontinuation rate fluctuated within a rather narrow range (between 37% and 41%), without a clear trend developing. Between 1991 and 1996, though, the noncontinuation rate dropped from 41% to 30%, accounting for some of the increase in overall use occurring during that period. Since 1996 the rate has risen a bit as overall use has started to decline.
- **Steroid** use had a sharp, 14 percentage point, increase in noncontinuation (to 48%) in 1992, a year in which there was an increase in the perceived dangers of using steroids, but the rate has fallen back some to 38% by 1999.

- Although *alcohol* has always had an extremely low rate of noncontinuation, that rate increased gradually from about 1988 to 1993, perhaps reflecting the changed norms regarding its use (see Chapter 8). These norms, in turn, may have reflected both the influence of several states' change in the legal drinking age and a greater emphasis on the dangers of drunk driving. There has been little further change since 1993, however.
- Table 5-7b provides noncontinuation rates for seniors who were more established users, here defined as those who reported having used a drug 10 or more times in their life. It shows that noncontinuation is far less likely among heavier users than among all users of a given drug. Further, while the trends in noncontinuation mentioned above generally have been similar to trends observed in the noncontinuation rates for heavier users of those same drugs, the fluctuations have tended to be considerably smaller among the heavier users.

The reader is cautioned that the number of cases in each cell in Table 5-7b is considerably smaller than in most other tables—particularly when overall usage rates are low to start with; therefore, the trend data are much more uneven.

- Noncontinuation rates for experienced users of *inhalants* actually dropped in the late 1970s, perhaps as a result of the advent of nitrites—which are used at older ages than most of the other inhalants. However, when the use of nitrites declined during the 1980s, the noncontinuation rates for experienced users failed to increase.
- Note the sharp rise in the late 1980s in the noncontinuation rates for *cocaine* and *crack*, even among these more experienced users. The noncontinuation rates peaked in 1991, before falling back as the use of these drugs became more popular. Since about 1996, noncontinuation has risen a bit.

IMPLICATIONS FOR PREVENTION

Whenever prevention programs are designed—whether for schools, families, communities, or the media—questions arise as to what *should* be prevented and what *can* be prevented. While it is axiomatic that the initiation of use should and can be prevented, there is considerably less consensus as to whether the discontinuation of use is a realistic goal. We believe the results just presented help to inform that debate considerably.

It is clear that the totality of social forces that brought about the large declines in drug use during the 1980s and the substantial increases in use during the 1990s operated through their effects on *both* initiation rates and noncontinuation rates. Put another way, the decreases and subsequent increases in annual and 30-day prevalence of use rates were considerably larger than could be explained by fluctuations in initiation rates alone. Noncontinuation also can be influenced appreciably and, therefore, should be a component of any comprehensive prevention strategy.

It is useful to distinguish among users at different levels of involvement. A comparison of the rates in Table 5-7a, based on all previous users, and Table 5-7b, based only on people who reported having used a given drug 10 or more times, is highly instructive. Clearly, very appreciable proportions of beginning users can be dissuaded from continuing their use; but once they have reached a certain level of involvement (even as few as 10 occasions of use), only very modest proportions have been so dissuaded—even in the best of times. This makes early intervention not only a viable goal for prevention but also a particularly important one.

COMPARISONS AMONG SUBGROUPS IN TRENDS IN PREVALENCE

This section provides trend comparisons for key population subgroups defined on the following six dimensions: gender, college plans, region of the country, population density, socioeconomic status, and racial/ethnic group. In general, we will focus on the results from twelfth graders, because there is a much shorter trend interval available for eighth and tenth graders. Appendix D to this volume contains tables providing trends for these various subgroups on many drugs. The tables are organized by drug, and data are provided for all three grade levels.

Gender Differences in Trends

- Most of the gender differences mentioned in Chapter 4 for individual classes of drugs have remained relatively unchanged over the past 25 years—that is, any trends in overall use have been fairly parallel for males and females. There are, however, some exceptions (see Appendix D for the detailed tables).
- The absolute differences between genders in *marijuana* use narrowed somewhat between the late 1970s and mid-1980s—a period of substantial decline. They then declined in parallel from 1986 to 1992. At all three grade levels, both genders also have shown an increase in marijuana use since 1992. The difference is growing somewhat larger again for twelfth graders. This pattern, in which a longstanding difference between subgroups tends to enlarge in periods of increasing use and to diminish during declines in use, can be seen for a number of other cross-break variables (see, for example, Figure 5-5).

- Between 1975 and 1977, there was a small gender difference in *tranquilizer* use for twelfth graders (females used them more frequently than males). This difference had virtually disappeared by 1978, and there was no gender difference for some fourteen years (through 1992), but use among males rose more after 1992, opening a gender difference in which use by males is now higher. There has been a consistent gender difference since 1991 in eighth grade, this time with slightly higher use among females. In tenth grade, tranquilizer use among females has consistently been equal to or higher than use among males.
- Among seniors, gender differences in *cocaine* use were greatest in the peak years of use (1979 through 1986): male use was higher and then diminished considerably during the ensuing decline phase. The difference shrank considerably, but males were still higher. Since 1992, the difference has widened again as use has increased more among males. There have been no appreciable gender differences in cocaine use in eighth or tenth grades since 1991, when data were first available.

The gender differences in *crack* use are very similar to those for cocaine use overall: there have always been higher rates of use among male twelfth graders compared to females (since 1986, when data were first available, although use grew a bit more among twelfth-grade males after 1992). There has been little difference among eighth and tenth graders in the trends for the recent time intervals for which data are available (since 1991).

- Regarding *amphetamine* use by twelfth graders, a slight gender difference emerged in 1980 and 1981, using the original version of the question; but the revised question introduced in 1982 showed no gender difference, strongly suggesting that over-the-counter diet pills accounted for the higher use among females in those two years. Since 1982, the rates for both genders have remained very close, showing a substantial decrease in use through 1992 and a comparable increase in use since then. In both eighth and tenth grades, females consistently reported higher use. They had a more rapid increase in use from 1992 to 1996, when use was rising, and a sharper decrease in use in the decline from 1995 or 1996 to 1999.
- The use of *ice* (data available only for twelfth graders) has been consistently higher among males and rose more among them through 1996 than among females.
- During a long period of decline in use among seniors from 1979 to 1992, the trends for the two genders for the use of *narcotics other than heroin* converged. (Males had always had higher rates of use.) However, males have shown a much sharper increase in use since 1992, opening a substantial gap again.

- The proportion of males who had used *any illicit drug* in the prior year rose between 1975 and 1978, from 49% to 59%, and then declined steadily to 29% by 1992 (see Figure 5-7). Use among females peaked later, increasing from 41% in 1975 to 51% in 1981 and then dropping to 25% by 1992. (If amphetamine use is not included in the statistics, use by females peaked earlier [in 1979] and then declined as well.) Both male and female rates were up considerably by 1997, to 44% and 40%, respectively. Since then there has been little change for either.
- Although trends tend to remain fairly parallel, in the lower grades females have generally had a slightly higher prevalence of use of *any illicit drugs other than marijuana*, whereas in twelfth grade the opposite has been true. (See Tables 3 and 4 in Appendix D.)
- Among twelfth graders the gender differences in *alcohol* use narrowed slightly between 1975 and 1987. For example, the 30-day prevalence rates for males and females differed by 13 percentage points in 1975 (75% versus 62%, respectively), but that difference was halved (to 7 percentage points) by 1987. (In 1999 the difference was 9 percentage points.) Although substantial gender differences in *daily use* and *occasions of heavy drinking* still remain, by 1993 differences had narrowed there also (Figures 5-5 and 5-6a). For example, between 1975 and 1993 the proportion of males who reported having had five or more drinks in a row during the prior two weeks showed a net decrease of 14 percentage points (49% to 35%), whereas such use among females decreased by only 5 percentage points, from 26% to 21%.³⁶ By 1998, rates for both genders had risen some, to 39% and 24%, respectively, opening the gap. In 1998, binge drinking showed the first sign of a decline in some years, but only among females. In 1999 the decline started to show up among males, as well.
- On one of the six questionnaire forms administered to twelfth graders, respondents are asked separately about their use of *beer*, *wine*, and *hard liquor*. The answers to these questions reveal that differences in beer consumption account for much of the large gender difference in occasions of heavy drinking: 35% of 1999 senior males (versus 17% of the females) reported having had *five or more beers* in a row during the prior two weeks. Males were also somewhat more likely than females to report having had *five or more drinks of hard liquor* (28% for males versus 16% for females) but about equally likely to have consumed *wine* that heavily (7% for males and 4% for females). This pattern—a large gender difference in the heavy use of beer, a smaller difference in the heavy use

³⁶It is worth noting that the same number of drinks produces a substantially greater impact on the blood alcohol level of the average female than the average male, because of gender differences in the metabolism of alcohol and in body weight. Thus, gender differences in the frequency of actually getting drunk may not be as great as the binge drinking statistics would indicate, since they are based on a fixed number of drinks.

of hard liquor, and very little difference in the heavy use of wine—has been present throughout the study, with little systematic change over time. In 1988, questions on *wine coolers* were added and here the gender difference is reversed: in 1998, 7% of the males and 8% of the females had drunk five or more wine coolers in a row in the prior two weeks.

- In the lower grades, male and female drinking rates are more equivalent and have remained so since first measured in 1991. Unlike the twelfth graders, there is virtually no gender difference in annual or 30-day prevalence of any use or in the annual prevalence of having been drunk. These gender differences seem to emerge with age, as is the case for many of the drugs. Emerging differences with age also hold true for binge drinking in the prior two weeks. The data consistently have shown only a small gender difference in eighth grade, a modest one in tenth grade, and a large one (though it has diminished somewhat) in twelfth grade. The same pattern has been true for self-reported *drunkenness* (see Tables D-42 through D-45).
- In 1976 we observed that, among twelfth graders, females had caught up to males in *daily cigarette smoking* and by 1977 had exceeded them (see Figure 5-5). Between 1977 and 1981, both genders showed a decline in the prevalence of such smoking, but use among males dropped slightly more, resulting in females maintaining higher rates of daily smoking until 1990. However, the gender difference was declining in the latter half of the 1980s, as male use began to rise gradually and female use declined a bit. The increase in daily smoking among males was greater in the 1990s and female use did not begin to rise until after 1992. The net result was a crossover of the two lines for daily prevalence of use in 1991, followed by a roughly parallel increase from 1992 to 1997. Both genders showed a little decline after 1997.

At the eighth and tenth grades there has been rather little gender difference in 30-day or daily smoking levels. Both genders moved up sharply in the early 1990s until 1996, and both have shown some decline since.

- Very large gender differences in the use of *smokeless tobacco* have been consistent at all grade levels, with much higher rates among males. Since 1994, there has been a substantial decline overall in use of smokeless tobacco among eighth-grade males (their 30-day prevalence dropped from 12.8% in 1994 to 6.9% in 1999), a considerable drop among tenth-grade males (from 19.2% to 12.2% over the same period), and since 1995, a similar decline at twelfth grade (from 23.6% in 1995 to 15.5% in 1999). (See Tables 53 and 54 in Appendix D.) Because of the smaller samples on which this question is based in twelfth grade, the trend curves are more uneven.

Trend Differences Related to College Plans

- It is important to realize that the proportion of young people expecting to attend college has risen quite dramatically over the past 24 years covered by this study. In the mid-1970s, only about half of twelfth graders surveyed said that they “definitely would” or “probably would” complete a four-year college program. (They constitute the “college-bound” in the current discussion.) By the late 1990s, however, over three-quarters of graduating seniors met the definition for being college-bound. This means that the two groups compared here are changing proportions of the total population and, therefore, do not represent exactly comparable segments of the population across time.

There has been rather little such upward drift in college plans during the 1990s at lower grade levels, but generally 78% to 88% of each class already expects to attend college. Whether or not these expectations are realistic, the reader is reminded that at these lower grades the noncollege-bound constitute a very small proportion of the whole class.

- Both college-bound and noncollege-bound students have shown fairly parallel trends in overall *illicit drug use* over the years (see Figure 5-8), with the noncollege-bound consistently having the higher rate of use.³⁷
- Changes in the use of the other *specific drug classes* also have been generally parallel for the two groups since 1976, with only minor exceptions (see Appendix D for comparisons on the various drugs). Between 1983 and 1986, annual *cocaine* use increased very little among the college-bound seniors but rose by about one-quarter among the noncollege-bound seniors, very likely due to the greater popularity of *crack* among the noncollege-bound. From 1986 through 1993, both groups showed large declines in use and some convergence in their rates of cocaine use. During the period of increasing use in the 1990s, the differences enlarged again.
- As the overall prevalence of use of a number of drugs fell through 1992 among twelfth graders, there was some convergence of usage rates between the college-bound and noncollege-bound, due to a greater drop in use among the noncollege-bound. This was true for *tranquilizers, sedatives, methaqualone, amphetamines, barbiturates, nitrite inhalants, hallucinogens other than LSD, LSD, and narcotics other than heroin*. But as the use of a number of these drugs began to increase after 1992, the differences have grown larger for many of them at all grade levels (e.g., LSD, psychedelics other than LSD, amphetamines, and tranquilizers). The

³⁷Because of excessive missing data in 1975 on the variable measuring college plans, group comparisons are not presented for that year.

increases were sharper, and in some cases started earlier, among the noncollege-bound.

- For many years there was only a modest absolute difference in the low annual *heroin* prevalence rates observed in twelfth grade for the college- and noncollege-bound (the college-bound were lower). In proportional terms, however, the noncollege-bound have been about twice as likely to have used heroin in the prior year. (See Table D-24 in Appendix D.)

At the lower grade levels there has been a larger proportional and absolute difference in heroin use between these two groups, and in both grades the noncollege-bound group showed an earlier and sharper rise in heroin use in the 1990s than did their counterparts who said they expected to complete four years of college (Table D-23). That increase has been particularly sharp among the noncollege-bound eighth graders (who now comprise only about 10% of the eighth-grade sample). The college-bound have considerably higher rates of using heroin, both with and without a needle (see Tables D-25 through D-28).

- The noncollege-bound consistently have had higher rates of *LSD* use in all years measured at all three grade levels, and their use has generally moved in the same direction over time (Tables D-11 and D-12). The differences between them have enlarged at all three grade levels during the 1990s, as use increased, but particularly in the lower grades. In eighth grade, the small noncollege-bound stratum has been three to four times as likely to use LSD as their peers have.

- The use of *MDMA (ecstasy)* has generally been higher among the noncollege-bound since it was first measured in 1996, with the differences being larger at eighth and tenth grades. (The two exceptions to the noncollege-bound being higher occurred in 1997 and 1999 at twelfth grade, where the college-bound had higher rates of use.) Recall that there was a sharp rise in ecstasy use in 1999 in the two upper grades. At tenth grade it was sharpest in the noncollege-bound (this was nonsignificant), but at twelfth grade, it was concentrated in the college-bound (a highly significant change). However, as Tables D-15 and D-16 show, these figures are based on relatively low case counts, making one-year subgroup differences in trends potentially unreliable. Given the differences in the significance tests, we are inclined to believe the twelfth-grade results.

- The *binge drinking* rates of the two groups (Tables D-44 and D-45) converged modestly from 1981 to about 1990 among the twelfth graders, as the overall prevalence rate declined, though the rate for the college-bound remained considerably lower. Both groups have shown modest increases since 1993.

In eighth and tenth grades there have been large differences in binge drinking rates, and the two groups have been diverging because the noncollege-bound have shown some steady increases in binge drinking, whereas the college-bound have shown more modest increases (Table D-44).

- At all three grade levels there have been consistent and very large differences in the current prevalence of *daily cigarette smoking* between the noncollege-bound (who have higher rates of use) and the college-bound. (For example, in 1999 the daily smoking rate was more than four times as high among the noncollege-bound eighth graders, at 25% versus 6% for the college-bound.) In general, the two groups have moved pretty much in parallel at the twelfth-grade level. At the eighth- and tenth-grade levels, however, the two groups diverged during the early to mid-1990s, with both groups increasing, but the noncollege-bound increasing more. (See Tables D-46 through D-51 in Appendix D for subgroup trends in cigarette smoking.)
- At all grade levels the use of *smokeless tobacco* consistently has been higher among the noncollege-bound, and the proportional differences have been very high in the eighth and tenth grades. (See Tables D-52 through D-55.) Much of the decline in the use of smokeless tobacco during the 1990s was due to decreases among the already lower-using college-bound, at least through 1998. In 1999 the noncollege-bound at all three grade levels showed a large one-year decline in daily use (and grades 10 and 12 also showed declines in their 30-day prevalence rates).
- There has been a large and reasonably consistent difference in the rates of *steroid* use (Tables D-56 and D-57) in the two groups at all three grade levels, with the noncollege-bound considerably more likely to use steroids than the college-bound. In 1999, both groups showed an increase in use in grades 8 and 10. In grade 12 the college-bound did not, but the noncollege-bound did show an increase in steroid use.

Regional Differences in Trends

- In all four regions of the country, proportions of high school seniors using *any illicit drug* during the past 12 months reached their peaks in 1978 or 1979 (Figure 5-10a). In the late 1970s and early 1980s, the Northeast region was consistently highest, the South lowest, and the North Central and West in between. Through the 1980s and continuing through 1992, use declined. The South maintained its position as having the lowest rate of use, with the other regions having similar rates of use. From 1992 to 1997, the annual use of any illicit drug has increased in all four regions by roughly equivalent amounts, with use in the South remaining lowest. By 1999, the regional differences were not very great (Table D-2 and Figures

5-10a), partly because of a decline since 1997 in the Northeast and the West.

Among eighth and tenth graders, all regions showed increases in illicit drug use from 1991 to 1996 (Table D-1). As with twelfth graders, leveling or declines have occurred in the most recent years.

- As noted, a major factor in the early rise of *illicit drug use other than marijuana* (Figure 5-10a) was an increase in reported *amphetamine* use. The rise in amphetamine use among seniors appeared in all four regions; however, the rise in lifetime prevalence of use from 1978 to 1981 was only 6 percentage points in the South, whereas in the other regions the percentages rose between 9 and 12 points. In essence, the South was least affected by both the rise and the fall in reported amphetamine use—a pattern later to be repeated with cocaine. (After 1981 all four regions showed substantial declines in amphetamine use through 1992.) Since 1992, all regions have shown some increase in amphetamine use. In 1984 and 1985, when the cocaine and crack epidemics were at their peaks, the Northeast and the West were most affected and showed some increase in the index of illicit drug use other than marijuana before the longer-term decline took over again. All regions showed some increase in illicit drug use other than marijuana from 1992 to 1999, with some leveling and even decreases (in the Northeast) in 1998 and 1999 (in the North Central and the West).
- *Cocaine* use has shown very different trends in the four regions of the country, leading to the emergence of one of the largest regional differences observed for any of the drugs. (See Figure 5-10b for differences among twelfth graders in lifetime prevalence of use trends.) In the mid-1970s, there was relatively little regional variation in cocaine use, but as the nation's cocaine epidemic grew, large regional differences emerged. By 1981, annual use had roughly tripled in the West and Northeast, nearly doubled in the North Central, and increased “only” by about 26% in the South. This pattern of large regional differences held for about six years, until a sharp decline in the Northeast and the West substantially reduced them. At all three grade levels there was a modest overall increase in use in all regions from the early 1990s through 1996 or 1997, followed by a leveling or turnaround in nearly all cases.
- After *crack* use was first measured among twelfth graders in 1986, its use dropped in all four regions; declines were sharper in the West and Northeast, both of which initially had substantially higher usage rates than the other regions. By 1991 little regional difference remained, although the West still had the highest rate of use. Since 1991 or 1992 there has been some increase in all regions, but particularly in the West. In all three grades, all regions exhibited an increase in crack use since the early 1990s.

Again, the West has shown the largest increases and the highest levels of use at all three grades. By 1999, the West and the Northeast showed a leveling or decline in use, as did the South and the North Central in the two lower grades but not in twelfth grade.

- **Marijuana** use rose substantially in all four regions after 1991, for eighth graders, and after 1992 for tenth and twelfth graders. In 1996 and 1999, most regions showed a leveling or turnaround for eighth and tenth graders. The long-term trends for twelfth graders generally have shown quite parallel trends since 1975, with the Northeast usually having the highest level, and the South having the lowest level. A leveling or decline had occurred in all regions by 1999.
- Between 1975 and 1981, sizeable regional differences in **hallucinogen** use emerged for the twelfth graders, as use in the South dropped appreciably. In 1981, both the North Central and the West had annual prevalence rates of use that were about two and one-half times higher than the South (10.3%, 10.4%, and 4.1%, respectively) while the Northeast rate was three times as high (12.9%). After 1981 through the rest of the decade, hallucinogen use dropped appreciably in all regions except in the South (which continued to have the lowest rate), considerably reducing these regional differences. In the early 1990s, use was still consistently lower than average in the South, but the differences among the other three regions were small. A considerable increase in use in the South between 1991 and 1995 brought its annual rate up close to the level of the other regions. There has been little further change from 1995 to 1999, and the regional differences in 1999 are small.

Between 1988 and 1993, the use of **LSD** did not vary much by region for the twelfth graders, although in earlier years the trend story was quite similar to that described for hallucinogens as a group of drugs. Between 1993 and 1996, use went up quite sharply in the Northeast region, once again creating regional differences. Following a decline from 1996 to 1999 in use in the Northeast and South, the regional differences in 1998 are again rather small.

Regional differences in LSD use among eighth and tenth graders have generally been quite small, although the West had the highest rates of use among eighth graders from 1991 to 1998. In 1999 the West had the lowest rate of use for eighth and tenth graders, after a sharp decline.

- Between 1979 and 1982, **PCP** use dropped precipitously in all regions for twelfth graders. The drop was greatest in the Northeast, which in 1979 had a usage rate roughly double that of all the other regions. In general, PCP use has remained low since 1982.

- Between 1996, when *MDMA (ecstasy)* use was first measured, and 1998, use had fallen at all grades in all regions. (The one exception was the West in twelfth grade, where it had remained stable.) In 1999, when ecstasy use increased significantly in grades 10 and 12, by far the largest increase in both grades occurred in the Northeast, although all regions showed some increase in one or both of those grades.
- Among twelfth graders from the early 1980s to the early 1990s, all four regions exhibited a substantial decline in 30-day *alcohol* prevalence of use and in occasions of *binge drinking*. As a result, the regional differences diminished somewhat; however, the relative positions of the four regions have remained essentially unchanged. The South and the West still have the lowest rates, the Northeast and North Central the highest.

At the lower grades there has been rather little regional difference for 30-day prevalence of binge drinking, and the trends have generally been quite similar across regions.

- It is noteworthy that from 1992 to 1994—a period of overall increase in cigarette smoking—the West was the only region that did not show an increase in *daily smoking* in twelfth grade (although by 1995 use had begun to increase in the West as well). This lack of increase in the West may be due to the fact that California conducted a major anti-smoking campaign in those years. There also was a similar lag and a lower increase at tenth grade in the West than in other regions; the eighth graders in the West showed the least increase compared to other regions and also remained the lowest of the four regions.
- The use of *smokeless tobacco* has generally been highest in the South for eighth and tenth graders, followed closely by the North Central. Among twelfth graders, however, use in the North Central rose sharply after 1989, giving that region considerably higher rates than the others from 1993 to 1998. However, use also fell sharply in the North Central from 1995 through 1999, leaving the South with the highest rate of use again in 1999. During the 1990s, use fell in all regions in all three grades.
- The increase in *steroid* use in 1999 at eighth and tenth grade was observable in all four regions. Generally, the regions have moved in parallel.

Trend Differences Related to Population Density

Appendix D contains trend data on all drugs for the three levels of community size distinguished here. Selected figures are presented in this chapter.

- Proportions of seniors using *any illicit drug* in all three levels of community size peaked in 1979, at which time there were appreciable differences in use rates, with the large cities having the highest rate, and the nonurban areas the lowest (see Figure 5-11a). Use rates declined from 1979 to 1992, when the annual prevalence in all three areas converged at 27%, virtually eliminating the differences. (Most of the narrowing was due to changing levels of marijuana use.) There were increases in use of any illicit drugs among all three levels of community size from 1992 to 1999, but the increases were smallest among the nonmetropolitan segment, leaving that segment with slightly lower rates in recent years than the other two groups.
- The overall proportion of twelfth-grade students involved in *any illicit drug use other than marijuana* peaked in communities of all sizes in 1981 and then fell until 1991 or 1992 (Figure 5-11a). Since 1989, with only one exception, the large metropolitan areas actually have shown slightly lower rates than the other two strata—a reversal of earlier differences. After 1991 or 1992, the rates for all three strata started to increase gradually, though the increase halted in 1996 for the large metropolitan areas and in 1997 for the other two community-size strata.
- During the years in which the use of various drugs increased, significant differences emerged among the three levels of urbanicity in the use of a number of specific classes of drugs. During the 1980s those differences narrowed, as use rates declined. Figure 5-11b shows the trends for the annual prevalence of use of alcohol, marijuana, and cocaine. It shows that the differences among the three population density strata were greatest (with large cities at the top) in the peak years of use for each drug but that, as use declined, the three strata tended to converge.
- For example, the increase in *cocaine* use between 1976 and 1979, although dramatic at all levels of urbanicity, was clearly greatest in the large cities. Between 1980 and 1984, use was fairly stable in all groups, but in 1985 it showed a rise in all groups. In 1986, use stabilized again in all groups, and in 1987 it began a long-term decline. Just as the earlier rise had been greatest in the large cities, so was the decline (see Figure 5-11b). By 1991, there were only small differences by urbanicity in cocaine use among seniors, and this is still the case. There are very small differences in the eighth and tenth grades as well.
- In the late 1980s, the use of *crack* declined more in the large cities than in the smaller areas. Between 1986, when it was first measured among twelfth graders, and the low point in 1991, annual use was down by 4.7 percentage points (from 5.9% to 1.2%) in the large cities, by 1.8 percentage points (to 1.7%) in the other cities, and by 2.3 percentage points (to 1.2%) in the nonmetropolitan areas. There have been increases

since 1991 or 1992 in all three grades, although use in the large cities leveled. At present, the large cities have the lowest rates of crack use and the nonurban areas the highest.

- Among twelfth graders, there was a greater decline in 30-day *alcohol* prevalence in the large cities from 1980 to 1983, which virtually eliminated the previous differences among the three strata. (See Table D-41 in Appendix D.) From 1983 to 1992 or 1993, there were essentially parallel declines in all three strata. Since then, there have been increases in all three strata, with the largest increases occurring among the other MSAs, which in 1999 has the highest prevalence.

Among eighth graders, the trends in prevalence have been fairly stable in all three strata. Among eighth and tenth graders, however, there has been some rise in recent years in the nonmetropolitan areas, leaving that stratum with the highest rates at those grade levels in 1999.

For occasions of *heavy drinking*, the trends for the three grades are essentially similar to those for 30-day prevalence.

- In the early years of the study, *marijuana* use consistently had been correlated positively with community size, with the greatest differences occurring in one of the peak years of usage, 1978 (Figure 5-11b). After that, both the absolute and the proportional differences diminished as use declined quite steadily through 1992. Between 1993 and 1997, communities in all size categories showed a turnaround in marijuana use; in fact, the turnaround began a year earlier in the nonmetropolitan areas. Use increased in all size categories between 1991 and 1996 for eighth graders and between 1992 and 1997 for tenth graders. All three groups showed declines in 1998 in eighth and tenth grades. As use rose, slightly larger differences related to urbanicity emerged at all three grade levels.
- In the latter 1970s, the use of *narcotics other than heroin* among twelfth graders was consistently highest in the large metropolitan areas and lowest in the nonmetropolitan areas. All groups declined in use through the early 1990s, then increased again; however, the differences among groups were diminished such that by 1995 the annual prevalence for all three groups was 5%. All three strata showed an increase from about 1993 through 1999. By 1999, the large metropolitan areas are at 5%, but the other metropolitan and the nonmetropolitan areas have both increased to 7%, thus reversing the differences that existed two decades ago.
- The use of *ice (crystal methamphetamine)* was added to the questionnaires for seniors (only) in 1990. While use in all strata rose for some years, it rose most in the large cities, where it peaked in 1996 at a

rate well above the less-urban strata. However, use in the large cities declined rapidly and in 1998 and 1999 was below the other two strata.

- **Barbiturate** use, which also is reported only for twelfth graders, moved very closely among the three urbanicity strata from 1975 through 1988. Then, the large cities developed the lowest rate of use and the nonurban areas emerged in recent years with the highest rate of use.
- In the early to mid-1990s, there were increases in **cigarette smoking** in all three strata for all three grade levels. The increases were particularly sharp in the nonmetropolitan and smaller city strata, thus opening up more of a difference than previously existed. In 1997, use began declining in the eighth and tenth grades in the large cities and the smaller cities, while it continued to increase in nonmetropolitan areas. That increase continued in 1998 and 1999 in eighth grade as the other two strata continued to decline, opening quite a difference in their smoking rates. Among tenth graders a similar difference emerged, but smoking finally began to decline in 1999 in the nonurban areas, as well. In twelfth grade all three strata have shown some decline over the past two years, but still the nonurban areas clearly have the highest smoking rate.
- The remaining drugs show little systematic variation in trends related to population density.

Differences in Trends by Socioeconomic Status

The measure of socioeconomic status used in this study—namely, the average educational attainment level of the respondents' parents—is described in the previous chapter and in Appendix B. Five different strata are distinguished and the students are sorted into those strata based on the educational level of their parents. It should be noted that the overall average educational level of parents has been rising; thus each of the five categories contains a slowly changing proportion of the sample. Figures 5-12a through 5-12f show trends for six selected measures of drug use. Trend data, by subgroup, for the remaining drugs may be found in Appendix D.

- In general there has been little change over time in the relationship between the socioeconomic status (SES) of the family of origin and prevalence of use rates for most of the drugs.
- **Marijuana** use, for example, has had little association with socioeconomic level throughout the life of the study, except that the lowest SES stratum consistently has had a slightly lower prevalence of use rate than all the others among twelfth graders. (This may, in fact, be due as much to a difference in the ethnic composition of this stratum, as will be seen in the next section, as to SES differences.) All levels showed similar declines in use from the late 1970s through 1992 (Figure 5-12a), and all levels

showed comparable increases after 1992 in all three grades, before leveling and/or declining a bit in the late 1990s.

- **Cocaine** has shown the largest and most interesting change in its association with socioeconomic status (Figure 5-12b). During the incline phase of the epidemic—from 1975 through 1981—a strong positive association evolved between cocaine use and SES, with the greatest increase in use occurring in the highest SES group and the least increase in the lowest SES group. From 1981 to 1985, use in the top SES levels declined some, while use in the lowest SES group increased substantially between 1982 and 1985—an increase that likely reflected the introduction of the less expensive form of cocaine, *crack*.

The net effect of these changes was the elimination of group differences in cocaine use, and, since 1985, there has been no systematic association between overall cocaine use and socioeconomic status. The strong positive association that existed for roughly eight years disappeared. All SES levels showed a substantial decrease in cocaine use between 1986 and 1991, with little differential change. In the upturn between about 1991 and 1997, some reversal in the relationship emerged, with the lowest SES group now having the highest use, and vice versa. In the lower grades, since 1991 when data were first available, the use of both crack and other cocaine has been highest in the lowest SES level. Otherwise the differences among strata have been small. (This has also been true in twelfth grade for crack since 1992.)

- Aside from the consistent, slightly lower level of **LSD** use among the lowest SES group than among the four other strata, there was little association at the twelfth-grade level between SES and the use of this drug over the interval from 1975, when the study began, through about 1984 (Figure 5-12c). As the overall usage level for LSD gradually increased after 1984, a modest positive association emerged, although it diminished some in degree by the mid-1990s and was pretty well erased by the late 1990s. In eighth grade, the lowest stratum has had the highest usage level, with hardly any other differences. There have been practically no systematic differences in tenth grade by socioeconomic status.
- Little difference is observed across the five SES categories in reported use of **inhalants**. (See Tables D-7 and D-8 in Appendix D.) There has been virtually no association in the lower grades and no systematic change in association.
- Overall, little difference exists among the SES groups in their trends in **amphetamine** use (see Figure 5-12d). In earlier years (1976 through 1990), there was usually a slight curvilinear relationship, with the two lowest *and* the highest SES groups tending to be low in amphetamine use.

From 1991 through 1995, the two or three highest SES groups had the lowest rates of amphetamine use. Since 1992, increases in use have occurred in all strata. In eighth and tenth grades, amphetamine use generally has been negatively correlated with SES, and while the recent increases in use through 1995 or 1996 occurred in all groups, they were sharpest in the lower two strata. More recently, all strata in these grades have shown a decline over the last several years.

- The picture for *alcohol* use among high school seniors is similar to the one described earlier for marijuana: that is, there has been little difference in the 30-day prevalence rates among the SES strata except that the lowest stratum has had a lower prevalence than all the others; and all strata have moved pretty much in parallel (data not displayed). The story for *binge drinking* is similar (Figure 5-12e). At the lower grade levels, however, the story is a bit different. Binge drinking generally has been inversely correlated with SES, and the association has been strongest in the eighth grade.
- Prior to 1981, *daily use of cigarettes* among twelfth graders generally was ordinally and inversely related to SES, with each successively higher SES group smoking less (Figure 5-12f). Between 1981 and 1990, this ordinal relationship diminished substantially because (a) the two highest SES groups showed some gradual increase in use, (b) the next two strata remained unchanged, and (c) the lowest SES group showed a continuing decline in use, which brought it from the highest smoking stratum to the lowest (probably due to its racial composition, as will be discussed in the next section). The net result of this and other trends was a narrowing of SES differences among twelfth-grade students. From 1992 to 1997 all strata showed an increase in daily smoking. From 1997 to 1999, there were declines in the two highest SES strata and some continuing increase in the other strata—once again opening up a class difference. It is possible that the introduction of the Joe Camel advertising campaign in 1988 helped account for the closing of the socioeconomic gap in the late 1980s, and that its termination in 1997 helped account for the reemergence of that gap. We know that between 1986 and 1997, the rise in smoking was sharper among twelfth-grade boys than among girls, and that the Camel brand was particularly popular among boys, as well as among those from the more educated strata.³⁸

In eighth and tenth grades all strata showed an increase in their *30-day smoking* rates from 1991 to 1996. The lowest SES stratum showed the most increase in 1999. In eighth grade, smoking has been consistently negatively correlated with SES.

³⁸ Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (1999). *Cigarette brand preferences among adolescents*. (Monitoring the Future Occasional Paper 45.) Ann Arbor, MI: Institute for Social Research.

Racial/Ethnic Differences in Trends

While the three major racial/ethnic groups examined here—Whites, African Americans, and Hispanics—have quite different levels of use of some drugs, it appears that almost all drug use patterns show similar trends.³⁹ (Cigarette use is an exception, as discussed below.) Data have been examined here for these three groups using two-year moving averages of prevalence in order to provide smoother and more reliable trend lines. Even then, they tend to be a bit “bumpy,” especially for Hispanics, for whom we have the least data and for whom there is a higher degree of clustering by school in the sample. See Appendix D for the racial/ethnic trend data on all classes of drugs.

- Figure 5-13a shows the trends in annual *marijuana* use for the three groups and illustrates that they have generally moved in parallel—particularly during the long decline phase. Generally, among twelfth graders, Whites have had the highest level of use and African Americans the lowest, with Hispanics in between. Use fell more in the decline phase (roughly 1979-1992) among African Americans than it did in the other two groups, expanding the differences among them. But, use also rose more among African American twelfth graders in the “relapse phase” of the epidemic (roughly 1992-1998), once again narrowing the gap. Their use also leveled earlier (in 1997) than it did among Whites (in 1999). (Recall that we are using two-year averages, which slightly moves some of the inflection points from what we have been discussing previously.)

All three groups showed a rise in marijuana use in all three grade levels in the mid-1990s, followed by a leveling or decline in the late 1990s.

While the trends for Whites and Hispanics are quite parallel to each other, their relative positions change across grade levels. In eighth grade, Hispanics have the highest rate of use, while Whites and African Americans are similar and have a considerably lower rate. By tenth grade, Whites have rates of use almost equivalent to Hispanics, and African Americans have lower rates than either Whites or Hispanics. By twelfth grade, Whites consistently have had the highest rates, Hispanics somewhat lower ones, and African Americans the lowest. (We believe that differential dropout rates, with Hispanics having the highest rate of dropping out, may account for much or all of these shifting comparisons across the three grade levels.)

- Figure 5-13a also shows the long-term trends for annual *cocaine* use among twelfth graders. It clearly shows that the rise in cocaine use (in 1976-1979) occurred more sharply among Whites and Hispanics than

³⁹An article examining a larger set of ethnic groups used groupings of respondents from adjacent five-year intervals to obtain more reliable estimates of trends. See Bachman, J. G., Wallace, J. M. Jr., O'Malley, P. M., Johnston, L. D., Kurth, C. L., & Neighbors, H. W. (1991). Racial/ethnic differences in smoking, drinking, and illicit drug use among American high school seniors, 1976-1989. *American Journal of Public Health, 81*, 372-377.

among African Americans. The decline among African Americans appears to have begun earlier but, of perhaps greatest importance, all three groups participated in the sustained decline in cocaine use after 1986. While a little difficult to discern in Figure 5-13a, twelfth-grade Hispanics halted their decline at a higher level than Whites and since then have held fairly steady, with a slight increase in use between 1995 and 1999, whereas use among Whites dropped further, but began a sharper rise after 1993. By way of contrast, cocaine use by African Americans fell to very low levels by the early 1990s and stabilized there.

At the twelfth-grade level there was a crossover of Whites, who formerly had a slightly higher prevalence of use of *cocaine powder*, and Hispanics. Hispanics reached higher levels of use during the peak years of the cocaine epidemic and generally have stayed higher. Also, use among Whites fell more sharply between the late 1980s and the early 1990s.

In the two lower grades, *cocaine* use rose the most among Hispanics from 1991 through 1996 or 1997, whereas over the same interval, use rose some among Whites and very little among African Americans. Hispanics have had considerably higher rates of use than the other two groups at both grade levels. This is also true for the two components of the cocaine category, *crack* and *cocaine powder*. Indeed, at the lower two grade levels, the trends for these two components are very similar to each other, though the rates of use for crack are generally lower than for cocaine powder.

- At the twelfth-grade level, the rise in reported *inhalant* use (unadjusted for the underreporting of nitrites) occurred about equally among Whites and Hispanics from 1976 through 1995, although Hispanics consistently had a lower rate of use than Whites. African Americans, on the other hand, showed practically no increase in their already low levels of use. They now have an annual prevalence that is less than a quarter that of Whites. A similar picture emerges in eighth and tenth grades, except that the increase in the early and mid-1990s among Hispanics and Whites was even steeper than the increases in twelfth grade. There have been more recent decreases among both White and Hispanic students (as well as African Americans) in all three grades. It is clear from the data on both levels and trends that inhalant drugs have not been popular with African American teenagers. Another class of drugs that has been similarly unpopular with them is hallucinogens.
- With regard to *LSD* and *hallucinogens* in general, African Americans have consistently had far lower rates of use than Whites or Hispanics. Both Whites and Hispanics have shown sharp increases in LSD use among seniors (since 1989), and among tenth graders (since 1992). Among eighth graders both groups have shown an increase (since 1992), but it

was sharpest for Whites until their use began to decline in 1998, while use among Hispanics continued rising. Whites have had the highest rate of hallucinogen use for more than 20 years at the twelfth-grade level. In the tenth grade, Whites also have tended to have a slightly higher level of LSD use than Hispanics, but there has not been a consistent difference in eighth grade.

- The substantial decline in the use of *amphetamines*, which began among twelfth graders in 1982 and ran through 1992, narrowed the differences among the three ethnic groups somewhat, although all three groups showed some decline. The decline was greatest among Whites, who started with the highest rates, and least among African Americans, who started with the lowest. Hispanics have been about midway between the other two groups. Between 1992 and 1999, there has been some increase in amphetamine use among Whites and Hispanics, but little among African Americans.
- Use of *barbiturates*, *tranquilizers*, and *narcotics other than heroin* converged among seniors in the three racial/ethnic groups as use of these drugs declined over a fairly long period. In general, Whites consistently had the highest usage rates in senior year and also the largest declines; African Americans had the lowest rates and, therefore, the smallest absolute declines. During the period of increase in the use of these drugs in the first half of the 1990s, Whites showed the greatest increase and African Americans the least—again enlarging the difference among them.
- The 30-day prevalence of *alcohol* use has shown relatively consistent racial/ethnic differences over time at each grade level. Among twelfth graders, Whites have had the highest rates, African Americans considerably lower ones, and Hispanics midway between the two. Their cross-time trends have generally been parallel, although Whites showed the greatest decline in drinking between 1988 and 1994, narrowing the difference between them and Hispanics. At tenth grade Whites and Hispanics have generally had equivalent rates and African Americans substantially lower ones. At eighth grade, Hispanics have consistently had the highest drinking rates and Whites have fallen in the middle.

The trends for *occasional heavy drinking* have been very similar to those just discussed for current drinking, though the absolute rates are lower, of course. (See Figure 5-13b and Tables D-40 through D-46 in Appendix D.)

- *Cigarette smoking* shows quite dramatic differential trends. Among seniors the three racial/ethnic groups had daily smoking rates that were not dramatically different in the late 1970s (Figure 5-13b). All three groups showed declines between 1977 and 1981, with the declines somewhat stronger for African Americans and Hispanics, clearly leaving Whites with

the highest smoking rates by 1981. After that, African Americans exhibited a consistent and continuing decline through 1993, while rates among Whites increased gradually and rates among Hispanics stayed level. By 1991, African Americans had a rate of daily smoking that was one-fourth that of Whites. After 1992, current (30-day) smoking rose among all three ethnic groups, though the increase was clearly the greatest among Whites. In the eighth and tenth grades, all three ethnic groups showed a recent sharp rise in use, though all showed some signs of leveling or decreasing in the most recent years. At tenth grade, the increase was sharpest among Whites, similar to twelfth-grade trends, and use among Whites has been substantially higher than among Hispanics, whose use has been substantially higher than that of African Americans. At eighth grade the smoking rates for Whites and Hispanics have been fairly close, and much higher than among African American eighth graders.

TABLE 5-1
Long-Term Trends in Lifetime Prevalence of Use of Various Drugs for Twelfth Graders

	Percent ever used																										
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999	Class of 98-99	
Approx. N = 9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16300	16700	15200	15000	15800	16300	15400	14300	15400	15400	15200	15200	13600	
Ary Illicit Drug ^{ab}	55.2	58.3	61.6	64.1	65.1	65.4	65.6	64.4	62.9	61.6	60.6	57.6	56.6	53.9	50.9	47.9	44.1	40.7	42.9	45.6	48.4	50.8	54.3	54.1	54.7	+0.6	
Ary Illicit Drug																											
Other Than Marijuana ^{ab}	36.2	35.4	35.8	36.5	37.4	38.7	42.8	41.1	40.4	40.3	39.7	37.7	35.8	32.5	31.4	29.4	26.9	25.1	26.7	27.6	28.1	28.5	30.0	29.4	29.4	0.0	
Marijuana/Hashish	47.3	52.8	56.4	59.2	60.4	60.3	59.5	58.7	57.0	54.9	54.2	50.9	50.2	47.2	43.7	40.7	36.7	32.6	35.3	38.2	41.7	44.9	49.6	49.1	49.7	+0.6	
Inhalants ^c	-	10.3	11.1	12.0	12.7	11.9	12.3	12.8	13.6	14.4	15.4	15.9	17.0	16.7	17.6	18.0	17.6	16.6	17.4	17.7	17.4	16.6	16.1	15.2	15.4	+0.2	
Inhalants, Adjusted ^d	-	-	-	18.2	17.3	17.2	17.7	18.2	18.0	18.1	20.1	18.6	17.5	18.6	18.5	18.0	17.0	17.7	18.3	17.8	17.5	16.9	16.5	16.0	16.0	-0.5	
Any/Butyl Nitrites ^e	-	-	-	11.1	11.1	10.1	9.8	8.4	8.1	7.9	8.6	4.7	3.2	3.3	2.1	1.6	1.5	1.4	1.7	1.5	1.8	2.0	2.7	1.7	1.7	-1.0	
Hallucinogens	16.3	15.1	13.9	14.3	14.1	13.3	13.3	12.5	11.9	10.7	10.3	9.7	10.3	8.9	9.4	9.4	9.6	9.2	10.9	11.4	12.7	14.0	15.1	14.1	13.7	-0.4	
Hallucinogens, Adjusted ^g	-	-	-	17.7	15.6	15.3	14.3	13.6	12.3	12.1	11.9	10.6	9.2	7.7	8.3	8.7	8.8	8.6	10.3	10.5	11.7	12.6	13.6	12.6	12.2	-0.4	
LSD	11.3	11.0	9.8	9.7	9.5	9.3	9.8	9.6	8.9	8.0	7.5	7.2	8.4	7.7	8.3	8.7	8.8	8.6	10.3	10.5	11.7	12.6	13.6	12.6	12.2	-0.4	
Hallucinogens Other Than LSD	14.1	12.1	11.2	11.6	10.7	9.8	9.1	8.0	7.3	6.6	6.5	5.7	5.4	4.1	4.3	4.1	3.7	3.3	3.9	4.9	5.4	6.8	7.5	7.1	6.7	-0.4	
PCP ^f	-	-	-	12.8	9.6	7.8	6.0	5.6	5.0	4.9	4.8	3.0	2.9	3.9	2.8	2.9	2.4	2.9	2.8	2.7	4.0	3.9	3.9	3.4	-0.5	-2.3s	
MDMA (Ecstasy) ^f	9.0	9.7	10.8	12.9	15.4	15.7	16.5	16.0	16.2	16.1	17.3	16.9	15.2	12.1	10.3	9.4	7.8	6.1	6.1	5.9	6.0	7.1	8.7	9.3	9.8	+0.5	
Cocaine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Crack ^h	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other Cocaine ⁱ	2.2	1.8	1.8	1.6	1.1	1.1	1.1	1.2	1.3	1.2	1.1	1.2	1.1	1.3	1.3	1.3	0.9	1.2	1.1	1.2	1.6	1.8	2.1	2.0	0.0	-0.2	
Heroin ^j	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
With a needle ^k	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Without a needle ^k	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other Narcotics ^l	9.0	9.6	10.3	9.9	10.1	9.8	10.1	9.6	9.4	9.7	10.2	9.0	9.2	8.6	8.3	8.3	6.6	6.1	6.4	6.6	7.2	8.2	9.7	9.8	10.2	+0.4	
Amphetamines ^m	22.3	22.6	23.0	22.9	24.2	26.4	32.2	27.9	26.9	27.9	26.2	23.4	21.6	19.8	19.1	17.5	15.4	13.9	15.1	15.7	15.3	16.5	16.4	16.3	16.3	-0.1	
Methamphetamine ^m Crystal Meth. (Ice) ^{no}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sedatives ^{no}	18.2	17.7	17.4	16.0	14.6	14.9	16.0	15.2	14.4	13.3	11.8	10.4	8.7	7.8	7.4	7.5	6.7	6.1	6.4	7.3	7.6	8.2	8.7	9.2	9.5	+0.3	
Barbiturates ^l	16.9	16.2	15.6	13.7	11.8	11.0	11.3	10.3	9.9	9.9	9.2	8.4	7.4	6.7	6.5	6.8	6.2	5.5	6.3	7.0	7.4	7.6	8.1	8.7	8.9	+0.2	
Methaqualone ^{no}	8.1	7.8	8.5	7.9	8.3	9.5	10.6	10.7	10.1	8.3	6.7	5.2	4.0	3.3	2.7	2.3	1.3	1.6	0.8	1.4	1.2	2.0	1.7	1.6	1.8	+0.2	
Tranquilizers ^l	17.0	16.8	18.0	17.0	16.3	15.2	14.7	14.0	13.3	12.4	11.9	10.9	10.9	9.4	7.6	7.2	7.2	6.0	6.4	6.6	7.1	7.2	7.8	8.5	9.3	+0.8	
Rohypnol ^o	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Alcohol ^o	90.4	91.9	92.5	93.1	93.0	93.2	92.6	92.6	92.6	92.6	92.2	91.3	92.2	92.0	90.7	89.5	88.0	87.5	87.0	-	-	-	-	-	-	-	
Been Drunk ^{no}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cigarettes	73.6	75.4	75.7	75.3	74.0	71.0	71.0	70.1	70.6	69.7	68.8	67.6	67.2	66.4	65.7	64.4	63.1	61.8	61.9	62.0	64.2	63.5	65.4	65.3	64.6	-0.7	
Smokeless Tobacco ^{pp}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Steroids ^{no}	-	-	-	-	-	-	-	-	-	-	-	-	31.4	32.2	30.4	29.2	-	-	32.4	31.0	30.7	29.8	25.3	26.2	23.4	-2.8	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .001$. '-' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

Footnotes for Table 5-1 to Table 5-4

- ^aUse of "any illicit drug" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use of other narcotics, amphetamines, barbiturates, methaqualone (excluded since 1990), or tranquilizers not under a doctor's orders.
- ^bBeginning in 1982 the question about amphetamine use was revised to get respondents to exclude the inappropriate reporting of nonprescription amphetamines. The prevalence of use rate dropped slightly as a result of this methodological change.
- ^cData based on four of five forms in 1976-88; N is four-fifths of N indicated. Data based on five of six forms in 1989-98; N is five-sixths of N indicated. Data based on three of six forms in 1999; N is three-sixths of N indicated.
- ^dAdjusted for underreporting of amyl and butyl nitrites. See text for details.
- ^eData based on one form; N is one-fifth of N indicated in 1979-88 and one-sixth of N indicated in 1989-99.
- ^fQuestion text changed slightly in 1987.
- ^gAdjusted for underreporting of PCP. See text for details.
- ^hData based on one of five forms in 1986; N is one-fifth of N indicated. Data based on two forms in 1987-89; N is two-fifths of N indicated in 1987-88 and two-sixths of N indicated in 1989. Data based on six forms in 1990-99.
- ⁱData based on one form in 1987-89; N is one-fifth of N indicated in 1987-88 and one-sixth of N indicated in 1989. Data based on four of six forms in 1990-99; N is four-sixths of N indicated.
- ^jIn 1995 the heroin question was changed in half of the questionnaire forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.
- ^kData based on three of six forms; N is three-sixths of N indicated.
- ^lOnly drug use which was not under a doctor's orders is included here.
- ^mData based on two of six forms; N is two-sixths of N indicated. Steroid data based on one of six forms in 1989-90; N is one-sixth of N indicated in 1989-90. Steroid data based on two of six forms since 1991; N is two-sixths of N indicated since 1991.
- ⁿSedatives: Data based on five forms in 1975-88, six forms in 1989, one form in 1990 (N is one-sixth of N indicated in 1990), and six forms of data adjusted by one-form data beginning in 1991. Methaqualone: Data based on five forms in 1975-88, six forms in 1989, and one of six forms beginning in 1990; N is one-sixth of N indicated beginning in 1990.
- ^oData based on five forms in 1975-88 and on six forms in 1989-92. In 1993, the question text was changed slightly in three of six forms to indicate that a "drink" meant "more than a few sips." The data in the upper line for alcohol came from the three forms using the original wording (N is three-sixths of N indicated), while the data in the lower line came from the three forms containing the revised wording (N is three-sixths of N indicated). Beginning in 1994, data based on all six forms.
- ^pThe prevalence of use of smokeless tobacco was not asked of twelfth graders in 1990 and 1991. Prior to 1990 the prevalence of use question on smokeless tobacco was located near the end of one twelfth-grade questionnaire form, whereas after 1991 the question was placed earlier and in a different form. This shift could explain the discontinuities between the corresponding data.

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 5-2
Long-Term Trends in Annual Prevalence of Use of Various Drugs for Twelfth Graders

	Percent who used in last twelve months																											
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999	Class of 1998-99		
<i>Approx. N = 9400</i>	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	15800	15000	16700	16300	15400	16300	15400	14300	15400	14300	15400	15200	13600		
Any Illicit Drug ^{ab}	45.0	48.1	51.1	53.8	54.2	53.1	52.1	49.4	47.4	45.8	46.3	44.3	41.7	38.5	35.4	32.5	29.4	27.1	31.0	35.8	39.0	40.2	42.4	41.4	42.1	+0.7		
Any Illicit Drug																												
<i>Other Than</i>																												
Marijuana ^{a,b}	26.2	25.4	26.0	27.1	28.2	30.4	34.0	30.1	28.4	28.0	27.4	25.9	24.1	21.1	20.0	17.9	16.2	14.9	17.1	18.0	19.4	19.8	20.7	20.2	20.7	+0.5		
Marijuana/Hashish	40.0	44.5	47.6	50.2	50.8	48.8	46.1	44.3	42.3	40.0	40.6	38.8	36.3	33.1	29.6	27.0	23.9	21.9	26.0	30.7	34.7	35.8	38.5	37.5	37.8	+0.3		
Inhalants ^c	—	3.0	3.7	4.1	5.4	4.6	4.1	4.5	4.3	5.1	5.7	6.1	6.9	6.5	5.9	6.9	6.6	6.2	7.0	7.7	8.0	7.6	6.7	6.2	5.6	-0.6		
Inhalants																												
Adjusted ^d																												
Amyl/Butyl Nitrites ^e	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Hallucinogens	11.2	9.4	8.8	9.6	9.9	9.3	9.0	8.1	7.3	6.5	6.3	6.0	6.4	5.5	5.6	5.9	5.8	5.9	7.4	7.6	9.3	10.1	9.8	9.0	9.4	+0.4		
Hallucinogens																												
Adjusted ^g																												
LSD	7.2	6.4	5.5	6.3	6.6	6.5	6.5	6.1	5.4	4.7	4.4	4.5	5.2	4.8	4.9	5.4	5.2	5.6	6.8	6.9	8.4	8.8	8.4	7.6	8.1	+0.5		
Hallucinogens																												
Other Than LSD	9.4	7.0	6.9	7.3	6.8	6.2	5.6	4.7	4.1	3.8	3.6	3.0	3.2	2.1	2.2	2.1	2.0	1.7	2.2	3.1	3.8	4.4	4.6	4.6	4.3	-0.3		
PCP ^h	—	—	—	—	7.0	4.4	3.2	2.2	2.6	2.3	2.9	2.4	1.3	1.2	2.4	1.2	1.4	1.4	1.4	1.6	1.8	2.6	2.3	2.1	1.8	-0.3		
MDMA (Ecstasy) ^h	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+2.0ss		
Cocaine	5.6	6.0	7.2	9.0	12.0	12.3	12.4	11.5	11.4	11.6	13.1	12.7	10.3	7.9	6.5	5.3	3.5	3.1	3.3	3.6	4.0	4.9	5.5	5.7	6.2	+0.5		
Crack ^h	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+0.2		
Other Cocaine ^l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+0.5		
Heroin ^l	1.0	0.8	0.8	0.8	0.5	0.5	0.6	0.6	0.5	0.6	0.5	0.6	0.5	0.5	0.6	0.5	0.4	0.6	0.5	0.6	1.1	1.0	1.2	1.0	1.1	+0.1		
With a needle ^l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4	0.0	
Without a needle ^l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4	0.0	
Other Narcotics ^l	5.7	5.7	6.4	6.0	6.2	6.3	5.9	5.3	5.1	5.2	5.9	5.2	5.3	4.6	4.4	4.5	3.5	3.3	3.6	3.8	4.7	5.4	6.2	6.3	6.7	+0.4		
Amphetamines ^{bl}	16.2	15.8	16.3	17.1	18.3	20.8	26.0	20.3	17.9	17.7	15.8	13.4	12.2	10.9	10.8	9.1	8.2	7.1	8.4	9.4	9.3	9.5	10.2	10.1	10.2	+0.1		
Methamphetamine ^m	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.7	—	
Crystal Meth. (Ice) ⁿ	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Sedatives ^{ln}	11.7	10.7	10.8	9.9	9.9	10.3	10.5	9.1	7.9	6.6	5.8	5.2	4.1	3.7	3.7	3.6	3.6	2.9	3.4	4.2	4.9	5.3	5.4	6.0	6.3	+0.3		
Barbiturates ^l	10.7	9.6	9.3	8.1	7.5	6.8	6.6	5.5	5.2	4.9	4.6	4.2	3.6	3.2	3.3	3.4	3.4	2.8	3.4	4.1	4.7	4.9	5.1	5.5	5.8	+0.3		
Methaqualone ^{ln}	5.1	4.7	5.2	4.9	5.9	7.2	7.6	6.8	5.4	3.8	2.8	2.1	1.5	1.3	1.3	0.7	0.5	0.6	0.2	0.8	0.7	1.1	1.0	1.1	1.1	0.0		
Tranquilizers ^l	10.6	10.3	10.8	9.9	9.6	8.7	8.0	7.0	6.9	6.1	5.8	5.5	4.8	3.8	3.5	3.6	2.8	3.5	3.7	4.4	4.6	4.6	4.7	5.5	5.8	+0.3		
Rohypnol ^o	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Alcohol ^p	84.8	85.7	87.0	87.7	88.1	87.9	87.0	86.8	87.3	86.0	85.6	84.5	85.7	85.3	82.7	80.6	77.7	76.8	76.0	—	—	—	—	—	—	—	—	
Been Drunk ^m	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Cigarettes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Smokeless Tobacco ^{oo}	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Steroids ^{oo}	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. — indicates data not available. See Table 5-1 for relevant footnotes.
SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 5-3
Long-Term Trends in Thirty-Day Prevalence of Use of Various Drugs for Twelfth Graders

Percent who used in last thirty days

	Percent who used in last thirty days																				Class of 1998-99					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994		Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999
Any Illicit Drug ^{ab}	30.7	34.2	37.6	38.9	38.9	37.2	36.9	32.5	30.5	29.2	29.7	27.1	24.7	21.3	19.7	17.2	16.4	14.4	18.3	21.9	23.8	24.6	26.2	25.6	25.9	+0.3
Any Illicit Drug																										
Other Than Marijuana ^{ab}	15.4	13.9	15.2	15.1	16.8	18.4	21.7	17.0	15.4	15.1	14.9	13.2	11.6	10.0	9.1	8.0	7.1	6.3	7.9	8.8	10.0	9.5	10.7	10.7	10.4	-0.3
Marijuana/Hashish	27.1	32.2	35.4	37.1	36.5	33.7	31.6	28.5	27.0	25.2	25.7	23.4	21.0	18.0	16.7	14.0	13.8	11.9	15.5	19.0	21.2	21.9	23.7	22.8	23.1	+0.3
Inhalants ^c	—	0.9	1.3	1.5	1.7	1.4	1.5	1.5	1.7	1.9	2.2	2.5	2.8	2.6	2.3	2.7	2.4	2.3	2.5	2.7	3.2	2.5	2.5	2.3	2.0	-0.3
Inhalants																										
Adjusted ^{d,e}	—	—	—	—	3.2	2.7	2.5	2.5	2.5	2.6	3.0	3.2	3.5	3.0	2.7	2.9	2.6	2.5	2.8	2.9	3.5	2.9	2.9	3.1	2.4	-0.7
Adjusted																										
Amyl/Butyl Nitrites ^f	—	—	—	—	2.4	1.8	1.4	1.1	1.4	1.4	1.6	1.3	1.3	0.6	0.6	0.6	0.4	0.3	0.6	0.4	0.4	0.7	0.7	1.0	0.4	-0.65
Nitrites ^f																										
Hallucinogens	4.7	3.4	4.1	3.9	4.0	3.7	3.7	3.4	2.8	2.6	2.5	2.5	2.5	2.2	2.2	2.2	2.2	2.1	2.7	3.1	4.4	3.5	3.9	3.8	3.5	-0.3
Hallucinogens																										
Adjusted ^g	—	—	—	—	5.3	4.4	4.5	4.1	3.5	3.2	3.8	3.5	2.8	2.3	2.9	2.3	2.4	2.3	3.3	3.2	4.6	3.8	4.1	4.1	3.9	-0.2
Adjusted																										
LSD	2.3	1.9	2.1	2.1	2.4	2.3	2.5	2.4	1.9	1.5	1.6	1.7	1.8	1.8	1.8	1.9	1.9	2.0	2.4	2.6	4.0	2.5	3.1	3.2	2.7	-0.5
Hallucinogens																										
Other Than LSD	3.7	2.3	3.0	2.7	2.4	2.3	2.1	1.7	1.5	1.6	1.3	1.3	1.1	0.7	0.8	0.7	0.5	0.8	1.2	1.2	1.3	1.6	1.7	1.6	1.6	0.0
PCP ^h	—	—	—	—	2.4	1.4	1.4	1.0	1.3	1.0	1.6	1.3	0.6	0.3	1.4	0.4	0.5	0.6	1.0	0.7	0.6	1.3	0.7	1.0	0.8	-0.2
MDMA (Ecstasy) ⁱ	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+1.05
Cocaine	1.9	2.0	2.9	3.9	5.7	5.2	5.8	5.0	4.9	5.8	6.7	6.2	4.3	3.4	2.8	1.9	1.4	1.3	1.3	1.5	1.8	2.0	2.3	2.4	2.6	+0.2
Crack ^j	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Cocaine ^l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heroin ^k	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.3	0.6	0.5	0.5	0.5	0.5	0.0
With a needle ^k	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without a needle ^k	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Narcotics ^l	2.1	2.0	2.8	2.1	2.4	2.4	2.1	1.8	1.8	1.8	2.3	2.0	1.8	1.6	1.6	1.5	1.1	1.2	1.3	1.5	1.8	2.0	2.3	2.4	2.6	+0.2
Amphetamines ^b	8.5	7.7	8.8	8.7	9.9	12.1	15.8	10.7	8.9	8.3	6.8	5.5	5.2	4.6	4.2	3.7	3.2	2.8	3.7	4.0	4.0	4.1	4.8	4.6	4.5	-0.1
Methamphetamine ^m	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Crystal Meth. (Ice) ^m	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sedatives ⁿ	5.4	4.5	5.1	4.2	4.4	4.8	4.6	3.4	3.0	2.3	2.4	2.2	1.7	1.4	1.6	1.4	1.5	1.2	1.3	1.8	2.3	2.3	2.1	2.8	2.8	0.0
Barbiturates ^o	4.7	3.9	4.3	3.2	3.2	2.9	2.6	2.0	2.1	1.7	2.0	1.8	1.4	1.2	1.4	1.3	1.4	1.1	1.3	1.7	2.2	2.1	2.1	2.6	2.6	0.0
Methaqualone ⁿ	2.1	1.6	2.3	1.9	2.3	3.3	3.1	2.4	1.8	1.1	1.0	0.8	0.6	0.5	0.6	0.2	0.2	0.4	0.1	0.4	0.4	0.6	0.3	0.6	0.4	-0.2
Tranquilizers ^o	4.1	4.0	4.6	3.4	3.7	3.1	2.7	2.4	2.5	2.1	2.1	2.1	2.0	1.5	1.3	1.2	1.4	1.0	1.2	1.4	1.8	2.0	1.8	2.4	2.5	+0.1
Rohypnol ^p	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol ^q	68.2	68.3	71.2	72.1	71.8	72.0	70.7	69.7	69.4	67.2	65.9	65.3	66.4	63.9	60.0	57.1	54.0	51.3	51.0	—	—	—	—	—	—	—
Been Drunk ^m	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes	36.7	38.8	38.4	36.7	34.4	30.5	29.4	30.0	30.3	29.3	30.1	29.6	29.4	28.7	28.6	29.4	28.3	27.8	29.9	31.2	33.5	34.0	36.5	35.1	34.6	-0.5
Smokeless Tobacco ^b	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids ^m	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids ^m																										

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. — indicates data not available. See Table 5-1 for relevant footnotes.
SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 5-5a
Trends in Prevalence of Use of Various Drugs for Eighth, Tenth, and Twelfth Graders
(Entries are percentages)

	LifETIME										ANNUAL										30-DAY									
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change
Marijuana/Hashish	10.2	11.2	12.6	16.7	19.9	23.1	22.6	22.2	22.0	-0.2	6.2	7.2	9.2	13.0	15.8	18.3	17.7	16.9	16.5	-0.4	3.2	3.7	5.1	7.8	9.1	11.3	10.2	9.7	9.7	0.0
8th Grade	23.4	21.4	24.4	30.4	34.1	39.8	42.3	39.6	40.9	+1.3	16.5	15.2	19.2	25.2	28.7	33.6	34.8	31.1	32.1	+1.0	8.7	8.1	10.9	15.8	17.2	20.4	20.5	18.7	19.4	+0.7
10th Grade	36.7	32.6	35.3	38.2	41.7	44.9	49.6	49.1	49.7	+0.6	23.9	21.9	26.0	30.7	34.7	35.8	38.5	37.5	37.8	+0.3	13.8	11.9	15.5	19.0	21.2	21.9	23.7	22.8	23.1	+0.3
12th Grade	17.6	17.4	19.4	19.9	21.6	21.2	21.0	20.5	19.7	-0.8	9.0	9.5	11.0	11.7	12.8	12.2	11.8	11.1	10.3	-0.8	4.4	4.7	5.4	5.6	6.1	5.8	5.6	4.8	5.0	+0.2
Inhalants^b	15.7	16.6	17.5	18.0	19.0	19.3	18.3	18.3	17.0	-1.3	7.1	7.5	8.4	9.1	9.6	9.5	8.7	8.0	7.2	-0.8	2.7	2.7	3.3	3.6	3.5	3.3	3.0	2.9	2.6	-0.3
8th Grade	17.6	16.6	17.4	17.7	17.4	16.6	16.1	15.2	15.4	+0.2	6.6	6.2	7.0	7.7	8.0	7.6	6.7	6.2	5.6	-0.6	2.4	2.3	2.5	2.7	3.2	2.5	2.5	2.3	2.0	-0.3
Nitrites^c	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8th Grade	1.6	1.5	1.4	1.7	1.5	1.8	2.0	2.7	1.7	-1.0	0.9	0.5	0.9	1.1	1.1	1.6	1.2	1.4	0.9	-0.5	0.4	0.3	0.6	0.4	0.4	0.4	0.7	1.0	0.4	-0.6s
10th Grade	3.2	3.8	3.9	4.3	5.2	5.9	5.4	4.9	4.8	-0.1	1.9	2.5	2.6	2.7	3.6	4.1	3.7	3.4	2.9	-0.5	0.8	1.1	1.2	1.3	1.7	1.9	1.8	1.4	1.3	-0.1
12th Grade	6.1	6.4	6.8	8.1	9.3	10.5	10.5	9.8	9.7	-0.1	4.0	4.3	4.7	5.8	7.2	7.8	7.6	6.9	6.9	0.0	1.6	1.8	1.9	2.4	3.3	2.8	3.3	3.2	2.9	-0.3
Hallucinogens^b	9.6	9.2	10.9	11.4	12.7	14.0	15.1	14.1	13.7	-0.4	5.8	5.9	7.4	7.6	9.3	10.1	9.8	9.0	9.4	+0.4	2.2	2.1	2.7	3.1	4.4	3.5	3.9	3.8	3.5	-0.3
8th Grade	2.7	3.2	3.5	3.7	4.4	5.1	4.7	4.1	4.1	0.0	1.7	2.1	2.3	2.4	3.2	3.5	3.2	2.8	2.4	-0.4	0.6	0.9	1.0	1.1	1.4	1.5	1.5	1.1	1.1	0.0
10th Grade	5.6	5.8	6.2	7.2	8.4	9.4	9.5	8.5	8.5	0.0	3.7	4.0	4.2	5.2	6.5	6.9	6.7	5.9	6.0	+0.1	1.5	1.6	1.6	2.0	3.0	2.4	2.8	2.7	2.3	-0.4
12th Grade	8.8	8.6	10.3	10.5	11.7	12.6	13.6	12.6	12.2	-0.4	5.2	5.6	6.8	6.9	8.4	8.8	8.4	7.6	8.1	+0.5	1.9	2.0	2.4	2.6	4.0	2.5	3.1	3.2	2.7	-0.5
LSD	1.4	1.7	1.7	2.2	2.5	3.0	2.6	2.5	2.4	-0.1	0.7	1.1	1.0	1.3	1.7	2.0	1.8	1.6	1.5	-0.1	0.3	0.4	0.5	0.7	0.8	0.9	0.7	0.7	0.6	-0.1
8th Grade	2.2	2.5	2.8	3.8	3.9	4.7	4.8	5.0	4.7	-0.3	1.3	1.4	1.9	2.4	2.8	3.3	3.3	3.4	3.2	-0.2	0.4	0.5	0.7	1.0	1.0	1.0	1.2	1.4	1.2	-0.2
10th Grade	3.7	3.3	3.9	4.9	5.4	6.8	7.5	7.1	6.7	-0.4	2.0	1.7	2.2	3.1	3.8	4.4	4.6	4.6	4.3	-0.3	0.7	0.5	0.8	1.2	1.3	1.6	1.7	1.6	1.6	0.0
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PCP^c	2.9	2.4	2.9	2.8	2.7	4.0	3.9	3.9	3.4	-0.5	1.4	1.4	1.4	1.6	1.8	2.6	2.3	2.1	1.8	-0.3	0.5	0.6	1.0	0.7	0.6	1.3	0.7	1.0	0.8	-0.2
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MDMA (Ecstasy)^f	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	2.3	2.9	2.9	3.6	4.2	4.5	4.4	4.6	4.7	+0.1	1.1	1.5	1.7	2.1	2.6	3.0	2.8	3.1	2.7	-0.4	0.5	0.7	0.7	1.0	1.2	1.3	1.1	1.4	1.3	-0.1
8th Grade	4.1	3.3	3.6	4.3	5.0	6.5	7.1	7.2	7.7	+0.5	2.2	1.9	2.1	2.8	3.5	4.2	4.7	4.7	4.9	+0.2	0.7	0.7	0.9	1.2	1.7	1.7	2.0	2.1	1.8	-0.3
10th Grade	7.8	6.1	6.1	5.9	6.0	7.1	8.7	9.3	9.8	+0.5	3.5	3.1	3.3	3.6	4.0	4.9	5.5	5.7	6.2	+0.5	1.4	1.3	1.3	1.5	1.8	2.0	2.3	2.4	2.6	+0.2
12th Grade	1.3	1.6	1.7	2.4	2.7	2.9	2.7	3.2	3.1	-0.1	0.7	0.9	1.0	1.3	1.6	1.8	1.7	2.1	1.8	-0.4s	0.3	0.5	0.4	0.7	0.7	0.8	0.7	0.9	0.8	-0.1
Crack	1.7	1.5	1.8	2.1	2.8	3.3	3.6	3.9	4.0	+0.1	0.9	0.9	1.1	1.4	1.8	2.1	2.2	2.5	2.4	-0.1	0.3	0.4	0.5	0.6	0.9	0.8	0.9	1.1	0.8	-0.3s
8th Grade	3.1	2.6	2.6	3.0	3.0	3.3	3.9	4.4	4.6	+0.2	1.5	1.5	1.5	1.9	2.1	2.1	2.4	2.5	2.7	+0.2	0.7	0.6	0.7	0.8	1.0	1.0	0.9	1.0	1.0	+0.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Table continued on next page)

TABLE 5-5a (cont.)
Trends in Prevalence of Use of Various Drugs for Eighth, Tenth, and Twelfth Graders

	Lifetime										Annual										30-Day			'98-'99 change						
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993		1994	1995	1996	1997	1998	1999
Other Cocaine^e																														
8th Grade	2.0	2.4	2.4	3.0	3.4	3.8	3.5	3.7	3.8	+0.1	1.0	1.2	1.3	1.7	2.1	2.5	2.2	2.4	2.3	-0.1	0.5	0.5	0.6	0.9	1.0	1.0	0.8	1.0	1.1	+0.1
10th Grade	3.8	3.0	3.3	3.8	4.4	5.5	6.1	6.4	6.8	+0.4	2.1	1.7	1.8	2.4	3.0	3.5	4.1	4.0	4.4	+0.4	0.6	0.6	0.7	1.0	1.4	1.3	1.6	1.8	1.6	-0.2
12th Grade	7.0	5.3	5.4	5.2	5.1	6.4	8.2	8.4	8.8	+0.4	3.2	2.6	2.9	3.0	3.4	4.2	5.0	4.9	5.8	+0.9	1.2	1.0	1.2	1.3	1.3	1.6	2.0	2.0	2.5	+0.5
Heroin^e																														
8th Grade	1.2	1.4	1.4	2.0	2.3	2.4	2.1	2.3	2.3	0.0	0.7	0.7	0.7	1.2	1.4	1.6	1.3	1.3	1.4	+0.1	0.3	0.4	0.4	0.6	0.6	0.7	0.6	0.6	0.6	0.0
10th Grade	1.2	1.2	1.3	1.5	1.7	2.1	2.1	2.3	2.3	0.0	0.5	0.6	0.7	0.9	1.1	1.2	1.4	1.4	1.4	0.0	0.2	0.2	0.3	0.4	0.6	0.5	0.6	0.7	0.7	0.0
12th Grade	0.9	1.2	1.1	1.2	1.6	1.8	2.1	2.0	2.0	0.0	0.4	0.6	0.5	0.6	1.1	1.0	1.2	1.0	1.1	+0.1	0.2	0.3	0.2	0.3	0.6	0.5	0.5	0.5	0.5	0.0
With a needle^f																														
8th Grade	-	-	-	-	1.5	1.6	1.3	1.4	1.6	+0.2	-	-	-	-	0.9	1.0	0.8	0.8	0.9	+0.1	-	-	-	-	0.4	0.5	0.4	0.5	0.4	-0.1
10th Grade	-	-	-	-	1.0	1.1	1.1	1.2	1.3	+0.1	-	-	-	-	0.6	0.7	0.7	0.8	0.6	-0.2	-	-	-	-	0.3	0.3	0.3	0.4	0.3	-0.1
12th Grade	-	-	-	-	0.7	0.8	0.9	0.8	0.9	+0.1	-	-	-	-	0.5	0.5	0.4	0.4	0.4	0.0	-	-	-	-	0.3	0.4	0.3	0.2	0.2	0.0
Without a needle^f																														
8th Grade	-	-	-	-	1.5	1.6	1.4	1.5	1.4	-0.1	-	-	-	-	0.8	1.0	0.8	0.8	0.9	+0.1	-	-	-	-	0.3	0.4	0.4	0.3	0.4	+0.1
10th Grade	-	-	-	-	1.1	1.7	1.7	1.7	1.6	-0.1	-	-	-	-	0.8	0.9	1.1	1.0	1.1	+0.1	-	-	-	-	0.3	0.3	0.4	0.5	0.5	0.0
12th Grade	-	-	-	-	1.4	1.7	2.1	1.6	1.8	+0.2	-	-	-	-	1.0	1.0	1.2	0.8	1.0	+0.2	-	-	-	-	0.6	0.4	0.6	0.4	0.4	0.0
Other Narcotics^g																														
8th Grade	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10th Grade	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12th Grade	6.6	6.1	6.4	6.6	7.2	8.2	9.7	9.8	10.2	+0.4	3.5	3.3	3.6	3.8	4.7	5.4	6.2	6.3	6.7	+0.4	1.1	1.2	1.3	1.5	1.8	2.0	2.3	2.4	2.6	+0.2
Amphetamines^h																														
8th Grade	10.5	10.8	11.8	12.3	13.1	13.5	12.3	11.3	10.7	-0.6	6.2	6.5	7.2	7.9	8.7	9.1	8.1	7.2	6.9	-0.3	2.6	3.3	3.6	3.6	4.2	4.6	3.8	3.3	3.4	+0.1
10th Grade	13.2	13.1	14.9	15.1	17.4	17.7	17.0	16.0	15.7	-0.3	8.2	8.2	9.6	10.2	11.9	12.4	12.1	10.7	10.4	-0.3	3.3	3.6	4.3	4.5	5.3	5.5	5.1	5.1	5.0	-0.1
12th Grade	15.4	13.9	15.1	15.7	15.3	15.3	16.5	16.4	16.3	-0.1	8.2	7.1	8.4	9.4	9.3	9.5	10.2	10.1	10.2	+0.1	3.2	2.8	3.7	4.0	4.0	4.1	4.8	4.6	4.5	-0.1
Methamphetamine^{h,i}																														
8th Grade	-	-	-	-	-	-	-	-	-	4.5	-	-	-	-	-	-	-	-	-	3.2	-	-	-	-	-	-	-	-	-	1.1
10th Grade	-	-	-	-	-	-	-	-	-	7.3	-	-	-	-	-	-	-	-	-	4.6	-	-	-	-	-	-	-	-	-	1.8
12th Grade	-	-	-	-	-	-	-	-	-	8.2	-	-	-	-	-	-	-	-	-	4.7	-	-	-	-	-	-	-	-	-	1.7
Iceⁱ																														
8th Grade	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10th Grade	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12th Grade	3.3	2.9	3.1	3.4	3.9	4.4	4.4	5.3	4.8	-0.5	1.4	1.3	1.7	1.8	2.4	2.8	2.3	3.0	1.9	-1.1	0.6	0.5	0.6	0.7	1.1	1.1	0.8	1.2	0.8	-0.4
Barbiturates^g																														
8th Grade	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10th Grade	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12th Grade	6.2	5.5	6.3	7.0	7.4	7.6	8.1	8.7	8.9	+0.2	3.4	2.8	3.4	4.1	4.7	4.9	5.1	5.5	5.8	+0.3	1.4	1.1	1.3	1.7	2.2	2.1	2.1	2.6	2.6	0.0
Methaqualone^g																														
8th Grade	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10th Grade	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12th Grade	1.3	1.6	0.8	1.4	1.2	2.0	1.7	1.6	1.8	+0.2	0.5	0.6	0.2	0.8	0.7	1.1	1.0	1.1	1.1	0.0	0.2	0.4	0.1	0.4	0.4	0.6	0.3	0.6	0.4	-0.2

(Table continued on next page)

**TABLE 5-5a (cont.)
Trends in Prevalence of Use of Various Drugs for Eighth, Tenth, and Twelfth Graders**

	LifETIME												ANNUAL												98-'99 change					
	98-'99												98-'99																	
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change										
Tranquilizers^f																														
8th Grade	3.8	4.1	4.4	4.6	4.5	5.3	4.8	4.6	4.4	-0.2	1.8	2.0	2.1	2.4	2.7	3.3	2.9	2.6	2.5	-0.1	0.8	0.8	0.9	1.1	1.2	1.5	1.2	1.2	1.1	-0.1
10th Grade	5.8	5.9	5.7	5.4	6.0	7.1	7.3	7.8	7.9	+0.1	3.2	3.5	3.3	3.3	4.0	4.6	4.9	5.1	5.4	+0.3	1.2	1.5	1.1	1.5	1.7	1.7	2.2	2.2	2.2	0.0
12th Grade	7.2	6.0	6.4	6.6	7.1	7.2	7.8	8.5	9.3	+0.8	3.6	2.8	3.5	3.7	4.4	4.6	4.7	5.5	5.8	+0.3	1.4	1.0	1.2	1.4	1.8	2.0	1.8	2.4	2.5	+0.1
Rohypnol^g																														
8th Grade	—	—	—	—	—	1.5	1.1	1.4	1.3	-0.1	—	—	—	—	—	1.0	0.8	0.8	0.5	-0.3s	—	—	—	—	—	—	0.5	0.3	0.4	0.3
10th Grade	—	—	—	—	—	1.5	1.7	2.0	1.8	-0.2	—	—	—	—	—	1.1	1.3	1.2	1.0	-0.2	—	—	—	—	—	—	0.5	0.5	0.4	0.5
12th Grade	—	—	—	—	—	1.2	1.8	3.0	2.0	-1.0	—	—	—	—	—	1.1	1.2	1.4	1.0	-0.4	—	—	—	—	—	—	0.5	0.3	0.3	0.0
Alcohol^h																														
Any use	70.1	69.3	67.1	—	—	—	—	—	—	—	54.0	53.7	51.6	—	—	—	—	—	—	—	25.1	26.1	26.2	—	—	—	—	—	—	—
8th Grade	55.7	55.8	54.5	55.3	53.8	52.5	52.1	52.1	-0.4	45.4	46.8	45.3	46.5	45.5	43.7	43.5	-0.2	42.8	39.9	41.5	—	—	—	—	—	—	—	—	—	—
10th Grade	83.8	82.3	80.8	—	—	—	—	—	—	72.3	70.2	69.3	—	—	—	—	—	—	—	38.2	39.2	38.8	40.4	40.1	38.8	40.0	—	—	—	
12th Grade	88.0	87.5	87.0	—	—	—	—	—	+0.8	77.7	76.8	76.0	—	—	—	—	—	—	+1.0	54.0	51.3	51.0	—	—	—	—	—	—	—	
	80.0	80.4	80.7	79.2	81.7	81.4	80.0	-1.4	72.7	73.0	73.7	72.5	74.8	74.3	73.8	-0.5	48.6	50.1	51.3	50.8	52.7	52.0	51.0	—	—	—	—	—		
Been Drunkⁱ																														
8th Grade	26.7	26.8	26.4	25.9	25.3	26.8	25.2	24.8	24.8	0.0	17.5	18.3	18.2	18.2	18.4	19.8	18.4	17.9	18.5	+0.6	7.6	7.5	7.8	8.7	8.3	9.6	8.2	8.4	9.4	+1.0
10th Grade	50.0	47.7	47.9	47.2	46.9	48.5	49.4	46.7	48.9	+2.2	40.1	37.0	37.8	38.0	38.5	40.1	40.7	38.3	40.9	+2.6s	20.5	18.1	19.8	20.3	20.8	21.3	22.4	21.1	22.5	+1.4
12th Grade	65.4	63.4	62.5	62.9	63.2	61.8	64.2	62.4	62.3	-0.1	52.7	50.3	49.6	51.7	52.5	51.9	53.2	52.0	53.2	+1.2	31.6	29.9	28.9	30.8	33.2	31.3	34.2	32.9	32.9	0.0
Cigarettes																														
Any use	44.0	45.2	45.3	46.1	46.4	49.2	47.3	45.7	44.1	-1.6	—	—	—	—	—	—	—	—	—	—	14.3	15.5	16.7	18.6	19.1	21.0	19.4	19.1	17.5	-1.6s
8th Grade	55.1	53.5	56.3	56.9	57.6	61.2	60.2	57.7	57.6	-0.1	—	—	—	—	—	—	—	—	—	—	20.8	21.5	24.7	25.4	27.9	30.4	29.8	27.6	25.7	-1.9
10th Grade	63.1	61.8	61.9	62.0	64.2	63.5	65.4	65.3	64.6	-0.7	—	—	—	—	—	—	—	—	—	—	28.3	27.8	29.9	31.2	33.5	34.0	36.5	35.1	34.6	-0.5
Smokeless Tobacco^j																														
8th Grade	22.2	20.7	18.7	19.9	20.0	20.4	16.8	15.0	14.4	-0.6	—	—	—	—	—	—	—	—	—	—	6.9	7.0	6.6	7.7	7.1	7.1	5.5	4.8	4.5	-0.3
10th Grade	28.2	26.6	28.1	29.2	27.6	27.4	26.3	22.7	20.4	-2.3	—	—	—	—	—	—	—	—	—	—	10.0	9.6	10.4	10.5	9.7	8.6	8.9	7.5	6.5	-1.0
12th Grade	—	32.4	31.0	30.7	30.9	29.8	25.3	26.2	23.4	-2.8	—	—	—	—	—	—	—	—	—	—	—	11.4	10.7	11.1	12.2	9.8	9.7	8.8	8.4	-0.4
Steroids^k																														
8th Grade	1.9	1.7	1.6	2.0	2.0	1.8	1.8	2.3	2.7	+0.4	1.0	1.1	0.9	1.2	1.0	0.9	1.0	1.2	1.7	+0.5sss	0.4	0.5	0.5	0.5	0.5	0.6	0.4	0.5	0.5	0.7
10th Grade	1.8	1.7	1.7	1.8	2.0	1.8	2.0	2.0	2.7	+0.7ss	1.1	1.1	1.0	1.1	1.2	1.2	1.2	1.2	1.7	+0.5sss	0.6	0.6	0.5	0.6	0.6	0.5	0.7	0.6	0.9	+0.3s
12th Grade	2.1	2.1	2.0	2.4	2.3	1.9	2.4	2.7	2.9	+0.2	1.4	1.1	1.2	1.3	1.5	1.4	1.4	1.7	1.8	+0.1	0.8	0.6	0.7	0.9	0.7	0.7	1.0	1.1	0.9	-0.2

Footnotes for Table 5-5a and Table 5-5b

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$.
— indicates data not available. * indicates less than .05 percent but greater than 0 percent.
Any apparent inconsistency between the change estimate and the prevalence estimates for the recent classes is due to rounding error.
Approximate N by grade:
8th = 17,500 in 1991; 18,600 in 1992; 18,300 in 1993; 17,300 in 1994; 17,500 in 1995; 17,800 in 1996; 18,600 in 1997; 18,100 in 1998; 16,700 in 1999
10th = 14,800 in 1991; 14,800 in 1992; 15,300 in 1993; 15,800 in 1994; 17,000 in 1995; 15,600 in 1996; 15,500 in 1997; 15,000 in 1998; 13,600 in 1999
12th = 15,000 in 1991; 15,800 in 1992; 16,300 in 1993; 15,400 in 1994; 15,400 in 1995; 14,300 in 1996; 15,400 in 1997; 15,200 in 1998; 13,600 in 1999
SOURCE: The Monitoring the Future Study, the University of Michigan.

^aFor 12th graders only: Data based on five of six forms in 1991-98; N is five-sixths of N indicated. Data based on three of six forms in 1999; N is three-sixths of N indicated.

^bFor 12th graders only: Unadjusted for underreporting of certain drugs. See text for details.

^cFor 8th and 10th graders only: MDMA data based one form in 1996; N is one-half of N indicated. Beginning in 1997, data based on one-third of N indicated due to changes in the questionnaire forms. Rohypnol data based on one-third of N due to changes in the questionnaire forms. Smokeless tobacco data based on one of two forms for 1991-96 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.

^dFor 12th graders only: Data based on four forms. N is four-sixths of N indicated.

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

^fFor 8th and 10th graders only: Data based on one of two forms in 1995; N is one-half of N indicated. For 12th graders only: Data based on three of six forms; N is three-sixths of N indicated.

^gFor 12th graders only: Only drug use which was not under a doctor's orders is included here.

^hFor 8th and 10th graders only: Data based on one of four forms; N is one-third of N indicated.

ⁱFor 12th graders only: Data based on two forms. N is two-sixths of N indicated.

^jFor 8th and 10th graders only: Data based on one of two forms in 1996-97; N is one-half of N indicated. Data based on three of four forms in 1998; N is two-thirds of N indicated. Data based on two of four forms beginning in 1999; N is one-third of N indicated.

^kIn 1993, the question text was changed slightly in some forms to indicate that a "drink" meant "more than a few sips." The data in the upper line for alcohol came from forms using the old wording, while the data in the lower line came from forms using the revised wording. For 1993 only: Data based on one of two forms for 8th and 10th grades and on three of six forms for 12th grade. N is one-half of N indicated. Beginning in 1994, data were based on all forms for all grades.

TABLE 5-5b

Trends in 30-Day Prevalence of Daily Use of Various Drugs for Eighth, Tenth, and Twelfth Graders

	Daily							'98-'99 change
	1991	1992	1993	1994	1995	1996	1997	
Marijuana/ Hashish, daily								
8th Grade	0.2	0.2	0.4	0.7	0.8	1.5	1.1	1.4
10th Grade	0.8	0.8	1.0	2.2	2.8	3.5	3.7	3.8
12th Grade	2.0	1.9	2.4	3.6	4.6	4.9	5.8	6.0
Alcohol ^h								
Any daily use	0.5	0.6	0.8	—	—	—	—	—
8th Grade	1.0	1.0	1.0	0.7	1.0	0.8	0.9	1.0
10th Grade	1.3	1.2	1.6	—	—	—	—	—
12th Grade	3.6	3.4	2.5	—	—	—	—	—
	3.4	2.9	3.5	3.7	3.9	3.9	3.4	-0.6s
Been Drunk, daily ⁱ								
8th Grade	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.3
10th Grade	0.2	0.3	0.4	0.4	0.6	0.4	0.6	0.7
12th Grade	0.9	0.8	0.9	1.2	1.3	1.6	2.0	1.9
5+ drinks in a row in last 2 weeks								
8th Grade	12.9	13.4	13.5	14.5	14.5	15.6	14.5	13.7
10th Grade	22.9	21.1	23.0	23.6	24.0	24.8	25.1	24.3
12th Grade	29.8	27.9	27.5	28.2	29.8	30.2	31.3	31.5
								30.8
								-0.7
Cigarettes								
Any daily use	7.2	7.0	8.3	8.8	9.3	10.4	9.0	8.8
8th Grade	12.6	12.3	14.2	14.6	16.3	18.3	18.0	15.8
10th Grade	18.5	17.2	19.0	19.4	21.6	22.2	24.6	22.4
12th Grade								23.1
1/2 pack+/day								
8th Grade	3.1	2.9	3.5	3.6	3.4	4.3	3.5	3.6
10th Grade	6.5	6.0	7.0	7.6	8.3	9.4	8.6	7.9
12th Grade	10.7	10.0	10.9	11.2	12.4	13.0	14.3	12.6
								13.2
								+0.6
Smokeless								
Tobacco, daily ^j								
8th Grade	1.6	1.8	1.5	1.9	1.2	1.5	1.0	1.0
10th Grade	3.3	3.0	3.3	3.0	2.7	2.2	2.2	2.2
12th Grade	—	4.3	3.3	3.9	3.6	3.3	4.4	3.2
								2.9
								-0.3

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(Footnotes are on the preceding page)

TABLE 5-6

Trends in Prevalence of Use of Heroin *with* and *without* a Needle
Eighth, Tenth, and Twelfth Graders

(Entries are percentages of all respondents)

	Percent who used in:																				
	Lifetime				Past year				Past month												
	1995	1996	1997	1998	1999	1999	1998	1997	1996	1995	1998	1997	1996	1995	1999	1998	1997	1996	1995	'98-'99 change	
Eighth Graders	Approx. weighted N = 8,800 17,800 18,600 18,100 16,700																				
Used heroin only without a needle	0.7	0.9	0.8	0.9	0.7	-0.2	0.5	0.5	0.5	0.5	0.5	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0
Used heroin only with a needle	0.7	0.8	0.7	0.8	0.9	+0.1	0.5	0.6	0.4	0.5	0.5	0.0	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.0
Used heroin both ways	0.8	0.7	0.6	0.6	0.7	+0.1	0.4	0.4	0.3	0.4	0.4	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0
Used heroin at all	2.3	2.4	2.1	2.3	2.3	0.0	1.4	1.6	1.3	1.3	1.4	+0.1	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.0
Approx. weighted N = 8,800 17,800 18,600 18,100 16,700																					
Tenth Graders	Approx. weighted N = 8,500 15,600 15,500 15,000 13,600																				
Used heroin only without a needle	0.7	1.1	1.0	1.2	1.1	-0.1	0.5	0.6	0.7	0.6	0.8	+0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	+0.1
Used heroin only with a needle	0.6	0.5	0.4	0.6	0.7	+0.1	0.3	0.3	0.3	0.4	0.3	-0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.1	-0.1
Used heroin both ways	0.4	0.6	0.6	0.6	0.6	0.0	0.3	0.3	0.4	0.4	0.3	-0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.0
Used heroin at all	1.7	2.1	2.1	2.3	2.3	0.0	1.1	1.2	1.4	1.4	1.4	0.0	0.6	0.5	0.6	0.7	0.7	0.7	0.7	0.7	0.0
Approx. weighted N = 8,500 15,600 15,500 15,000 13,600																					
Twelfth Graders	Approx. weighted N = 7,700 7,200 7,700 7,600 6,800																				
Used heroin only without a needle	0.9	1.1	1.3	1.2	1.2	0.0	0.6	0.6	0.7	0.6	0.8	+0.2	0.3	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.0
Used heroin only with a needle	0.3	0.3	0.3	0.4	0.4	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Used heroin both ways	0.4	0.4	0.5	0.5	0.4	-0.1	0.3	0.3	0.3	0.2	0.2	0.0	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.0
Used heroin at all	1.6	1.8	2.1	2.0	2.0	0.0	1.1	1.0	1.2	1.0	1.1	+0.1	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0
Approx. weighted N = 7,700 7,200 7,700 7,600 6,800																					

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$.

Any apparent inconsistency between the total who used heroin at all and the sum of those who used without a needle, with a needle, and both ways is due to rounding error.

Any apparent inconsistency between the change estimate and the prevalence of use estimates for the two years is due to rounding error. Eighth and tenth grade data based on one of two forms in 1995 and on all forms after 1995; twelfth grade data based on three of six forms.

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 5-7a
Trends in Noncontinuation Rates among Twelfth Graders
Who Ever Used Drug in Lifetime

Percent who did not use in last twelve months

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Marijuana/Hashish	15.4	15.7	15.6	15.2	15.9	19.1	22.5	24.5	25.8	27.1	25.1	23.8	27.7	29.9	32.3	33.7	34.9	32.8	26.3	19.6	16.8	20.3	22.4	23.6	23.9
Inhalants	—	70.9	66.7	65.8	57.5	61.3	66.7	64.8	68.4	64.6	63.0	61.6	59.4	61.1	66.5	61.7	62.5	62.7	59.8	56.5	54.0	54.2	58.4	59.2	63.6
<i>Inhalants, Adjusted</i>	—	—	—	—	50.8	55.7	65.5	63.3	64.4	58.4	59.8	55.7	56.5	59.4	62.9	59.5	61.7	62.4	58.2	55.2	52.8	51.4	56.8	57.0	62.5
Amyl/Butyl Nitrites	—	—	—	—	41.4	48.6	63.4	63.3	57.1	50.6	49.4	45.3	44.7	46.9	48.5	33.3	43.7	66.7	35.7	35.3	26.7	11.1	40.0	48.1	47.1
Hallucinogens	31.3	37.7	36.7	32.9	29.8	30.1	32.3	35.2	38.7	39.3	38.8	38.1	37.9	38.2	40.4	37.2	39.6	35.9	32.1	33.3	26.8	27.9	35.1	36.2	31.4
<i>Hallucinogens, Adjusted</i>	—	—	—	—	31.2	32.5	35.7	38.0	36.7	40.6	36.9	36.1	36.8	37.0	37.4	38.1	39.0	34.0	31.0	33.3	26.0	26.2	35.1	36.1	31.0
LSD	36.3	41.8	43.9	35.1	30.5	30.1	33.7	36.5	39.3	41.3	41.3	37.5	38.1	37.7	41.0	37.9	40.9	34.9	34.0	34.3	28.2	30.2	38.2	39.7	33.6
Hallucinogens Other Than LSD	33.3	42.1	38.4	37.1	36.4	36.7	38.5	41.3	43.8	42.4	44.6	47.4	40.7	48.8	48.8	45.9	48.5	43.6	36.7	29.6	35.3	38.7	35.2	35.2	35.8
PCP	—	—	—	—	45.3	54.2	59.0	63.3	53.6	54.0	40.8	50.0	56.7	58.6	38.5	57.1	51.7	41.7	51.7	42.9	33.3	35.0	41.0	46.2	47.1
MDMA (Ecstasy)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.6	42.0	37.9
Cocaine	37.8	38.1	33.3	30.2	22.1	21.7	24.8	28.1	29.6	28.0	24.3	24.9	32.2	34.7	36.9	43.6	55.1	49.2	45.9	39.0	33.3	31.0	36.8	38.7	36.7
Crack	—	—	—	—	—	—	—	—	—	—	—	—	27.8	35.4	34.0	45.7	51.6	42.3	42.3	36.7	30.0	36.4	38.5	43.2	41.3
Other Cocaine	—	—	—	—	—	—	—	—	—	—	—	—	30.0	38.8	38.8	46.5	54.3	50.9	46.3	42.3	33.3	34.4	39.0	41.7	34.1
Heroin	54.5	55.6	55.6	50.0	54.5	54.5	50.0	50.0	61.5	50.0	61.5	50.0	54.5	58.3	54.5	53.8	61.5	55.6	50.0	54.5	50.0	31.3	44.4	42.9	50.0
With a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.6	37.5	44.4	50.0
Without a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.6	41.2	42.9	50.0
Other Narcotics	36.7	40.6	37.9	39.4	38.6	35.7	41.6	44.8	45.7	46.4	42.2	42.2	42.4	46.5	47.0	45.8	47.0	45.9	43.8	42.4	34.7	34.2	36.1	35.7	34.3
Amphetamines	27.4	30.1	29.1	25.3	24.4	21.2	19.3	27.2	33.5	36.6	39.7	42.7	43.5	44.9	43.5	48.0	46.8	48.9	44.4	40.1	39.2	37.9	38.2	38.4	37.4
Methamphetamine	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42.7
Crystal Meth. (Ice)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51.9	57.6	55.2	45.2	47.1	38.5	36.4	47.7	43.4	60.4
Sedatives	35.7	39.5	37.9	38.1	32.2	30.9	34.4	40.1	45.1	50.4	50.8	50.0	52.9	52.6	50.0	—	—	—	—	—	—	—	—	—	—
Barbiturates	36.7	40.7	40.4	40.9	36.4	38.2	41.6	46.6	47.5	50.5	50.0	50.0	51.4	52.2	49.2	50.0	45.2	49.1	46.0	41.4	36.5	35.5	37.0	36.8	34.8
Methaqualone	37.0	39.7	38.8	38.0	28.9	24.2	28.3	36.4	46.5	54.2	58.2	59.6	62.5	60.6	51.9	69.6	61.5	62.5	75.0	42.9	41.7	45.0	41.2	31.3	38.9
Tranquilizers	37.6	38.7	40.0	41.8	41.1	42.8	45.6	50.0	48.1	50.8	48.7	46.8	49.5	48.9	50.0	51.4	50.0	53.3	45.3	43.9	38.0	36.1	39.7	35.3	37.6
Rohypnol	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol ^a	6.2	6.7	5.9	5.8	5.3	5.7	6.0	6.5	5.7	7.1	7.2	7.4	7.0	7.3	8.8	9.9	11.7	12.2	12.6	—	—	—	—	—	—
Beer	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bev. Drunk	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes ^b	16.0	16.7	16.2	17.9	19.6	21.4	20.8	19.1	18.6	18.5	15.9	17.0	17.1	18.2	18.5	18.2	17.4	18.6	16.9	15.9	14.6	13.5	13.1	14.3	16.1
Smokeless Tobacco ^b	—	—	—	—	—	—	—	—	—	—	—	21.8	18.4	25.7	26.2	—	—	—	—	—	—	—	—	—	—
Steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE: "—" indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.
^aIn 1993, the question text was changed slightly in three forms to indicate that a "drink" meant "more than a few sips." The data in the upper line for alcohol came from forms using the original wording, while the data in the lower line came from forms using the revised wording. In 1993, each line of data was based on three of six questionnaire forms. Beginning in 1994, data were based on all six questionnaire forms.
^bPercentage of regular users (ever) who did not use at all in the last thirty days.

TABLE 5-7b
Trends in Noncontinuation Rates among Twelfth Graders
Who Used Drug Ten or More Times in Lifetime

	Percent who did not use in last twelve months																								
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999
Marijuana/Hashish	4.0	4.0	4.1	3.7	4.6	5.4	7.2	7.6	8.3	8.8	7.8	7.9	9.2	9.9	10.6	12.3	10.5	10.9	7.8	5.0	4.7	6.6	7.7	8.2	8.5
Inhalants Nitrites ^a	—	48.9	42.6	34.6	23.8	25.2	23.8	27.2	23.1	23.4	25.8	15.3	21.1	21.5	25.9	24.0	23.7	28.6	21.8	26.4	21.6	24.8	25.2	28.0	27.8
Hallucinogens	10.8	16.1	15.2	10.8	8.1	8.4	7.7	7.5	13.0	14.1	12.2	11.1	11.9	16.6	21.8	16.5	17.4	11.5	12.1	14.3	10.6	9.0	12.2	16.4	12.8
LSD	15.2	17.3	18.0	12.2	7.4	6.4	7.1	7.5	15.3	12.1	12.6	12.2	11.5	16.0	21.2	16.0	18.5	11.4	11.9	15.3	11.5	10.5	16.8	20.3	14.3
PCP ^a	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	7.7	8.2	6.2	3.8	3.1	3.1	3.1	2.9	6.2	3.1	2.5	3.5	7.6	11.4	11.3	19.6	25.3	20.2	14.1	22.9	9.6	8.8	12.0	12.4	12.3
Crack ^b	—	—	—	—	—	—	—	—	—	—	—	—	13.4	2.1	5.2	26.2	31.1	15.3	16.4	16.8	6.3	8.3	17.4	19.5	16.0
Other Cocaine	—	—	—	—	—	—	—	—	—	—	—	—	10.2	6.1	16.2	18.5	24.3	23.2	14.7	24.1	15.5	13.9	14.6	17.1	13.1
Heroin ^a	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Narcotics	9.6	11.6	9.7	9.9	8.7	10.8	10.1	13.5	16.4	15.4	12.2	13.8	15.6	19.3	15.2	15.9	16.1	16.8	16.7	16.8	12.6	11.5	10.1	12.4	12.2
Amphetamines	8.0	9.8	7.6	7.4	6.1	4.1	4.4	8.4	10.7	12.7	17.5	17.6	17.5	16.0	17.4	18.1	17.2	19.8	13.5	13.8	11.9	10.2	10.8	15.0	12.7
Crystal Meth. (Ice) ^a	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sedatives ^c	13.6	16.2	12.4	12.8	8.6	10.5	7.6	8.6	16.4	20.8	23.6	19.7	23.1	25.2	17.3	—	—	—	—	—	—	—	—	—	—
Barbiturates	13.4	16.5	12.9	13.5	11.2	11.7	8.9	12.6	17.7	22.8	20.6	19.7	20.7	23.4	18.0	19.8	19.7	23.4	11.0	14.9	10.9	8.3	11.1	12.5	10.7
Methaqualone ^c	13.5	15.9	11.9	13.1	6.1	6.0	4.9	8.0	16.3	23.3	26.7	24.9	32.2	29.8	18.6	—	—	—	—	—	—	—	—	—	—
Tranquilizers	12.0	13.0	11.1	14.4	14.1	14.3	16.3	16.0	14.8	18.8	19.2	15.0	17.1	15.8	11.7	19.3	13.1	21.0	6.7	13.8	6.2	6.9	13.9	13.6	9.9
Alcohol ^d	0.6	0.8	0.6	0.9	0.7	0.8	1.0	0.9	0.9	1.1	1.2	1.0	1.1	1.2	1.5	1.9	1.9	2.3	2.3	—	—	—	—	—	—
Been Drunk	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids ^a	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE: '—' indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aThe cell entries in these rows were omitted because they were based on fewer than 50 seniors who used ten or more times. All other cells contain more than 50 cases.

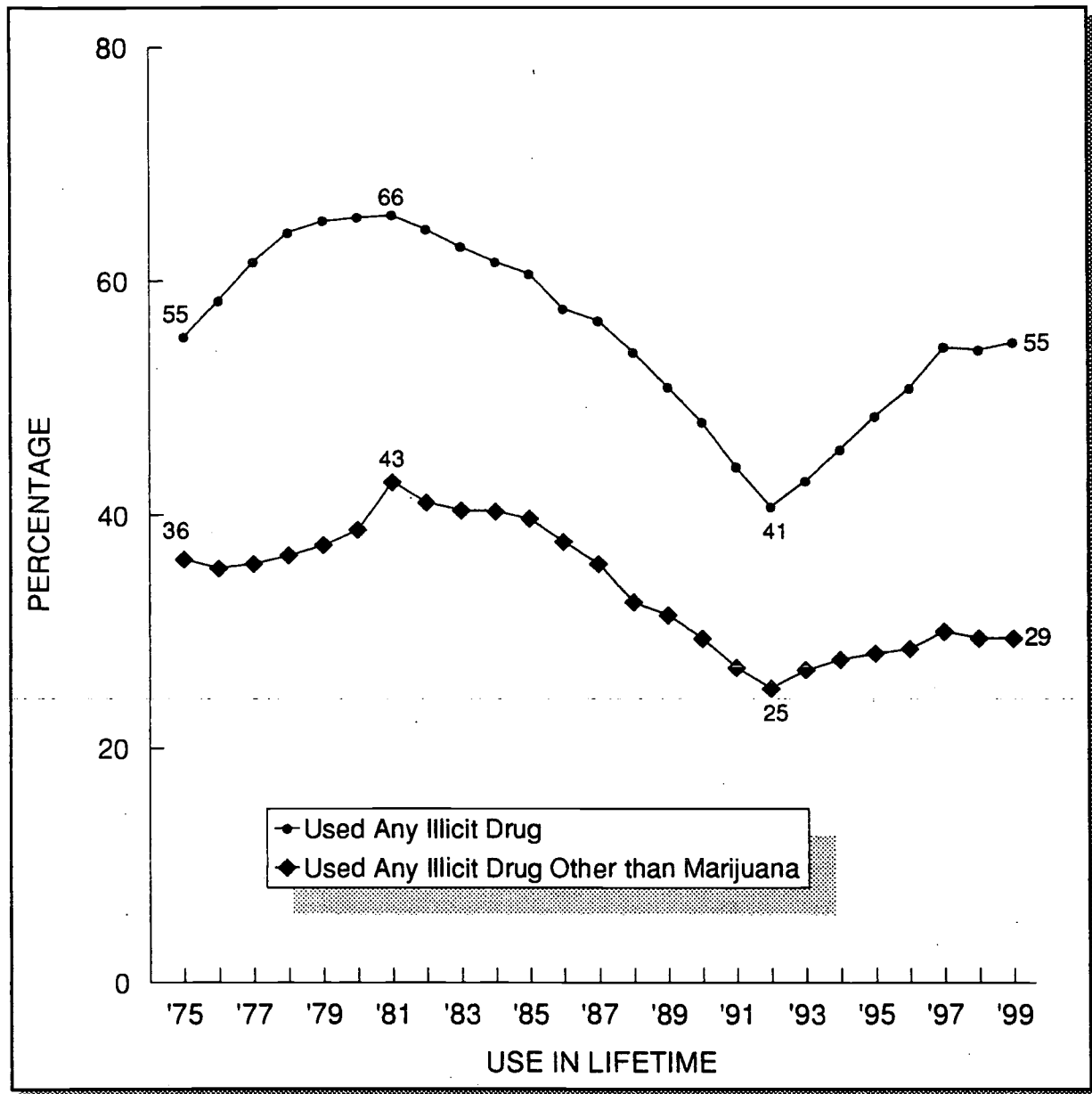
^bBased on 85 cases in 1987, 54 cases in 1988, and 56 cases in 1989. Crack was included in all six questionnaire forms beginning in 1990.

^cBased on too few cases beginning in 1990, because this question was asked in only one of the six questionnaire forms.

^dIn 1993, the question text was changed slightly in three forms to indicate that a "drink" meant "more than a few sips." The data in the upper line for alcohol came from forms using the original wording, while the data in the lower line came from forms using the revised wording. In 1993, each line of data was based on three of six questionnaire forms. Beginning in 1994, data were based on all six questionnaire forms.

FIGURE 5-1

Trends in Lifetime Prevalence of an Illicit Drug Use Index for Twelfth Graders

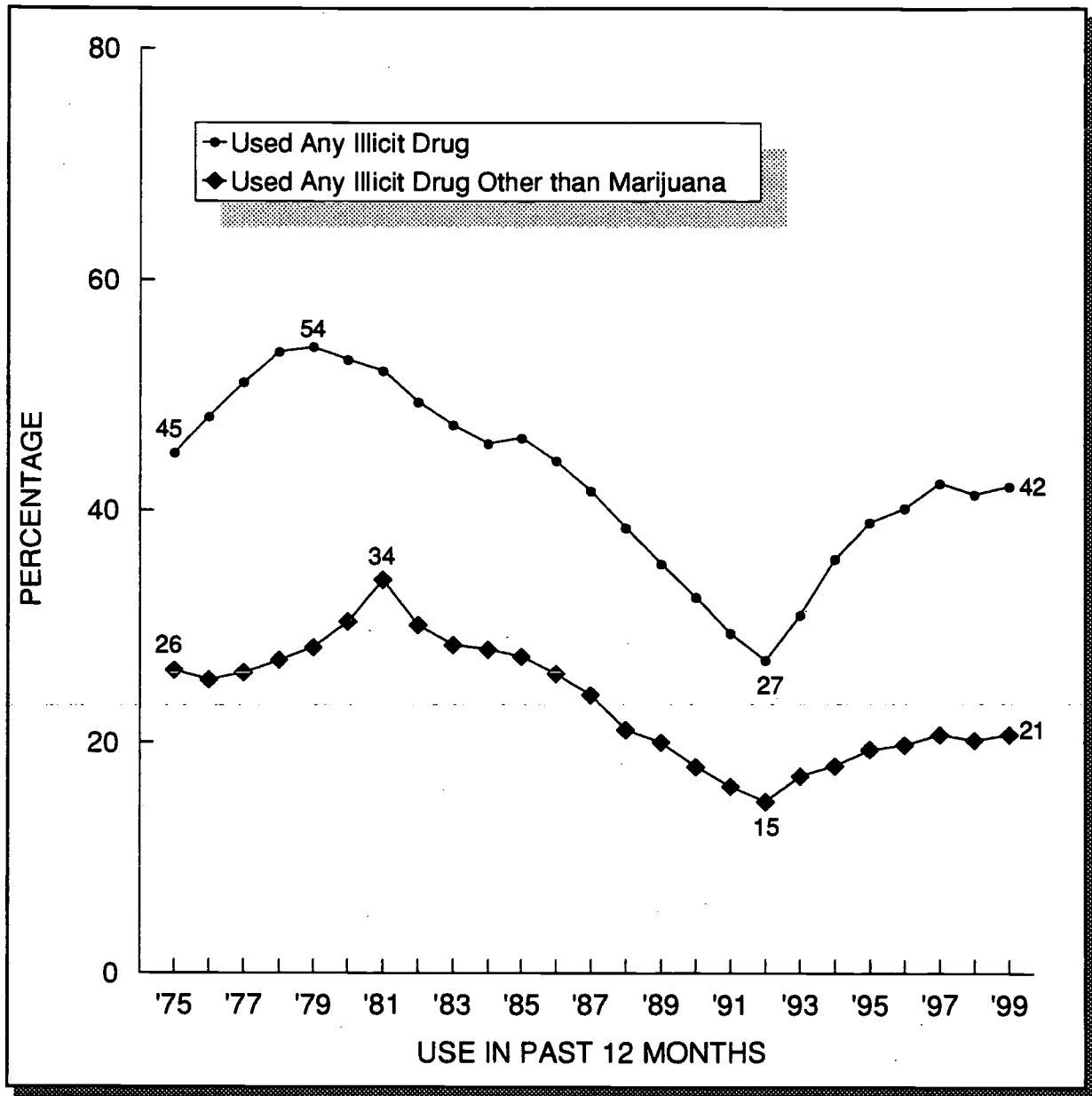


NOTES: Use of "any illicit drugs" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use which is not under a doctor's orders of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers.

Beginning in 1982 the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

FIGURE 5-2

Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders

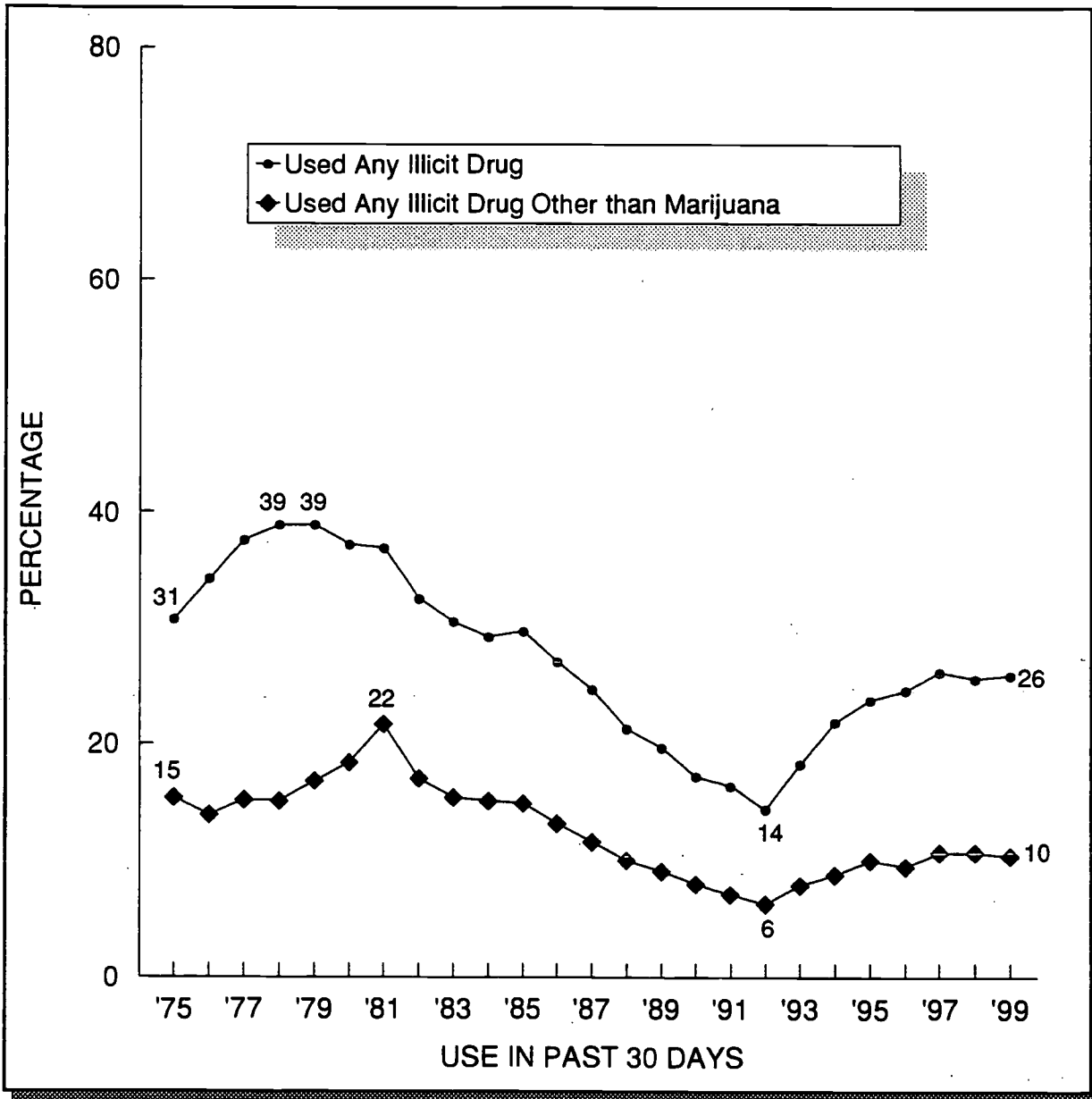


NOTES: Use of "any illicit drugs" includes any use of marijuana, LSD, other hallucinogens, crack or other cocaine, or heroin, or any use which is not under a doctor's orders of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers.

Beginning in 1982 the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

FIGURE 5-3

Trends in Thirty-Day Prevalence of an Illicit Drug Use Index for Twelfth Graders

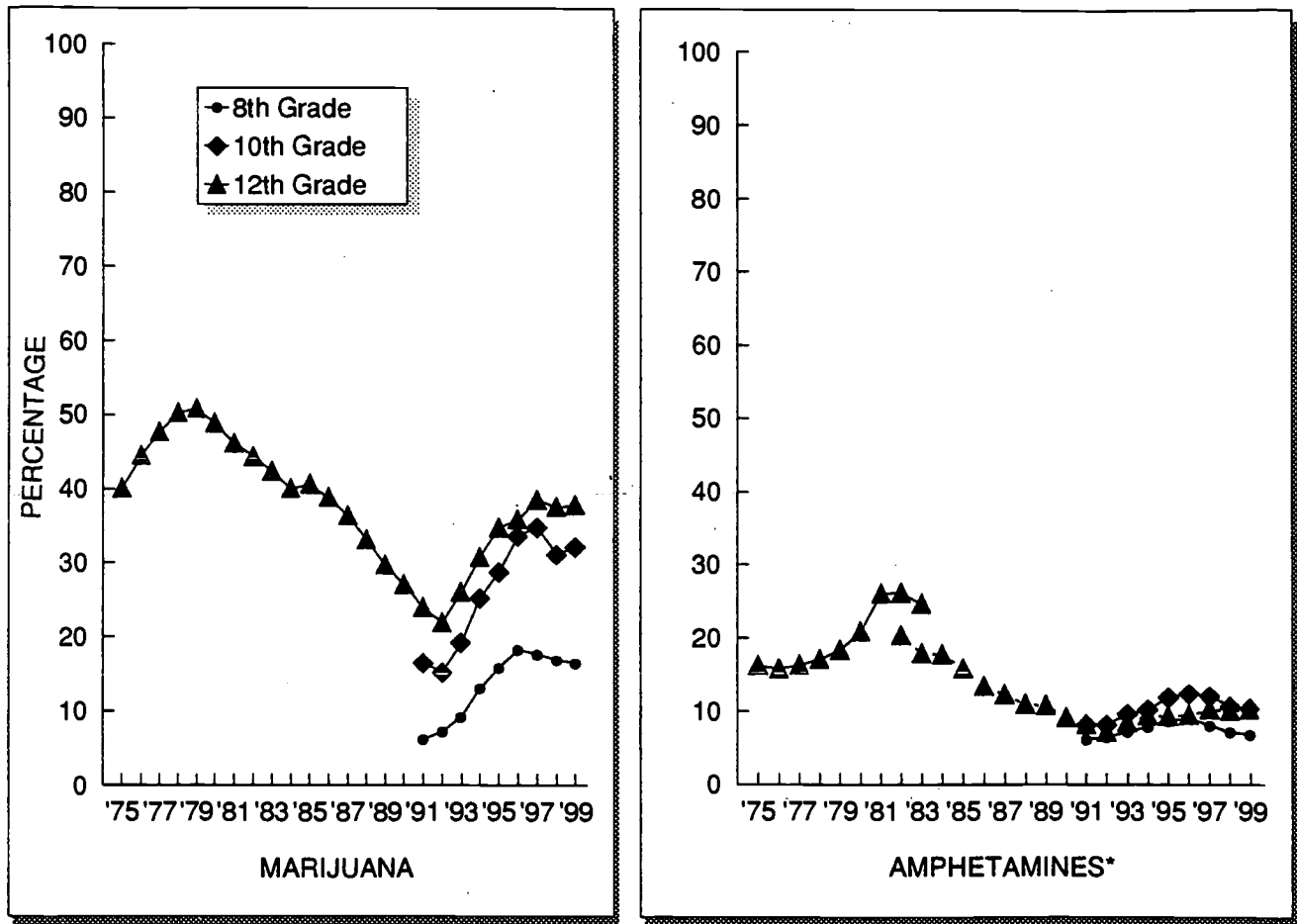


NOTES: Use of "any illicit drugs" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use which is not under a doctor's orders of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers.

Beginning in 1982 the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

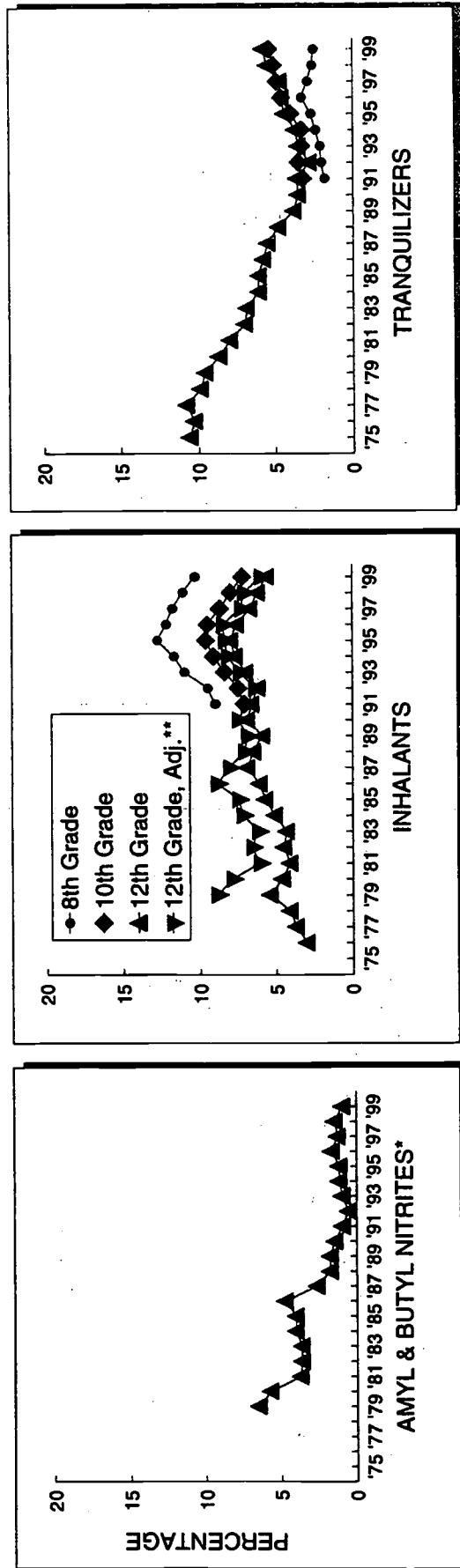
FIGURE 5-4a

**Trends in Annual Prevalence of Various Drugs
for Eighth, Tenth, and Twelfth Graders**



*The dotted lines connect percentages which result if non-prescription stimulants are excluded.

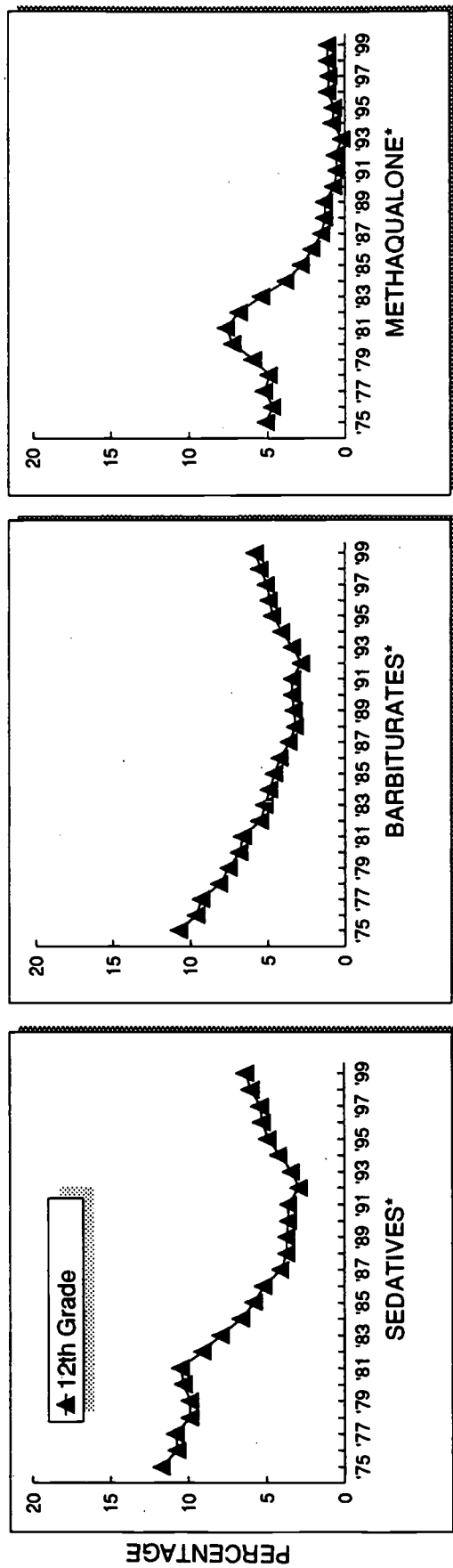
FIGURE 5-4b
Trends in Annual Prevalence of Various Drugs
for Eighth, Tenth, and Twelfth Graders



*8th and 10th graders are not asked about nitrite use.

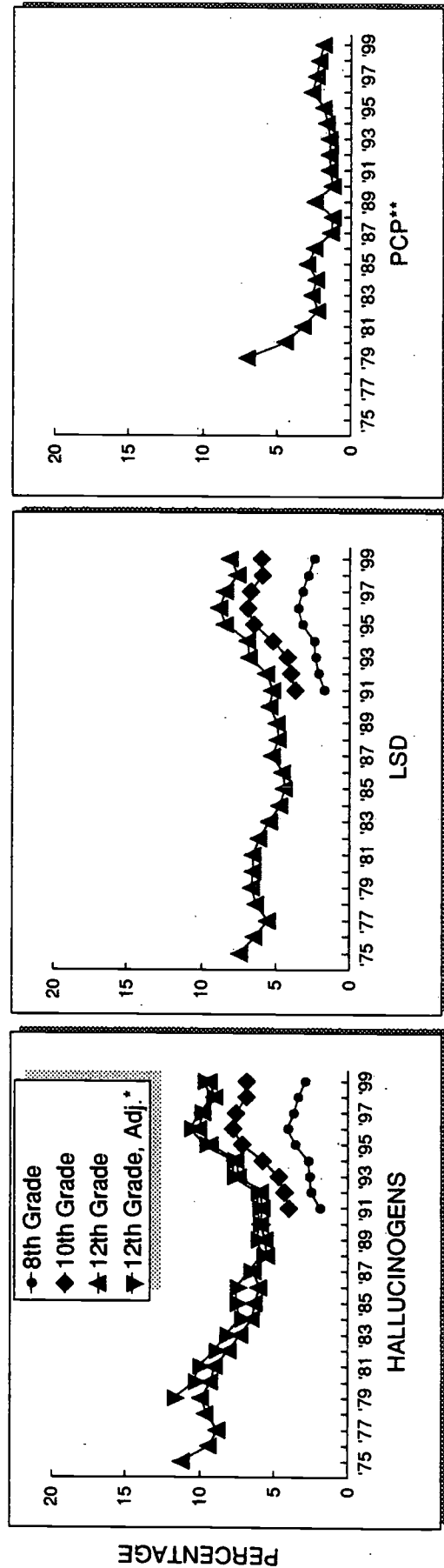
** Adjusted for underreporting of amyl and butyl nitrites.

FIGURE 5-4c
Trends in Annual Prevalence of Various Drugs
for Eighth, Tenth, and Twelfth Graders



*8th and 10th graders are not asked about sedative, barbiturate, and methaqualone use.

FIGURE 5-4d
Trends in Annual Prevalence of Various Drugs
for Eighth, Tenth, and Twelfth Graders



* Adjusted for underreporting of PCP.

**8th and 10th graders are not asked about PCP use.

FIGURE 5-4e
Trends in Annual Prevalence of Various Drugs
for Eighth, Tenth, and Twelfth Graders

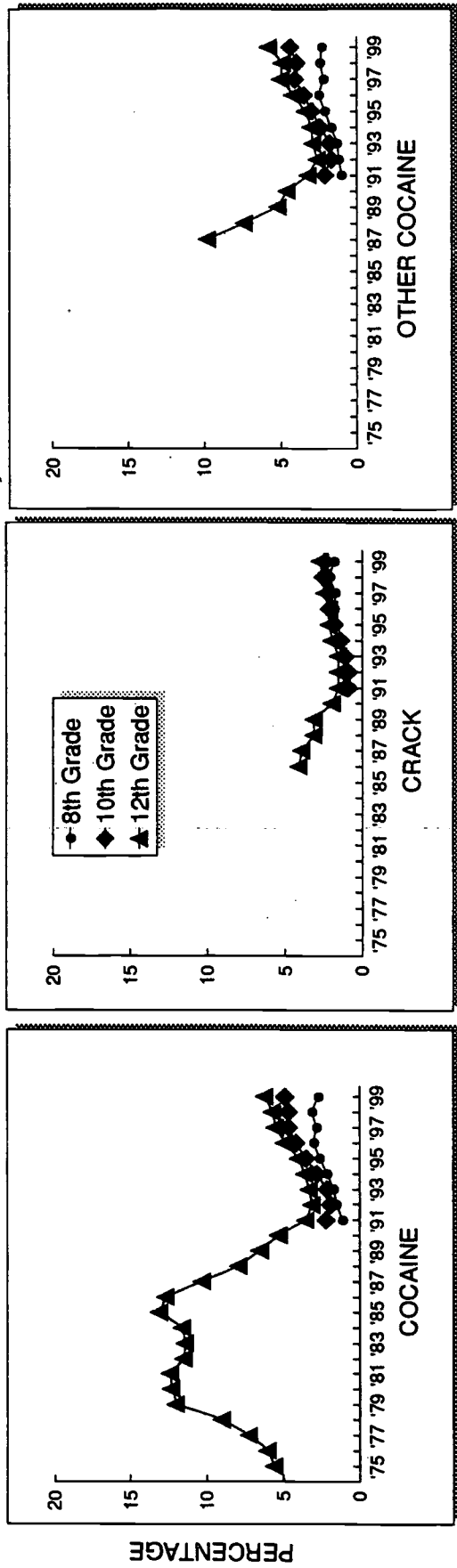


FIGURE 5-4f

Trends in Annual Prevalence of Various Drugs for Eighth, Tenth, and Twelfth Graders

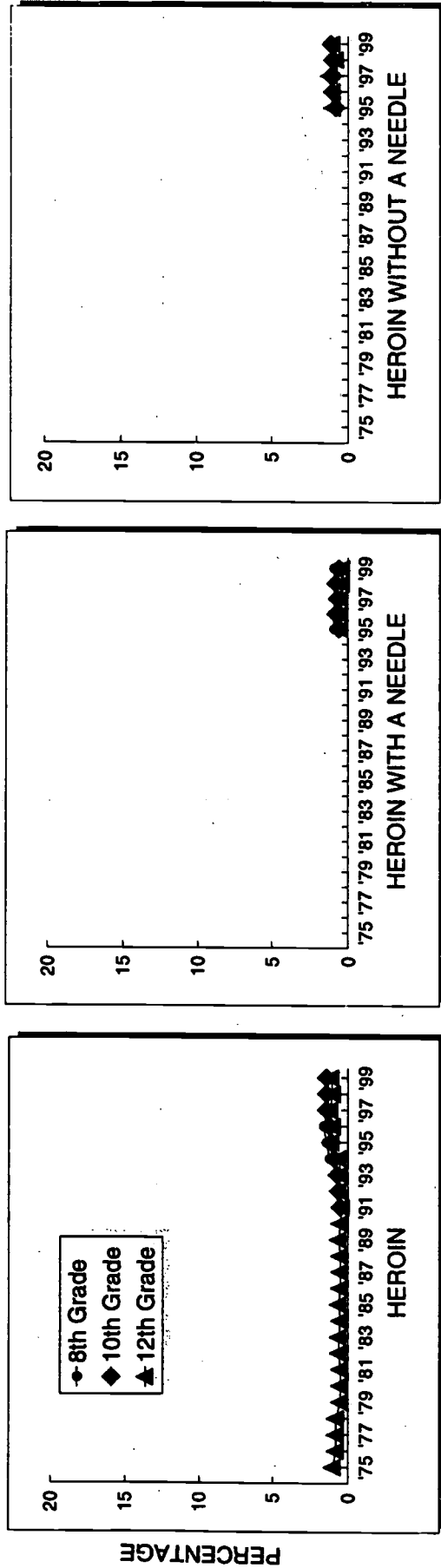
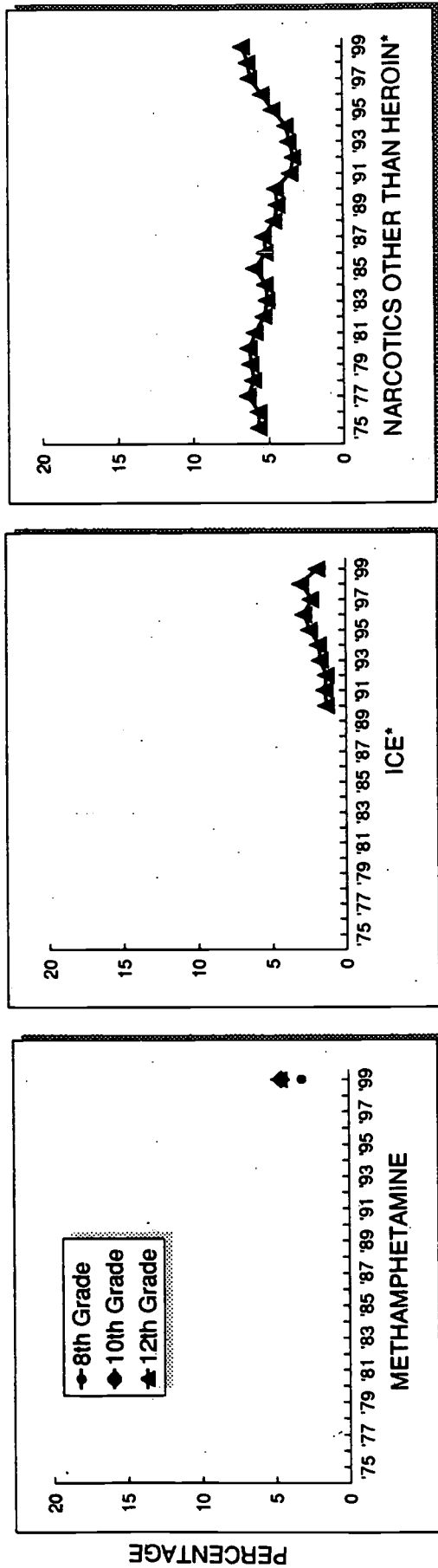


FIGURE 5-4g
Trends in Annual Prevalence of Various Drugs
for Eighth, Tenth, and Twelfth Graders



*8th and 10th graders are not asked about narcotics other than heroin or of ice use.

FIGURE 5-4h
Trends in Annual Prevalence of Various Drugs
for Eighth, Tenth, and Twelfth Graders

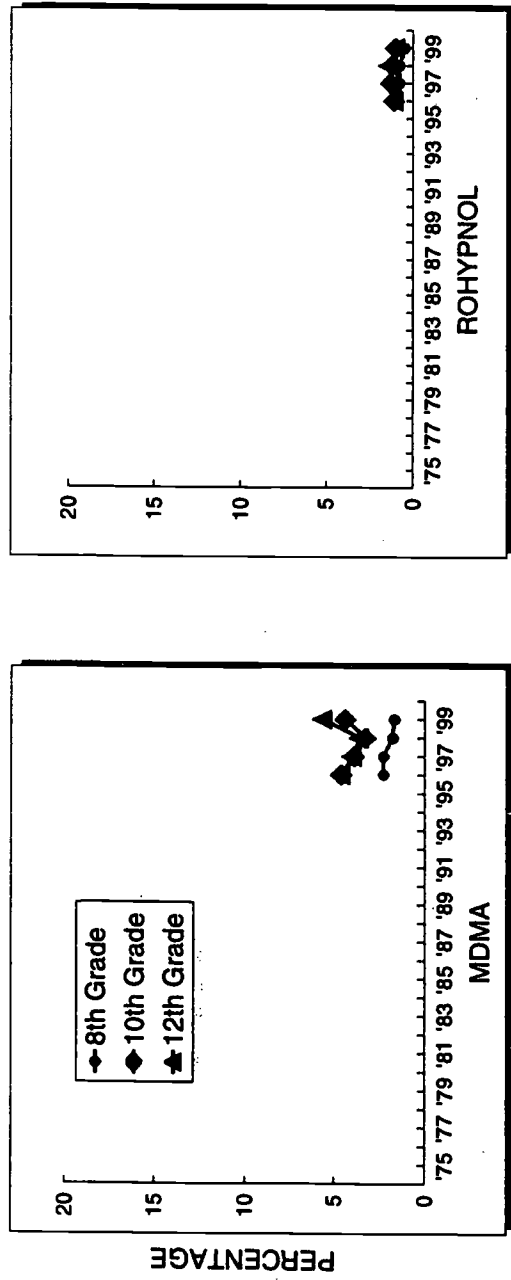
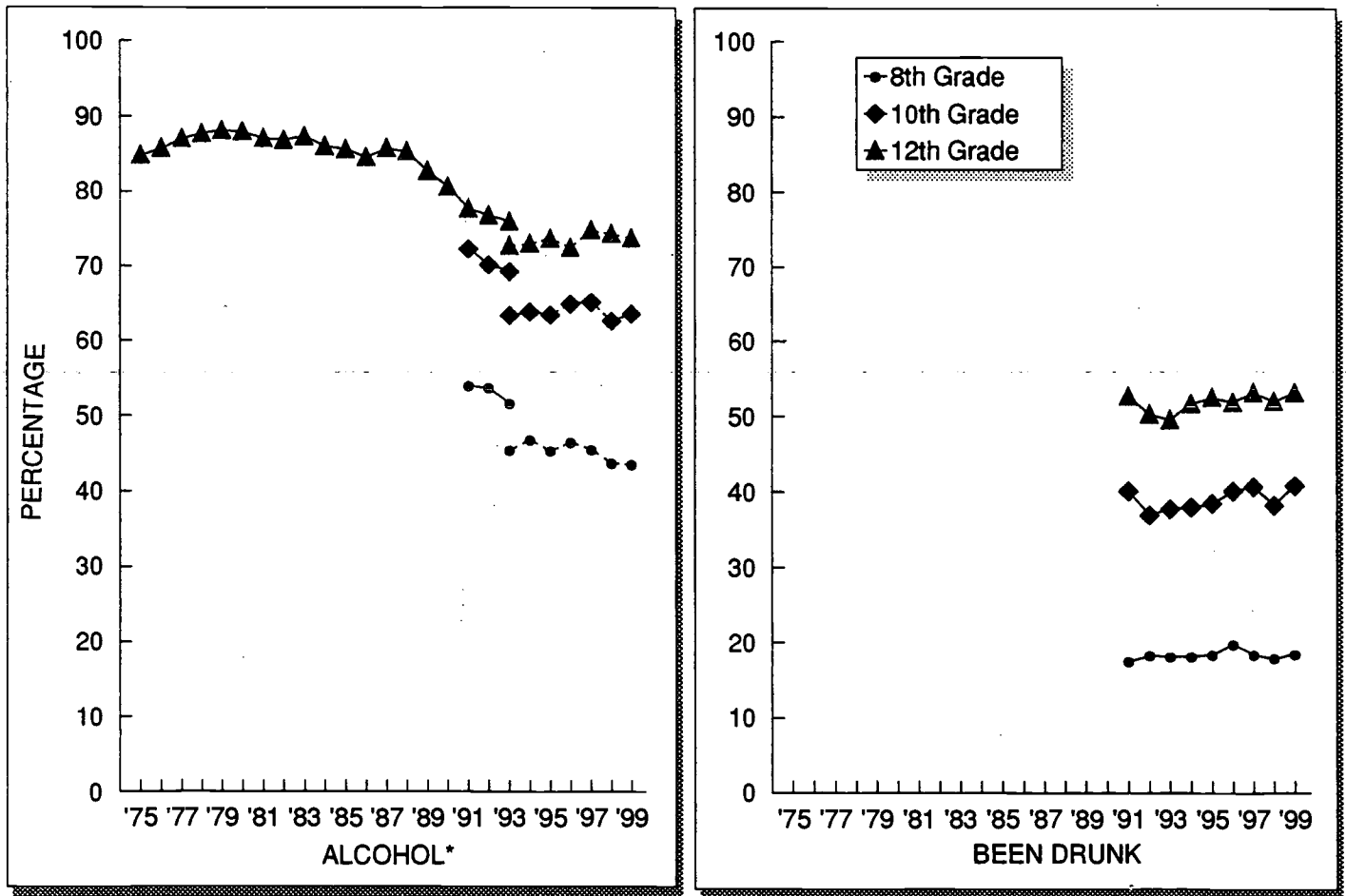


FIGURE 5-4i

**Trends in Annual Prevalence of Various Drugs
for Eighth, Tenth, and Twelfth Graders**



*Beginning in 1993 a revised set of questions on alcohol use was introduced, in which respondents were told that an occasion of use meant "more than just a few sips." The dotted lines connect percentages which are based on data from the revised questions. See text for details.

FIGURE 5-4j

**Trends in Two-Week Prevalence of Heavy Drinking
for Eighth, Tenth, and Twelfth Graders**

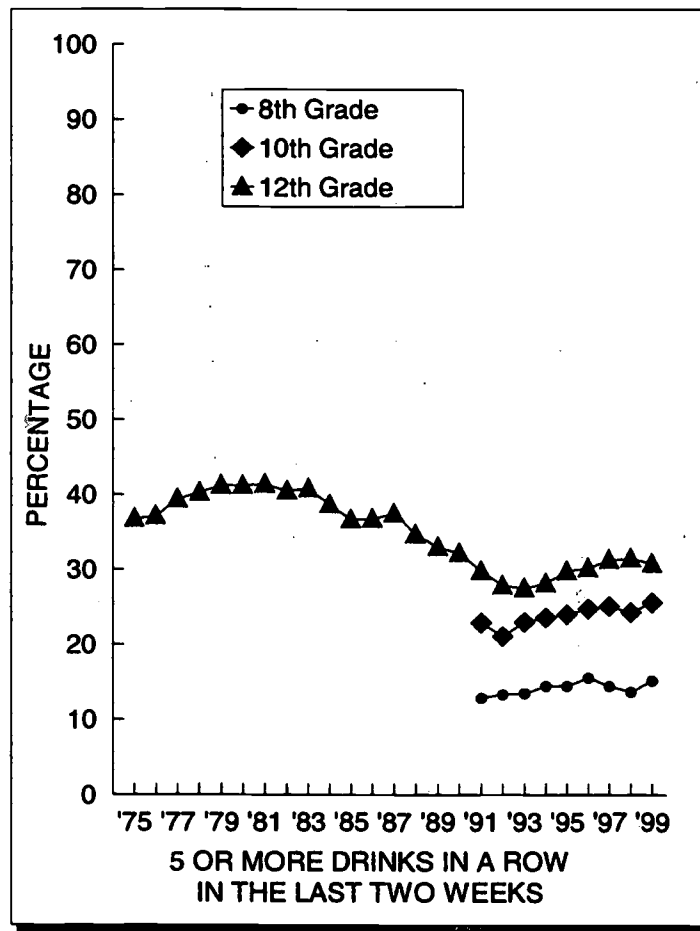


FIGURE 5-4k

Trends in Thirty-Day Prevalence and Thirty-Day Prevalence of Daily Use of Cigarettes for Eighth, Tenth, and Twelfth Graders

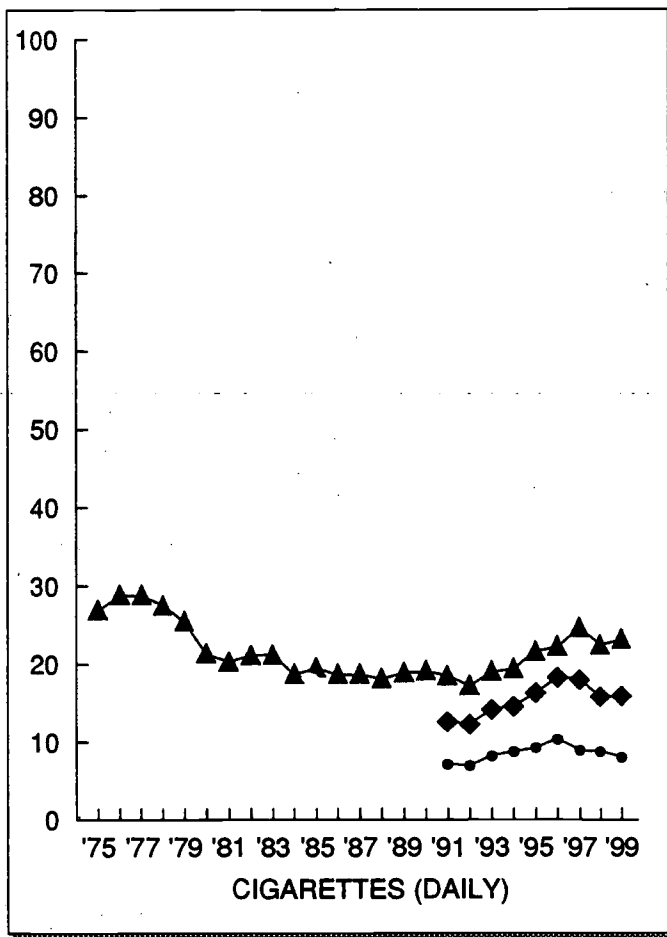
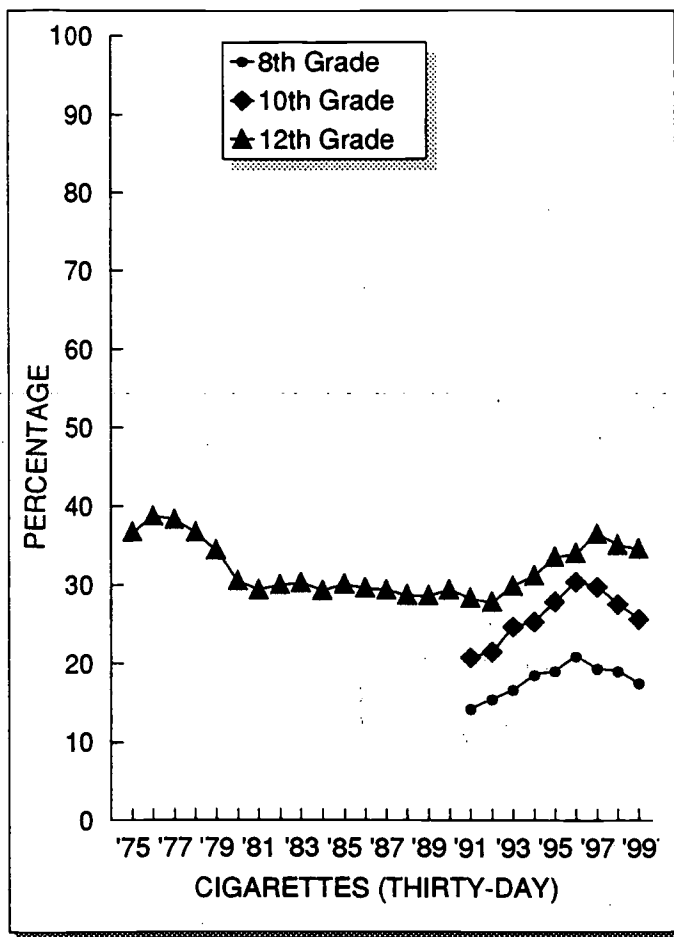
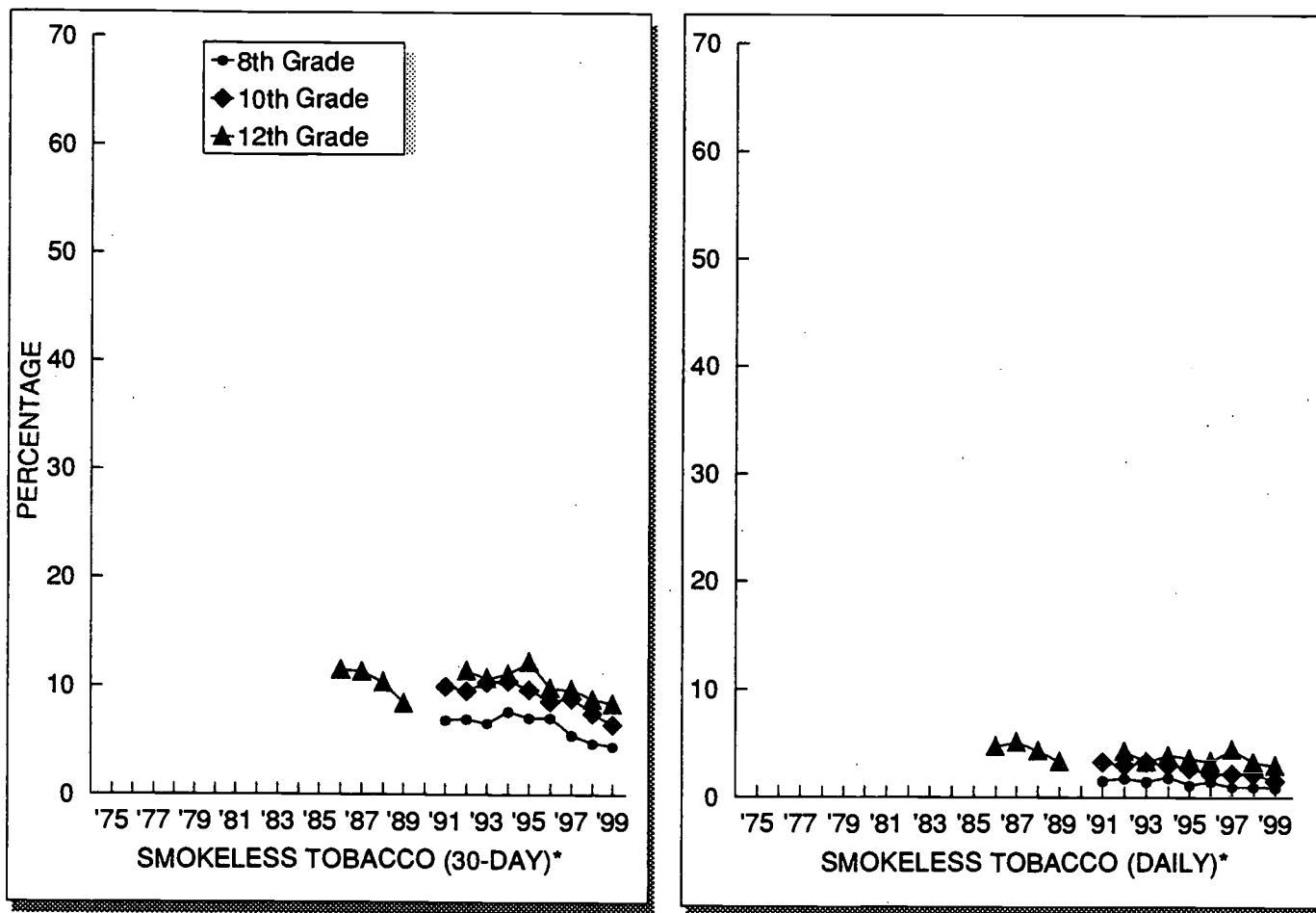


FIGURE 5-41

Trends in Thirty-Day Prevalence and Thirty-Day Prevalence of Daily Use of Smokeless Tobacco for Eighth, Tenth, and Twelfth Graders



*12th graders: Smokeless tobacco data not available in 1990 or 1991.

FIGURE 5-4m

**Trends in Thirty-Day Prevalence of Daily Use of Marijuana
for Eighth, Tenth, and Twelfth Graders**

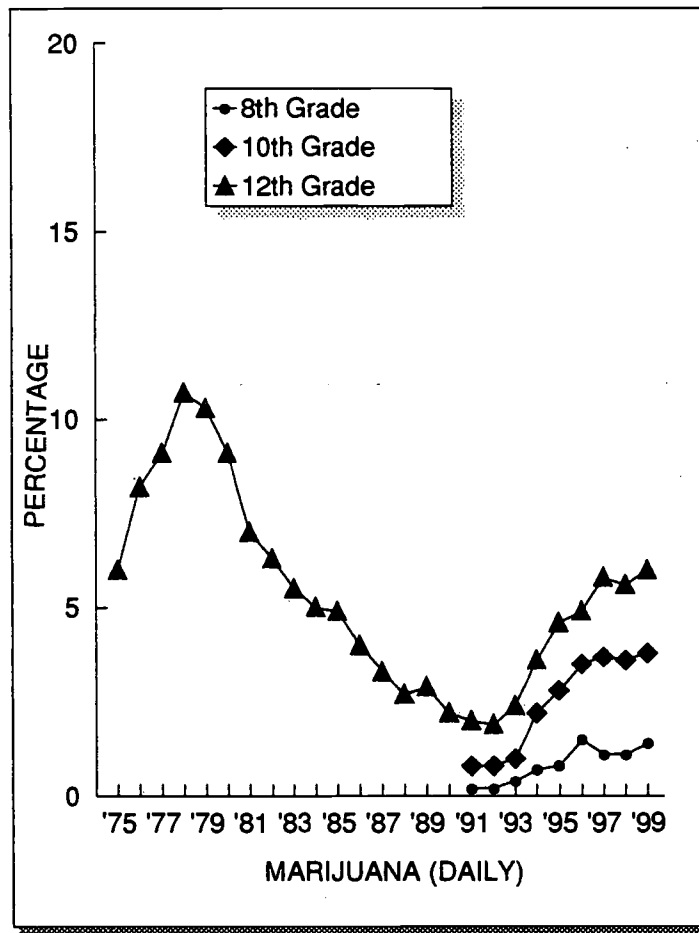


FIGURE 5-4n

**Trends in Annual Prevalence of Steroids
for Eighth, Tenth, and Twelfth Graders**

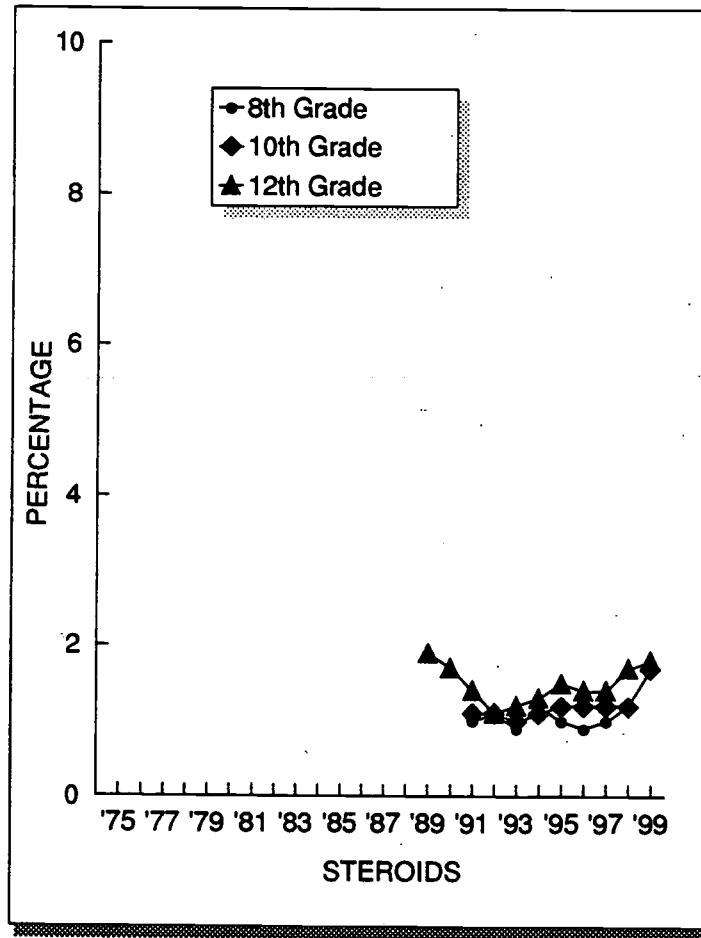
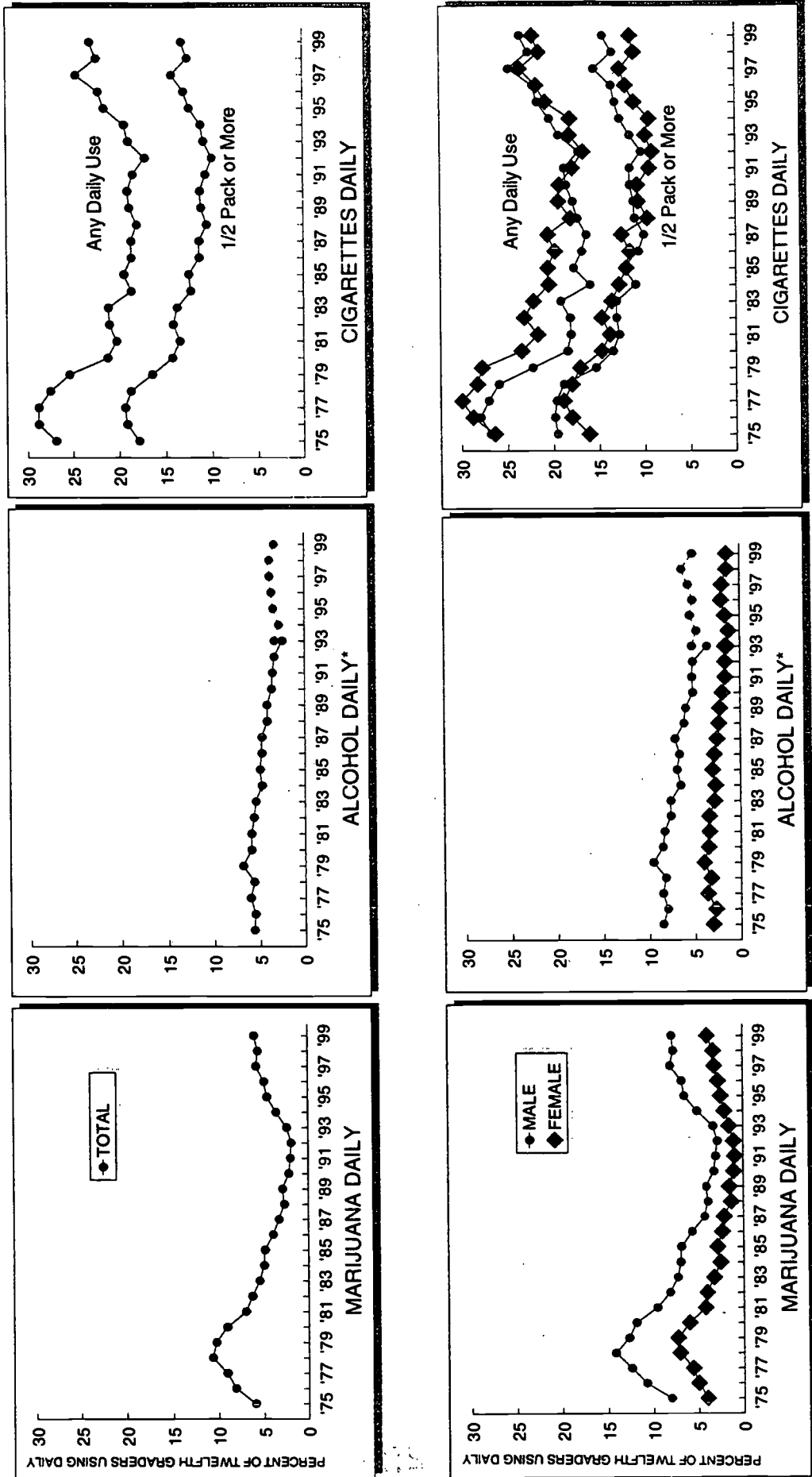


FIGURE 5-5
Trends in Thirty-Day Prevalence of Daily Use of
Marijuana, Alcohol, and Cigarettes for Twelfth Graders
by Total and by Sex



NOTE: Daily use for alcohol and marijuana is defined as use on 20 or more occasions in the past thirty days. Daily use of cigarettes is defined as smoking one or more cigarettes per day in the past thirty days.

*The dotted lines connect percentages which have been adjusted. See text for details.

FIGURE 5-6a
**Trends in Two-Week Prevalence of Heavy Drinking Among Twelfth Graders
 by Sex**

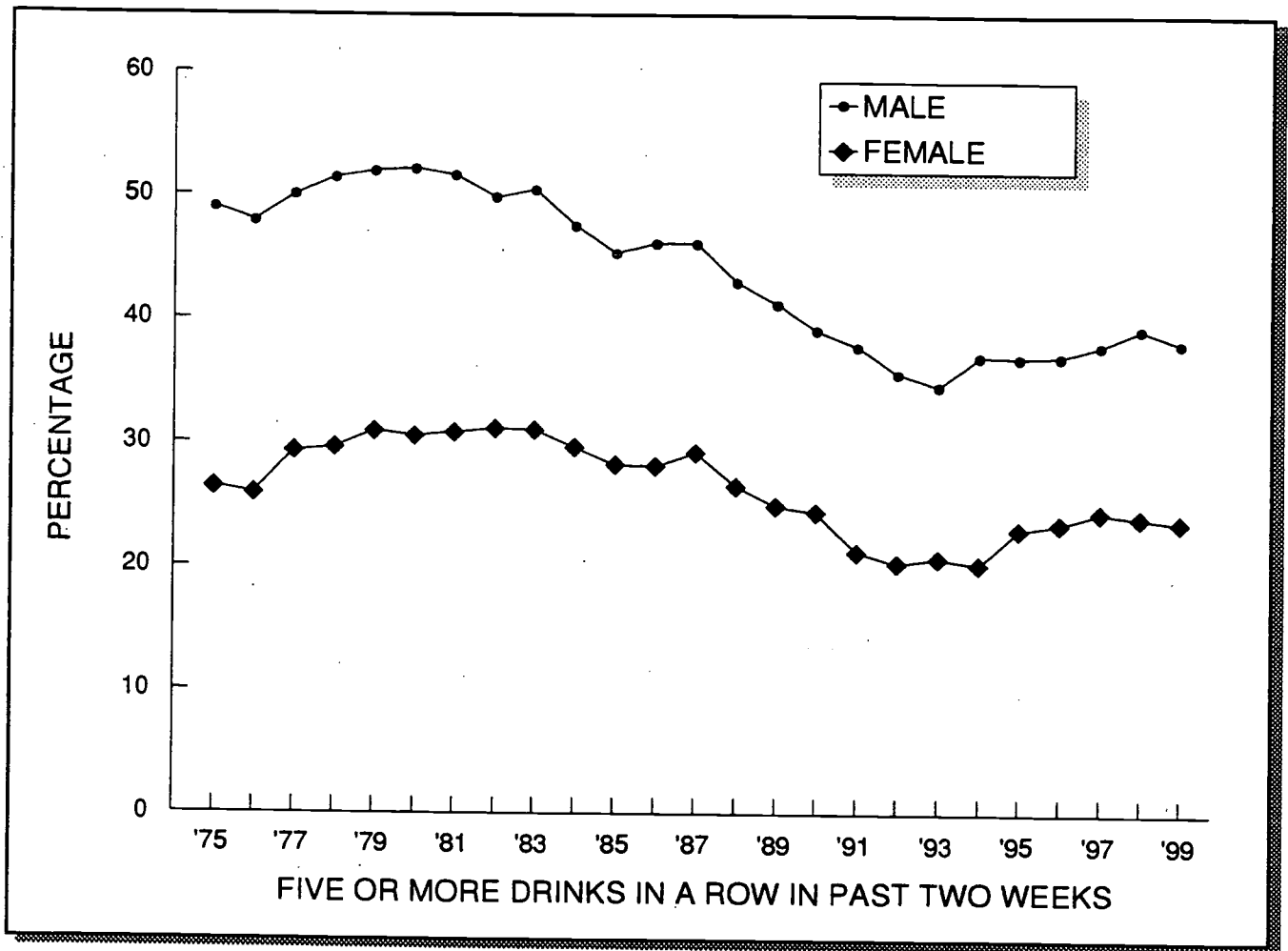
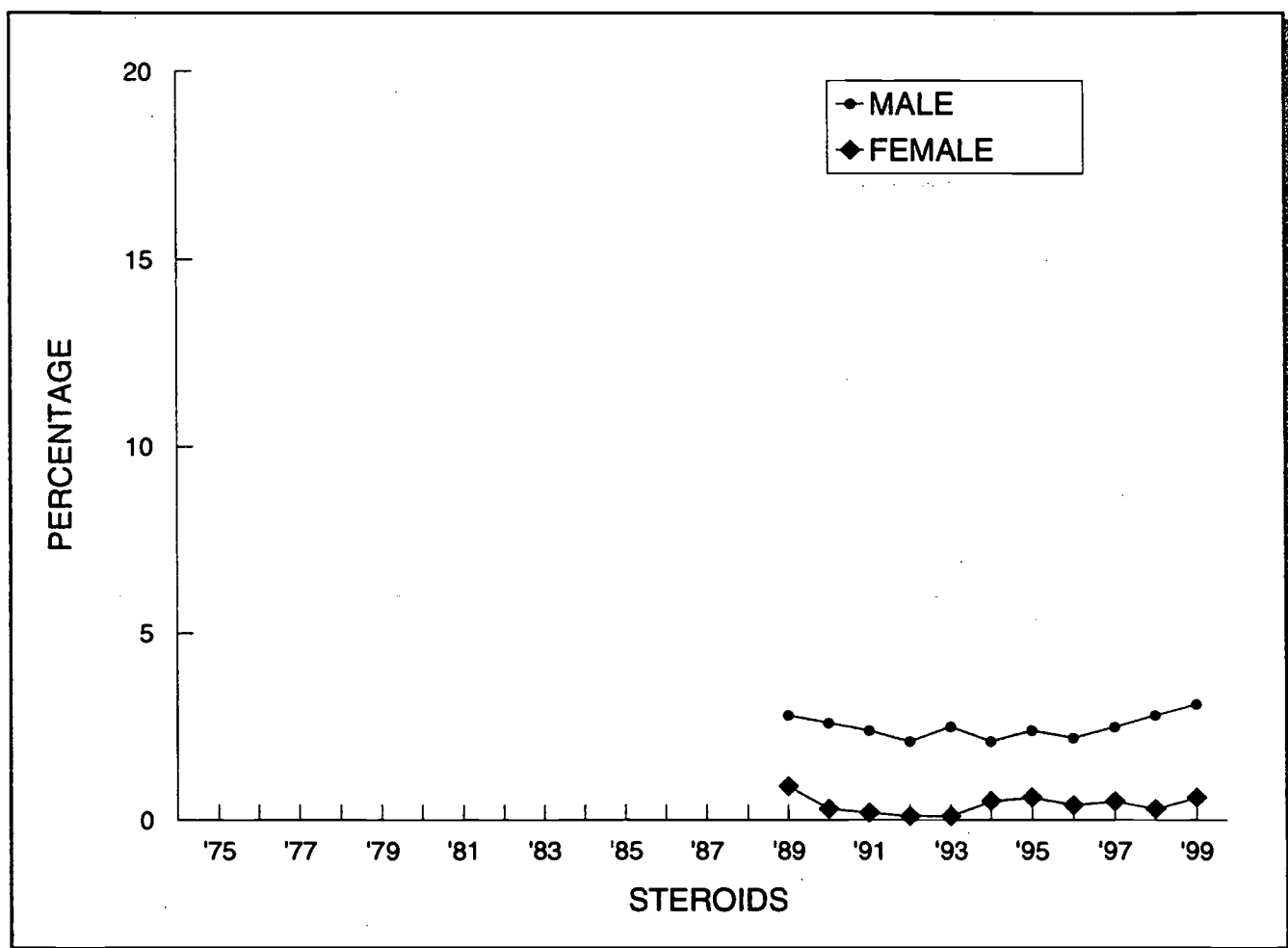


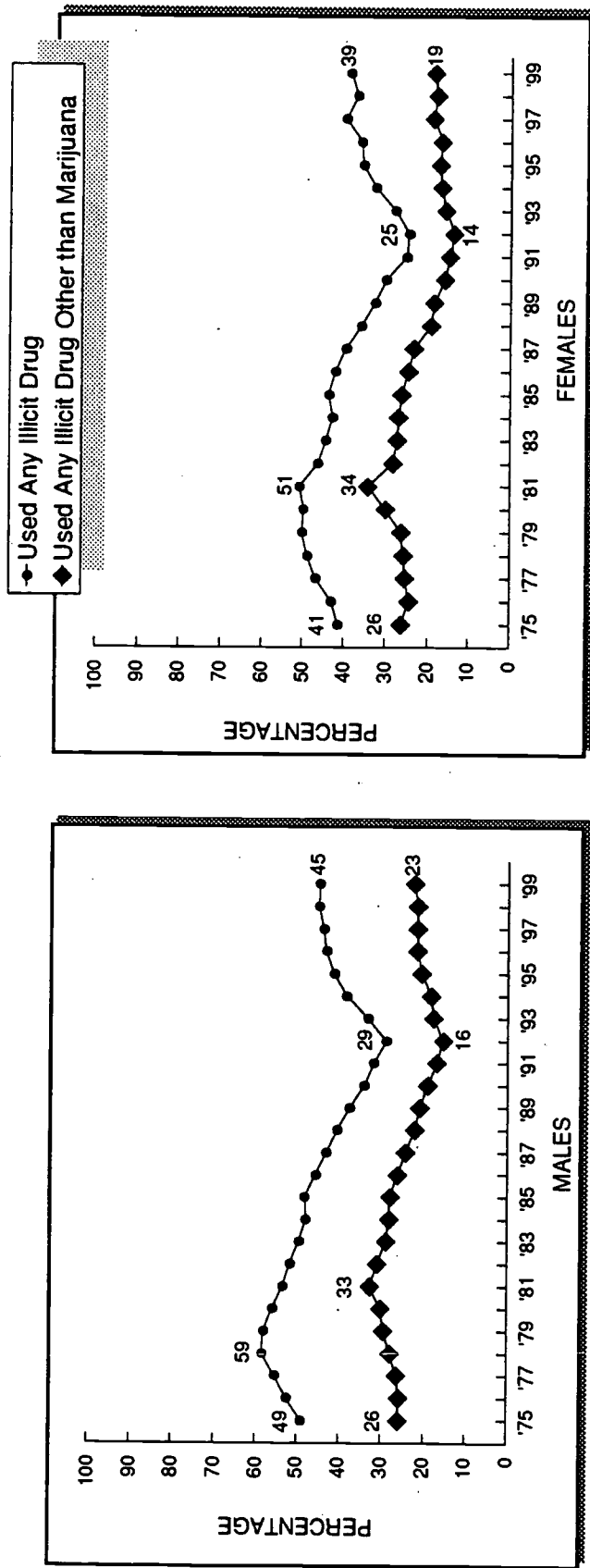
FIGURE 5-6b

Trends in Annual Prevalence of Steroid Use Among Twelfth Graders
by Sex



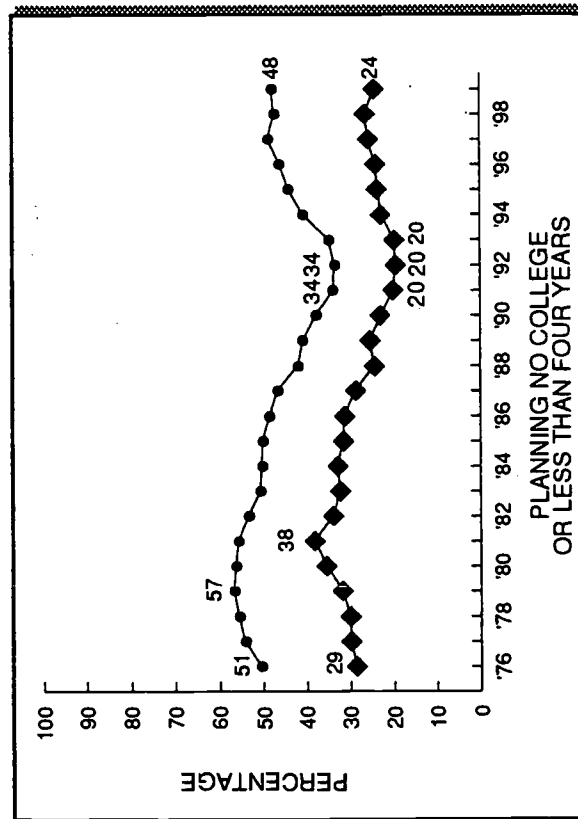
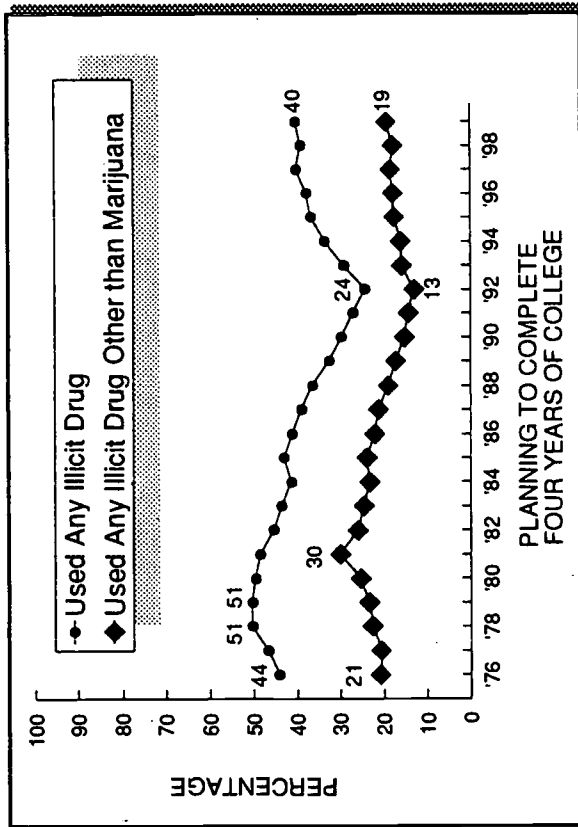
257

FIGURE 5-7
Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders
by Sex



NOTE: See Figure 5-3 for relevant footnotes.

FIGURE 5-8
Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders
by College Plans



NOTE: See Figure 5-3 for relevant footnotes.

FIGURE 5-9
Trends in Thirty Day Prevalence of Cigarette Use for Eighth, Tenth, and Twelfth Graders
by College Plans

● Less Than 4 Years of College
 ◆ Complete 4 Years of College

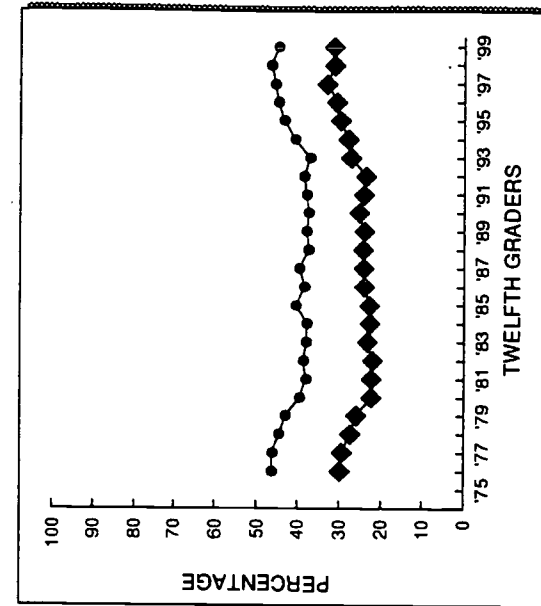
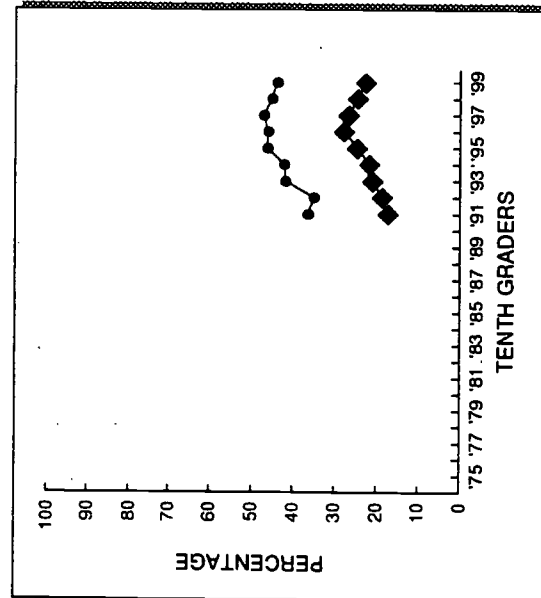
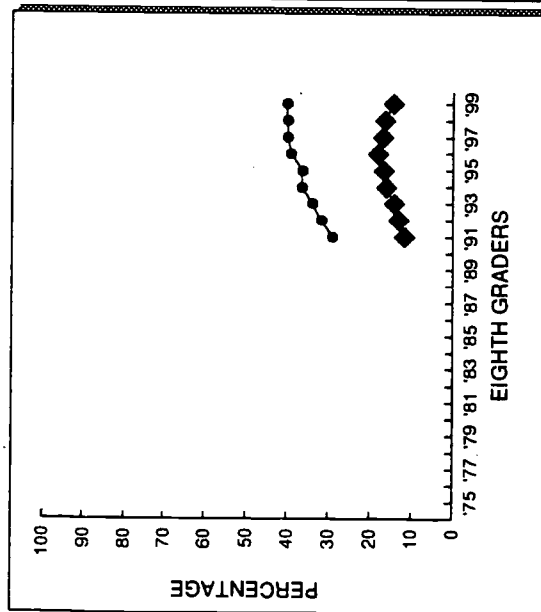
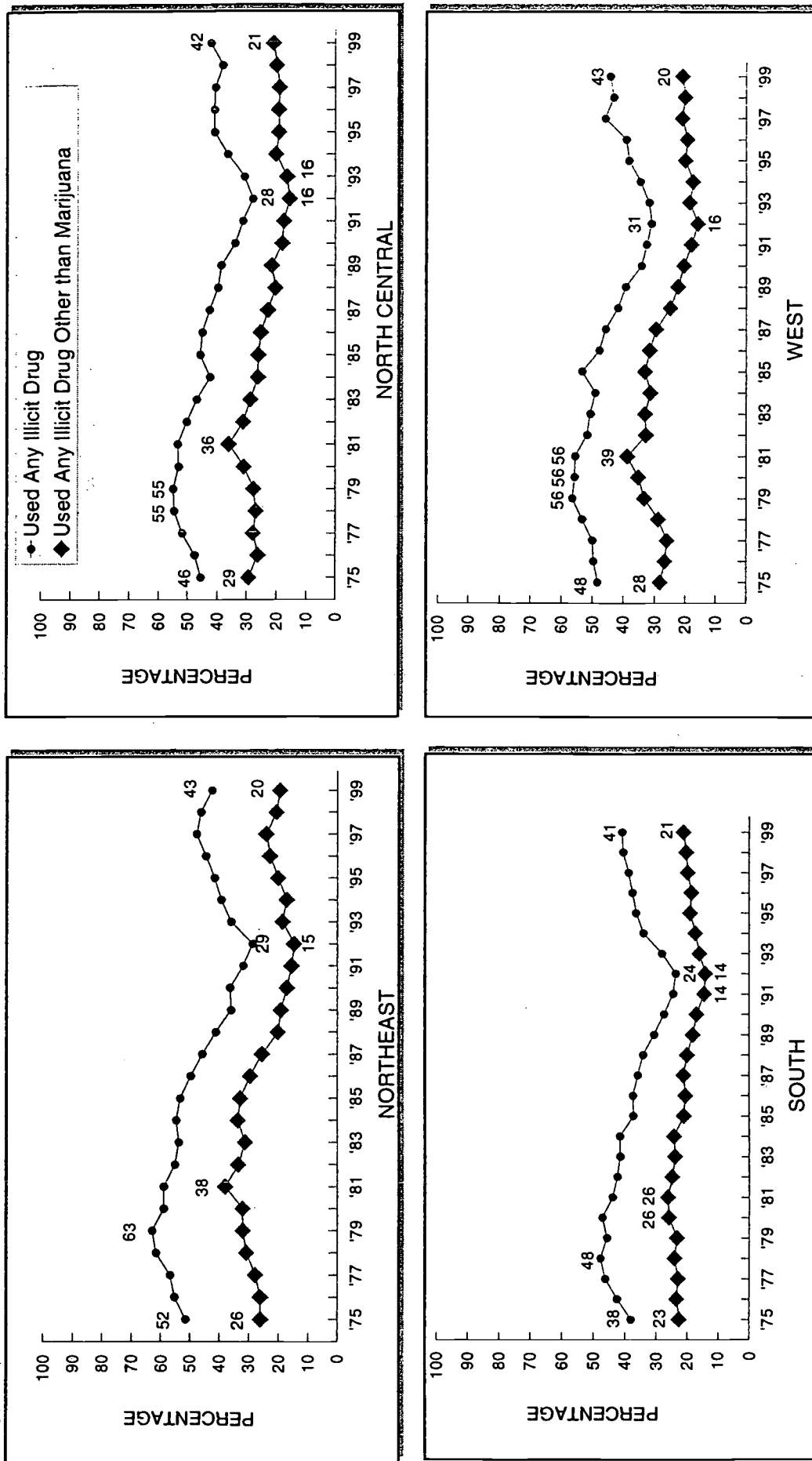


FIGURE 5-10a
Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders
by Region of the Country



NOTE: See Figure 5-3 for relevant footnotes.

FIGURE 5-10b

**Trends in Lifetime Prevalence of Cocaine Use for Twelfth Graders
by Region of the Country**

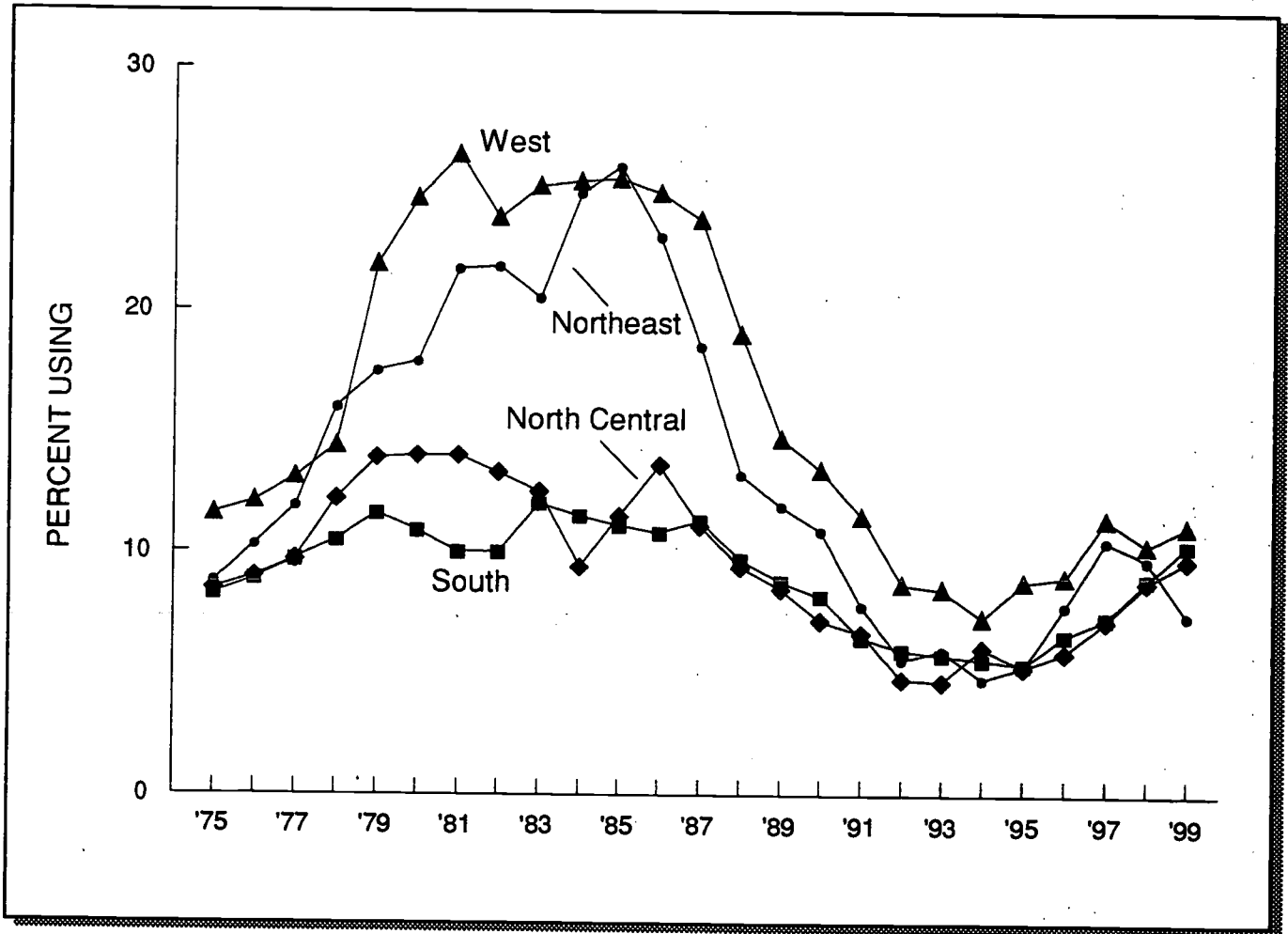


FIGURE 5-10c

Trends in 30-Day Prevalence of Cigarette Use for Twelfth Graders
by Region of the Country

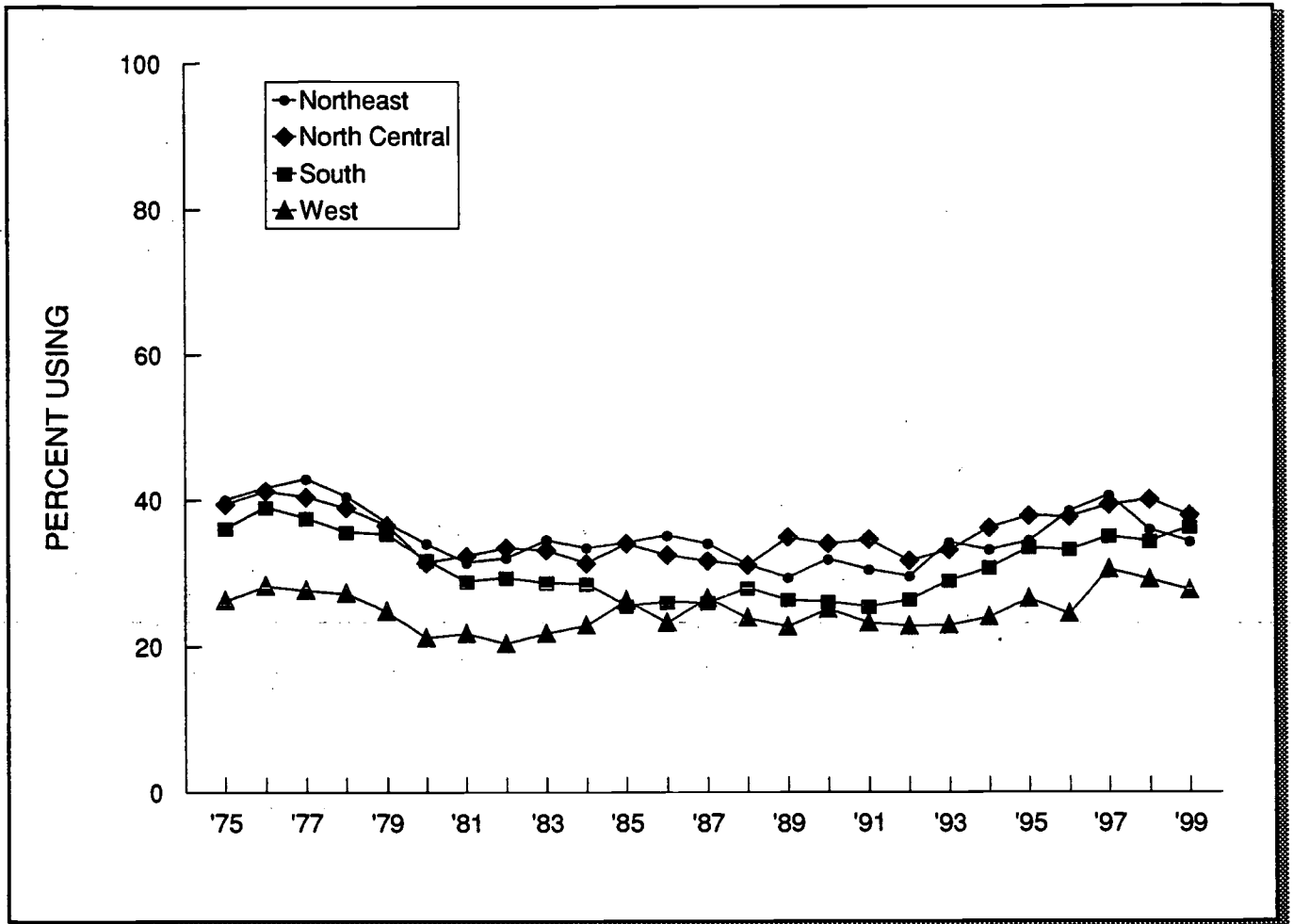
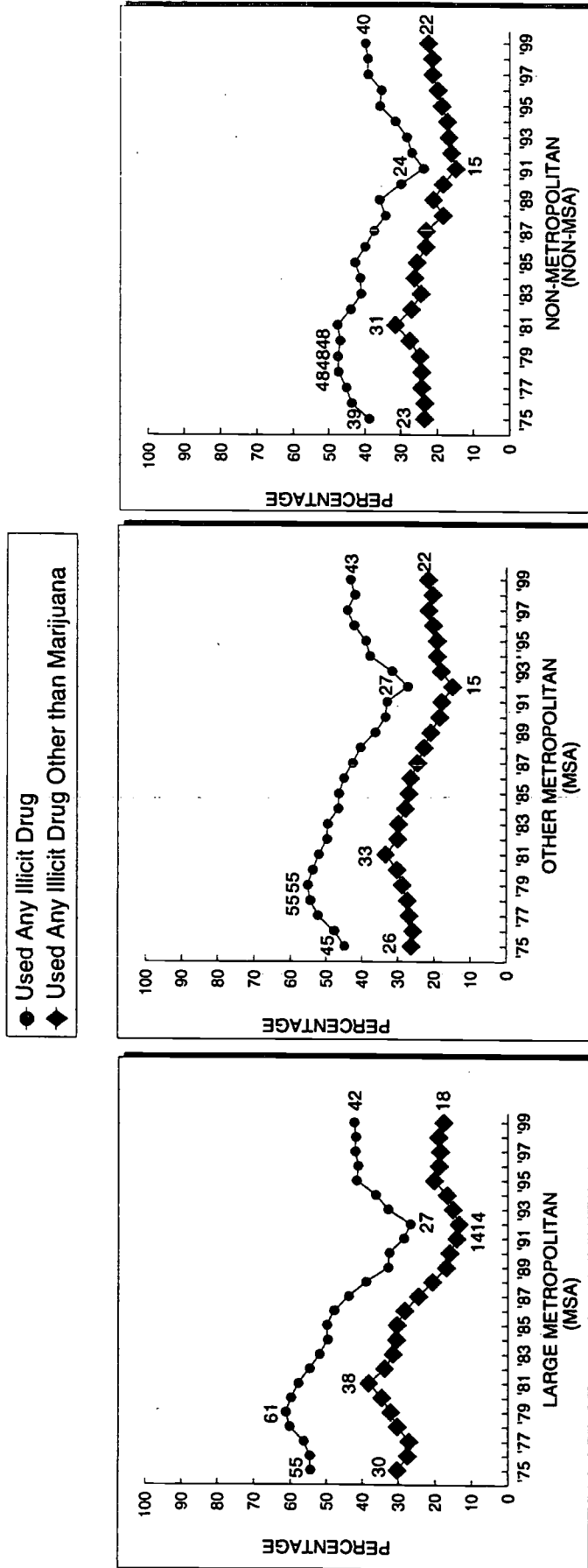
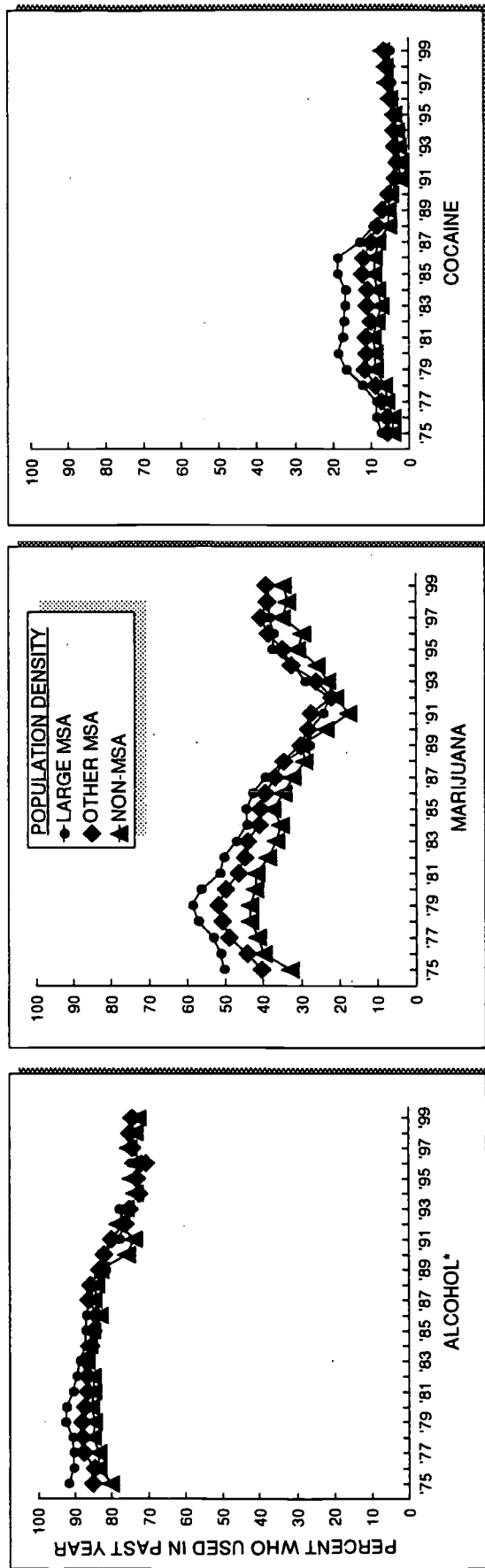


FIGURE 5-11a
Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders
by Population Density



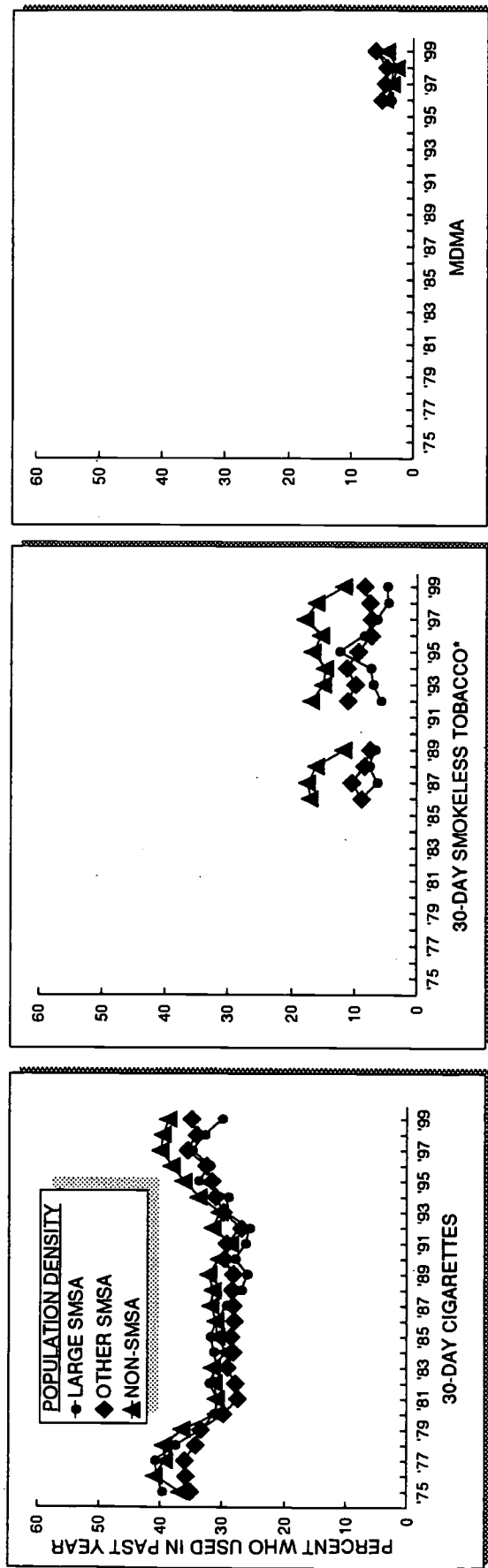
NOTE: See Figure 5-3 for relevant footnotes.

FIGURE 5-11b
Trends in Annual Prevalence of Alcohol, Marijuana, and Cocaine Use for Twelfth Graders
by Population Density



*1993 data points are based on the data from the questionnaire forms containing the original wording of the alcohol questions, from 1994 on data points are based on the revised alcohol questions. See text for details.

FIGURE 5-11c
Trends in Thirty-Day Prevalence of Cigarettes and Smokeless Tobacco, and Annual Prevalence of MDMA Use for Twelfth Graders by Population Density



*Question was not asked in 1990 or 1991.

FIGURE 5-12a

Marijuana: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders

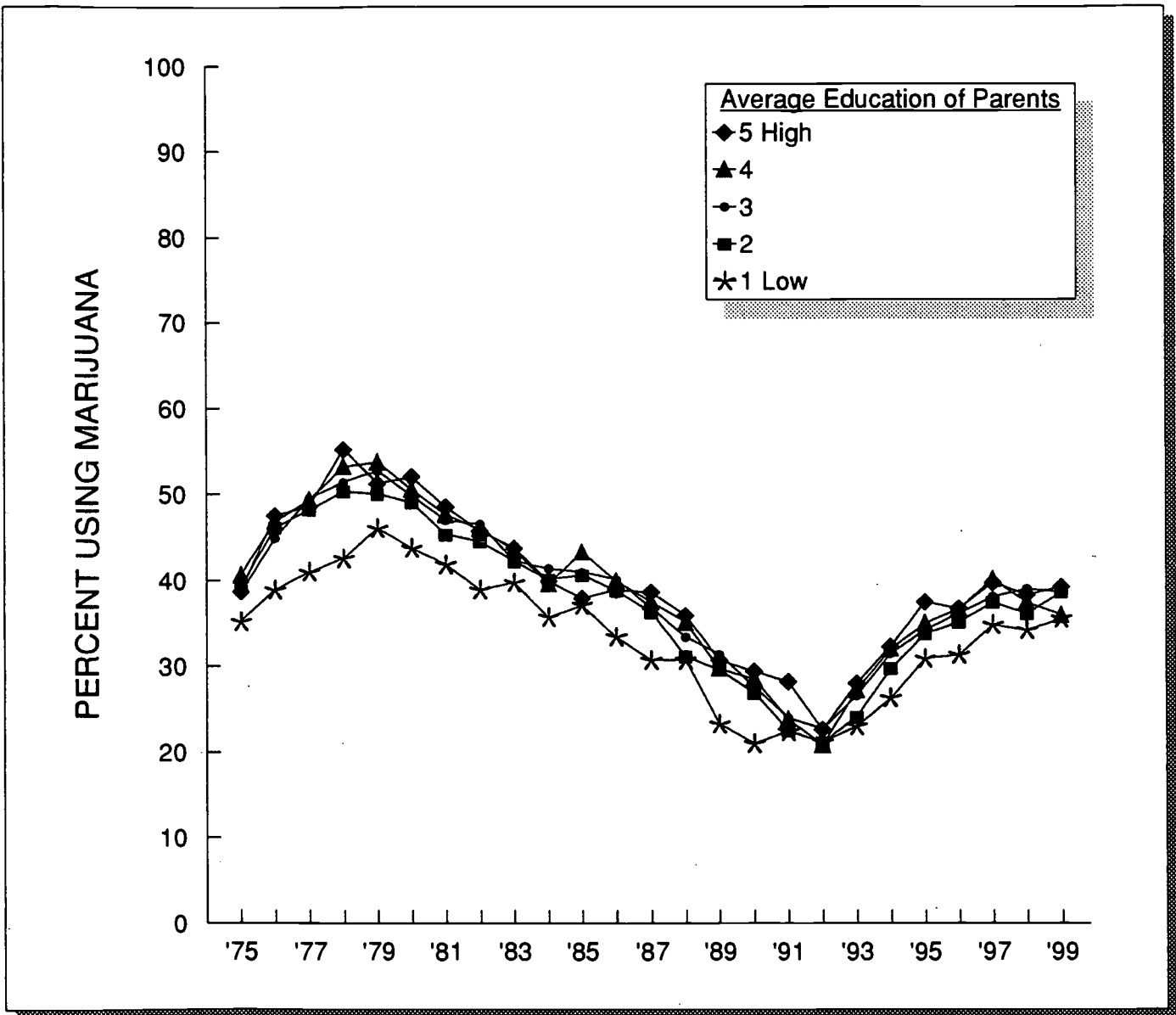


FIGURE 5-12b

Cocaine: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders

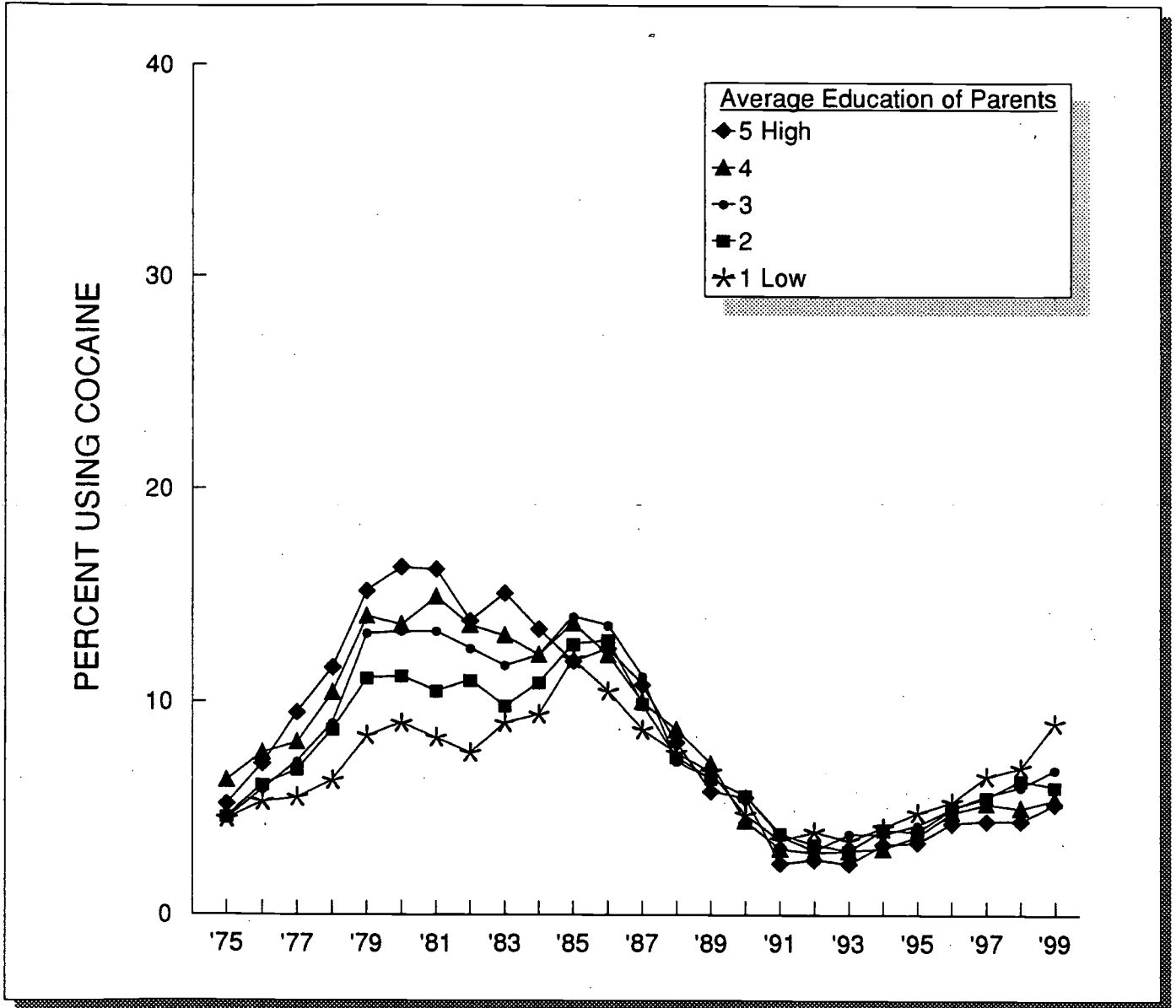


FIGURE 5-12c

LSD: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders

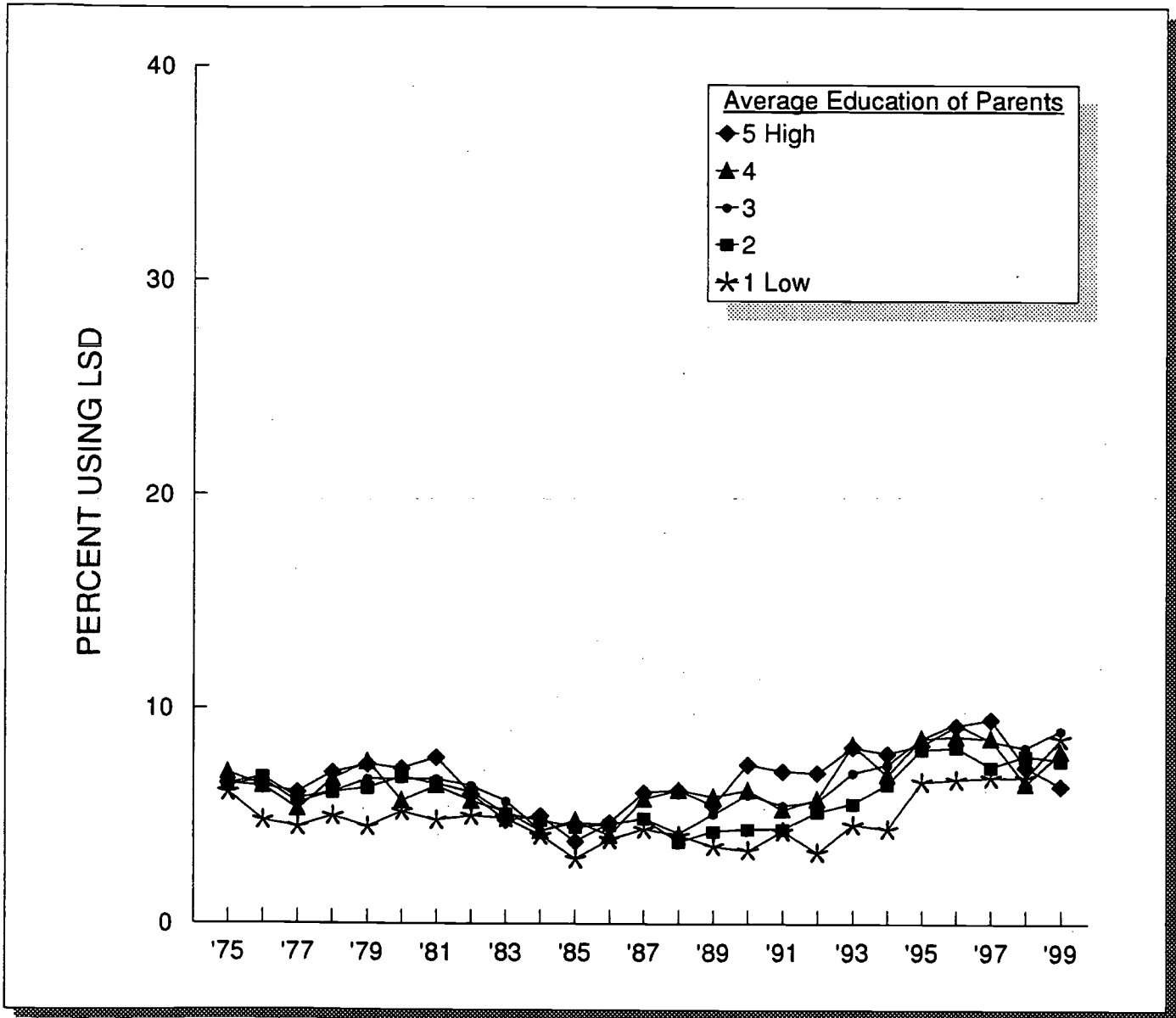
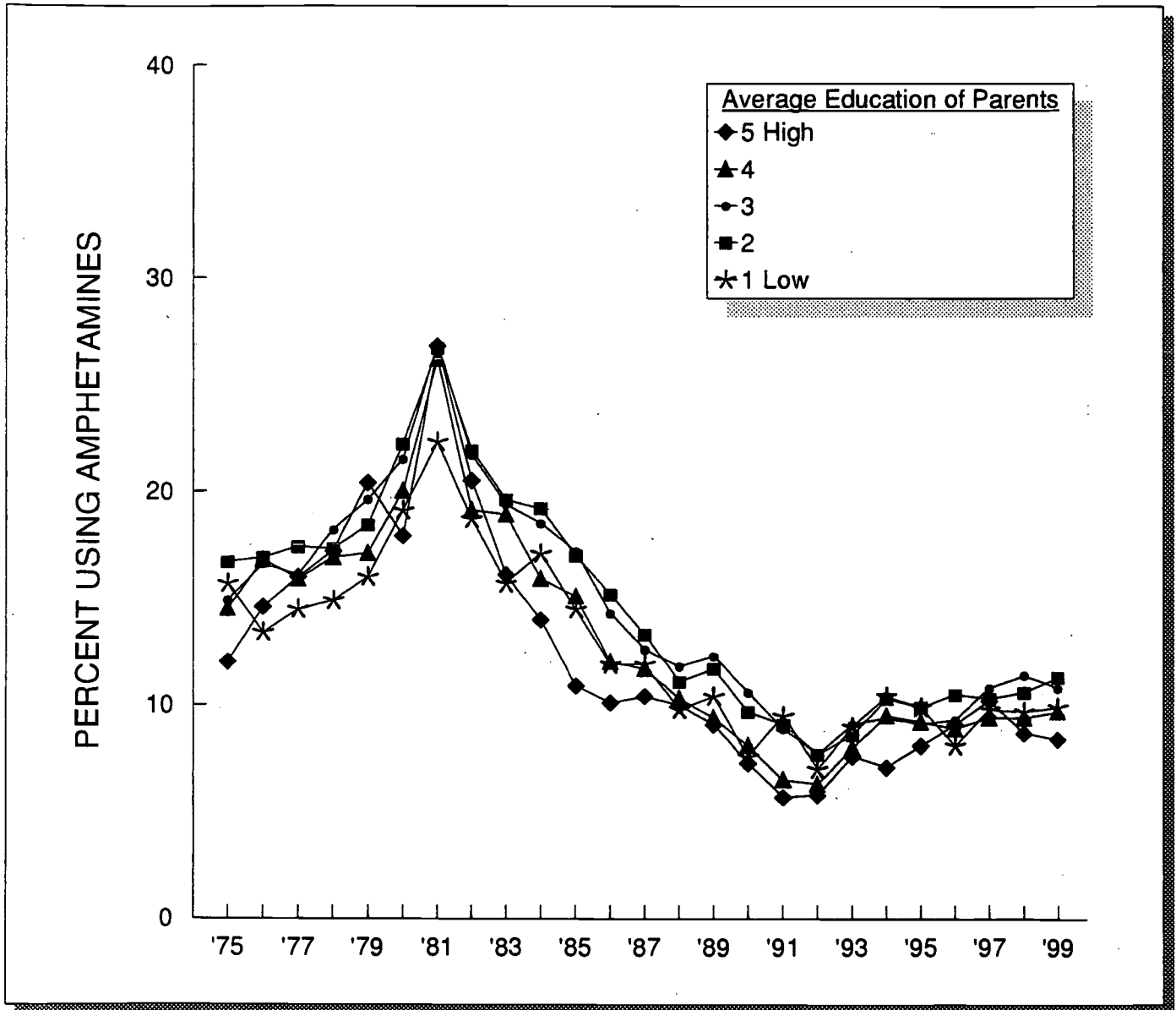


FIGURE 5-12d

Amphetamines: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders



NOTE: Beginning in 1982 the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

FIGURE 5-12e

Heavy Drinking: Trends in Two-Week Prevalence of 5 or More Drinks in a Row by Average Education of Parents for Twelfth Graders

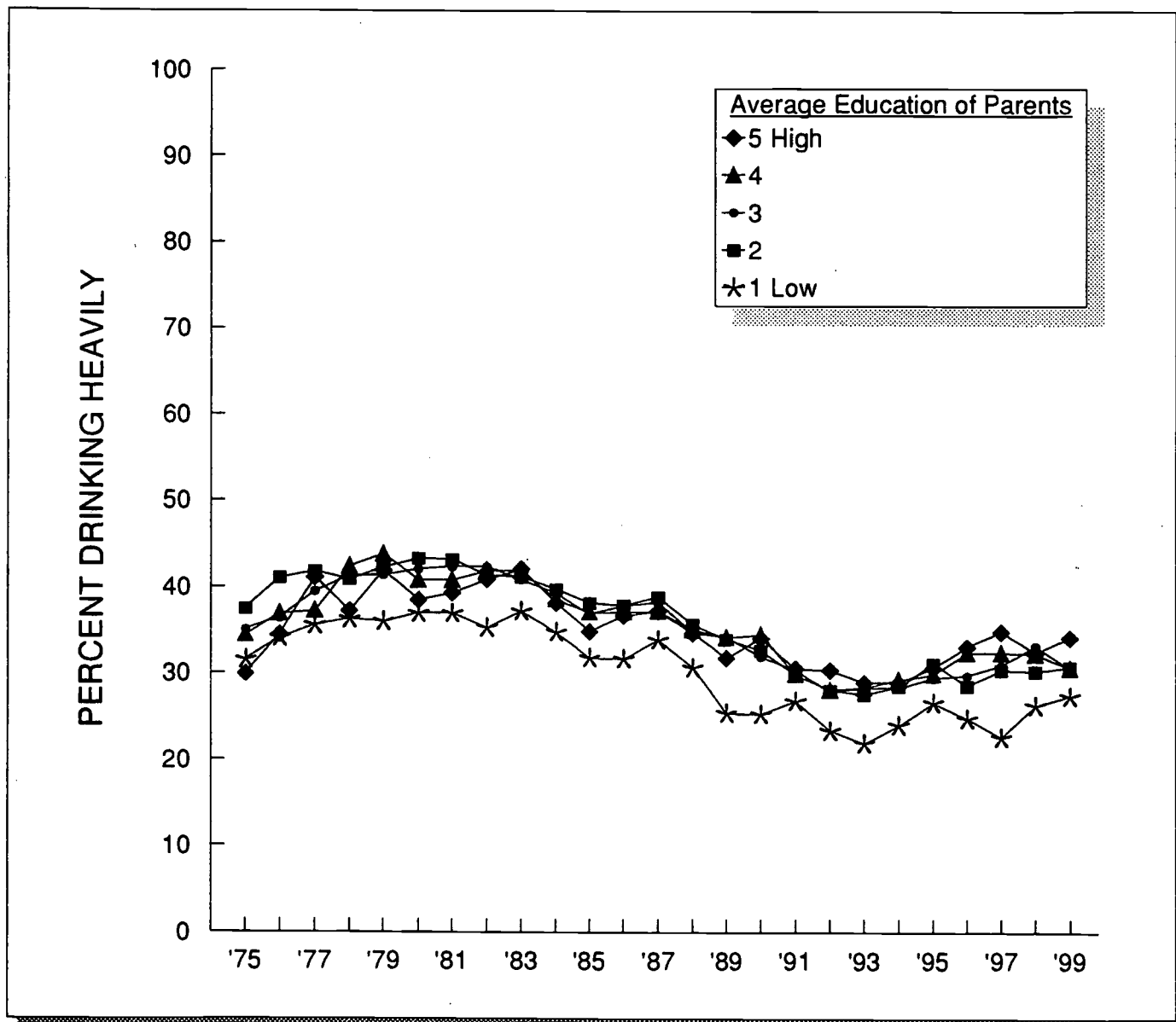


FIGURE 5-12f

Cigarettes: Trends in Daily Prevalence by Average Education of Parents for Twelfth Graders

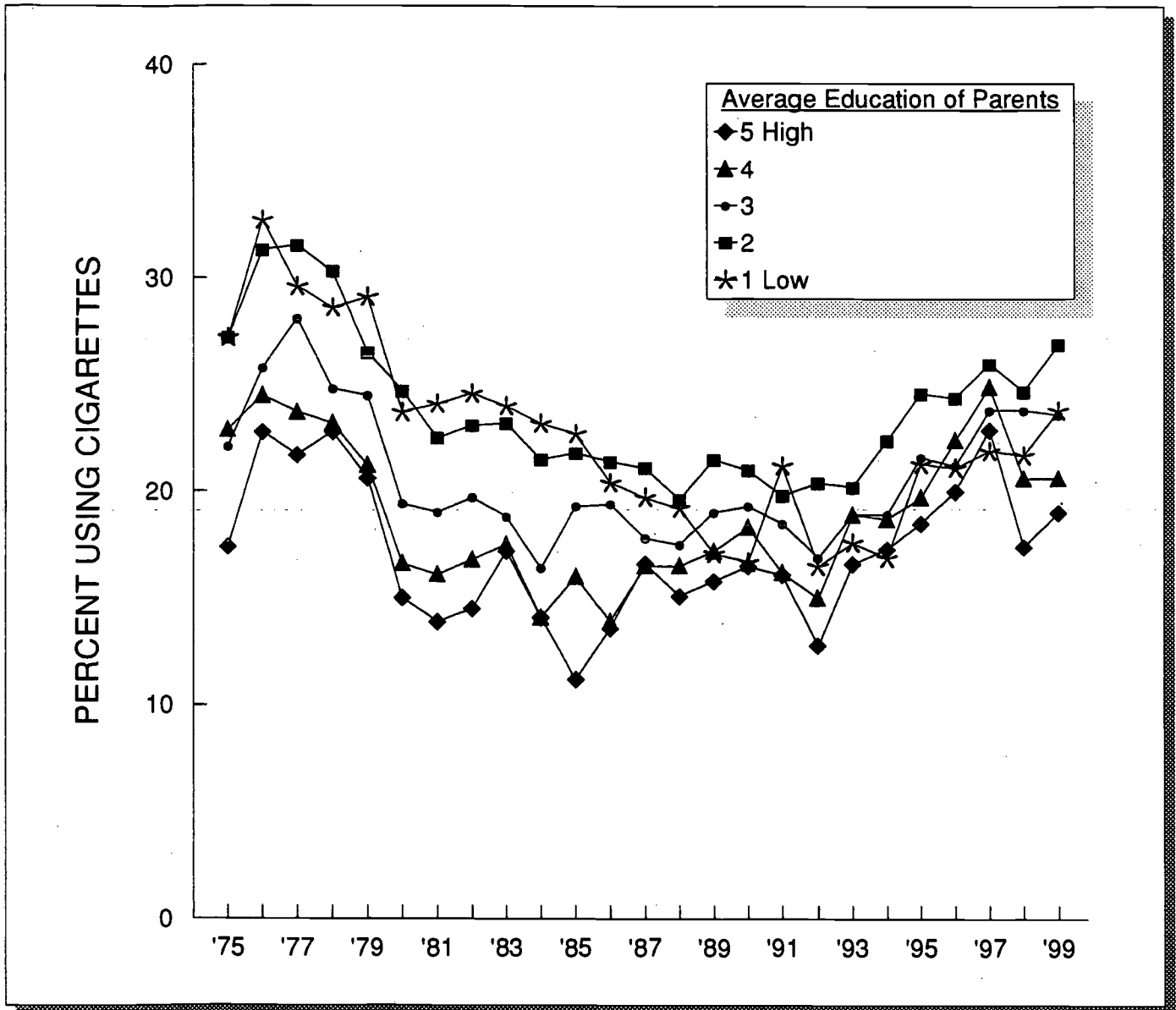
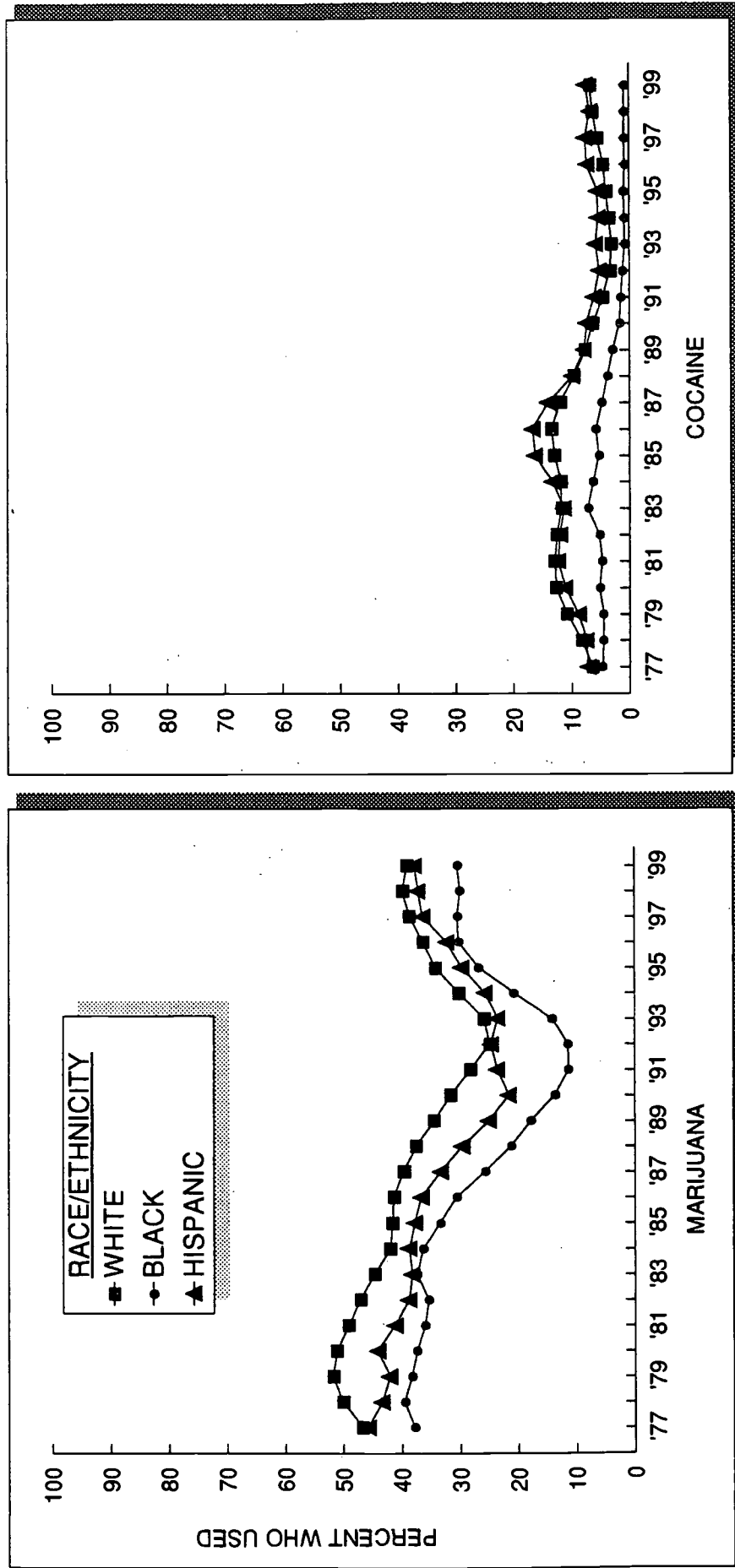


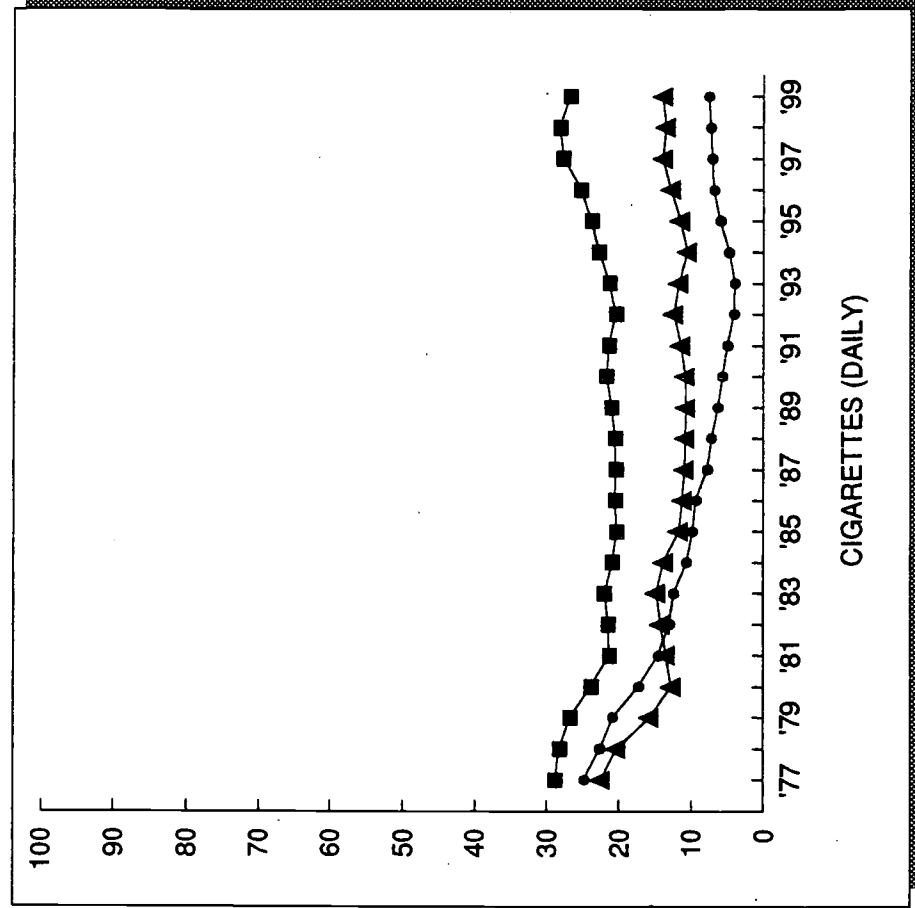
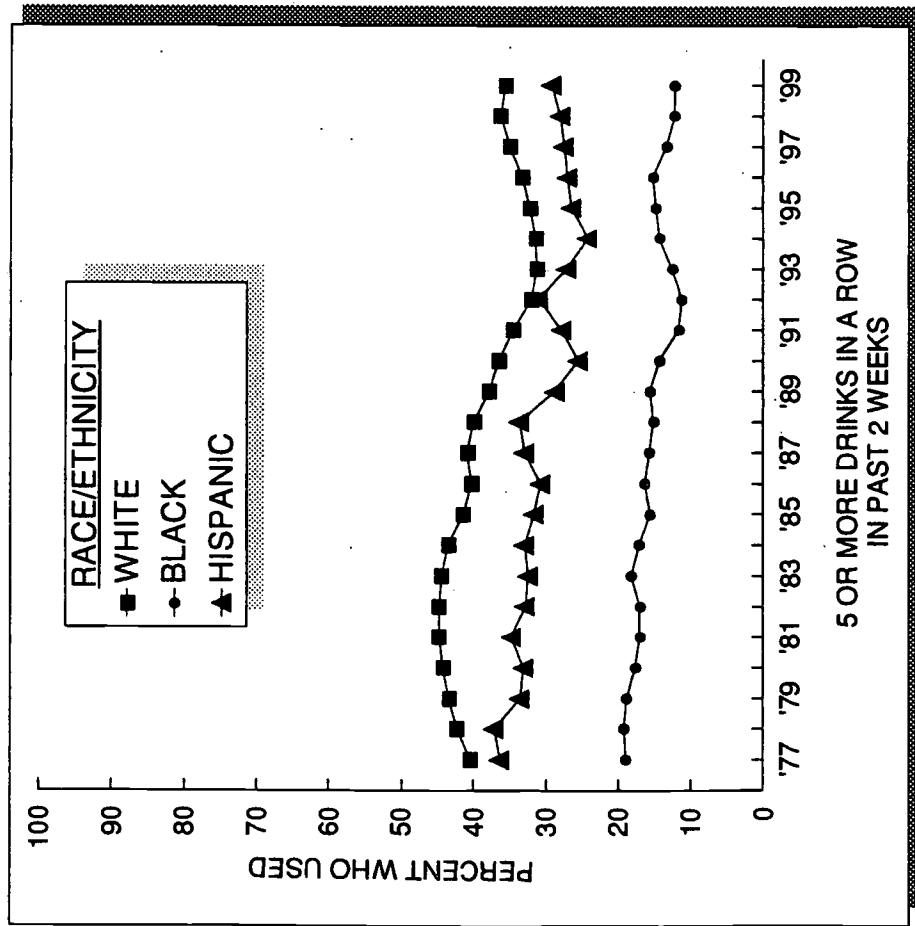
FIGURE 5-13a
Trends in Annual Prevalence of Marijuana and Cocaine Use
for Twelfth Graders
 by Race/Ethnicity
 (Two-year moving average*)



*Each point plotted here is the mean of the specified year and the previous year.

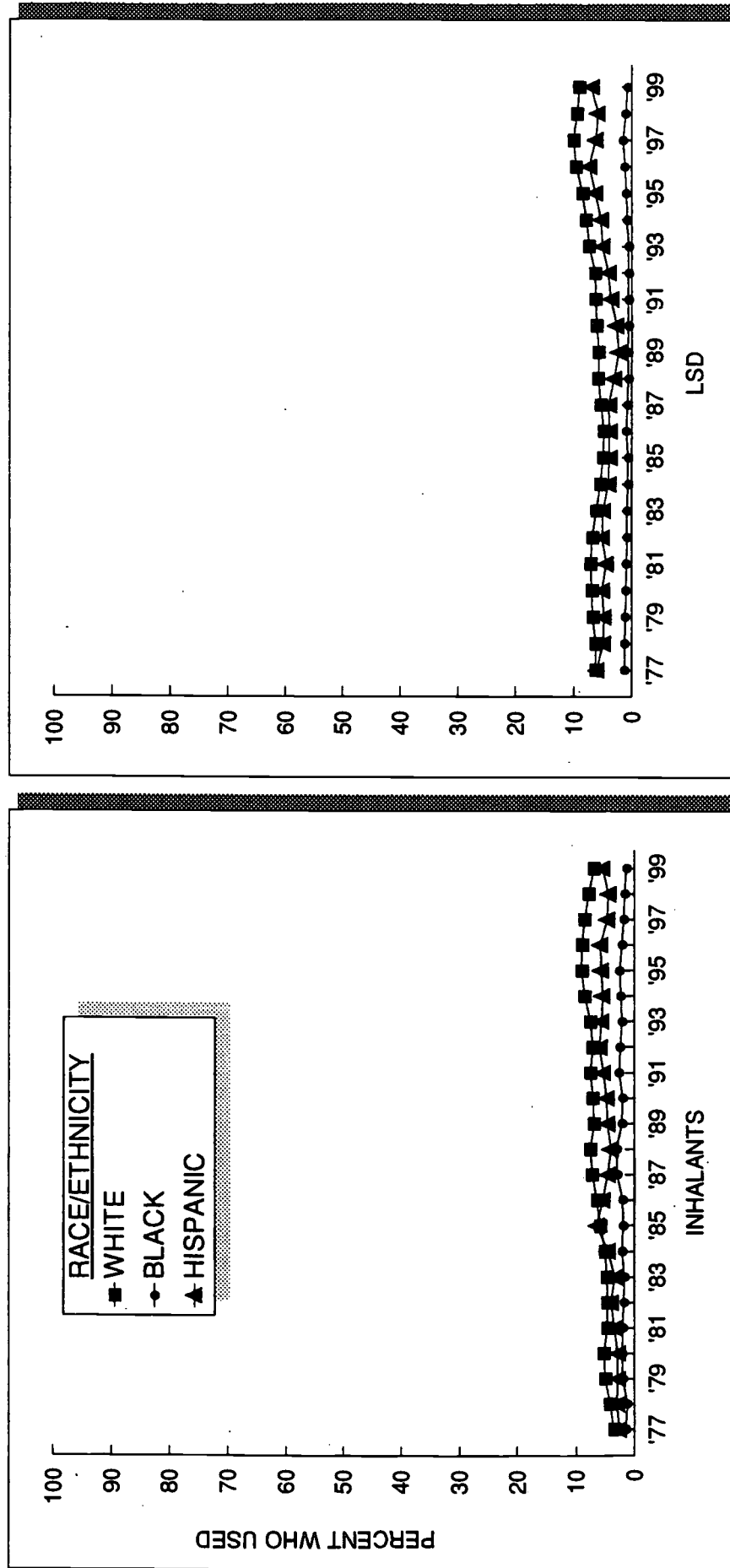
FIGURE 5-13b

Trends in Prevalence of 5 or More Drinks in a Row in the Past 2 Weeks and Daily Use of Cigarettes for Twelfth Graders by Race/Ethnicity
(Two-year moving average*)



*Each point plotted here is the mean of the specified year and the previous year.

FIGURE 5-13c
Trends in Annual Prevalence of Inhalant and LSD Use
for Twelfth Graders
by Race/Ethnicity
 (Two-year moving average*)



*Each point plotted here is the mean of the specified year and the previous year.

Chapter 6

INITIATION RATES AND TRENDS IN INITIATION RATES AT LOWER GRADE LEVELS

It is important to know the age at which young people begin to use various drugs, in part because that information provides a guide to the timing and nature of various interventions (including media campaigns) in the school, the home, and the larger society. Any such intervention is likely to be considerably less effective in preventing drug use if it is administered after the ages of peak initiation. It also may be less effective if it substantially precedes this decision-making period. We know that users' ages of peak initiation vary according to drug and tend to progress from drugs seen as the least risky, deviant, or illegal toward those that are more so.

Age of initiation has been ascertained from high school seniors by a set of questions included in the study since its inception in 1975. The results reported in this series of monographs provide a retrospective view of trends in lifetime prevalence of use at earlier grade levels. Because these trends span a long time period, we continue to include here the series of figures based on seniors' responses, even though we now measure drug usage rates directly from eighth and tenth graders. We have also included retrospective figures for eighth graders' reported grade of first use.

One would not necessarily expect today's eighth, tenth, and twelfth graders to give the same retrospective prevalence rate for a drug, even for a given grade level (say by sixth grade), because the three groups differ in a number of ways. These differences can be summarized as follows:

- The lower grades contain the eventual school dropouts, while twelfth grade does not. The lower grades also have lower absentee rates. For any given year, both factors should cause the prevalence of use rates derived directly from eighth graders to be higher for a given calendar year than the retrospective prevalence rates for eighth grade derived from the same cohort of young people who still are students in tenth grade or twelfth grade.
- Each class cohort was in eighth grade in a different year, so any broad secular (historical) trend in the use of a drug could contribute to differences in respondents' reports of their experiences when they were in eighth grade.

- The eighth, tenth, and twelfth graders are in three different class cohorts, so any lasting differences among cohorts (“cohort effects”) could contribute to a difference at any grade level, including eighth grade.

Two types of method artifacts could also explain observed differences in the retrospective reports of use by eighth, tenth, and twelfth graders:

- Memory errors are more likely for the older respondents. They may forget that an event ever occurred (although this is unlikely for use of drugs) or they may not accurately remember *when* an event occurred. For example, an event may be remembered as having occurred more recently than it actually did—a kind of “forward telescoping” of the recalled timing of events.
- The definition of the eligible event may change as a respondent gets older. Thus, an older student may be less likely to include an occasion of taking a sip from someone’s beer as an occasion of alcohol use, or an older student may be more likely to exclude (appropriately) an over-the-counter stimulant when asked about amphetamine use. While we attempt to ask the questions as clearly as possible, some of these drug definitions are fairly subtle and are likely to be more difficult for the younger respondents. Indeed, we have omitted from this report eighth and tenth graders’ data on their use of barbiturates and other narcotics precisely because we judged them to contain erroneous information.⁴⁰

INCIDENCE OF USE BY GRADE LEVEL

Tables 6-1 through 6-3 provide the retrospective initiation as reported by eighth, tenth, and twelfth graders, respectively. Obviously, the older students have a longer age span over which they can report initiation. Table 6-4 combines the retrospective initiation rates from all three sets of respondents in order to facilitate a comparison of reported initiation rates by particular grades.

The set of questions from which the data are derived have a common stem: “When (if ever) did you FIRST do each of the following things? Don’t count anything you took because a doctor told you to.” The first event is “smoke your first cigarette,” followed by “smoke cigarettes on a daily basis,” followed by “try an alcoholic beverage—more than a just a few sips,” etc. The answer alternatives are stated in terms of grade level.

⁴⁰We have found that follow-ups of high school seniors into young adulthood lead to a higher recanting rate for the psychotherapeutic drugs, in contrast to the illegal drugs. We interpret this discrepancy as reflecting, in part, a better understanding of the distinctions between prescription and non-prescription drugs in young adulthood. See Johnston, L. D. & O’Malley, P. M. (1997). The recanting of earlier reported drug use by young adults. In L. Harrison & A. Hughes (Eds.), *The validity of self-reported drug use: Improving the accuracy of survey estimates* (pp. 59-80). (NIDA Research Monograph 167). Rockville, MD: National Institute on Drug Abuse.

- Eighth-, tenth-, and twelfth-grade students all retrospectively reported very low usage rates (1% or lower) by the end of sixth grade for *crack*, *cocaine powder*, *heroin*, and *steroids*. Fewer than 2% reported any use of *hallucinogens*, *LSD*, *cocaine*, or *tranquilizers*, and fewer than 3% reported any use of *amphetamines*. *Marijuana* had been tried by fewer than 8% of youngsters by the end of sixth grade, or about 1 in every 13. For these drugs, these findings are fairly consistent with past reports based on the retrospective data from twelfth graders, providing greater confidence in those retrospective reports (see Table 6-4).
- In general, the legal drugs (*alcohol* and *tobacco*) are the most likely to have been initiated at an early age, with *inhalants* and *marijuana* likely to have come next.
- Based on the data from eighth graders (Table 6-1), the peak years for initiation of *cigarette* smoking appear to have been in the sixth and seventh grades (23%)—or between ages 11 and 13—but a considerable number initiated smoking even earlier. In fact, 17% of the 1999 eighth-grade respondents reported having had their first cigarette by fifth grade. *Daily smoking* appears to develop primarily in grades 7 through 11 (see Table 6-3).

Because educational attainment is very highly correlated with smoking, the differential inclusion of eventual dropouts could account for much of the difference between sixth-grade smoking rates derived from eighth graders (28%) and those derived from twelfth graders (14%). In addition, teen smoking rates rose sharply in the interval between 1993, when today's twelfth graders were in seventh grade, and 1997.

- *Smokeless tobacco* use also tends to be initiated quite early, as Tables 6-1 through 6-3 illustrate, with grades 7 through 10 tending to show the peak rates of initiation.
- *Inhalant* use tends to occur early, with peak initiation rates in grades 6 through 9. Among eighth-grade respondents in 1999, some 8% had already tried inhalants by the end of the fifth grade.

Of the illicit drugs, only *inhalants* show very large differences between the grade levels responding. While only 3% of the twelfth graders in 1999 reported using inhalants by the end of sixth grade, a much higher 13% of the 1999 eighth graders reported such use by sixth grade. Although any of the explanations offered earlier might explain these differences, we believe that early inhalant use may be associated with dropping out and, also, that the use of the types of inhalants (glues, aerosols, and butane) generally used at younger ages had been on the rise for some time.

- For *alcohol*, we are inclined to rely on the data from seniors, which suggest that the peak years of initiation are seventh through ninth grade. While the first occasion of *drunkenness* is most likely to occur in grades 7 through 10, some 8% of the 1999 eighth graders actually reported first having been drunk by the end of sixth grade.

Alcohol use by the end of sixth grade is retrospectively reported by 27% of the 1999 eighth graders but by only 8% of the 1999 twelfth graders. Several factors may contribute to this difference. One is that eventual dropouts undoubtedly are more likely than average to drink at an early age. Another is related to the issue of what is meant by "first use." The questions for all grades refer specifically to the first use of "an alcoholic beverage—more than just a few sips," but it is likely that the older students (twelfth graders) are more inclined to report only use that is not adult-approved and not to count having less than a glass with parents or for religious purposes. Younger students (eighth graders) are less likely to have had a full drink or more and may be more likely to report first use of a limited amount. Thus, the eighth-grade data probably exaggerate the phenomenon of having more than a few sips, whereas the twelfth-grade data may understate it. Note that the data from the three groups of respondents tend to converge as we ask about lifetime alcohol use by the time they reach higher grade levels.

- A fair number of students from all three grade levels indicated having *gotten drunk* by the end of sixth grade (between 3% and 8%, see Table 6-4). Much of the difference may be attributable to the differential inclusion of eventual dropouts.
- For *marijuana*, the highest initiation rates are seen in grades 7 through 11, although 8% of the 1999 eighth graders reported that they had tried marijuana by sixth grade.
- The illicit drugs other than marijuana and inhalants generally do not reach peak initiation rates until the high school years (grades 10 through 12), consistent with the progression model noted earlier. *Amphetamines*, specifically, showed a high initiation rate in grades 9 through 12.
- Of all the twelfth-grade respondents who said they had tried a drug by the end of twelfth grade, the proportion saying that they had initiated use *prior to grade 10* is as follows: *inhalants* (70%), *nitrites* (59%), *methaqualone* (56%), *marijuana* (55%), *barbiturates* (54%), *heroin* (50%), *amphetamines* and *PCP* (41%), *tranquilizers* (40%), *LSD* and *hallucinogens* (39%), *crack* (37%), *narcotics other than heroin* (36%), *steroids* and *other forms of cocaine* (31%), and *cocaine* (29%). Note that such an ordering can be influenced considerably by secular trends in use.

TRENDS IN LIFETIME PREVALENCE AT EARLIER GRADE LEVELS

Using the retrospective data provided by members of each senior class concerning their grade of first use, it has been possible to reconstruct lifetime prevalence of use trend curves for lower grade levels over many earlier years. Obviously, data from school dropouts are not included in any of the curves based on twelfth graders. Figures 6-1 through 6-25 show the reconstructed lifetime prevalence curves for earlier grade levels for a number of drugs. When data are available, starting with Figure 6-4, there is also a panel showing retrospective prevalence curves based on data gathered from eighth graders, who have been included in the study since 1991.⁴¹ These curves *would* include data from nearly all the eventual dropouts.

- Figure 6-1 provides the trends at each grade level for lifetime use of *any illicit drug* (based on data supplied by twelfth graders). It shows that all grade levels had a continuous increase in illicit drug involvement through the 1970s. Fortunately, the increase in use below seventh grade was quite small; the retrospective rate in 1969 (based on the class of 1975) for sixth grade or below was 1.1%. That figure increased modestly through 1978, leveled for a time, and then declined in the late 1980s, from 3.5% in 1986 to 2.1% in 1989. The lines for the other grade levels all show much steeper upward slopes, followed by earlier and longer declines. For example, about 37% of tenth graders in 1973 had used some illicit drug compared to 52% by 1980. This statistic fell to 28% by 1991 and then leveled. It increased from 1993 to 1995, before leveling again in 1996.
- Most of the early increase in *any illicit drug use* was due to increasing proportions using marijuana. We know this from the results in Figure 6-2, showing trends for each grade level in the proportion having used *any illicit drug other than marijuana* in their lifetime. Compared to Figure 6-4 for marijuana use, these trend lines are relatively flat throughout the 1970s and, if anything, begin to taper off among ninth and tenth graders between 1975 and 1977. The biggest cause of increases in these curves from 1978 to 1981 was the rise in reports of *amphetamine* use. As noted earlier, we suspect that at least some of this rise was artifactual. If amphetamine use is removed from the calculations, even greater stability is shown in the proportion using illicit drugs other than marijuana or amphetamines (see Figure 6-3).
- As the top panel of Figure 6-4 shows, throughout the 1970s the lifetime prevalence of *marijuana* use rose steadily at all grade levels down through the seventh and eighth grades. Beginning in 1980, lifetime prevalence of marijuana use began to decline in grades 9 through 12. Declines in grades 7 and 8 began a year later, in 1981.

⁴¹Note that the scale used in the graphs based on data from eighth graders is an expanded version of the scale used for twelfth graders (because the prevalence rates are generally lower). This tends to exaggerate changes in the eighth-grade graphs relative to those in the twelfth-grade graphs.

There was also some small increase in marijuana use during the 1970s at the elementary school level, below seventh grade. Use by sixth grade or lower rose gradually from 0.6% for the class of 1975 (who were sixth graders in 1968-1969) to a peak of 4.3% for the class of 1984 (who were sixth graders in 1977-1978). Use began dropping thereafter, and for the twelfth-grade class of 1999 (who were sixth graders in 1992-1993) it was down to 1.1%. (The most up-to-date data from the 1999 eighth graders, which are slightly incomparable due to the inclusion of eventual dropouts, yield a prevalence estimate of 7.6% for these students when they were sixth graders in 1997.) The data from eighth graders clearly indicate that marijuana use among sixth graders increased some after 1991.

Both the top and bottom panels of Figure 6-4 show the accelerating increase in marijuana lifetime prevalence of use that began after 1991 in grades 6 through 11 and in 1992 in grade 12. The recent upturn in the any illicit drug use index (Figure 6-1) was due to the sharp increase in marijuana use (Figure 6-4), although the proportions using any illicit drug other than marijuana (Figure 6-2) rose modestly. The data from eighth graders suggest that the increase in marijuana use leveled off earlier in the lower grades (by 1995 in grade 6, by 1996 in grade 7) in what looks like a cohort effect.

- Questions about grade of first use for *inhalants* (unadjusted for nitrites) were introduced in 1978. The retrospective trend curves (top panel of Figure 6-5) suggest that during the mid-1970s experience with inhalants decreased slightly for most grade levels and then began to rise. Use rose almost continually in the upper grade levels, peaking with the classes of 1989 and 1990. The twelfth-grade class of 1992 showed lower rates of initiation than its two predecessor classes at all grade levels, but the classes of 1993 and 1994 showed upward trends again, followed by a dip in the classes of 1995 through 1998.

Among the eighth-grade respondents (lower panel of Figure 6-5), an upward trend began in 1992 for grades 7 and 8, before leveling around 1995.

- Because grade-of-first-use data have been gathered for the *nitrite inhalants* since 1979, retrospective data are shown starting in that year (Figure 6-6). These do not show the long-term increase observed for the overall inhalant category. To the contrary, they show a substantial decline. Many nitrite users fail to include their nitrite use when responding to general questions about inhalant use. However, since nitrite use has dropped to a very low level, respondents' omission of nitrites has had much less effect on the adjusted inhalants statistics (not graphed here) in recent years than it did when nitrite use was more common.

- Lifetime prevalence of *hallucinogen* use (unadjusted for under-reporting of PCP) began declining among students at most grade levels in the mid-1970s (see Figure 6-7), and this gradual decline continued through the mid-1980s. Recent years have shown some fluctuations, with an increase in lifetime prevalence between roughly 1992 and 1997 in grades 9 and above. The classes of 1998 and 1999 showed some decline in their later years in high school. Eighth graders showed some decline after 1996.
- Trend curves for the specific hallucinogen *LSD* (Figure 6-8) are similar in shape (though at lower rates, of course) to the ones just discussed. Unlike LSD, the lifetime prevalence rates for *hallucinogens other than LSD* (Figure 6-9) declined rather sharply from the mid-1970s through the late-1980s—particularly in the upper grades—before leveling. After 1991, use increased through 1997; the 1998 and 1999 classes of twelfth graders show some decline, much as we saw for LSD.
- There are fewer trend data for *PCP*, since questions about grade of first use for this drug were not added until 1980. However, some interesting results have emerged. A sharp downturn began around 1979 (see Figure 6-10), and use declined substantially in all grade levels in which there had been appreciable use, until 1987. Through 1993 or 1994 there was little further change in the overall lifetime prevalence rates, which remained very low. A brief period of increase in use then occurred, followed by another leveling.
- *Cocaine* use at earlier grade levels is displayed in Figure 6-11. For the twelfth-grade classes, one clear contrast to the marijuana pattern is that more than half of cocaine initiation takes place in grades 10 through 12 (rather than earlier, as has been the case for marijuana in most years). Further, most of the increase in cocaine experience between 1976 and 1980 occurred in grades 11 and 12, not below. After 1980, experience with cocaine generally remained fairly level until after 1986, when use among eleventh and twelfth graders began to show a significant decline. (There seemed to be less of a decline in the lower grades.) Lifetime prevalence of use rates leveled after 1992 in the upper grades. But rates began to rise in grades 6, 7, and 8 after 1990 (see lower panel, Figure 6-11). In the upper grades, lifetime prevalence of use began to rise after 1994 or 1995. The increase that occurred in the 1990s suggests a cohort effect for cocaine use, following a long period of what could best be described as secular trends.
- Questions on grade of first use for *crack* were first asked of the class of 1987. The retrospective data show the lifetime prevalence of crack falling after 1986 at all grade levels in which there was any appreciable use (see Figure 6-12). Rates then leveled, but in the mid-1990s began inching up.

Rates reported by eighth graders showed a sharper rise in the seventh and eighth grades in the 1990s, before leveling in 1999 (see lower panel, Figure 6-12).

- The use of *powdered cocaine* clearly fell more sharply than did that of crack in the decline phase (see Figure 6-13), again mostly in grades 11 and 12. Cocaine powder showed a sharper increase in the 1990s among twelfth graders, before leveling after 1997. Eighth-grade use also rose sharply in the 1990s and, again, remained steady in the most recent classes.
- Though difficult to see in Figure 6-14, the *heroin* lifetime prevalence figures for grades 9 through 12 began declining in the mid-1970s, then leveled by 1979, and showed no evidence of reversal until the 1990s. Since about 1991, lifetime prevalence of use has increased at all grade levels above sixth grade. Beginning in 1996 or 1997, however, there was a leveling or decline in all grades for which data are available.
- The lifetime prevalence of use of *narcotics other than heroin* remained relatively flat at all grade levels from the mid-1970s through 1990, with the class of 1991 showing the first evidence of a decline when they reached the upper grades (see Figure 6-15). Rates then leveled briefly before showing some increase in the mid-1990s, particularly in the upper grades. The class of 1998 was the first to show a leveling for this class of drugs, as has been true for a number of the other drugs.
- The lifetime prevalence statistics for *amphetamines* peaked briefly for grades 9 through 12 during the mid-1970s (see Figure 6-16). However, they showed a sharp rise in the late 1970s at virtually all grade levels. As stated earlier, we believe that some, perhaps most, of this upturn was artifactual in the sense that the inappropriate inclusion of nonprescription amphetamines by the twelfth-grade respondents accounted for much of it. However, regardless of the cause, beginning in 1979 a clear upward secular trend was observed across all cohorts and grade levels. The unadjusted data from the class of 1983 gave the first indication of a reversal of this trend. The data from the classes of 1982 through 1992, based on an improved wording of the question, suggest that the use of amphetamines leveled around 1982 and thereafter fell appreciably in grades 9 through 12. The classes of 1993 and 1994 showed an upturn in use in the upper grade levels, and the recent surveys of eighth and tenth graders show that some upturn also occurred among them after 1992. The lower panel of Figure 6-16 shows an increase in grade 7 as well, which began after 1991 and lasted through 1996.
- As shown in the graphs for the two subclasses of sedatives, barbiturates and methaqualone, the trend lines have been quite different at earlier grade

levels as well as in twelfth grade (see Figures 6-17 and 6-18). Lifetime prevalence of *barbiturate* use fell sharply for the upper grade levels for all classes from 1974 or 1975 until the late 1970s; the lower grade levels showed some increase in the late 1970s (perhaps reflecting the advent of some look-alike, barbiturate-type drugs); and in the mid-1980s most grade levels resumed the decline. In the late 1980s there was a leveling of the rates, followed by signs of an upturn by the mid-1990s at all grade levels. Note that, while lifetime prevalence rates reported by eighth grade have changed rather little over a long period, initiation rates in the later grades have varied considerably.

During the mid-1970s, *methaqualone* use started to fall off at about the same time as did barbiturate use in nearly all grade levels, but it dropped rather little and then flattened (see Figure 6-18). Between 1978 and 1981, there was a moderate resurgence in use at all grade levels; but after 1982 there was a sharp decline at all grade levels to near zero by the early 1990s. A slight increase in use occurred in the mid-1990s.

- Lifetime prevalence of *tranquilizer* use (Figure 6-19) also began to decline at all grade levels in the mid-1970s. It is noteworthy that, as for sedatives, the overall decline in tranquilizer use has been considerably greater in the upper grade levels than the lower ones. Overall, it would appear that the tranquilizer trend lines have been following a similar course to those of barbiturates. So far, the curves are different only in that tranquilizer use continued a steady decline among eleventh and twelfth graders after 1977 (at least through the class of 1990), while the barbiturate use decline was interrupted for awhile in the early 1980s. Since 1992, there has been a slight increase in lifetime prevalence of use in grades 8 and above. The retrospective data reported by eighth graders show some falloff in lifetime prevalence since 1996.
- The curves for lifetime prevalence of *alcohol use* at grades 11 and 12 (Figure 6-20) are very flat between the early 1970s and late 1980s, reflecting little change in lifetime prevalence of use over more than a decade. More recent classes (1989-1993) showed slight declines, which ended with the class of 1993. By way of contrast, in the seventh- through tenth-grade retrospective data reported by seniors, the lifetime prevalence curves showed slight upward slopes in the early 1970s and an even sharper upward trend in the mid-1980s. The latter trend indicates that, compared to the earlier cohorts (prior to the class of 1978), those later classes initiated use at slightly earlier ages on average. Thus, while 27% of the class of 1975 had first used alcohol in eighth grade or earlier, 36% in the class of 1993 had done so. Females accounted for most of the change; 42% of females in the class of 1975 had first used alcohol prior to tenth grade, compared to 53% in the class of 1993. Because all of the results from the class of 1994 onward are based on the revised questions about

alcohol use, these data are not strictly comparable to the earlier trend data. The revised data from the classes of 1993 through 1999, which qualify the alcohol use question with the phrase “more than just a few sips,” show rather little further change. The lower panel of Figure 6-20 shows a small decline in lifetime prevalence of use from the late 1980s into the late 1990s in grades 6 through 8.

Beginning with the class of 1986, we added questions asking twelfth graders when did they first “drink enough to feel drunk or very high.” Figure 6-21, which gives trends in the lifetime prevalence of having *been drunk*, shows fairly similar curves to those for lifetime prevalence of alcohol use. The classes of 1990 through 1993 showed modest declines in this behavior at all grade levels above sixth grade for a few years, before leveling.

- Questions asking seniors “when did you smoke your first cigarette?” were added in 1986. Figure 6-22 shows that for the class of 1986 the rate of *cigarette smoking* initiation was quite high by grade 6 (i.e., in 1980); over 20% had used cigarettes by sixth grade. In subsequent classes, this measure fell gradually; 14% of the class of 1999 reported having initiated cigarette smoking by sixth grade, that is, by 1993.

Substantial additional initiation occurs in grades 7 and 8. Over 40% of the class of 1986 had smoked a cigarette by the end of grade 8, as is reflected by the wide gap between the two bottom lines in the upper panel. By eighth grade, 37% of the class of 1999 had initiated use (i.e., by 1985). Initiation rates declined very gradually in the classes of 1986 through 1992 when students were at each grade level, from grade 6 onward. The classes of 1994 through 1999 showed some increase in initiation rates when the students were in grades 10 through 12, but only the classes of 1997 through 1999 reflected some increase in the lower grades. This altered pattern is suggestive of a change in the underlying phenomenon, from the traditional cohort effect for cigarettes to some secular trending, as well. Eighth-grade respondent data have also shown some increase in lifetime prevalence since they were first surveyed in 1991; but, again, this increase was not observable when they were at lower grade levels—in fact, there was some falloff in initiation rates in the lower grades in the late 1980s and early 1990s.

- Figure 6-23 presents another smoking measure contained in the study, one included since its inception in 1975: lifetime prevalence of cigarette smoking “on a daily basis.” It shows that initiation to *daily smoking* began to peak at the lower grade levels in the early to mid-1970s. This peaking did not become apparent among high school seniors until some years later. In essence, these changes largely reflect cohort effects—patterns of change that occur consistently in different class cohorts as they progress in

age. When differences in smoking at early ages are observed between cohorts, those differences endure in later life, most likely due to the highly addictive nature of nicotine.

The classes of 1982 and 1983 showed some leveling of the previous decline in daily smoking, but the classes of 1984 through 1986 resumed the decline while the students were in earlier grade levels. The data from the classes of 1987 and 1988 showed another pause in the decline. As we have said, from the class of 1975 through the class of 1992, the predominant pattern of change observed was that of a cohort effect.⁴² Each “bulge” in the prevalence of use rate was echoed at higher grade levels as those class cohorts passed through the upper grades. After 1992, however, a somewhat different pattern emerged—one more akin to a secular trend—in which all age groups move in parallel during the same historical period. Figure 6-23 shows that all grade levels above sixth grade displayed a sharp increase in initiation rates from 1991 or 1992 through 1995 or 1996. The lower grades may be exhibiting the resumption of a cohort effect pattern with the eighth-grade class of 1997, but further confirmation is needed. It should be noted that the presence of a secular trend effect does not necessarily negate the presence of a cohort effect.

- **Smokeless tobacco** use (Figure 6-24) was first asked of seniors in the class of 1986. The questions about prevalence of smokeless tobacco use were dropped from the 1990 and 1991 surveys of twelfth graders but reinstated in 1992. The 1986-1989 survey questions were located near the end of one form; the questions in 1992 were located in a different form and placed early in the form. As a result of the changed placement of the questions, the estimates based on the earlier version and the later version are not strictly comparable; therefore, it may be misleading to connect the two trend lines. One thing that is clear from both sets of trend lines, however, is that smokeless tobacco use also shows strong evidence of enduring cohort differences—or “cohort effects.”

There appears to have been a rise in smokeless tobacco use in classes prior to the class of 1986, one that began to reverse in the twelfth-grade classes following 1986 (see Figure 6-24). Decline seemed to continue in the classes of 1992 through 1997 (and quite possibly it was also present in the two missing classes—1990 and 1991—although we cannot say for sure). This decline continued through the class of 1999. The lower panel in Figure 6-24 generally shows a pattern of continuing decline at the lower grade levels in more recent years, although there was a pause in the decline (from 1993 to 1996) just as there was among cohorts of twelfth graders in those years. The data from eighth graders also show a pause in

⁴²This interpretation has been documented through multivariate analyses designed to separate and quantify secular trends, age effects, and cohort effects. See O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1988). Period, age, and cohort effects on substance use among young Americans: A decade of change, 1976-1986. *American Journal of Public Health*, 78, 1315-1321.

the longer-term decline from 1993 through 1996, suggesting that an upward secular trend may have been occurring during that period, parallel to the one for cigarettes.

- Information on grade of first use for *steroids* was not gathered prior to 1989; therefore rather limited trend information is available (Figure 6-25). However, it does show some of the pattern characteristics of cohort change predominating over secular trends. There was not a great deal of variation in the initiation of steroid use for some time, although there did seem to be some decline in initiation between the classes of 1989 and 1991, followed by a leveling off. Only a small amount of variation in initiation occurred among the eighth and tenth grades, also. Both the data from eighth- and twelfth-grade students, however, show some increase in use in the most recent three classes—an increase that looks more like a secular trend than a cohort effect.

TABLE 6-1
Incidence of Use for Various Drugs, by Grade
Eighth Graders, 1999

(Entries are percentages)

Grade in which drug was first used:	Marijuana	Inhalants	Hallucinogens	LSD	Cocaine	Crack	Coke Powder	Heroin	Amphetamines	Tranquilizers	Alcohol	Beer/Drunk	Cigarettes	Cigarettes (Daily)*	Smokeless Tobacco	Steroids
4th (or below)	1.4	4.7	0.4	0.3	0.3	0.2	0.3	0.2	0.6	0.5	9.0	1.5	8.4	0.7	2.9	0.2
5th	2.0	3.0	0.2	0.2	0.2	0.1	0.2	0.2	0.6	0.2	7.1	1.9	8.3	1.3	2.5	0.2
6th	4.3	4.8	0.6	0.5	0.6	0.4	0.5	0.2	1.7	0.7	11.3	4.2	11.7	2.7	2.8	0.5
7th	8.5	4.3	1.7	1.4	1.9	1.3	1.5	0.6	3.7	1.6	15.1	9.1	11.4	4.4	3.7	0.9
8th	5.9	2.8	1.9	1.7	1.7	1.1	1.4	1.1	4.1	1.4	9.5	8.1	4.3	2.5	2.5	1.0
Never used	78.0	80.3	95.2	95.9	95.3	96.9	96.2	97.7	89.3	95.6	47.9	75.2	55.9	88.5	85.6	97.3

NOTES: All drugs were asked about in all four forms except for the following: hallucinogens, LSD, heroin, amphetamines, tranquilizers, and smokeless tobacco, which were asked about in two forms only. The approximate N for all forms was 16,700.

SOURCE: The Monitoring the Future Study, the University of Michigan.

*Data based on the percentage of regular smokers (ever).

TABLE 6-2
Incidence of Use for Various Drugs, by Grade
Tenth Graders, 1999

(Entries are percentages)

Grade in which drug was first used:	Marijuana	Inhalants	Hallucinogens	LSD	Cocaine	Crack	Coke Powder	Heroin	Amphetamines	Tranquilizers	Alcohol	Beer/Drunk	Cigarettes	Cigarettes (Daily) ^a	Smokeless Tobacco	Steroids
4th (or below)	0.8	2.1	0.1	0.0	0.1	0.0	0.0	0.1	0.2	0.0	4.9	0.8	6.0	0.4	2.2	0.0
5th	1.2	1.4	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	3.3	1.1	5.8	0.6	1.4	0.0
6th	3.4	2.6	0.2	0.2	0.3	0.2	0.2	0.1	0.7	0.3	7.6	3.0	10.5	1.7	1.9	0.1
7th	7.7	3.6	0.9	0.8	0.6	0.4	0.6	0.3	2.2	0.9	13.2	6.9	13.2	3.8	3.2	0.3
8th	10.7	3.6	2.1	1.8	1.5	0.8	1.3	0.5	3.9	1.7	17.8	12.3	11.7	5.3	5.1	0.4
9th	12.2	2.6	3.7	3.4	3.2	1.7	2.8	0.9	5.9	3.1	17.6	16.9	8.2	6.1	4.6	1.1
10th	5.0	1.1	2.6	2.2	1.9	0.9	1.8	0.4	2.7	1.7	6.2	7.9	2.2	2.8	1.8	0.6
Never used	59.1	83.0	90.3	91.5	92.3	96.0	93.2	97.7	84.3	92.1	29.4	51.1	42.4	79.2	79.6	97.3

NOTES: All drugs were asked about in all four forms except for the following: hallucinogens, LSD, heroin, amphetamines, tranquilizers, and smokeless tobacco, which were asked about in two forms only. The approximate N for all forms was 13,600.

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 6-3

Incidence of Use for Various Drugs, by Grade
Twelfth Graders, 1999

(Entries are percentages)

Grade in which drug was first used:	Marijuana	Inhalants ^a	Any/Butyl Nitrites	Hallucinogens ^b	LSD	PCP	Cocaine	Crack	Other Forms of Cocaine	Heroin	Other Narcotics	Amphetamines	Barbiturates	Methqualone	Tanquilizers	Alcohol	Beer/Drunk	Cigarettes	Cigarettes (Daily)	Smokeless Tobacco	Steroids
6th (or below)	1.7	2.5	0.0	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.6	0.5	0.5	0.2	0.4	7.8	2.5	14.3	1.5	3.6	0.2
7-8th	12.2	5.4	0.6	2.0	1.8	0.4	1.0	0.7	0.8	0.4	1.5	2.4	2.1	0.3	1.4	20.8	13.8	23.0	6.0	7.1	0.3
9th	13.2	2.9	0.4	3.1	2.8	0.9	1.6	0.8	1.7	0.4	1.6	3.8	2.2	0.5	1.9	19.2	16.5	12.0	6.0	4.8	0.4
10th	10.9	2.3	0.1	3.3	2.9	1.1	2.4	1.0	2.4	0.3	1.9	4.6	1.7	0.4	2.1	14.6	13.5	8.0	5.7	3.8	0.4
11th	7.5	1.2	0.3	3.1	2.8	0.5	2.7	1.2	2.1	0.4	3.0	2.8	2.1	0.3	2.3	11.2	9.8	4.9	4.8	2.6	0.7
12th	4.1	1.1	0.2	2.0	1.6	0.4	1.8	0.6	1.5	0.5	1.6	2.1	0.2	0.2	1.3	6.6	6.1	2.4	2.5	1.4	0.9
Never used	50.3	84.6	98.3	86.3	87.8	96.6	90.2	95.4	91.2	98.0	89.8	83.7	91.1	98.2	90.7	20.0	37.7	35.4	73.4	76.6	97.1

NOTES: Percentages are based on two of the six forms (N = approximately 4,500) except for cocaine, crack, and cigarettes, for which percentages are based on three of the six forms (N = approximately 6,800), and inhalants, nitrites, PCP, other forms of cocaine, and steroids, for which percentages are based on one of the six forms (N = approximately 2,300).

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aUnadjusted for known underreporting of certain drugs. See text for details.
^bBased on the data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription amphetamines.
^cData based on the percentage of regular smokers (ever).

TABLE 6-4

Incidence of Use for Various Drugs: A Comparison of Responses from Eighth, Tenth, and Twelfth Graders, 1999

(Entries are percentages)

Grade level of respondents:	Marijuana	Inhalants ^a	Hallucinogens ^b	LSD	Cocaine	Crack	Other Cocaine	Heroin	Amphetamines ^c	Tranquilizers	Alcohol	Beer/Drunk	Cigarettes	Cigarettes (Daily) ^d	Smokeless Tobacco	Steroids
	Percent who used by end of 6th grade															
8th	7.6	12.5	1.3	1.0	1.2	0.7	0.9	0.6	3.0	1.4	27.5	7.6	28.4	4.7	8.1	0.8
10th	5.4	6.1	0.4	0.3	0.5	0.3	0.3	0.2	0.9	0.4	15.8	4.9	22.3	2.7	5.6	0.2
12th	1.7	2.5	0.3	0.2	0.2	0.2	0.2	0.2	0.5	0.4	7.8	2.5	14.3	1.5	3.6	0.2
Percent who used by end of 8th grade																
8th	22.0	19.7	4.8	4.1	4.7	3.1	3.8	2.3	10.7	4.4	52.1	24.8	44.1	11.5	14.4	2.7
10th	23.7	13.3	3.4	2.9	2.6	1.4	2.2	1.0	7.1	3.1	46.8	24.1	47.2	11.8	14.0	0.9
12th	13.9	7.8	2.2	2.0	1.3	0.9	1.0	0.6	3.0	1.7	28.6	16.3	37.3	7.5	10.7	0.5
Percent who used by end of 10th grade																
10th	40.9	17.0	9.7	8.5	7.7	4.0	6.8	2.3	15.7	7.9	70.6	48.9	57.6	20.8	20.4	2.7
12th	38.0	13.1	8.6	7.7	5.3	2.8	5.1	1.2	11.4	5.7	62.3	46.3	57.3	19.2	19.4	1.3

NOTES: For 8th and 10th graders, all drugs were asked about in all four forms except for the following: hallucinogens, LSD, heroin, amphetamines, tranquilizers, and smokeless tobacco, which were asked about in two forms only. The approximate N for all forms for 8th graders was 16,700 and for 10th graders was 13,600. For 12th graders, percentages are based on two of the six forms (N = approximately 4,500) except for cocaine, crack, and cigarettes, for which percentages are based on three of the six forms (N = approximately 6,800), and inhalants, nitrates, PCP, other forms of cocaine, and steroids, for which percentages are based on one of the six forms (N = approximately 2,300).

SOURCE: The Monitoring the Future Study, the University of Michigan.

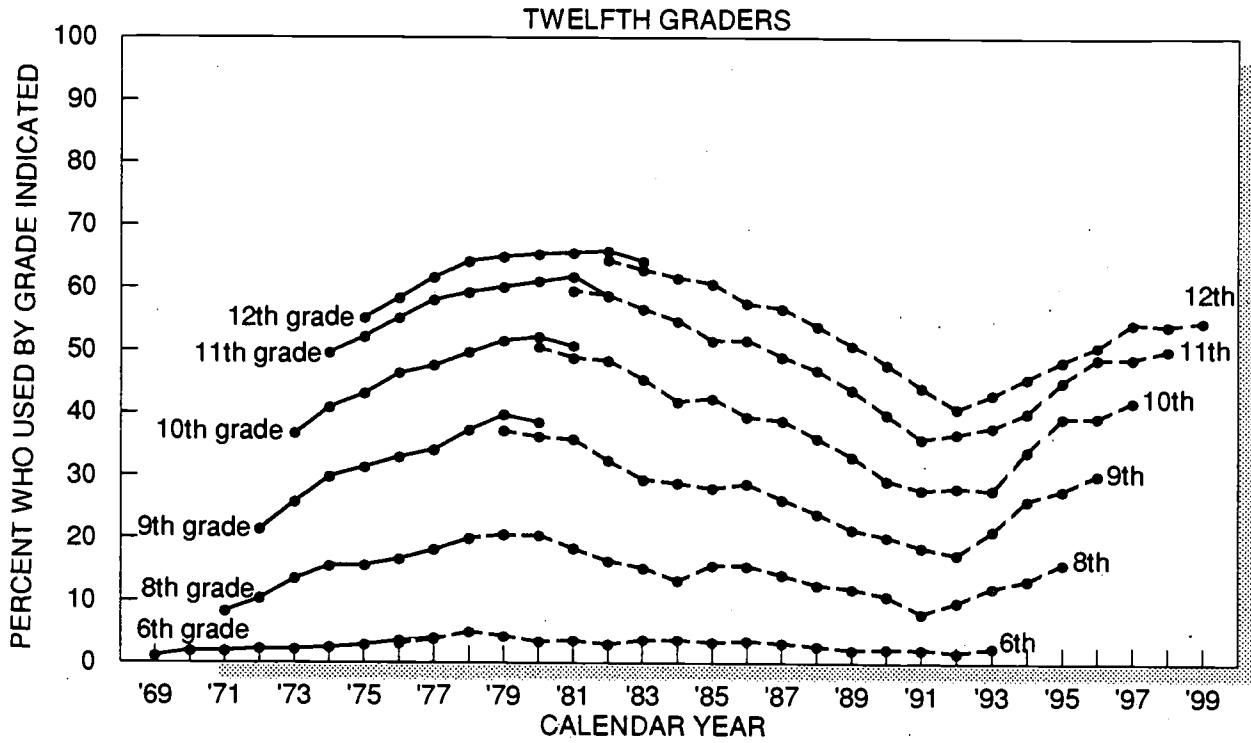
^aUnadjusted for underreporting of certain drugs. See text for details.

^bBased on the data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription amphetamines.

^cData based on the percentage of regular smokers (ever).

FIGURE 6-1

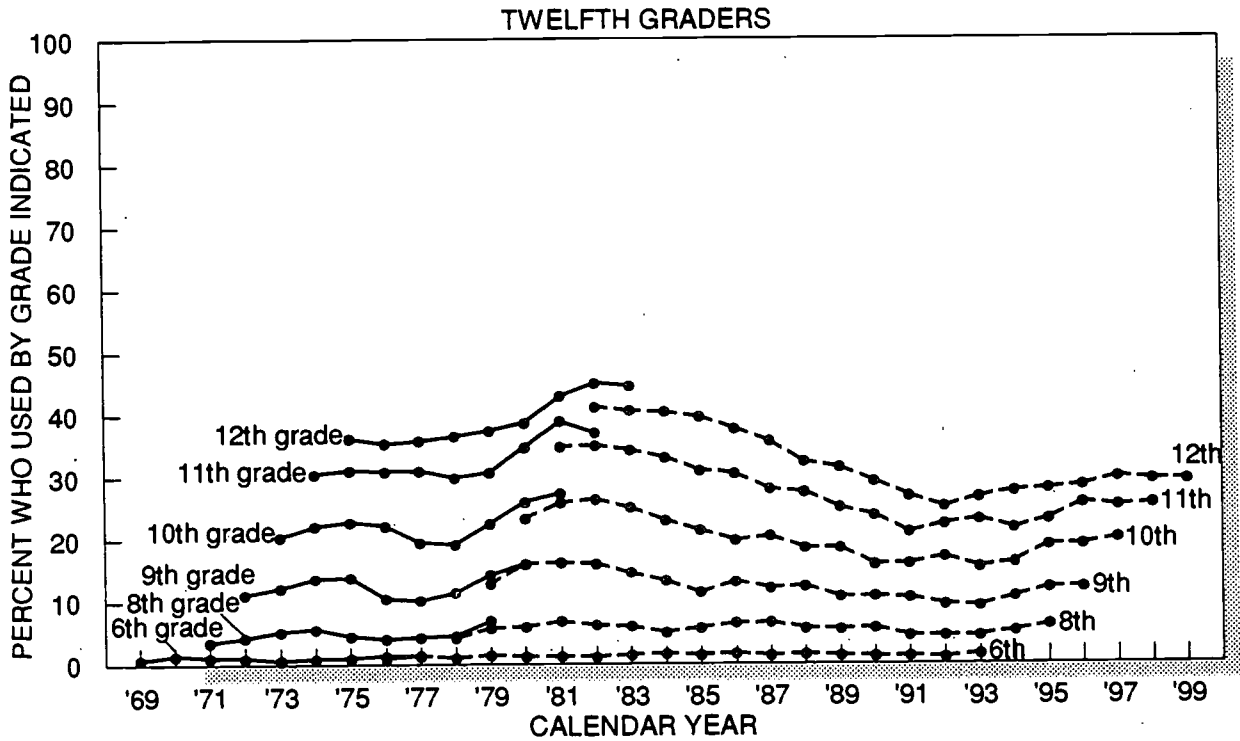
Use of Any Illicit Drug: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 6-2

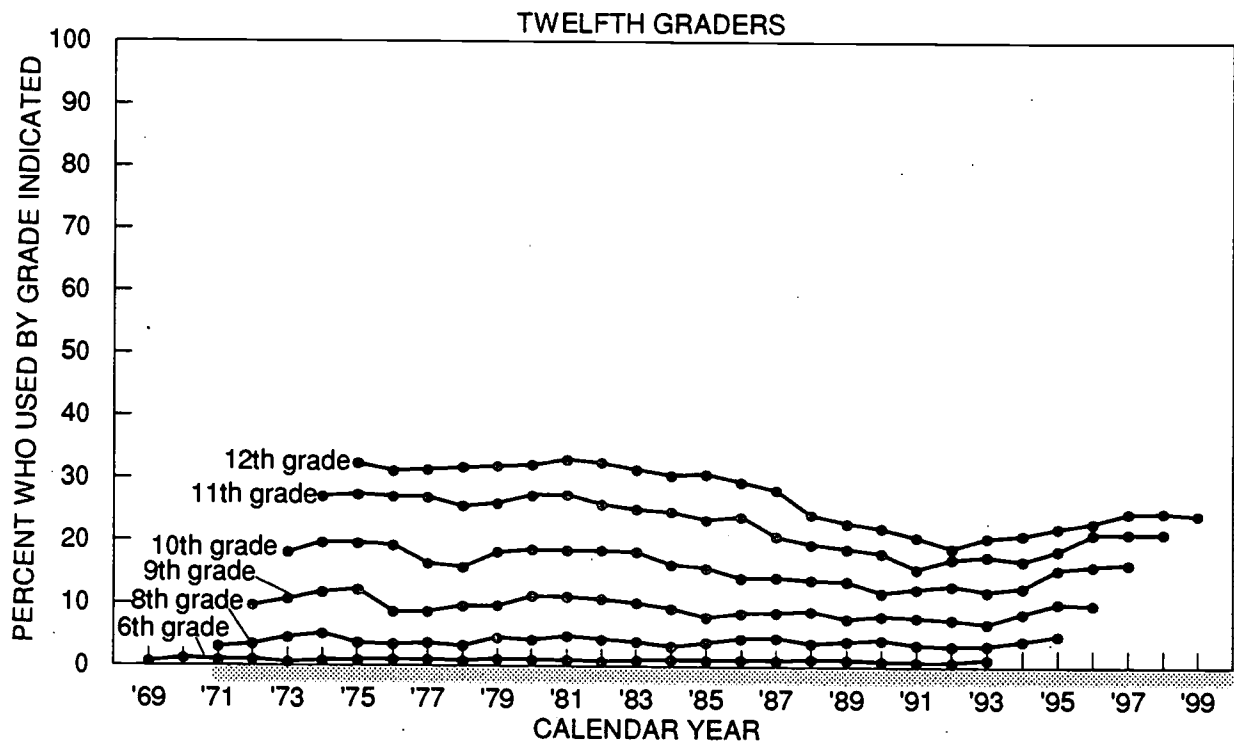
**Use of Any Illicit Drug Other than Marijuana:
Trends in Lifetime Prevalence for Earlier Grade Levels**
Based on Retrospective Reports from Twelfth Graders



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 6-3

**Use of Any Illicit Drug Other than Marijuana or Amphetamines:
Trends in Lifetime Prevalence for Earlier Grade Levels**
Based on Retrospective Reports from Twelfth Graders



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FIGURE 6-4

Marijuana: Trends in Lifetime Prevalence for Earlier Grade Levels
 Based on Retrospective Reports from Twelfth and Eighth Graders

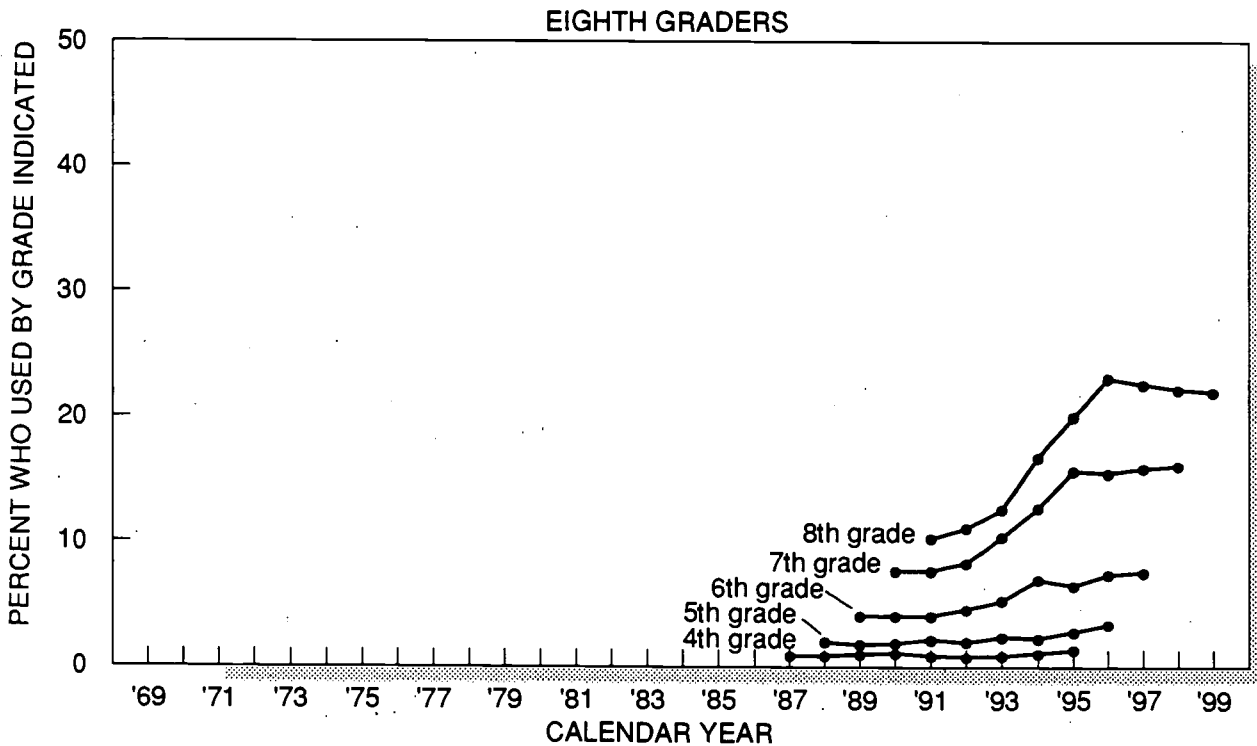
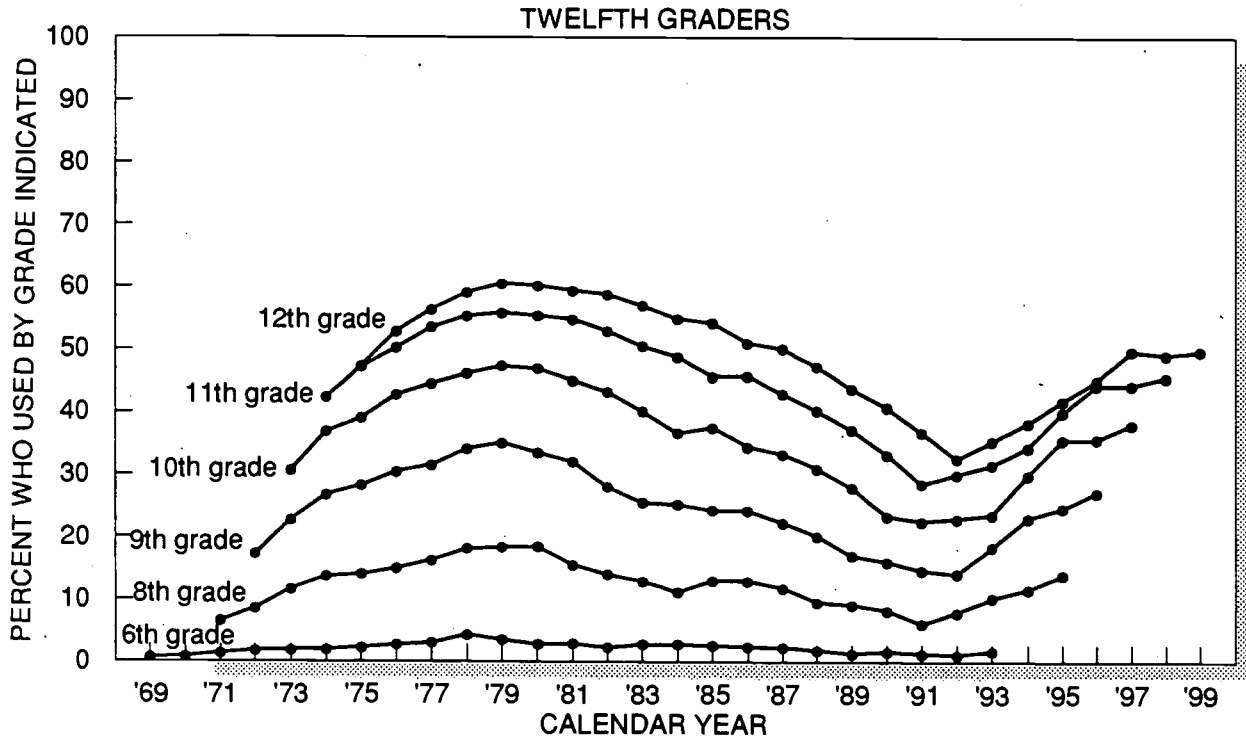


FIGURE 6-5

Inhalants: Trends in Lifetime Prevalence for Earlier Grade Levels
 Based on Retrospective Reports from Twelfth and Eighth Graders

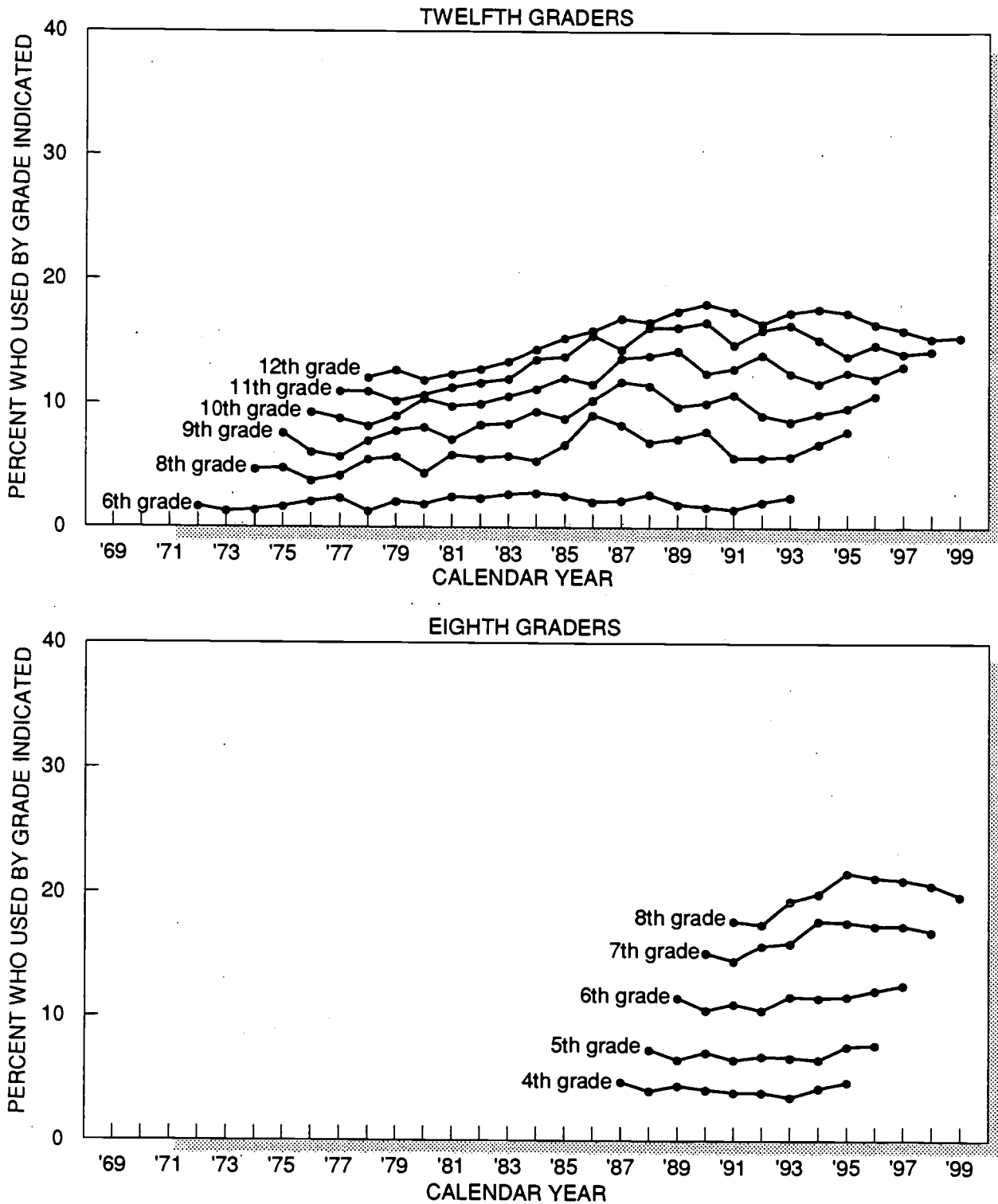


FIGURE 6-6

Nitrites: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

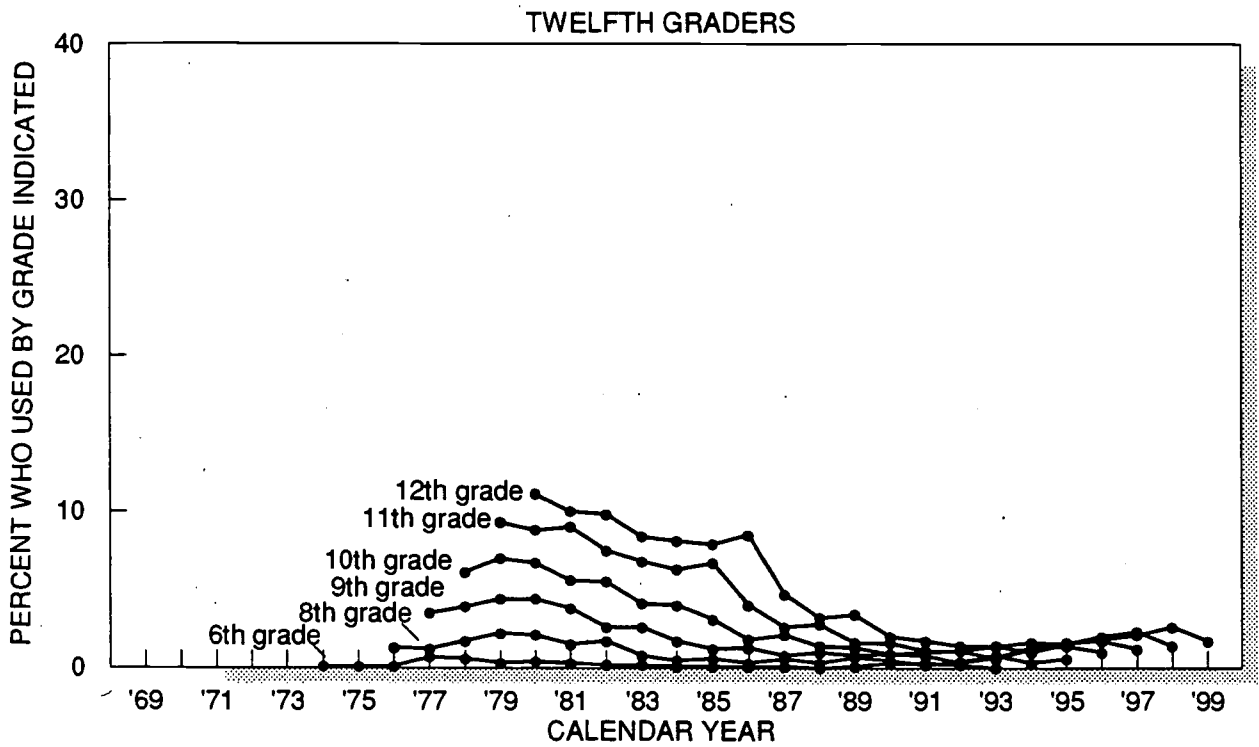
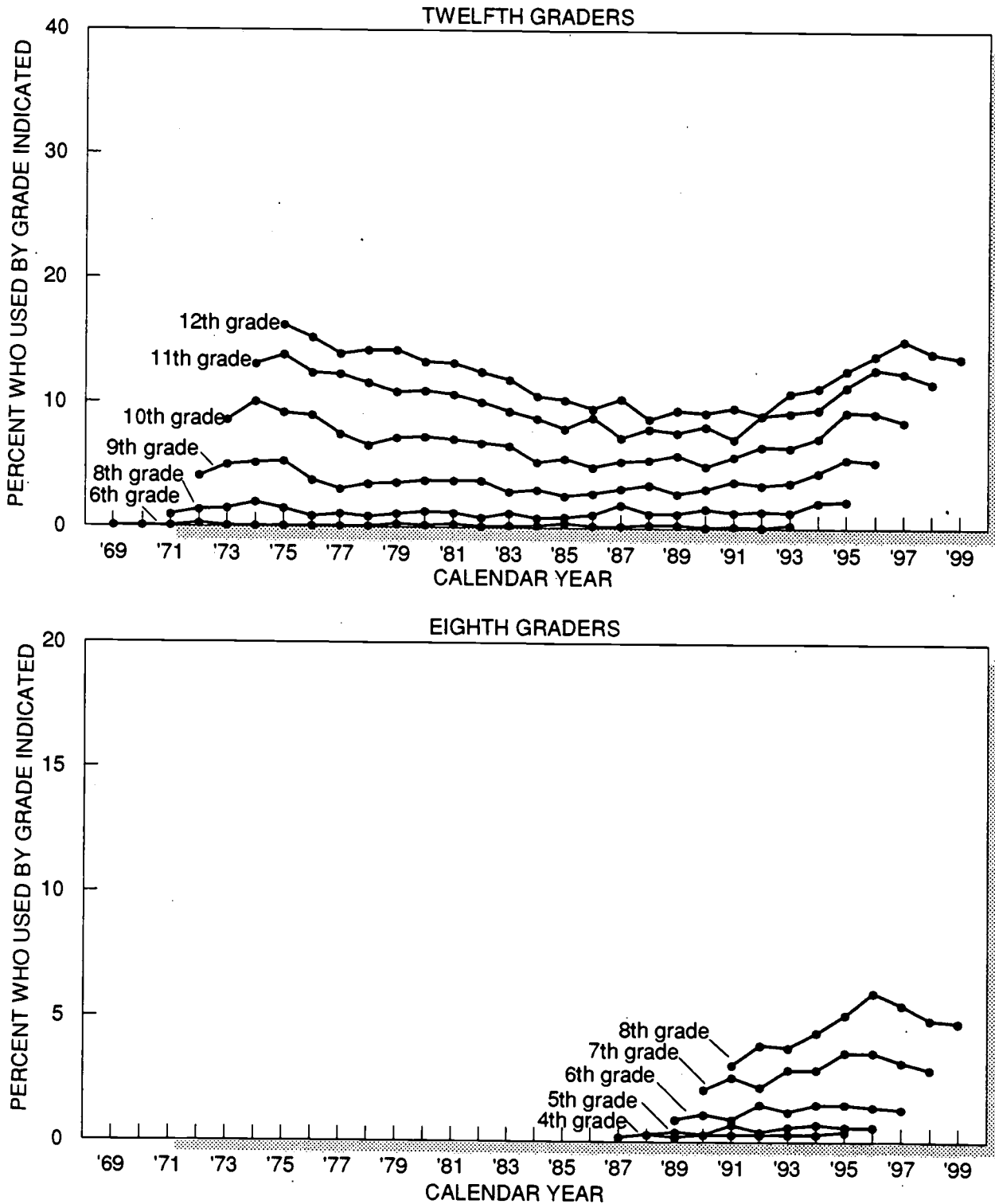


FIGURE 6-7

Hallucinogens: Trends in Lifetime Prevalence for Earlier Grade Levels
 Based on Retrospective Reports from Twelfth and Eighth Graders



NOTE: Hallucinogens unadjusted for any underreporting of PCP are graphed here.

FIGURE 6-8

LSD: Trends in Lifetime Prevalence for Earlier Grade Levels
 Based on Retrospective Reports from Twelfth and Eighth Graders

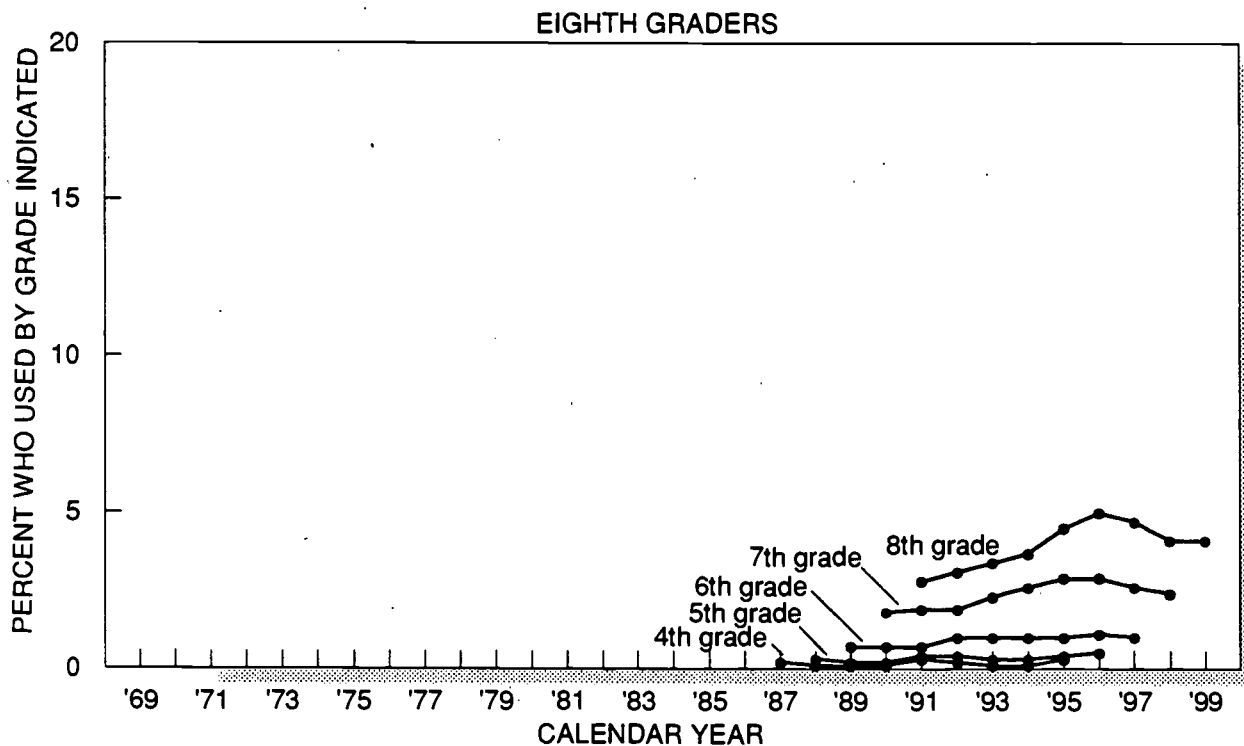
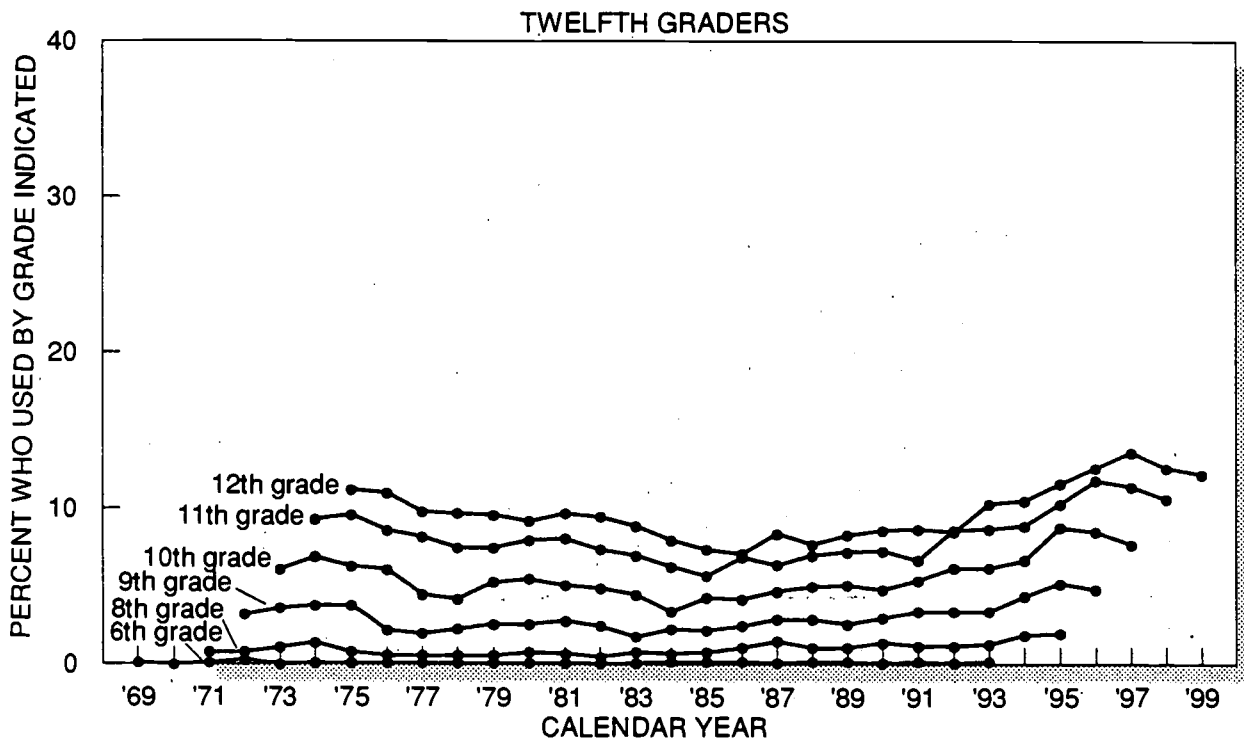


FIGURE 6-9

Hallucinogens Other Than LSD: Trends in Lifetime Prevalence for Earlier Grade Levels

Based on Retrospective Reports from Twelfth Graders

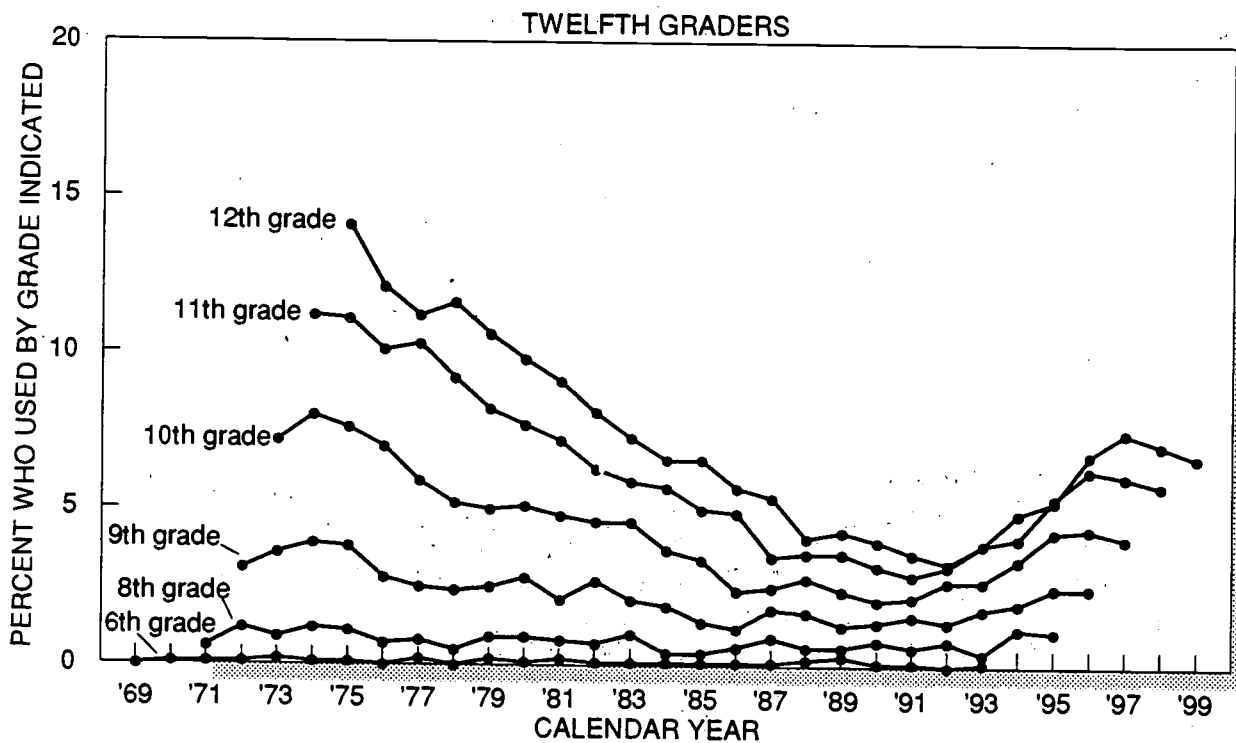


FIGURE 6-10

PCP: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

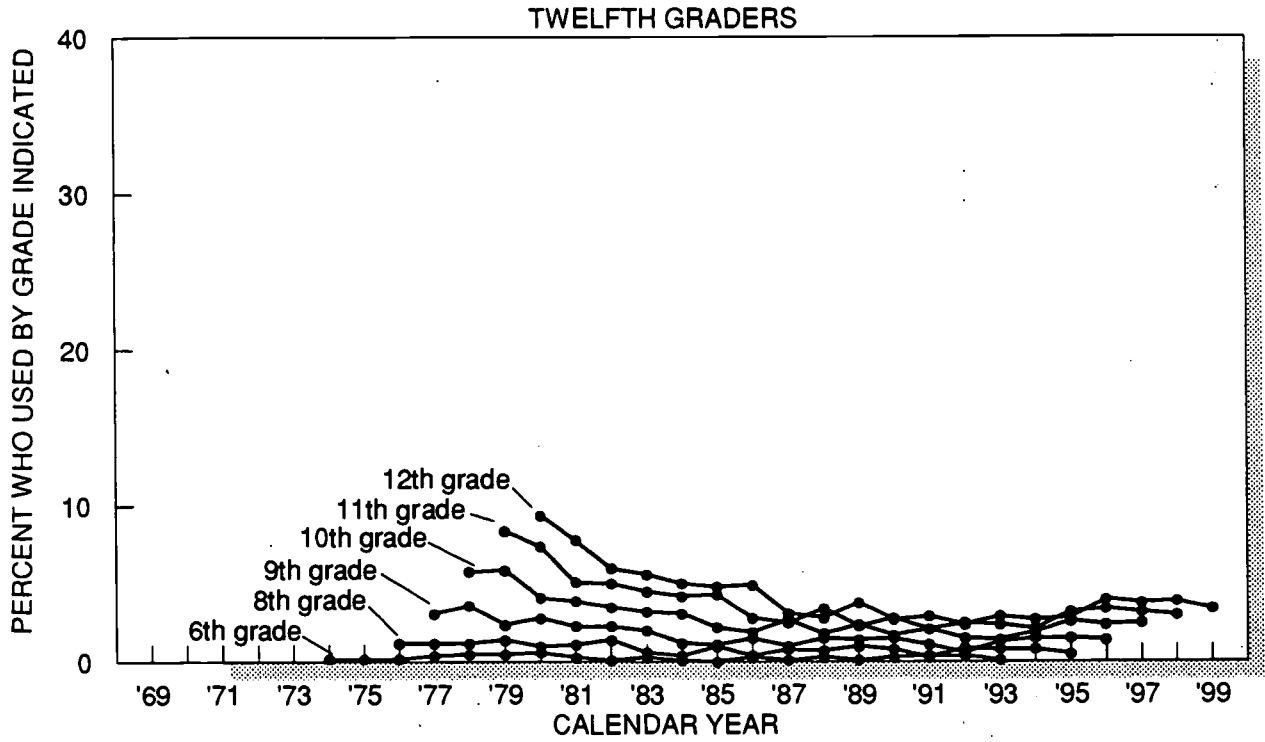


FIGURE 6-11

Cocaine: Trends in Lifetime Prevalence for Earlier Grade Levels
 Based on Retrospective Reports from Twelfth and Eighth Graders

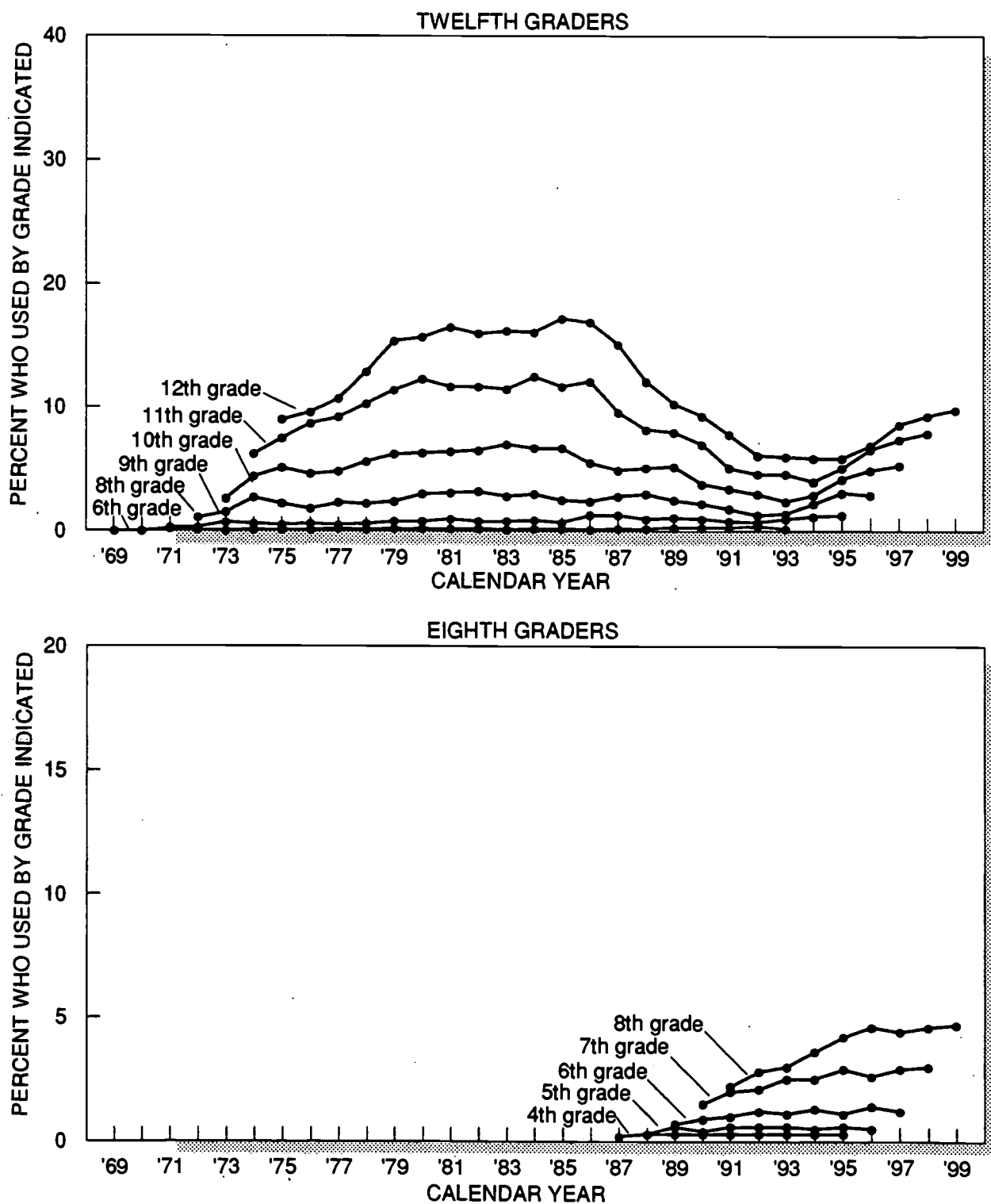


FIGURE 6-12

Crack Cocaine: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders

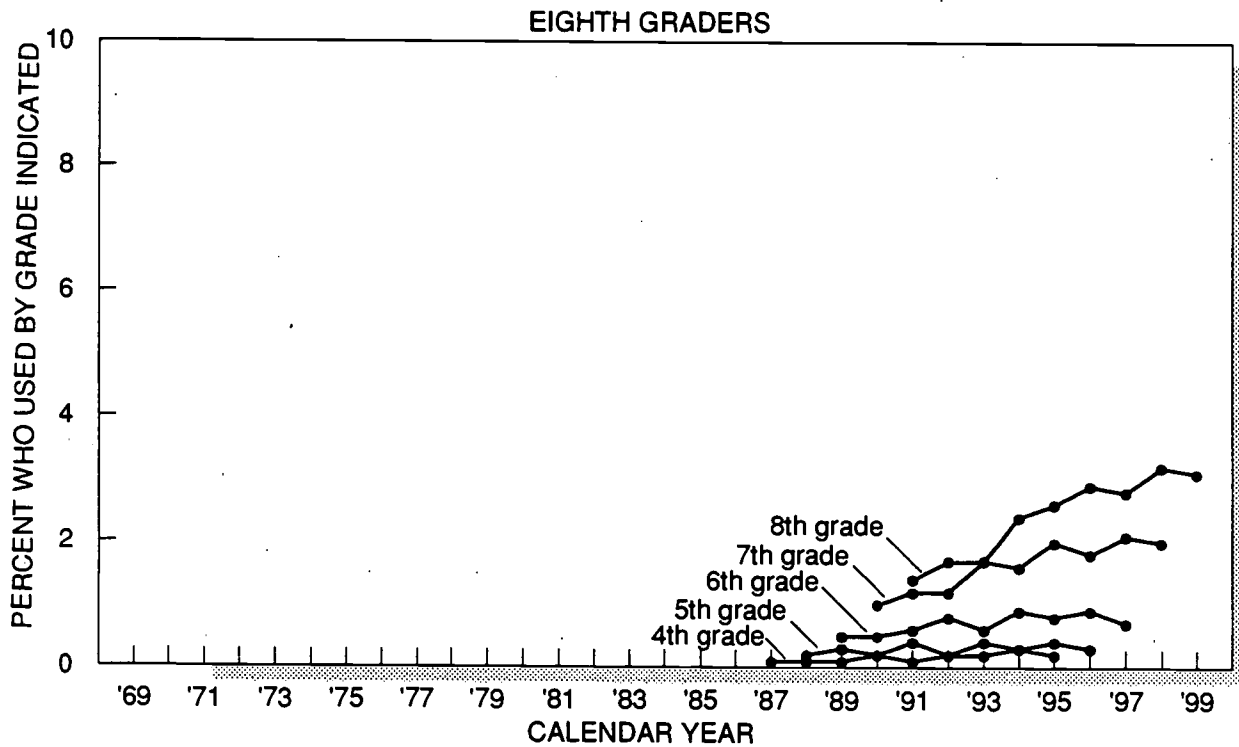
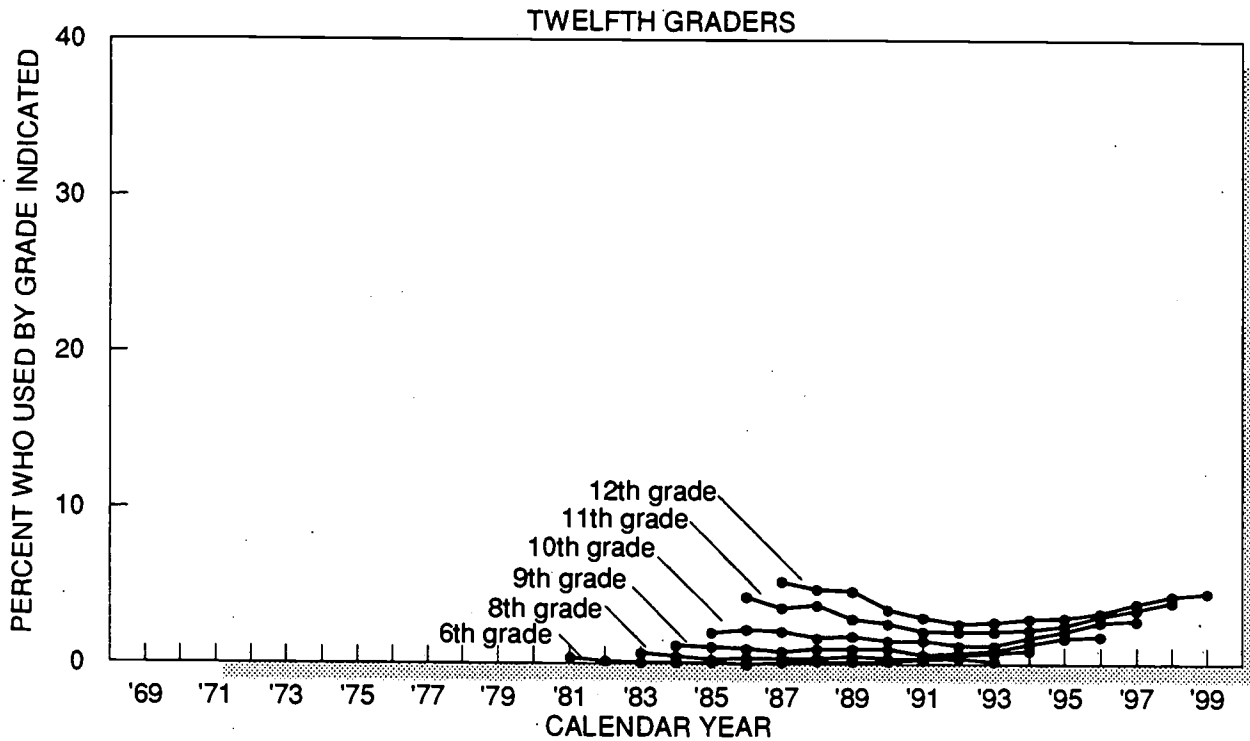
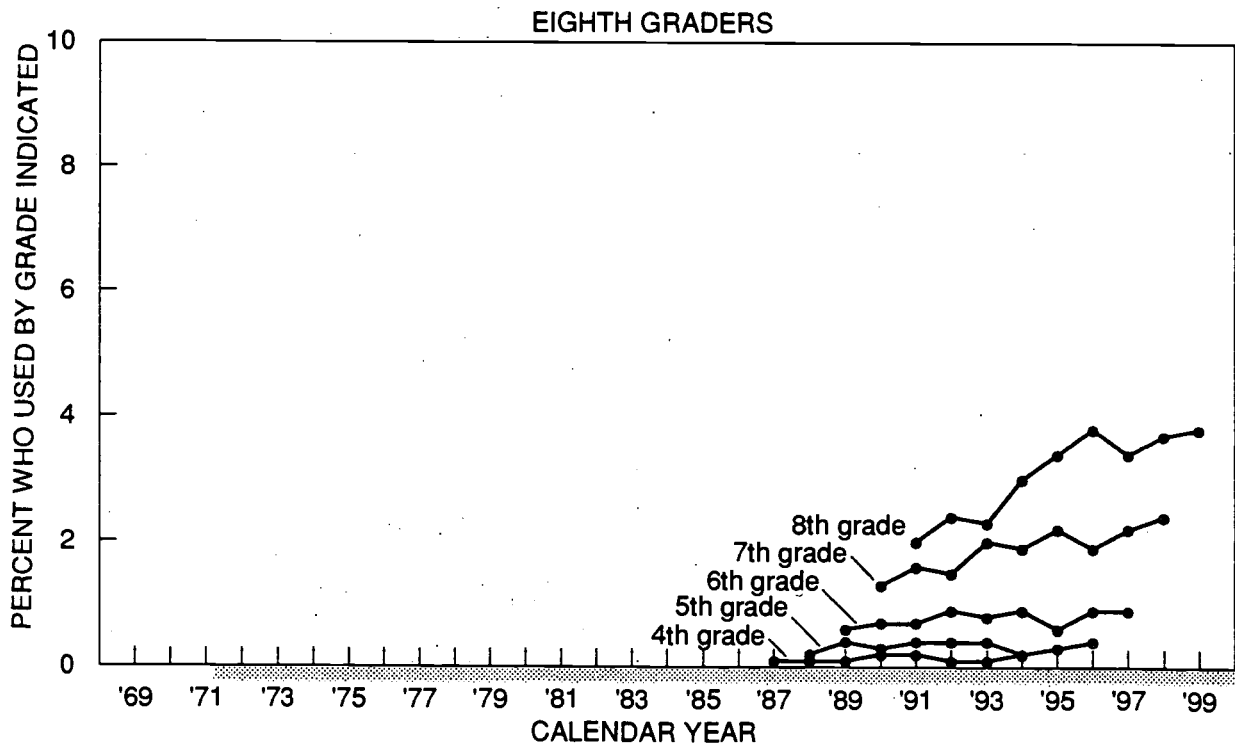
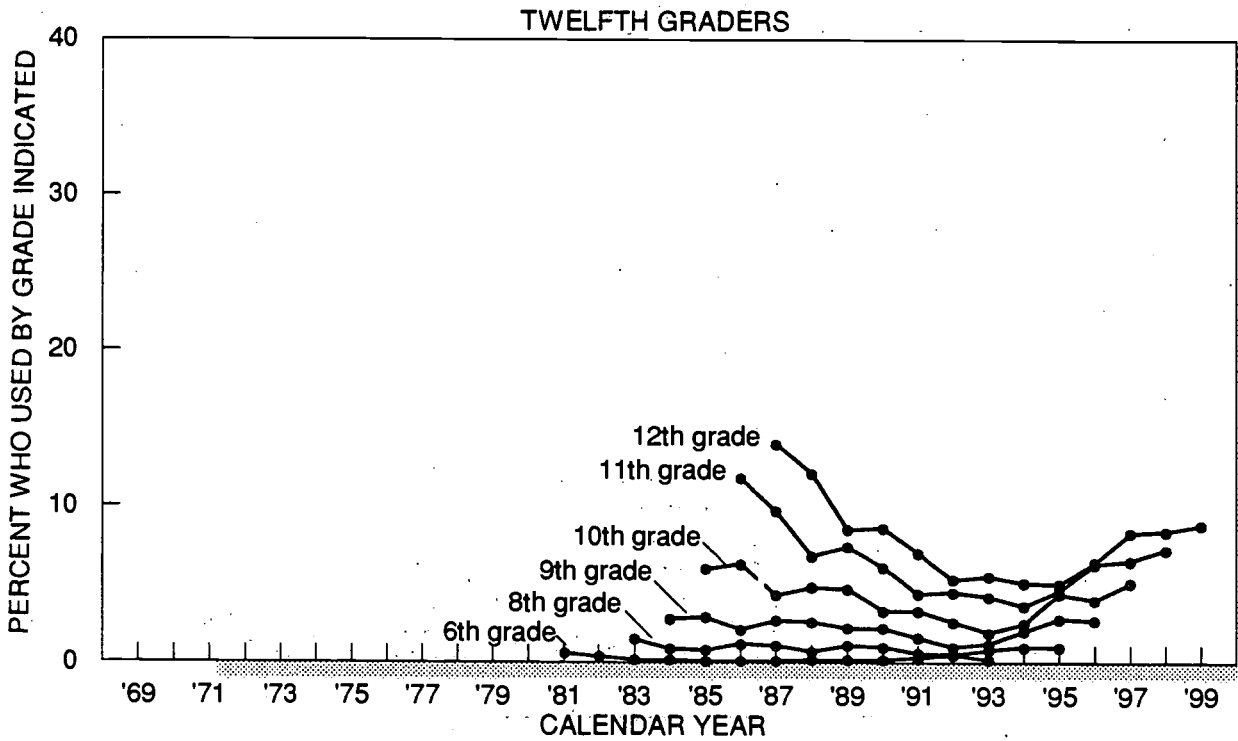


FIGURE 6-13

Other Forms of Cocaine: Trends in Lifetime Prevalence for Earlier Grade Levels
 Based on Retrospective Reports from Twelfth and Eighth Graders



NOTE: The eighth grade question asked about cocaine in powder form.

FIGURE 6-14

Heroin: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders

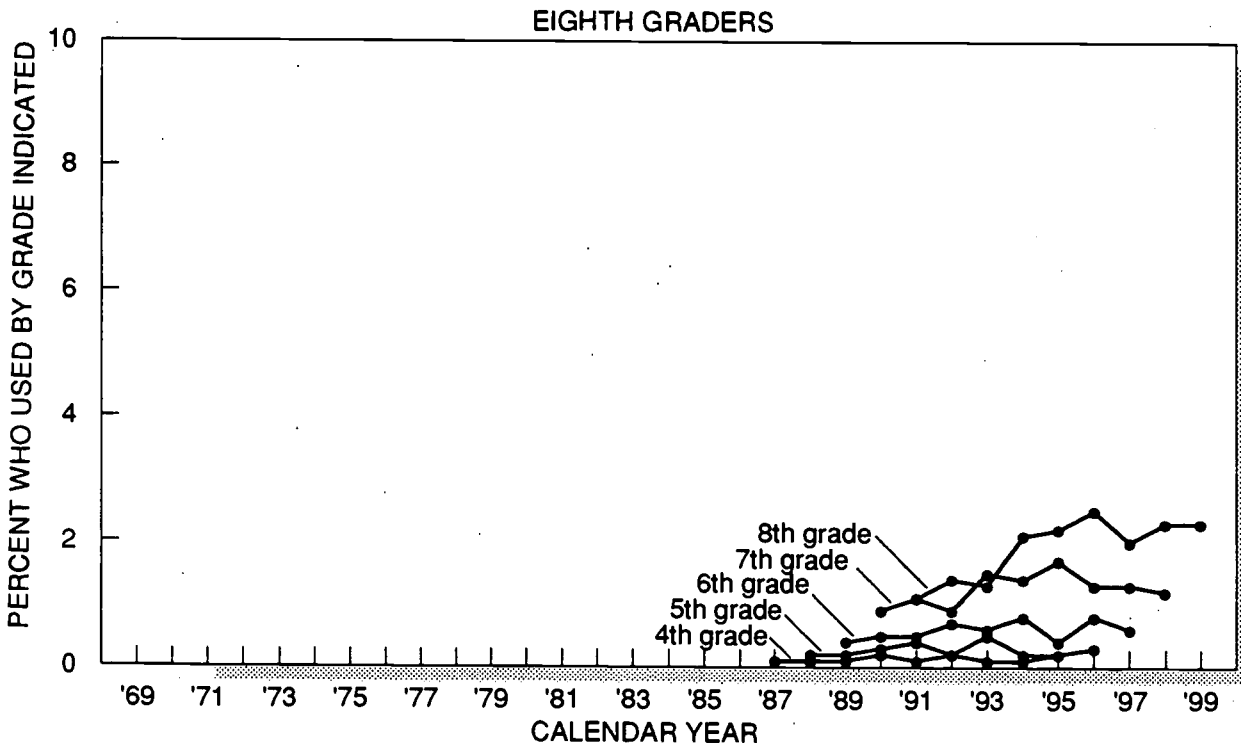
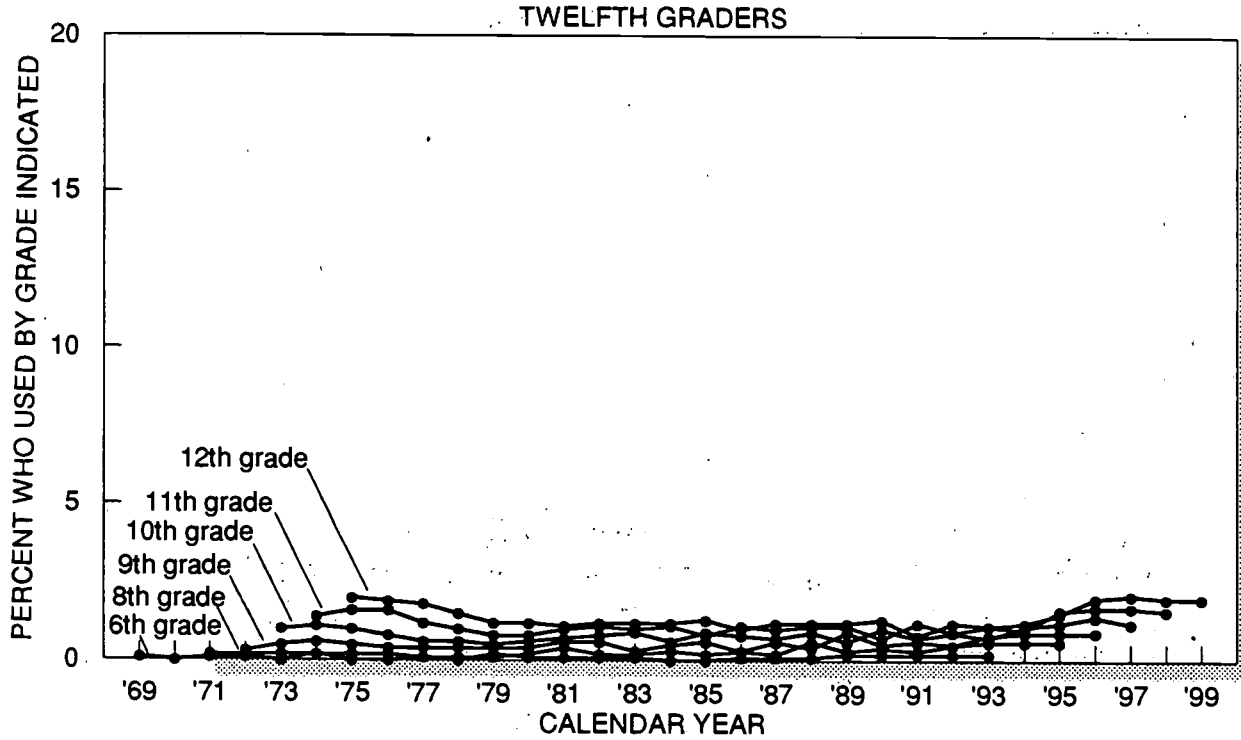


FIGURE 6-15

**Narcotics other than Heroin: Trends in Lifetime Prevalence
for Earlier Grade Levels**

Based on Retrospective Reports from Twelfth Graders

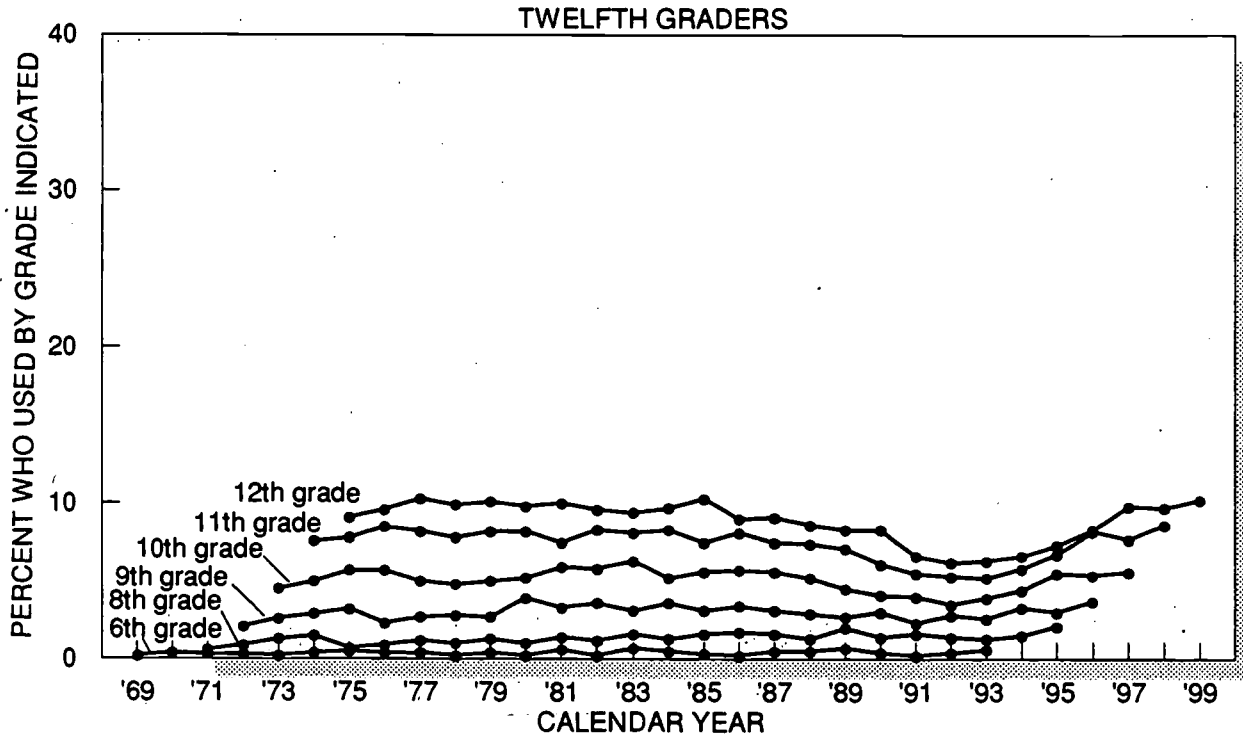
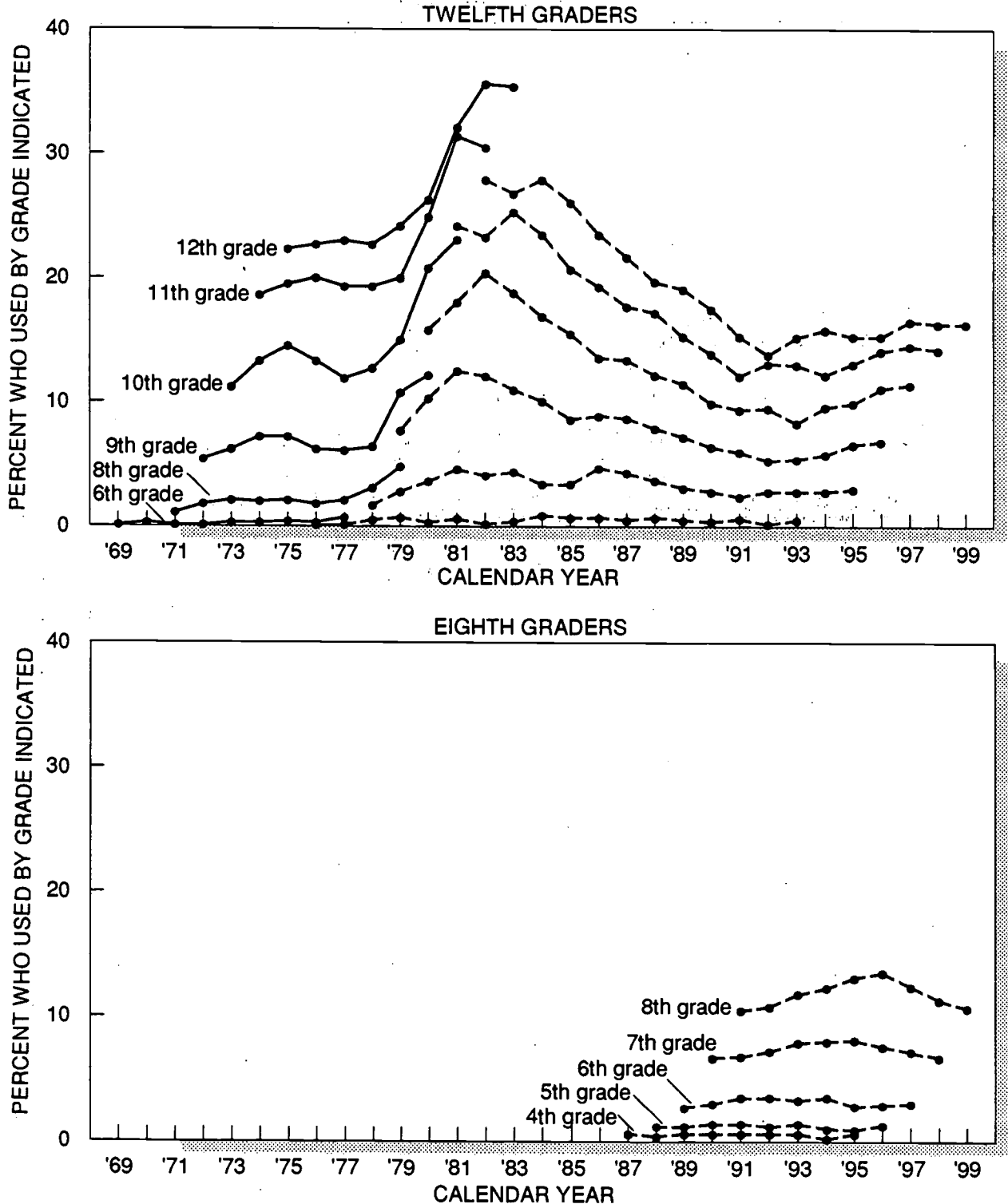


FIGURE 6-16

Amphetamines: Trends in Lifetime Prevalence for Earlier Grade Levels
 Based on Retrospective Reports from Twelfth and Eighth Graders



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 6-17

Barbiturates: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

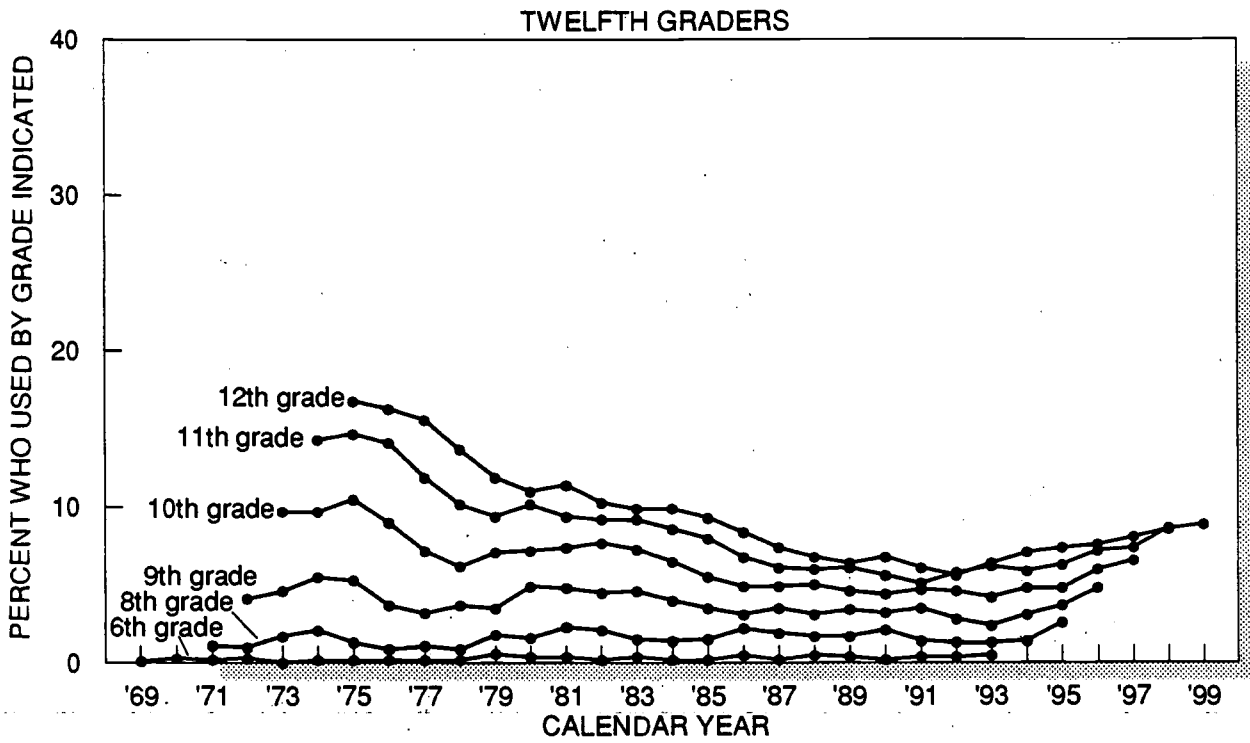


FIGURE 6-18

Methaqualone: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

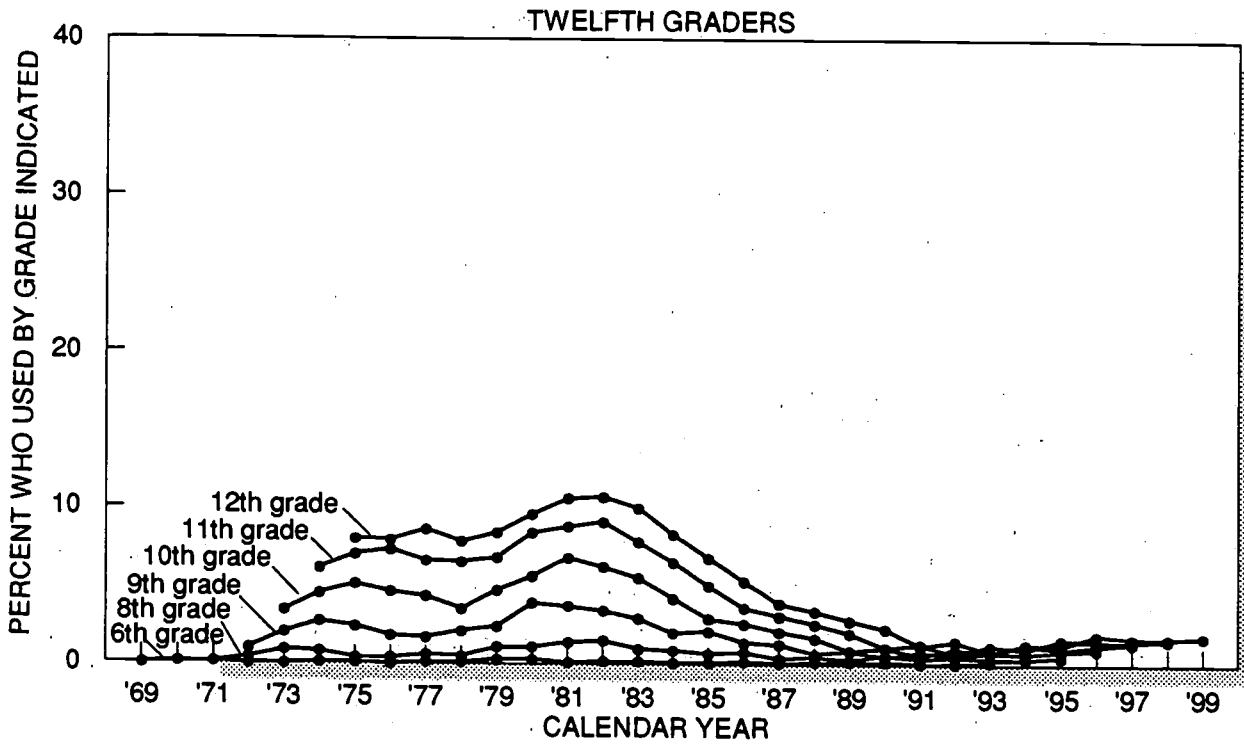


FIGURE 6-19

Tranquilizers: Trends in Lifetime Prevalence for Earlier Grade Levels
 Based on Retrospective Reports from Twelfth and Eighth Graders

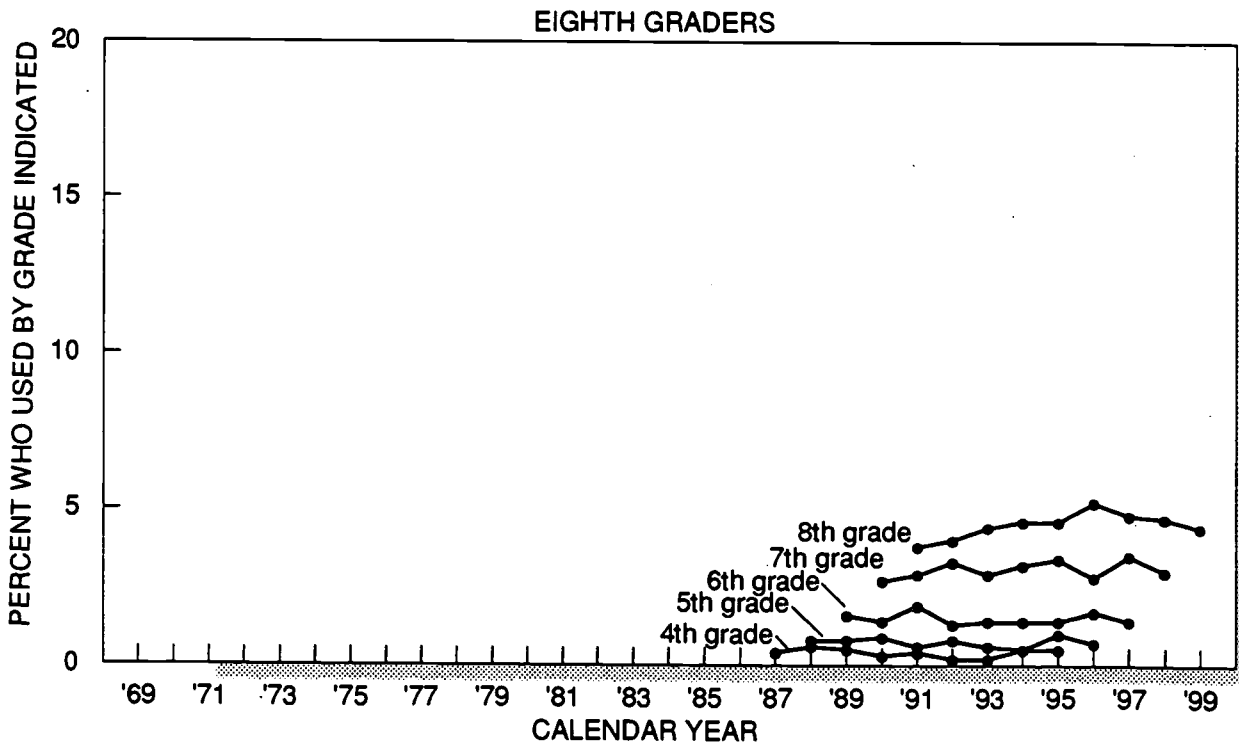
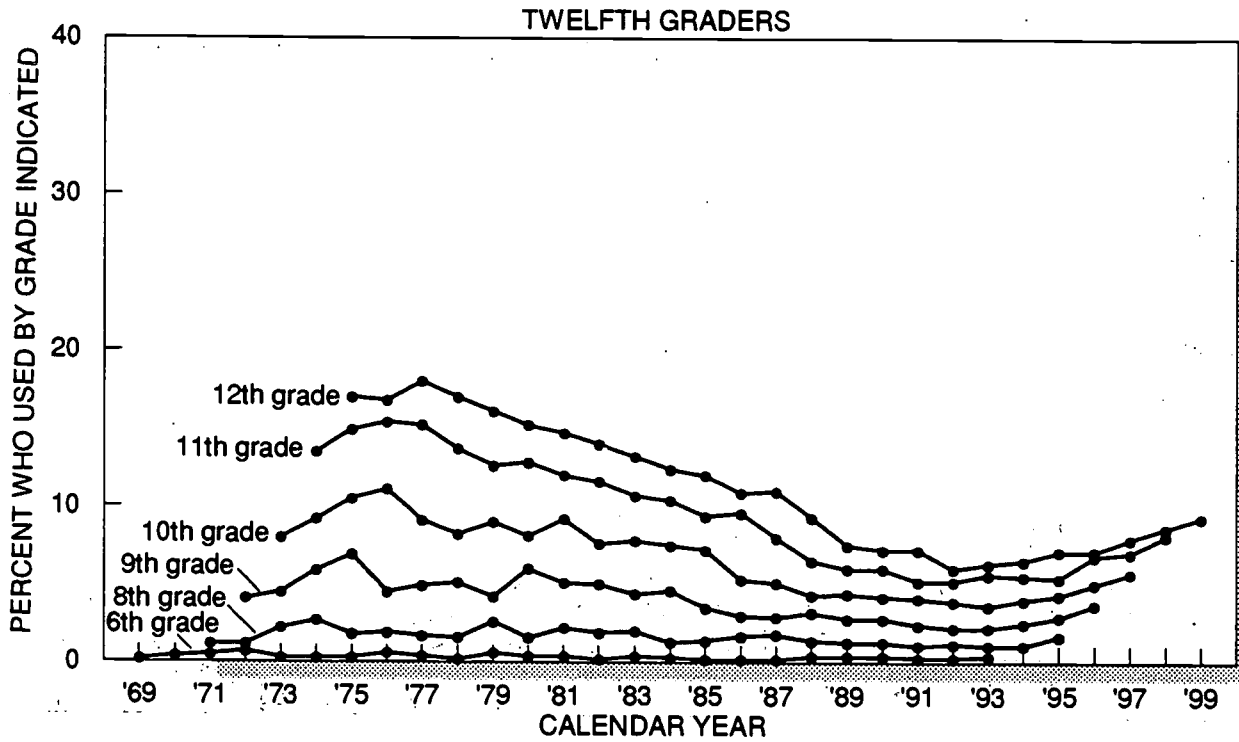
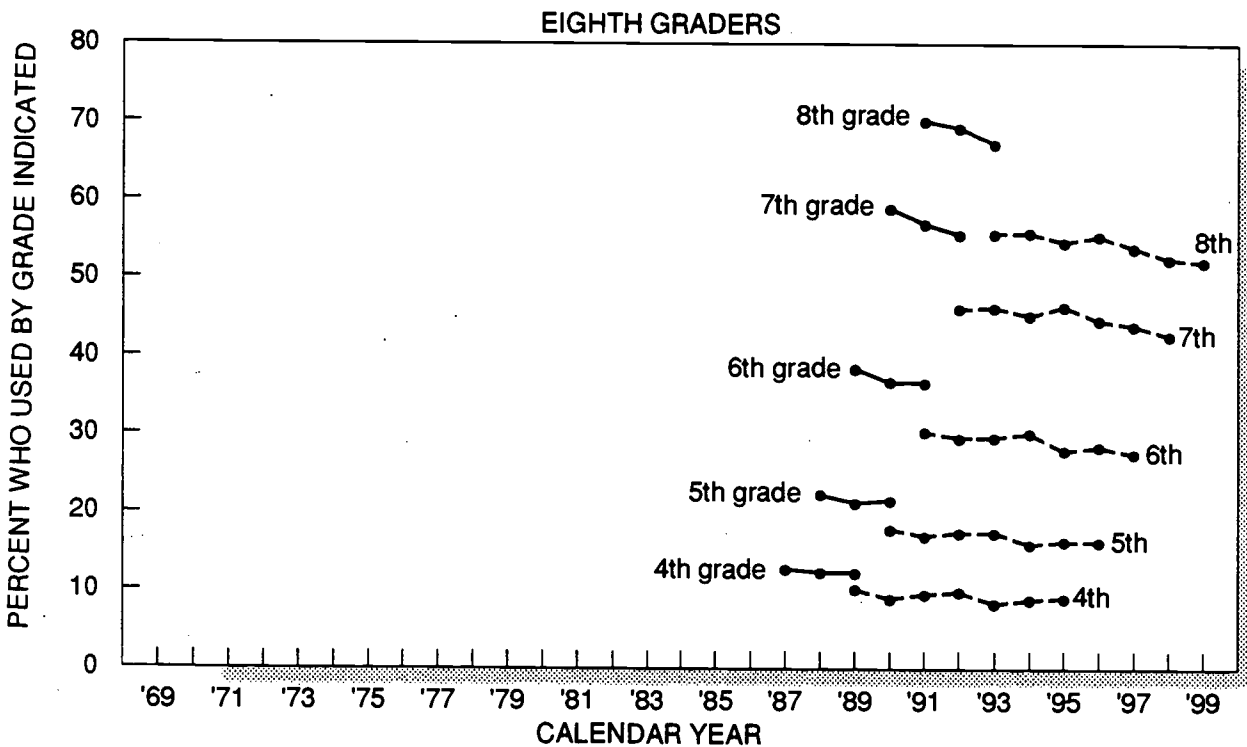
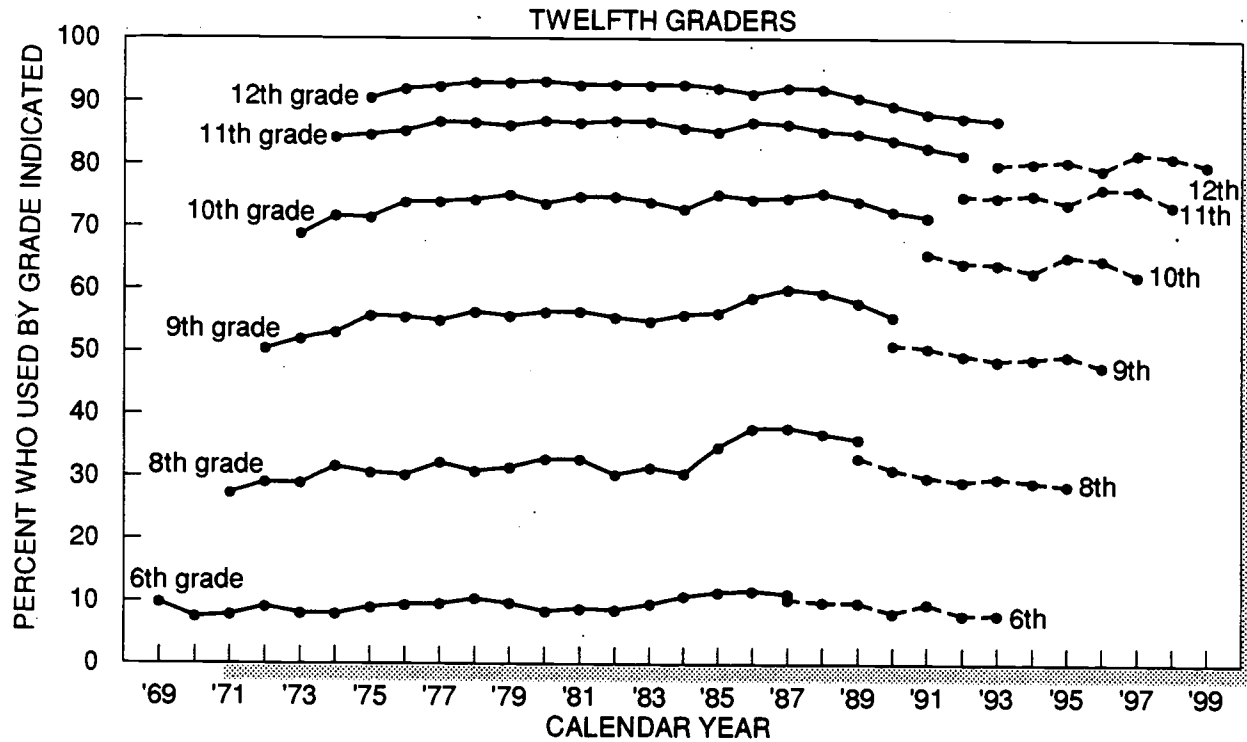


FIGURE 6-20

Alcohol: Trends in Lifetime Prevalence for Earlier Grade Levels
 Based on Retrospective Reports from Twelfth and Eighth Graders



*Beginning in 1993 a revised set of questions on alcohol use was introduced, in which respondents were told that an occasion of use meant "more than just a few sips." The dotted lines connect percentages which are based on data from the revised questions. See text for details.

FIGURE 6-21

Been Drunk: Trends in Lifetime Prevalence for Earlier Grade Levels
 Based on Retrospective Reports from Twelfth and Eighth Graders

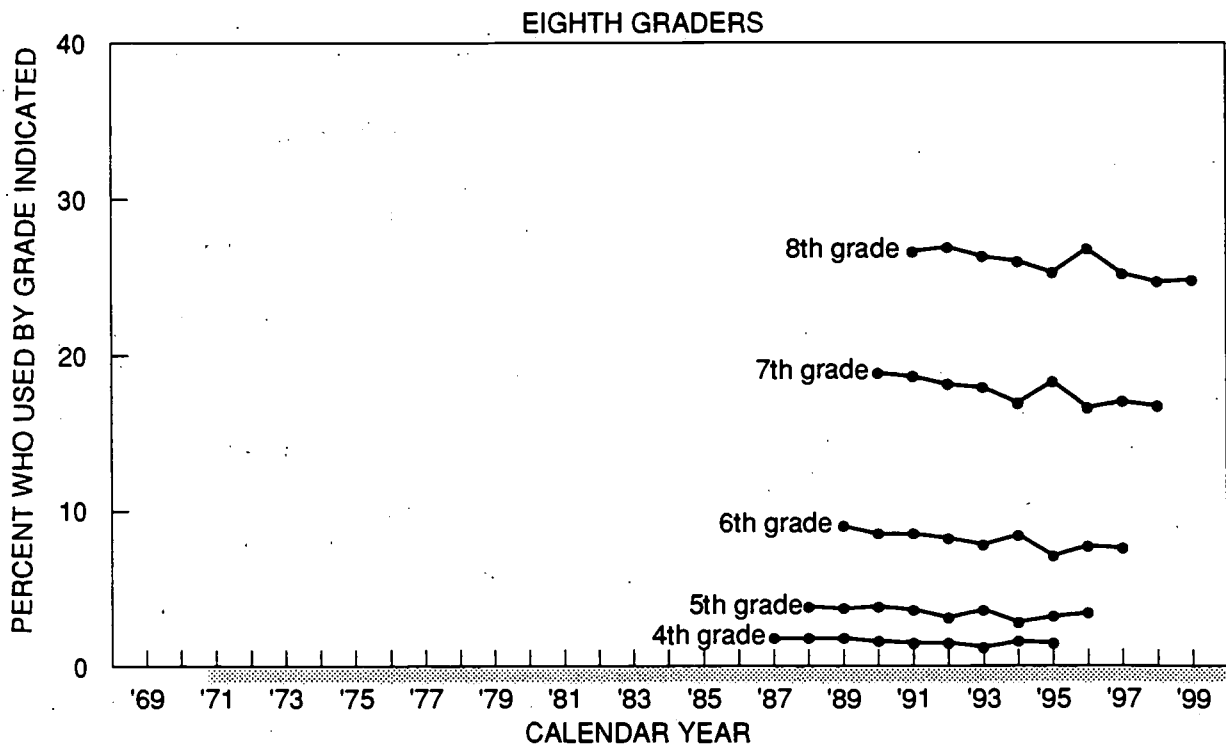
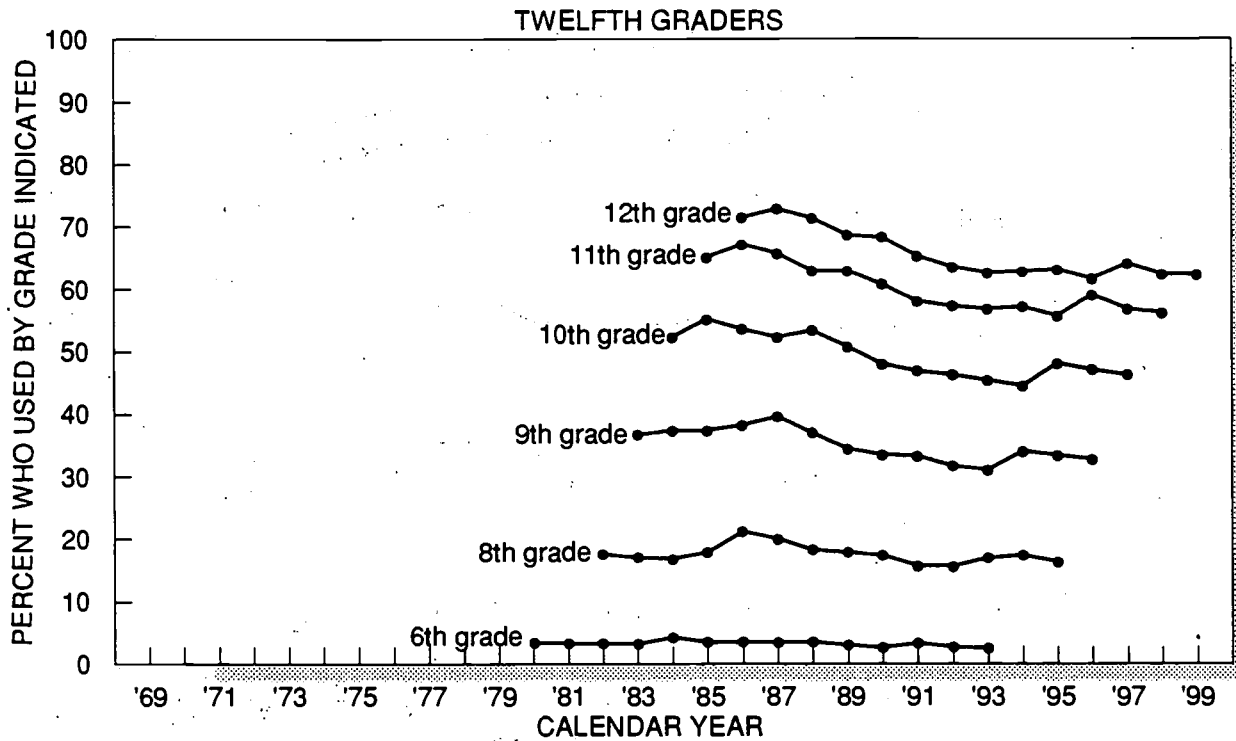


FIGURE 6-22

Cigarettes: Trends in Lifetime Prevalence for Earlier Grade Levels
 Based on Retrospective Reports from Twelfth and Eighth Graders

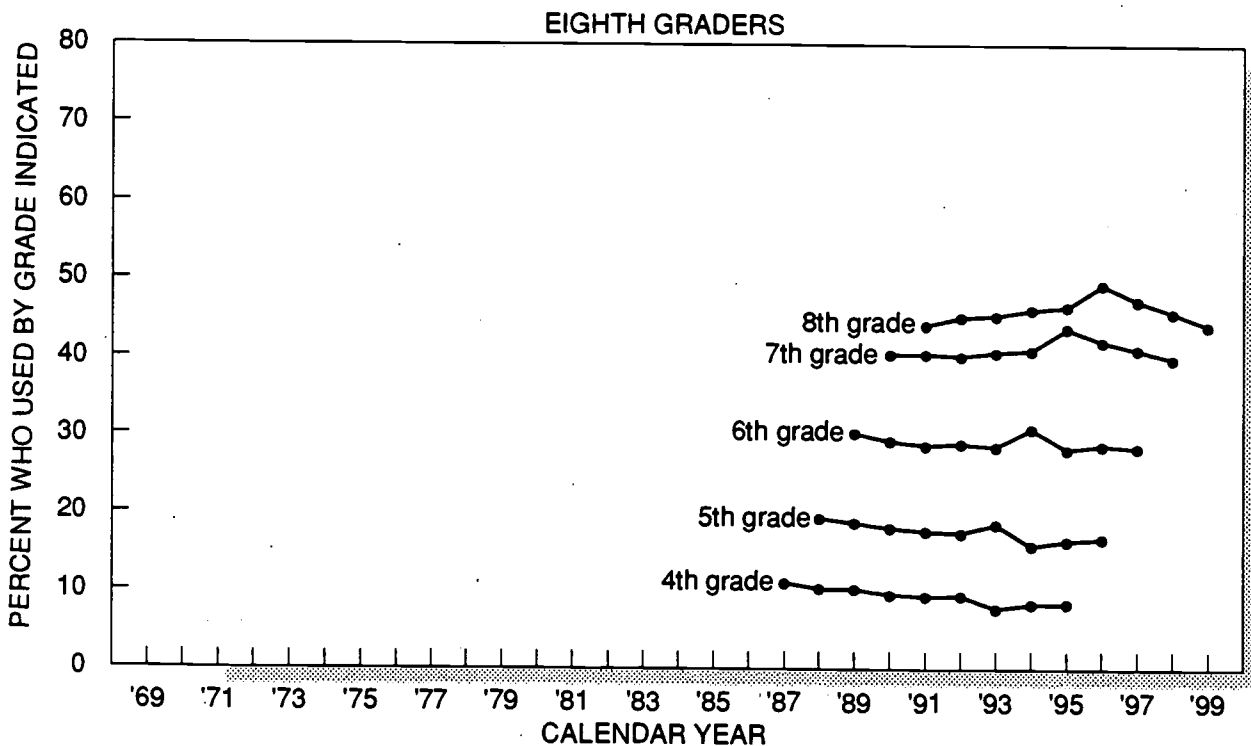
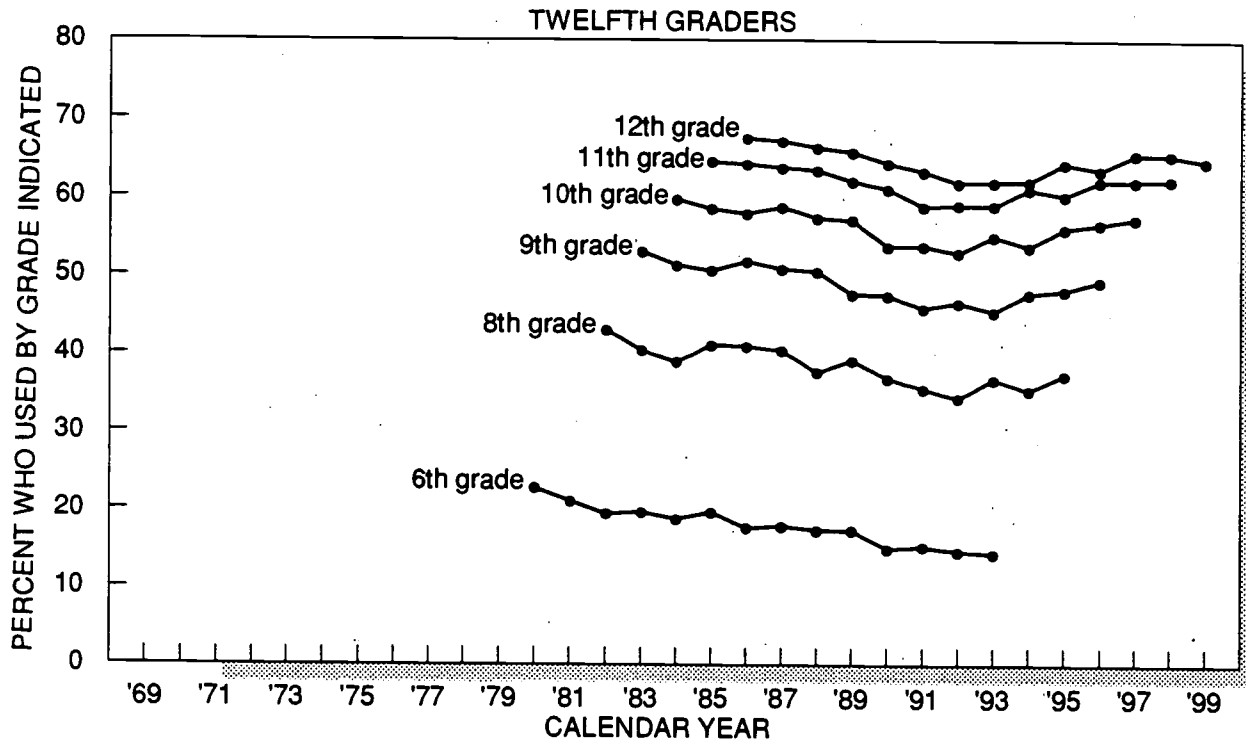


FIGURE 6-23

Cigarette Smoking on a Daily Basis: Trends in Lifetime Prevalence for Earlier Grade Levels

Based on Retrospective Reports from Twelfth and Eighth Graders

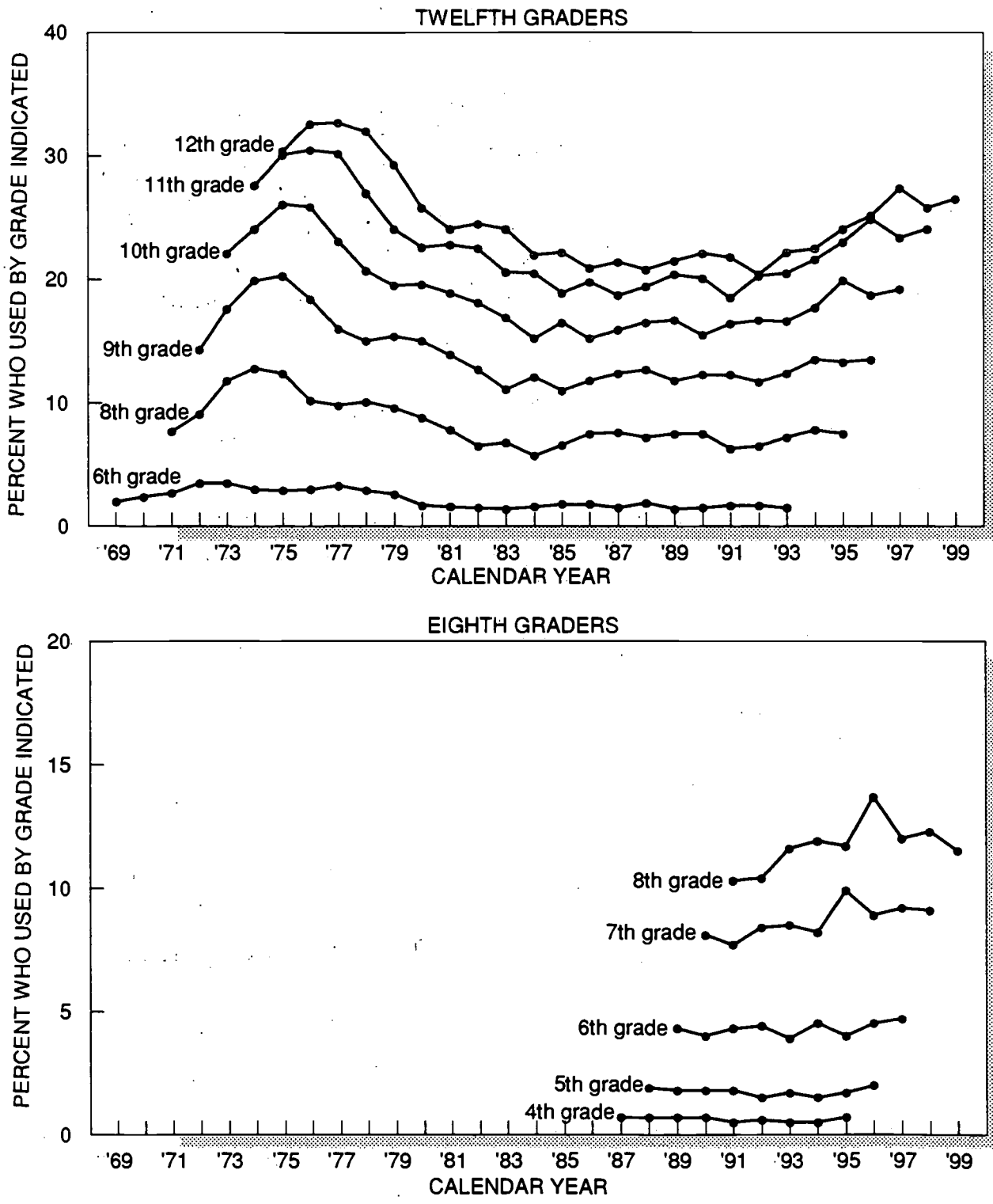
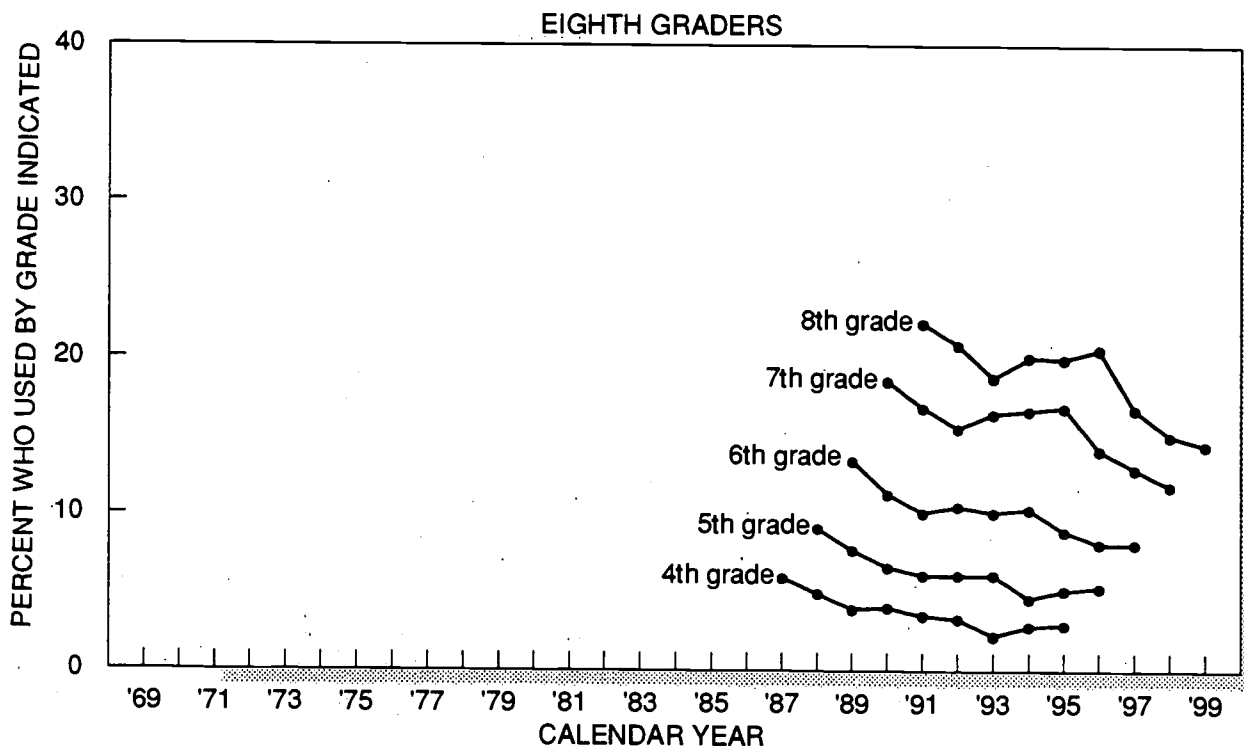
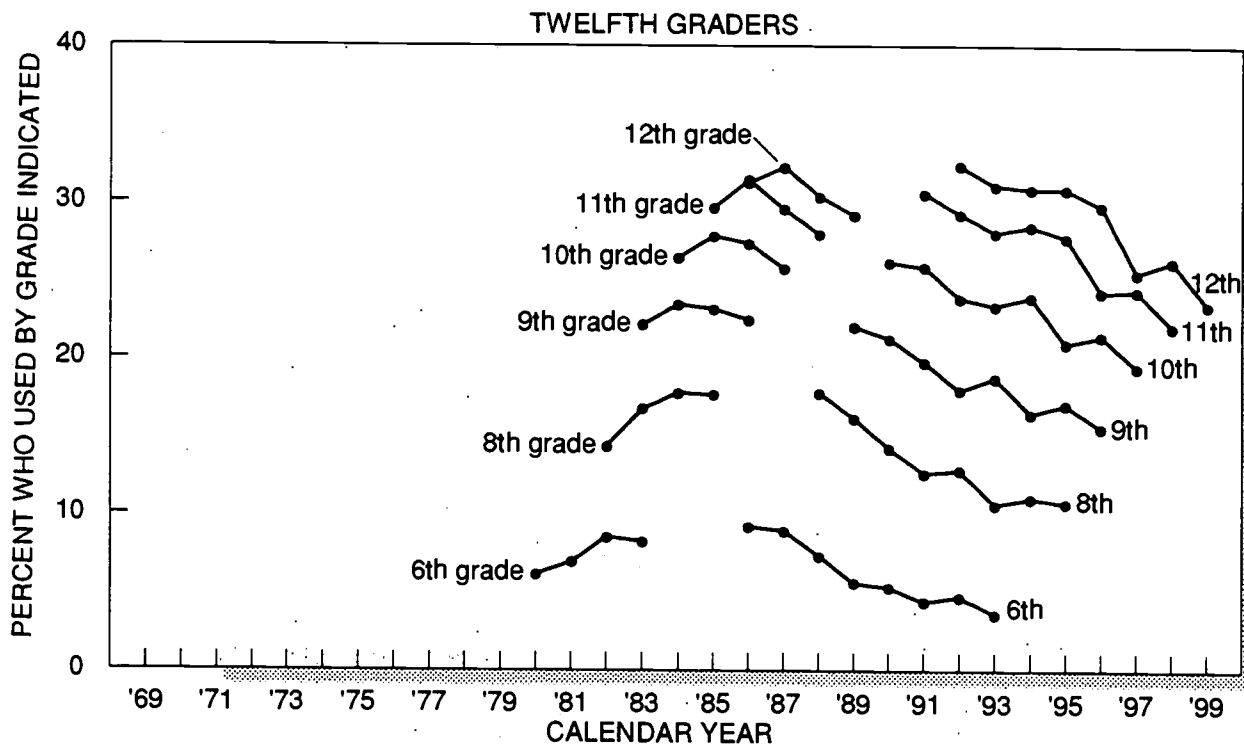


FIGURE 6-24

Smokeless Tobacco: Trends in Lifetime Prevalence for Earlier Grade Levels
 Based on Retrospective Reports from Twelfth and Eighth Graders

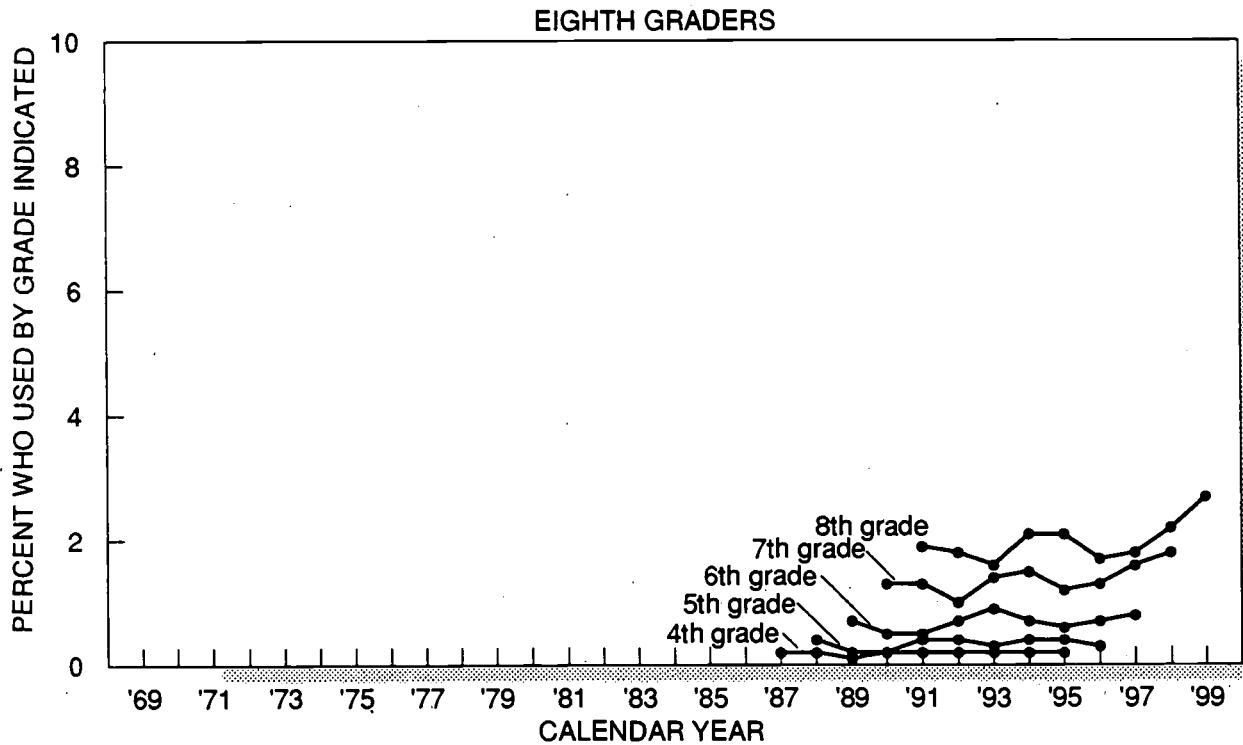
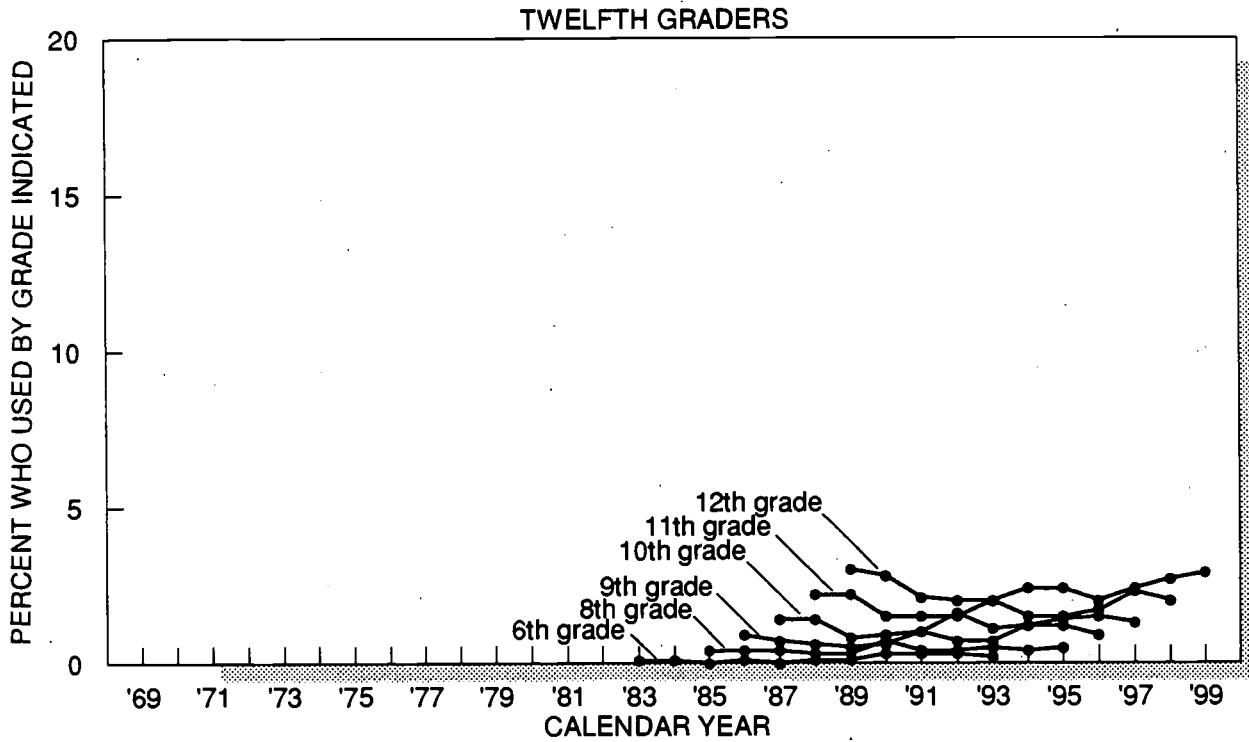


NOTE: Prevalence of smokeless tobacco was not asked of twelfth graders in 1990 and 1991. Prior to 1990 the prevalence question on smokeless tobacco was located near the end of one twelfth grade questionnaire form, whereas after 1991 the question was placed earlier and in a different form. This shift could explain the discontinuities between the corresponding lines for each grade.

FIGURE 6-25

Steroids: Trends in Lifetime Prevalence for Earlier Grade Levels

Based on Retrospective Reports from Twelfth and Eighth Graders



Chapter 7

DEGREE AND DURATION OF DRUG HIGHS

A qualitative aspect of drug use about which very little empirical information exists is the nature of the “high” experienced by the user. Most illicitly used drugs are not purchased in precisely defined (or known) quantities or purities. Therefore, in order to secure indirect measures of the drug dose consumed per occasion, and also to help characterize the typical drug-using event for each drug type, we have asked twelfth-grade respondents in one of the six questionnaire forms to indicate—for each drug that they report having used in the past twelve months—how high they usually get and how long they usually stay high. The results from those questions are discussed in this chapter, along with trends since 1975 in the degree and duration of the highs usually associated with each of the relevant drugs. Since these questions were not included in the questionnaires administered to eighth and tenth graders, all of the data presented in this chapter are derived from the twelfth-grade respondents.

DEGREE AND DURATION OF HIGHS AMONG TWELFTH GRADERS

Figure 7-1 shows the proportion of 1999 seniors who said that they usually get “very” high, “moderately” high, “a little” high, or “not at all” high when they use a given type of drug. The percentages are based on all respondents who reported use of the given drug class in the previous 12 months, and therefore each bar cumulates to 100%. The ordering from left to right is based on the percentage of users of each drug who reported that they usually get “very” high. Because the statistics are based on self-reported users in only one of the six questionnaire forms used with seniors, the Ns are sometimes small. The reader is advised to note the sample sizes given in the accompanying tables. To illustrate, in 1999 the N for the answers for LSD was 176; for other psychedelics, 98; for cocaine, 126; for marijuana, 812; for other narcotics, 89; for amphetamines, 141; for alcohol, 1619; and for tranquilizers, 77.

- Hallucinogens (LSD and hallucinogens other than LSD⁴³) and heroin usually produce intense highs. Beginning in 1982, this question was omitted for heroin because of the small number of cases available each year. An averaging across earlier years indicated that it would rank very close to LSD, with a substantial majority of past-year users saying they usually get very high when they use it.

⁴³Hallucinogens other than LSD are referred to as “other psychedelics” in Figures 7-1 and 7-2.

Monitoring the Future

- Following closely in intensity of highs produced are *cocaine* and *marijuana*; about three-quarters of the users of each said they usually get moderately high or very high when using the drug.
- Three of the major psychotherapeutic drug classes—*tranquilizers*, *amphetamines*, and *narcotics other than heroin*—are used less often to get high, but substantial proportions of users (from 41% for amphetamines to 61% for other narcotics) said they usually get moderately or very high after taking these drugs.
- Relatively few of the large proportion of twelfth graders using *alcohol* said that they usually get very high when drinking, although over half said they usually get at least moderately high. For a given individual, we would expect more variability in the degree of intoxication achieved with alcohol from occasion to occasion than with most other drugs. Therefore, many drinkers probably get very high at least sometimes, even if that is not “usually” the case, which is what the question asks.

Figure 7-2 presents the data on the duration of the highs usually obtained by users of each drug class. The drugs are arranged in the same order as in Figure 1 (intensity of highs) to permit an examination of the amount of correspondence between the degree and duration of highs.

- As can be seen in Figure 7-2, on the duration of drug highs, those drugs that result in the most intense highs generally tend to result in the longest highs, as well. For example, *LSD* and *hallucinogens other than LSD* rank one and two, respectively, on both dimensions, with substantial proportions of the users of these drugs saying they usually stay high for seven hours or more. In fact, three-fourths of LSD users (76%) and more than four of every ten users of other hallucinogens (45%) say they usually stay high that long.
- The correspondence between degree and duration of highs is not perfect. For example, the highs obtained with *marijuana* tend to be relatively intense in degree but not long in duration compared to many other drugs. Half of marijuana users (52%) said they usually stay high only one to two hours, and the modal duration is one to two hours. Still, over one-third of the users (34%) reported usually staying high three to six hours, and another 7% usually stay high for seven hours or more.
- Among *cocaine* users, 40% stay high one to two hours and 36% stay high three to six hours. One in seven (14%) stay high seven or more hours. The remaining 10% said they usually don't get high.

- In sum, drugs vary considerably in both degree and duration of the highs usually obtained from them. Sizeable proportions of the users of all of these drugs responded that they usually get high for at least three hours per occasion. For a number of drugs—particularly the *hallucinogens*, but also *other narcotics* and *cocaine*—appreciable proportions usually stay high for seven hours or more. (These data obviously do not address the many other *qualitative* differences in the experiences of being “high.”)

TRENDS IN DEGREE AND DURATION OF DRUG HIGHS

Over the years several important shifts have occurred in the degree and duration of highs usually experienced by users of the drugs included in this study. Recall that only those students who used drugs in the prior 12 months answered these questions.

- The *degree* of high obtained from *cocaine* remained fairly constant between 1981 and 1991 (see Table 7-4), following a period of some decline in degree of highs obtained as prevalence grew between 1975 and 1981. At the onset phase of the cocaine epidemic (1976-1979), the average *duration* of highs also shortened as the degree of the highs diminished; the proportion of users reporting highs of two hours or less rose from 30% to 49%. The proportion reporting these short highs continued to rise through 1989 to 64%, revealing that during the early part of the decline phase of the epidemic (1986-1992) the average duration of cocaine highs continued to decrease, just as it had done during the rise of the epidemic. Since 1989 little change has occurred in the duration of cocaine highs.
- For *narcotics other than heroin*, a general decline occurred between 1975 and 1992 both in the intensity of highs usually experienced and in the duration of those highs (see Table 7-5). In 1975, 39% of past-year users said they usually got “very high” compared to only 12% in 1992. The proportion usually staying high for seven or more hours dropped from 28% in 1975 to 11% in 1992. This shift was due, in part, to a substantial increase in the proportion of users who said they do not take these drugs “to get high” (4% in 1975, increasing to 28% by 1992). Because the actual prevalence of narcotic use dropped only modestly over that interval, these findings suggest that an increasing use for self-medication may have masked, to some degree, a decrease in recreational use. Put another way, the drop in recreational use may have been even steeper than is apparent from the modest amount of decline in prevalence. Since 1992, a modest increase in the use of other narcotics (as well as illicit drugs in general) has accompanied an increase in the degree and duration of the highs experienced by users. In addition, a decline has occurred in the proportion of users saying that they do not take them to get high (14% in 1999).

Monitoring the Future

- Between 1975 and 1981, *amphetamine* use increased among seniors, but the average *degree* of high obtained decreased (see Table 7-6), much as occurred with cocaine. The proportion of recent users usually getting very high or moderately high fell from 60% in 1975 to 37% in 1981. Consistent with this change, the proportion of users saying they simply “don’t take them to get high” increased from 9% in 1975 to 20% by 1981, remaining roughly at that level through 1990. As use has risen some in the 1990s, the numbers on degree and duration of highs have been a bit “bouncy” and have not shown any consistent trends. In general, about a quarter to a third of the users, when asked how long they usually stay high, said they “usually don’t get high.”

Also, the average reported *duration* of amphetamine highs declined over the longer term: 41% of the 1975 users said they usually stay high seven or more hours compared to only 17% of the 1981 users.⁴⁴ In 1999, 12% of users said they usually stay high that long.

These substantial decreases in both the degree and duration of highs between 1975 and 1981 strongly suggest a shift in the purposes for amphetamine use. An examination of data on self-reported reasons for use tends to confirm this conclusion. Between the mid-1970s and the mid-1980s, there was a decline in the frequency with which recent users mentioned social/recreational reasons for use and an increase in mentions of use for instrumental purposes.⁴⁵ The late 1980s saw some decline in the instrumental purposes (“to stay awake,” “to get more energy,” “to get through the day”) and a leveling in the mentions of social/recreational reasons. In the 1990s, as use rose a bit, there was only a very slight upturn in mentions of social/recreational reasons for use.

- With respect to the social/recreational shifts from 1979 to 1984, the percentage of all recent users citing “to feel good or get high” as a reason for amphetamine use declined from 58% to 45%; in 1999, the figure was 47%. Similarly, “to have a good time with my friends” declined from 38% to 30% between 1979 and 1984; in 1999, the figure was up again to 37%. There were shifts toward more instrumental use between 1976 and 1984: “to lose weight” increased by 15 percentage points (to 41%); “to get more energy” increased by 13 percentage points (to 69%); “to stay awake” increased by 10 percentage points (to 62%); and “to get through the day” increased by 9 percentage points (to 32%). Since about

⁴⁴In 1982, the questionnaire form containing the questions on degree and duration of highs clarified the amphetamine usage questions to eliminate the inappropriate inclusion of nonprescription amphetamines. One might have expected this change to have increased the degree and duration of highs reported, given that real amphetamines would be expected to have greater psychological impact on average; but the trends still continued downward that year.

⁴⁵Johnston, L. D. & O'Malley, P. M. (1986). Why do the nation's students use drugs and alcohol? Self-reported reasons from nine national surveys. *Journal of Drug Issues*, 16, 29-66.

1988, these instrumental objectives have been mentioned somewhat less often by users. In 1999, “to lose weight” was mentioned by 29% of recent users, “to get more energy” by 52%, “to stay awake” by 45%, and “to get through the day” by 20%.

- Despite the earlier *relative* decline in recreational reasons for use of amphetamines, it also appears the *absolute* level of recreational use increased somewhat, though clearly not as steeply as the trends through 1981 in overall use might have suggested. The data on the percentage of seniors reporting exposure to people using amphetamines “to get high or for kicks,” discussed further in Chapter 9, showed a definite increase between 1976 and 1981. There was no further increase in exposure to people using amphetamines for those purposes in 1982, suggesting that recreational use, as well as overall use, had leveled off. Since 1982, such exposure has decreased considerably (from 50% to 30% of all seniors in 1999), suggesting a substantial drop in the total number of people using amphetamines for recreational purposes.
- The degree and duration of highs achieved by *tranquilizer* users decreased in the 1980s (see Table 7-7). Only 15% of the 1980 senior users, compared to 35% of 1990 users, said they did not take them to get high. However, as use has risen some during the 1990s, the proportion of users saying they do not use tranquilizers to get high has declined to 11% in 1999, indicating that recreational use played an important role in this rise in use.
- *Marijuana* had a modest downward trend in the degree of the highs usually obtained between 1978 and 1983—a period of considerable decline in use. In 1978, 73% of users said they usually get “moderately high” or “very high,” but by 1983 only 64% said so. In the 1990s, this proportion rose to 76% by 1997 before starting to decline again in 1998 as use began to go down (see Table 7-1).

Some interesting changes also took place in the average duration of *marijuana* highs between 1978 and 1983. Most marijuana users said they usually stay high either one to two hours *or* three to six hours. Between 1975 and 1983 there was a steady decline in the proportion of users saying they stay high three or more hours (from 52% in 1975 to 35% in 1983). Until 1979, the downward shift could have been due almost entirely to the fact that progressively more seniors were using marijuana; and the users in later classes, who might *not* have been users if they had been in earlier classes, probably tended to be relatively light users. We deduce this from the fact that the percentage of *all* seniors reporting three- to six-hour highs remained relatively unchanged from 1975 to 1979, while the percentage of *all* seniors reporting only one- to two-hour highs increased steadily—from 16% in 1975 to 25% in 1979.

After 1979, however, the overall marijuana usage rate began to decline substantially, but the shift toward shorter average highs still continued through 1983. Thus, we must attribute this shift to another factor, and the one that seems most likely is a general shift, even among the most marijuana-prone segment, toward a less frequent (or less intense) use of the drug. The drop in daily prevalence after 1979, disproportionately large relative to the drop in overall prevalence, is consistent with this interpretation. Also consistent is the fact that the average number of joints smoked per day (among those who reported any use in the prior 12 months) also dropped. In 1976, 55% of the past-year users of marijuana indicated that they averaged *less* than one joint per day in the prior 30 days (but by 1988 this proportion had risen to 83%). In sum, not only were fewer high school students using marijuana than in the early years of this study, but those who were using the drug seemed to be using it less frequently and to be taking smaller amounts (and doses of the active ingredient) per occasion, at least through 1988. By the mid-1990s, though, a higher proportion of users again reported getting “very high” and staying high longer. The proportion of past-year users who smoked less than one joint per day in the most recent month was back down to 59%.

The lower intensity of *marijuana* highs through the 1980s is of particular interest in light of evidence from other sources that the THC content of marijuana had risen substantially since the late 1970s. The evidence here would suggest that users titrated their intake to achieve a certain (perhaps declining) level of high and, thus, were smoking less marijuana as measured by volume.

- There are no clearly discernible long-term patterns in the intensity or duration of highs being experienced by users of *LSD* or *hallucinogens other than LSD*, with the slight exception that the average duration of LSD highs dropped some from the mid-1970s to the early 1980s (as use declined) and then rose some through the 1990s (as use increased). (See Tables 7-2 and 7-3.)
- Data are not collected for highs experienced in the use of *inhalants*, the specific *nitrites*, *PCP*, or *heroin*.
- The intensity and duration of highs associated with *alcohol* use generally have been stable throughout the study period (see Table 7-8), with the following exceptions: (1) the proportion of *all* seniors who report getting “very high” has risen some in the 1990s (from 5.6% in 1993 to 9% in 1998 before falling to 7.3% in 1999), and (2) the proportion saying they usually stay high on alcohol for seven hours or more has risen slightly over the same interval, from 3.4% in 1993 to 4.6% in 1998 (and then 4.1% in 1999).

TABLE 7-1
Marijuana: Trends in Degree and Duration of Feeling High for Twelfth Graders

Q. When you take marijuana or hashish how high do you usually get?*	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
% of Recent Users																									
Not at all high	6.9	5.7	7.5	6.3	6.0	6.3	4.9	4.6	6.6	6.8	7.2	5.1	6.8	6.6	7.6	5.8	7.2	7.8	9.0	7.0	8.1	5.7	5.4	6.1	6.8
A little high	22.1	20.9	22.5	20.3	22.5	23.5	29.0	26.3	29.4	29.0	27.2	27.6	29.5	30.2	22.8	23.2	21.6	25.9	19.4	21.7	22.3	17.9	18.6	22.0	19.8
Moderately high	45.5	47.7	43.5	46.8	47.5	47.7	45.7	45.6	41.9	36.9	41.8	43.8	40.9	40.3	44.1	40.8	42.8	39.3	45.9	40.6	40.8	47.5	45.1	43.6	43.7
Very high	25.5	25.7	26.5	26.6	24.0	22.6	20.4	23.5	22.0	27.4	23.8	23.5	22.9	22.9	25.5	30.3	28.4	27.0	25.8	30.7	28.8	28.9	30.9	28.4	29.8
Approx. N =	1142	1266	1448	1873	1606	1495	1607	1588	1366	1264	1298	1177	1174	1142	782	694	591	605	669	779	916	788	998	944	812
% of All Respondents																									
No use in last 12 months	60.0	55.5	52.4	49.8	49.4	52.4	53.2	54.7	58.2	59.9	59.0	61.2	63.5	64.9	71.6	72.7	76.2	76.8	74.8	69.6	64.1	66.5	61.2	62.6	63.6
Not at all high	2.8	2.5	3.6	3.2	3.0	3.0	2.3	2.1	2.8	2.7	2.9	2.0	2.5	2.3	2.2	1.6	1.7	1.8	2.3	2.1	2.9	1.9	2.1	2.3	2.5
A little high	8.8	9.3	10.7	10.2	11.4	11.2	13.6	11.9	12.3	11.6	11.2	10.7	10.7	10.6	6.5	6.3	5.1	6.0	4.9	6.6	8.0	6.0	7.2	8.2	7.2
Moderately high	18.2	21.2	20.7	23.5	24.0	22.7	21.4	20.6	17.5	14.8	17.2	17.0	14.9	14.1	12.5	11.1	10.2	9.1	11.6	12.4	14.7	15.9	17.5	16.3	15.9
Very high	10.2	11.4	12.6	13.4	12.2	10.8	9.6	10.6	9.2	11.0	9.8	9.1	8.4	8.1	7.2	8.3	6.7	6.3	6.5	9.3	10.4	9.7	12.0	10.6	10.8
Approx. N =	2855	2845	3042	3731	3175	3143	3437	3506	3268	3154	3163	3033	3219	3250	2755	2842	2487	2614	2655	2558	2549	2355	2570	2526	2231
Q. When you take marijuana or hashish how long do you usually stay high?*																									
% of Recent Users																									
Usually don't get high	8.5	8.0	9.5	8.0	8.4	8.5	7.6	7.0	9.9	9.6	9.3	8.2	11.1	9.6	10.8	7.8	8.5	9.5	10.9	9.5	8.7	6.4	6.1	7.4	7.6
One to two hours	39.7	43.2	42.6	47.4	48.7	51.7	52.5	53.8	55.6	51.7	52.4	55.0	52.9	56.0	51.9	53.3	49.5	47.2	48.6	47.4	46.0	46.9	49.6	51.4	51.8
Three to six hours	45.4	43.7	42.7	39.0	37.4	35.0	35.7	34.2	30.4	33.1	34.0	32.9	32.2	30.2	33.3	33.1	34.4	37.7	36.8	36.1	37.6	39.3	37.1	35.7	33.5
Seven to 24 hours	5.9	4.9	4.7	5.1	5.0	4.1	4.0	4.5	3.5	5.0	3.9	3.3	3.7	3.8	3.3	5.4	6.9	4.9	3.2	5.5	6.7	6.2	6.0	5.1	5.9
More than 24 hours	0.5	0.2	0.6	0.5	0.5	0.7	0.2	0.5	0.6	0.7	0.4	0.6	0.1	0.4	0.8	0.4	0.8	0.8	0.4	1.4	1.0	1.2	1.1	0.4	1.2
Approx. N =	1141	1261	1449	1873	1619	1500	1607	1593	1357	1268	1295	1176	1172	1147	787	694	589	602	666	774	911	789	996	945	814
% of All Respondents																									
No use in last 12 months	60.0	55.5	52.4	49.8	49.2	52.3	53.2	54.6	58.4	59.9	59.0	61.2	63.6	64.8	71.5	72.7	76.3	76.9	74.9	69.7	64.2	66.5	61.2	62.6	63.6
Usually don't get high	3.4	3.6	4.5	4.0	4.3	4.0	3.6	3.2	4.1	3.8	3.8	3.2	4.0	3.4	3.1	2.1	2.0	2.2	2.7	2.9	3.1	2.1	2.4	2.8	2.8
One to two hours	15.9	19.2	20.3	23.8	24.7	24.6	24.5	24.4	23.1	20.7	21.5	21.3	19.3	19.7	14.8	14.6	11.7	10.9	12.2	14.4	16.5	15.7	19.3	19.2	18.9
Three to six hours	18.2	19.4	20.3	19.6	19.0	16.7	16.7	15.5	12.7	13.3	13.9	12.8	11.7	10.7	9.5	9.0	8.1	8.7	9.2	11.0	13.5	13.2	14.4	13.4	12.2
Seven to 24 hours	2.4	2.2	2.2	2.6	2.5	2.0	1.9	2.0	1.4	2.0	1.6	1.3	1.3	1.3	0.9	1.5	1.6	1.1	0.8	1.7	2.4	2.1	2.3	1.9	2.1
More than 24 hours	0.2	0.1	0.3	0.3	0.2	0.3	0.1	0.2	0.3	0.3	0.2	0.2	0.0	0.1	0.2	0.1	0.2	0.1	0.4	0.4	0.4	0.4	0.4	0.2	0.4
Approx. N =	2853	2834	3044	3731	3188	3149	3437	3511	3259	3158	3160	3032	3218	3255	2760	2842	2485	2611	2652	2553	2544	2356	2568	2527	2233

SOURCE: The Monitoring the Future Study, the University of Michigan.

*These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior twelve months (i.e., "recent users").

TABLE 7-2
LSD: Trends in Degree and Duration of Feeling High for Twelfth Graders

Q. When you take LSD how high do you usually get? ^a	Class of																											
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999			
% of Recent Users	0.2	1.7	1.6	0.5	2.8	2.0	1.6	2.7	0.0	2.5	1.2	3.3	2.5	1.3	4.9	0.6	4.0	1.7	1.8	1.1	3.0	4.0	2.3	4.3	0.0			
Not at all high	4.8	1.9	7.4	4.9	8.4	5.0	9.6	4.1	4.2	5.6	3.7	4.1	4.3	4.1	6.6	2.0	6.9	2.9	10.8	6.3	7.4	5.2	9.2	5.5	4.6			
A little high	16.2	22.4	19.3	24.7	14.9	23.4	23.3	26.4	26.9	24.8	16.2	23.3	21.9	20.4	17.4	33.8	23.0	32.4	30.1	29.3	21.7	20.6	21.1	31.2	19.1			
Moderately high	78.8	73.9	71.7	69.9	73.9	69.5	65.5	66.8	68.9	67.1	78.9	69.3	71.4	74.2	71.1	63.6	66.2	63.1	57.4	63.2	67.9	70.2	67.4	59.0	76.3			
Very high	Approx. N = 213																											
% of All Respondents	92.5	93.6	94.4	93.7	92.9	92.8	93.2	92.9	93.9	94.7	95.3	94.5	94.0	94.6	95.2	—	94.4	94.4	92.1	93.1	91.9	92.2	90.2	92.6	92.1			
No use in last 12 months	0.0	0.1	0.1	0.0	0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.2	0.1	0.1	0.2	—	0.2	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.0			
Not at all high	0.4	0.1	0.4	0.3	0.6	0.4	0.6	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	—	0.4	0.2	0.8	0.4	0.6	0.4	0.9	0.4	0.4			
A little high	1.2	1.4	1.1	1.6	1.1	1.7	1.6	1.9	1.6	1.3	0.8	1.3	1.3	1.1	0.8	—	1.3	1.8	2.4	2.0	1.8	1.6	2.1	2.3	1.5			
Moderately high	5.9	4.7	4.0	4.4	5.2	5.0	4.4	4.7	4.2	3.5	3.7	3.8	4.3	4.0	3.4	—	3.7	3.5	4.5	4.3	5.5	5.5	6.6	4.4	6.0			
Very high	Approx. N = 2840																											
% of Recent Users	1.6	2.3	2.5	0.5	3.4	2.3	1.6	1.5	0.0	3.2	1.2	3.3	2.5	1.0	6.1	0.6	3.5	1.7	3.4	0.5	3.8	2.2	2.4	3.2	0.6			
Usually don't get high	1.3	1.7	3.8	3.9	4.0	2.5	5.4	3.6	2.6	2.5	3.3	2.0	4.9	2.0	4.1	6.6	4.5	5.5	3.8	5.7	2.5	5.0	3.9	2.6	1.9			
One to two hours	22.7	30.7	30.5	31.9	33.1	34.6	35.5	30.7	43.6	29.4	32.4	32.8	27.6	28.2	19.2	24.4	16.0	21.4	27.7	20.1	21.1	19.6	25.4	29.7	21.9			
Three to six hours	69.8	59.9	59.8	58.5	52.1	55.4	54.6	62.5	49.3	60.9	60.3	59.8	59.4	64.3	65.9	63.1	73.8	66.3	62.3	70.6	67.0	70.0	62.3	61.4	71.0			
Seven to 24 hours	4.6	5.5	3.4	5.3	7.4	5.2	2.9	1.7	4.6	4.0	2.8	2.2	5.6	4.5	4.7	5.2	2.2	5.0	2.9	3.0	5.7	3.3	6.0	3.2	4.6			
More than 24 hours	Approx. N = 215																											
% of All Respondents	92.5	93.6	94.4	93.7	92.9	92.8	93.2	92.8	93.9	94.7	95.2	94.5	94.1	94.6	95.2	—	94.4	94.4	92.3	93.1	91.9	92.1	90.1	92.6	92.2			
No use in last 12 months	0.1	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.0	0.2	0.1	0.2	0.1	0.1	0.3	—	0.2	0.1	0.3	0.0	0.3	0.2	0.2	0.2	0.0			
Usually don't get high	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.3	0.2	0.1	0.2	0.1	0.3	0.1	0.2	—	0.3	0.3	0.3	0.4	0.2	0.4	0.4	0.2	0.1			
One to two hours	1.7	2.0	1.7	2.0	2.3	2.5	2.4	2.2	2.6	1.6	1.6	1.8	1.6	1.5	0.9	—	0.9	1.2	2.1	1.4	1.7	1.6	2.5	2.2	1.7			
Three to six hours	5.2	3.8	3.3	3.7	3.7	3.9	3.7	4.5	3.0	3.2	2.9	3.3	3.5	3.5	3.2	—	4.2	3.7	4.8	4.9	5.4	5.6	6.2	4.5	5.5			
Seven to 24 hours	0.3	0.4	0.2	0.3	0.5	0.4	0.2	0.1	0.3	0.2	0.1	0.1	0.3	0.2	0.2	—	0.1	0.3	0.2	0.2	0.5	0.3	0.6	0.2	0.4			
More than 24 hours	Approx. N = 2867																											

NOTE: '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

^aThese questions appear in just one form. They are asked only of respondents who report use of the drug in the prior twelve months (i.e., "recent users").

TABLE 7-3
Hallucinogens Other than LSD: Trends in Degree and Duration of Feeling High for Twelfth Graders

Q. When you take hallucinogens other than LSD how high do you usually get?*	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
% of Recent Users	2.4	1.2	1.2	1.2	2.1	0.9	2.3	2.5	4.0	4.9	3.2	3.4	5.6	3.1	1.0	2.5	5.0	1.0	7.6	8.8	3.1	4.0	3.1	4.0	3.1	2.8
Not at all high	7.9	9.6	8.4	8.3	9.6	10.4	12.9	10.3	8.2	10.8	9.5	13.6	13.6	8.8	8.2	5.8	9.9	18.2	10.8	12.6	4.4	7.9	10.7	5.3	7.2	7.2
A little high	35.5	39.6	40.8	36.3	37.7	38.9	37.9	35.9	36.6	38.0	36.1	36.8	32.1	28.7	33.4	41.2	41.0	32.0	37.4	25.5	24.5	26.9	20.4	38.0	16.1	16.1
Moderately high	54.1	49.7	49.6	54.3	50.6	49.9	46.9	51.3	51.2	46.3	51.3	46.3	48.6	59.5	57.4	50.5	44.1	48.8	44.2	53.1	68.1	61.2	65.9	54.8	73.8	73.8
Very high	Approx. N = 322	237	246	326	253	255	246	201	170	153	134	114	115	85	53	58	39	47	62	67	86	103	120	110	98	98
% of All Respondents	90.4	93.0	93.0	92.7	91.9	91.8	92.8	94.2	94.7	95.1	95.7	96.2	96.4	97.4	98.1	—	98.4	98.2	97.6	97.3	96.6	95.6	95.2	95.6	95.6	95.6
No use in last 12 months	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.0	—	0.1	0.0	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1
Not at all high	0.8	0.7	0.6	0.6	0.8	0.9	0.9	0.6	0.4	0.5	0.4	0.5	0.5	0.2	0.2	—	0.2	0.3	0.3	0.3	0.1	0.4	0.5	0.2	0.3	0.3
A little high	3.4	2.8	2.9	2.6	3.0	3.2	2.7	2.1	1.9	1.9	1.5	1.4	1.2	0.8	0.6	—	0.6	0.6	0.9	0.7	0.8	1.2	1.0	1.7	0.7	0.7
Moderately high	5.2	3.5	3.5	4.0	4.1	4.1	3.4	3.0	2.7	2.3	2.2	1.8	1.8	1.6	1.1	—	0.7	0.9	1.0	1.4	2.3	2.7	3.2	2.4	3.3	3.3
Very high	Approx. N = 3354	3386	3514	4466	3127	3098	3407	3466	3235	3129	3142	3004	3182	3220	2734	—	2472	2591	2629	2523	2515	2319	2500	2486	2213	2213
Q. When you take hallucinogens other than LSD how long do you usually stay high?*	2.0	1.2	1.1	1.3	2.5	1.3	2.8	3.6	4.8	4.0	0.9	5.2	7.2	3.9	4.2	2.5	7.6	6.1	3.6	7.2	3.1	2.4	4.3	2.1	2.8	2.8
% of Recent Users	8.5	9.4	7.0	8.4	8.3	7.8	8.3	6.6	7.9	8.9	12.9	9.1	9.8	7.8	16.5	13.8	12.3	15.3	6.9	11.5	6.2	8.8	5.3	2.6	7.1	7.1
Usually don't get high	41.3	46.1	45.5	47.7	48.2	49.1	47.1	52.6	54.1	48.7	46.7	43.3	46.0	46.2	35.3	46.8	25.9	38.9	51.9	41.5	35.0	55.6	57.9	56.0	44.9	44.9
One to two hours	45.6	39.9	44.1	41.1	37.2	39.6	38.7	34.4	30.5	36.0	37.1	40.6	35.8	40.5	42.1	25.8	52.4	33.3	37.7	39.8	50.2	29.5	30.6	37.3	42.2	42.2
Three to six hours	2.7	3.4	2.3	1.5	3.8	2.2	3.1	2.8	2.7	2.5	2.5	1.9	1.3	1.6	1.9	11.2	1.8	6.4	0.0	0.0	5.5	3.6	2.0	1.9	3.1	3.1
Seven to 24 hours	Approx. N = 322	238	243	326	249	254	246	203	171	153	132	115	116	84	55	60	40	48	59	68	86	101	118	110	98	98
More than 24 hours	% of All Respondents	90.4	93.0	92.7	92.0	91.8	92.8	94.1	94.7	95.1	95.8	96.2	96.4	97.4	98.0	—	98.4	98.1	97.8	97.3	96.6	95.6	95.3	95.6	95.6	95.6
Usually don't get high	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.2	0.0	0.2	0.3	0.1	0.1	—	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1
One to two hours	0.8	0.7	0.5	0.6	0.7	0.6	0.6	0.4	0.4	0.4	0.5	0.3	0.4	0.2	0.3	—	0.2	0.3	0.2	0.3	0.2	0.4	0.2	0.1	0.3	0.3
Three to six hours	4.0	3.2	3.2	3.5	3.8	4.0	3.4	3.1	2.9	2.4	2.0	1.7	1.7	1.2	0.7	—	0.4	0.7	1.2	1.1	1.2	2.4	2.7	2.5	2.0	2.0
Seven to 24 hours	4.4	2.8	3.1	3.0	3.0	3.2	2.8	2.0	1.6	1.8	1.6	1.6	1.3	1.1	0.8	—	0.8	0.6	0.8	1.1	1.7	1.3	1.4	1.7	1.9	1.9
More than 24 hours	0.3	0.2	0.2	0.1	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	—	0.0	0.1	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1
Approx. N = 3354	3400	3471	4466	3123	3096	3407	3467	3236	3129	3140	3005	3183	3219	2736	—	2473	2592	2626	2524	2515	2317	2498	2486	2213	2213	2213

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

*These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior twelve months (i.e., "recent users").

TABLE 7-4
Cocaine: Trends in Degree and Duration of Feeling High for Twelfth Graders

Q. When you take cocaine how high do you usually get?*	Class of																										
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		
% of Recent Users																											
I don't take it to get high	1.1	0.8	0.3	0.0	2.1	1.9	0.6	2.1	1.9	2.8	3.1	4.1	3.6	4.9	4.6	3.9	2.7	3.1	7.7	2.6	4.6	9.5	4.6	7.6	5.1		
Not at all high	3.5	2.9	4.5	5.5	3.6	3.6	7.4	6.4	10.1	6.0	6.8	4.6	5.9	5.7	7.9	10.2	11.3	6.4	12.1	10.5	8.9	5.1	5.1	10.8	7.1		
A little high	18.8	11.8	17.9	17.6	19.6	22.9	22.1	22.7	25.7	23.5	24.5	24.6	18.8	19.1	12.1	18.1	13.2	22.1	19.7	16.3	12.9	13.2	15.4	16.6	12.0		
Moderately high	40.1	45.1	45.9	38.2	50.6	43.7	42.4	44.5	37.0	39.3	43.1	43.4	44.0	43.3	39.7	36.1	45.1	31.8	33.6	33.0	27.8	46.7	30.6	35.2	45.9		
Very high	36.6	39.5	31.4	38.6	24.2	27.9	27.5	24.3	25.3	28.4	22.5	23.5	27.7	27.0	35.7	31.8	27.8	36.5	27.0	37.5	45.8	25.4	44.3	29.8	29.9		
Approx. N = 124	166	223	335	394	360	434	421	343	362	409	407	329	264	156	109	71	66	89	79	85	76	127	119	126			
% of All Respondents																											
No use in last 12 months	94.4	94.0	92.8	91.0	87.5	88.4	87.2	87.9	89.4	88.4	87.0	86.4	89.5	91.7	94.2	—	97.1	97.4	96.5	96.8	96.5	96.6	94.8	95.1	94.2		
I don't take it to get high	0.1	0.0	0.0	0.0	0.3	0.2	0.1	0.3	0.2	0.3	0.4	0.6	0.4	0.4	0.3	—	0.1	0.1	0.3	0.1	0.2	0.3	0.2	0.4	0.3		
Not at all high	0.2	0.2	0.3	0.5	0.5	0.4	0.9	0.8	1.1	0.7	0.9	0.6	0.6	0.5	0.5	—	0.3	0.2	0.4	0.3	0.3	0.2	0.3	0.5	0.4		
A little high	1.1	0.7	1.3	1.6	2.5	2.7	2.8	2.7	2.7	3.2	3.3	2.0	1.6	0.7	—	—	0.4	0.6	0.7	0.5	0.4	0.4	0.8	0.8	0.7		
Moderately high	2.2	2.7	3.3	3.4	6.3	5.1	5.4	5.4	3.9	4.6	5.6	5.9	4.6	3.6	2.3	—	1.3	0.8	1.2	1.1	1.0	1.6	1.6	1.7	2.7		
Very high	2.0	2.4	2.3	3.5	3.0	3.2	3.5	2.9	2.7	3.3	2.9	3.2	2.9	2.2	2.1	—	0.8	0.9	0.9	1.2	1.6	0.9	2.3	1.5	1.7		
Approx. N = 2214	2767	3097	3722	3142	3105	3400	3473	3235	3114	3142	2992	3130	3179	2685	—	2420	2560	2550	2473	2463	2261	2452	2424	2169			
Q. When you take cocaine how long do you usually stay high?*																											
% of Recent Users																											
Usually don't get high	3.4	2.8	3.6	5.8	5.8	7.2	8.2	8.2	14.5	9.7	9.2	8.7	9.8	12.8	11.3	11.6	21.5	6.6	16.9	10.4	13.0	6.3	10.5	14.1	9.8		
One to two hours	31.0	27.6	31.9	33.2	43.3	38.2	45.9	43.2	41.3	43.7	48.6	55.2	44.7	49.3	52.6	52.0	34.0	41.8	42.7	52.8	41.4	51.8	51.3	44.4	39.7		
Three to six hours	47.5	46.8	49.4	39.6	36.5	36.0	33.8	34.5	34.1	33.6	31.8	27.7	29.2	25.6	20.9	25.8	32.3	25.0	24.2	20.1	18.7	22.9	24.9	29.6	36.1		
Seven to 24 hours	14.4	19.6	13.1	20.9	14.1	17.3	9.8	13.3	8.7	11.8	8.5	7.1	13.0	10.1	9.8	8.1	10.4	20.2	12.9	12.8	21.1	11.5	13.2	6.7	12.9		
More than 24 hours	3.7	3.1	1.9	0.5	0.3	1.3	2.3	0.8	1.4	1.1	1.9	1.3	3.3	2.3	5.3	2.5	1.7	6.5	3.3	3.9	5.7	7.5	0.0	5.2	1.5		
Approx. N = 125	165	220	331	392	357	432	419	344	360	403	408	329	262	151	108	72	64	92	74	83	69	128	115	126			
% of All Respondents																											
No use in last 12 months	94.4	94.0	92.8	91.0	87.5	88.5	87.3	87.9	89.4	88.4	87.1	86.4	89.5	91.7	94.4	—	97.0	97.5	96.4	97.0	96.6	96.9	94.8	95.2	94.2		
Usually don't get high	0.2	0.2	0.3	0.5	0.7	0.8	1.0	1.0	1.5	1.1	1.2	1.2	1.0	1.1	0.6	—	0.6	0.2	0.6	0.3	0.4	0.2	0.5	0.7	0.6		
One to two hours	1.7	1.7	2.3	3.0	5.4	4.4	5.8	5.2	4.4	5.1	6.2	7.5	4.7	4.1	3.0	—	1.0	1.0	1.5	1.6	1.4	1.6	2.7	2.1	2.3		
Three to six hours	2.7	2.8	3.6	3.6	4.6	4.2	4.3	4.2	3.6	3.9	4.1	3.8	3.1	2.1	1.2	—	1.0	0.6	0.9	0.6	0.6	0.7	1.3	1.4	2.1		
Seven to 24 hours	0.8	1.2	0.9	1.9	1.8	2.0	1.2	1.6	0.9	1.4	1.1	1.0	1.4	0.8	0.6	—	0.3	0.5	0.5	0.4	0.7	0.4	0.7	0.3	0.7		
More than 24 hours	0.2	0.2	0.1	0.0	0.0	0.1	0.3	0.1	0.2	0.1	0.2	0.2	0.3	0.2	0.3	—	0.0	0.2	0.1	0.1	0.2	0.2	0.0	0.2	0.1		
Approx. N = 2232	2750	3056	3678	3140	3102	3398	3471	3235	3112	3137	2993	3130	3178	2680	—	2420	2559	2553	2468	2461	2254	2453	2421	2168			

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

*These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior twelve months (i.e., "recent users").

TABLE 7-5
Other Narcotics: Trends in Degree and Duration of Feeling High for Twelfth Graders

Q. When you take opiates other than heroin, how high do you usually get? ^a	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
% of Recent Users																										
I don't take them to get high	4.1	7.6	7.8	10.4	10.0	8.6	14.5	17.8	21.9	22.5	21.3	19.6	28.8	24.5	29.6	36.6	20.5	27.7	25.1	22.7	13.7	23.4	12.8	12.6	14.2	
Not at all high	3.6	6.1	2.8	5.9	8.1	10.5	11.6	3.8	9.9	7.5	12.1	12.1	19.1	7.9	12.2	10.1	9.9	26.7	18.0	10.8	13.0	12.3	5.0	9.8	10.6	
A little high	8.8	18.3	25.9	17.5	24.3	21.6	30.0	26.6	17.9	29.4	28.5	25.2	18.7	19.3	15.1	18.5	20.6	19.2	12.8	22.8	13.9	20.0	27.4	27.5	14.7	
Moderately high	45.0	40.4	37.5	41.4	40.1	41.2	29.4	34.0	34.3	28.1	27.7	24.3	15.5	31.8	27.5	19.5	36.9	14.2	27.9	29.0	34.0	23.4	43.0	26.0	38.3	
Very high	38.5	27.5	26.0	24.8	17.5	18.2	14.5	17.7	16.0	12.5	10.4	18.8	17.8	16.6	15.6	15.3	12.1	12.1	16.3	14.8	25.5	20.9	11.8	24.1	22.3	
Approx. N =	78	130	124	179	156	165	182	116	94	125	126	104	112	84	66	71	46	74	56	58	51	82	96	113	89	
% of All Respondents																										
No use in last 12 months	94.3	94.3	93.6	94.0	94.9	94.5	94.4	96.5	97.0	95.9	95.9	96.4	96.4	97.3	97.5	—	98.1	97.1	97.8	97.7	97.9	96.4	96.0	95.3	95.9	
I don't take them to get high	0.2	0.4	0.5	0.6	0.5	0.5	0.8	0.6	0.7	0.9	0.9	0.7	1.0	0.7	0.7	—	0.4	0.8	0.6	0.5	0.3	0.8	0.5	0.6	0.6	
Not at all high	0.2	0.3	0.2	0.4	0.4	0.6	0.6	0.1	0.3	0.3	0.5	0.4	0.7	0.2	0.3	—	0.2	0.8	0.4	0.3	0.3	0.4	0.2	0.5	0.4	
A little high	0.5	1.0	1.7	1.1	1.2	1.2	1.7	0.9	0.5	1.2	1.2	0.9	0.7	0.5	0.4	—	0.4	0.6	0.3	0.5	0.3	0.7	1.1	1.3	0.6	
Moderately high	2.6	2.3	2.4	2.5	2.1	2.3	1.6	1.2	1.0	1.2	1.1	0.9	0.6	0.8	0.7	—	0.7	0.4	0.6	0.7	0.7	0.9	1.7	1.2	1.6	
Very high	2.2	1.6	1.7	1.5	0.9	1.0	0.8	0.6	0.5	0.5	0.4	0.7	0.6	0.4	0.4	—	0.2	0.4	0.4	0.3	0.5	0.8	0.5	1.1	0.9	
Approx. N =	1368	2281	1938	2983	3045	2983	3277	3353	3115	3048	3065	2911	3091	3144	2655	—	2410	2538	2553	2492	2442	2261	2407	2409	2167	
Q. When you take opiates other than heroin, how long do you usually stay high? ^a																										
% of Recent Users																										
Usually don't get high	6.8	15.4	7.4	24.6	17.8	15.7	24.2	17.0	23.9	23.2	25.1	24.7	41.4	23.7	38.8	38.5	31.3	36.8	31.7	22.4	27.8	20.6	18.8	21.5		
One to two hours	8.8	16.7	32.5	19.3	24.6	29.5	30.4	36.4	26.7	29.3	30.9	30.9	25.9	26.6	18.2	24.0	23.0	26.7	18.1	31.6	23.8	22.7	35.7	26.1	30.1	
Three to six hours	56.5	44.1	46.2	50.2	44.3	42.1	33.2	34.0	38.6	38.1	29.9	35.3	24.9	41.4	22.6	29.1	38.2	26.0	29.9	35.2	36.2	32.5	36.1	37.8	29.2	
Seven to 24 hours	24.5	20.5	11.1	15.9	12.1	12.4	9.8	12.0	8.4	8.8	13.3	9.2	5.8	7.5	15.6	5.7	7.5	5.6	13.0	0.7	15.4	14.2	7.6	14.4	17.4	
More than 24 hours	3.4	3.2	2.8	0.0	1.2	0.2	2.3	0.6	2.4	0.6	0.8	0.0	2.0	0.8	4.8	2.7	0.0	5.0	2.7	0.9	2.3	2.7	0.0	2.9	1.7	
Approx. N =	78	130	124	173	151	164	180	116	94	121	128	102	112	79	65	69	49	76	57	60	49	82	96	111	89	
% of All Respondents																										
No use in last 12 months	94.3	94.3	93.6	94.0	95.0	94.5	94.5	96.5	97.0	96.0	95.8	96.5	96.4	97.5	97.5	—	98.0	97.0	97.8	97.6	98.0	96.4	96.0	95.4	95.9	
Usually don't get high	0.4	0.9	0.5	0.9	0.9	0.9	1.3	0.6	0.7	0.9	1.0	0.9	1.5	0.6	1.0	—	0.6	1.1	0.8	0.8	0.5	1.0	0.8	0.9	0.9	
One to two hours	0.5	1.0	2.1	1.2	1.2	1.6	1.7	1.3	0.8	1.2	1.3	1.1	0.9	0.7	0.4	—	0.5	0.8	0.4	0.8	0.5	0.8	1.4	1.2	1.2	
Three to six hours	3.2	2.5	3.0	3.0	2.2	2.3	1.8	1.2	1.2	1.5	1.2	1.2	0.9	1.0	0.6	—	0.8	0.8	0.7	0.8	0.7	1.2	1.4	1.7	1.2	
Seven to 24 hours	1.4	1.2	0.7	1.0	0.6	0.7	0.5	0.4	0.3	0.3	0.6	0.3	0.2	0.2	0.4	—	0.2	0.2	0.3	0.0	0.3	0.5	0.3	0.7	0.7	
More than 24 hours	0.2	0.2	0.2	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	—	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	
Approx. N =	1368	2281	1938	2883	3040	2982	3275	3353	3116	3043	3067	2908	3092	3139	2654	—	2413	2540	2554	2493	2441	2261	2407	2406	2167	

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aThese questions appear in just one form. They are asked only of respondents who report use of the drug in the prior twelve months (i.e., "recent users").

**TABLE 7-6
Amphetamines: Trends in Degree and Duration of Feeling High for Twelfth Graders**

Q. When you take amphetamines how high do you usually get? ^a	Class of of 1975	Class of of 1976	Class of of 1977	Class of of 1978	Class of of 1979	Class of of 1980	Class of of 1981	Class of of 1982	Class of of 1983	Class of of 1984	Class of of 1985	Class of of 1986	Class of of 1987	Class of of 1988	Class of of 1989	Class of of 1990	Class of of 1991	Class of of 1992	Class of of 1993	Class of of 1994	Class of of 1995	Class of of 1996	Class of of 1997	Class of of 1998	Class of of 1999	
																										% of Recent Users
I don't take them to get high	9.3	10.7	15.1	14.7	16.8	17.1	20.2	21.0	24.2	22.8	20.4	18.7	20.7	23.9	19.3	15.8	24.7	15.8	18.6	19.9	16.1	30.6	18.1	18.9	19.6	
Not at all high	4.6	5.0	7.5	6.2	7.7	8.9	11.5	9.1	11.9	9.3	12.8	10.8	12.2	14.2	14.0	18.8	10.8	19.2	20.5	12.0	17.0	9.3	16.0	12.4	12.9	
A little high	26.4	26.1	24.0	25.9	26.5	34.0	31.4	36.8	33.0	34.8	36.7	42.6	40.0	29.1	30.8	30.0	35.5	28.6	30.6	29.1	27.5	25.4	27.3	27.3	26.9	
Moderately high	44.6	43.8	39.2	40.2	36.4	30.8	30.6	28.5	27.0	29.5	24.9	23.3	20.6	24.8	24.4	24.9	16.8	28.1	19.9	26.8	28.1	18.3	23.2	25.1	25.9	
Very high	15.1	14.4	14.1	13.0	12.6	9.3	6.3	4.6	3.9	3.5	5.2	4.6	6.6	8.0	11.5	10.5	12.1	13.4	10.3	12.2	11.3	16.4	15.3	16.3	14.6	
	Approx. N = 410 406 449 542 507 575 788 622 463 418 380 305 265 196 153 131 107 105 127 144 145 138 183 198 141																									
% of All Respondents	Approx. N = 410 406 449 542 507 575 788 622 463 418 380 305 265 196 153 131 107 105 127 144 145 138 183 198 141																									
No use in last 12 months	83.8	84.2	83.7	82.9	83.6	81.2	76.5	82.0	85.6	86.7	87.9	89.8	91.7	93.9	94.4	—	95.7	96.0	95.2	94.3	94.2	94.0	92.6	92.0	93.7	
I don't take them to get high	1.5	1.7	2.5	2.5	2.8	3.2	4.8	3.8	3.5	3.0	2.5	1.9	1.7	1.5	1.1	—	1.1	0.6	0.9	1.1	0.9	1.8	1.3	1.5	1.2	
Not at all high	0.7	0.8	1.2	1.1	1.3	1.7	2.7	1.6	1.7	1.2	1.6	1.1	1.0	0.9	0.8	—	0.5	0.8	1.0	0.7	1.0	0.6	1.2	1.0	0.8	
A little high	4.3	4.1	3.9	4.4	4.3	6.4	7.4	6.6	4.8	4.6	4.5	4.3	3.3	1.8	1.7	—	1.5	1.1	1.5	1.7	1.6	1.5	2.0	2.2	1.7	
Moderately high	7.2	6.9	6.4	6.9	6.0	5.8	7.2	5.1	3.9	3.9	3.0	2.4	1.7	1.5	1.4	—	0.7	0.9	1.0	1.5	1.6	1.1	1.7	2.0	1.6	
Very high	2.4	2.3	2.3	2.2	2.1	1.7	1.5	0.8	0.6	0.5	0.6	0.5	0.5	0.5	0.6	—	0.5	0.5	0.5	0.7	0.6	1.0	1.1	1.3	0.9	
	Approx. N = 2531 2570 2755 3170 3098 3055 3354 3455 3211 3129 3131 2994 3170 3217 2741 — 2473 2609 2634 2538 2514 2300 2490 2482 2283																									
Q. When you take amphetamines how long do you usually stay high? ^a	Approx. N = 2531 2570 2755 3170 3098 3055 3354 3455 3211 3129 3131 2994 3170 3217 2741 — 2473 2609 2634 2538 2514 2300 2490 2482 2283																									
% of Recent Users	Approx. N = 2531 2570 2755 3170 3098 3055 3354 3455 3211 3129 3131 2994 3170 3217 2741 — 2473 2609 2634 2538 2514 2300 2490 2482 2283																									
Usually don't get high	10.7	11.2	11.9	14.5	15.4	17.9	24.4	17.5	22.7	25.3	26.1	21.3	24.4	29.3	25.3	30.0	38.8	31.3	33.7	34.6	27.9	32.7	29.0	23.1	21.7	
One to two hours	11.4	12.1	15.3	17.0	18.7	19.9	20.3	25.2	23.2	27.0	31.4	36.8	37.4	30.4	36.9	33.2	23.4	32.2	31.5	28.7	23.8	25.1	26.7	26.5	29.0	
Three to six hours	37.0	48.4	38.4	39.5	40.1	43.4	38.2	45.5	42.6	35.7	31.2	31.0	23.3	26.0	26.5	22.5	19.0	11.0	25.0	20.7	29.7	27.2	29.8	28.0	37.5	
Seven to 24 hours	37.0	26.1	31.6	27.1	23.8	17.7	16.3	11.0	9.7	11.9	10.8	10.1	12.9	13.1	7.2	12.9	12.8	18.1	6.9	10.7	13.6	11.6	12.6	16.9	8.6	
More than 24 hours	3.8	2.1	2.9	1.9	2.0	1.1	0.8	0.8	1.8	0.2	0.6	0.8	2.0	1.1	4.2	1.4	6.0	7.5	3.0	5.3	4.9	3.4	1.9	5.5	3.2	
	Approx. N = 412 413 446 546 521 583 810 627 478 424 392 309 267 202 154 131 109 102 125 146 147 136 178 195 134																									
% of All Respondents	Approx. N = 412 413 446 546 521 583 810 627 478 424 392 309 267 202 154 131 109 102 125 146 147 136 178 195 134																									
No use in last 12 months	83.8	84.2	83.7	82.9	83.3	81.0	76.0	81.9	85.2	86.5	87.5	89.7	91.6	93.7	94.4	—	95.6	96.1	95.3	94.3	94.2	94.1	92.8	92.1	94.0	
Usually don't get high	1.7	1.8	1.9	2.5	2.6	3.4	5.8	3.2	3.4	3.4	3.3	2.2	2.0	1.8	1.4	—	1.7	1.2	1.6	2.0	1.6	1.9	2.1	1.8	1.3	
One to two hours	1.8	1.9	2.5	2.9	3.1	3.8	4.9	4.6	3.4	3.7	3.9	3.8	3.1	1.9	2.1	—	1.0	1.3	1.5	1.6	1.4	1.5	1.9	2.1	1.7	
Three to six hours	6.0	7.6	6.3	6.7	6.7	8.3	9.2	8.2	6.3	4.8	3.9	3.2	2.0	1.6	1.5	—	0.8	0.4	1.2	1.2	1.7	1.6	2.1	2.2	2.3	
Seven to 24 hours	6.0	4.1	5.1	4.6	4.0	3.4	3.9	2.0	1.4	1.6	1.3	1.0	1.1	0.8	0.4	—	0.6	0.7	0.3	0.6	0.8	0.7	0.9	1.3	0.5	
More than 24 hours	0.6	0.3	0.5	0.3	0.3	0.2	0.2	0.2	0.3	0.0	0.1	0.1	0.2	0.1	0.2	—	0.3	0.3	0.1	0.3	0.3	0.2	0.1	0.4	0.2	
	Approx. N = 2543 2614 2736 3193 3111 3063 3375 3460 3227 3135 3142 2998 3172 3223 2742 — 2475 2607 2633 2539 2516 2298 2485 2479 2236																									

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aThese questions appear in just one form. They are asked only of respondents who report use of the drug in the prior twelve months (i.e., "recent users").

TABLE 7-7
Tranquilizers: Trends in Degree and Duration of Feeling High for Twelfth Graders

Q. When you take tranquilizers how high do you usually get? ^a	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
% of Recent Users																										
I don't take them to get high	17.9	18.5	23.6	23.0	16.8	14.7	19.1	25.3	20.2	24.3	21.7	30.7	30.4	42.7	34.8	34.5	48.3	31.0	29.0	30.5	26.6	18.3	19.3	19.6	11.3	
Not at all high	11.1	16.2	12.4	14.0	15.0	17.6	17.0	17.3	17.1	16.7	17.6	24.0	20.8	12.9	22.6	11.5	13.9	18.6	29.5	19.2	18.6	9.4	13.4	8.0	7.9	
A little high	30.1	24.1	29.5	27.0	27.0	27.5	28.7	30.0	27.7	29.9	37.5	19.2	18.4	22.4	16.6	26.1	19.7	16.1	19.0	22.0	18.9	34.0	25.2	24.9	22.1	
Moderately high	28.9	31.4	25.8	29.1	30.5	29.8	22.9	18.5	26.0	21.4	19.8	17.3	18.2	14.1	21.5	18.2	17.3	21.2	14.6	24.4	24.0	28.1	23.9	37.9	39.7	
Very high	11.9	9.8	8.7	6.8	10.8	10.5	12.4	8.8	9.0	7.7	3.4	8.9	12.2	7.9	4.5	9.7	0.8	13.2	7.8	4.0	11.8	10.2	18.2	9.5	19.1	
Approx. N =	159	213	243	267	218	205	223	154	128	115	144	122	125	99	68	75	51	57	68	58	67	54	83	80	77	
% of All Respondents																										
No use in last 12 months	89.4	89.7	89.2	90.1	92.9	93.2	93.3	95.5	96.0	96.3	95.4	95.9	96.0	96.9	97.5	—	97.9	97.8	97.4	97.7	97.3	97.6	96.6	95.8	96.5	
I don't take them to get high	1.9	1.9	2.5	2.3	1.2	1.0	1.3	1.1	0.8	0.9	1.0	1.3	1.2	1.3	0.9	—	1.0	0.7	0.8	0.7	0.7	0.4	0.6	0.6	0.4	
Not at all high	1.2	1.7	1.3	1.4	1.1	1.2	1.1	0.8	0.7	0.6	0.8	1.0	0.8	0.4	0.6	—	0.3	0.4	0.8	0.4	0.5	0.2	0.5	0.3	0.3	
A little high	3.2	2.5	3.2	2.7	1.9	1.9	1.4	1.1	1.1	1.1	1.7	0.8	0.7	0.7	0.4	—	0.4	0.4	0.5	0.5	0.5	0.8	0.9	0.8	0.8	
Moderately high	3.1	3.2	2.8	2.9	2.2	2.0	1.5	0.8	1.0	0.8	0.9	0.7	0.7	0.4	0.5	—	0.4	0.5	0.4	0.6	0.6	0.7	0.8	1.2	1.4	
Very high	1.3	1.0	0.9	0.7	0.8	0.7	0.8	0.4	0.4	0.3	0.2	0.4	0.5	0.2	0.1	—	0.0	0.3	0.2	0.1	0.3	0.2	0.6	0.3	0.7	
Approx. N =	1500	2068	2250	2697	3073	3040	3330	3420	3186	3074	3119	2963	3141	3199	2710	—	2448	2571	2598	2523	2500	2292	2469	2468	2205	
Q. When you take tranquilizers how long do you usually stay high? ^a																										
% of Recent Users																										
Usually don't get high	29.9	33.0	31.6	32.7	27.8	27.9	31.1	31.9	38.8	36.9	36.8	46.0	50.4	48.3	45.3	35.8	47.2	48.7	50.2	43.6	34.0	30.6	22.1	25.1	11.5	
One to two hours	17.6	24.1	22.5	26.0	21.3	25.4	27.2	25.0	21.6	25.7	24.7	25.3	20.0	19.3	19.9	20.7	20.5	19.1	19.1	18.7	25.4	22.6	35.2	31.4	36.4	
Three to six hours	42.9	35.6	38.8	32.3	40.2	32.4	32.1	33.3	32.5	27.8	33.5	22.4	21.8	23.7	28.5	31.1	25.0	18.9	19.1	31.3	28.5	32.7	35.7	36.0	41.9	
Seven to 24 hours	9.5	6.5	6.1	8.7	9.4	14.2	9.5	9.8	6.3	9.5	3.5	4.4	7.3	8.0	3.0	9.7	5.6	12.2	11.6	3.0	8.9	11.5	6.1	4.7	9.0	
More than 24 hours	0.0	0.7	1.0	0.4	1.3	0.0	0.0	0.0	0.8	0.0	1.6	1.9	0.4	0.8	3.3	2.8	1.6	1.2	0.0	3.5	3.2	2.6	1.0	2.9	1.3	
Approx. N =	158	214	242	269	221	200	221	151	132	114	134	121	129	95	65	67	48	55	72	51	62	54	79	81	74	
% of All Respondents																										
No use in last 12 months	89.4	89.7	89.2	90.1	92.8	93.4	93.4	95.6	95.9	96.3	95.7	95.9	95.9	97.0	97.6	—	98.0	97.9	97.2	98.0	97.5	97.7	96.8	96.7	96.6	
Usually don't get high	3.2	3.4	3.4	3.2	2.0	1.8	2.1	1.4	1.6	1.4	1.6	1.9	2.1	1.4	1.1	—	0.9	1.0	1.4	0.9	0.8	0.7	0.7	0.8	0.4	
One to two hours	1.9	2.5	2.4	2.6	1.5	1.7	1.8	1.1	0.9	1.0	1.1	1.0	0.8	0.6	0.5	—	0.4	0.4	0.5	0.4	0.6	0.5	1.1	1.0	1.2	
Three to six hours	4.5	3.7	4.2	3.2	2.9	2.1	2.1	1.5	1.3	1.0	1.4	0.9	0.9	0.7	0.7	—	0.5	0.4	0.5	0.6	0.7	0.8	1.1	1.2	1.4	
Seven to 24 hours	1.0	0.7	0.7	0.9	0.7	0.9	0.6	0.4	0.4	0.1	0.2	0.3	0.2	0.1	0.1	—	0.1	0.3	0.3	0.1	0.2	0.3	0.2	0.2	0.3	
More than 24 hours	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	—	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	
Approx. N =	1491	2078	2241	2717	3075	3034	3328	3417	3190	3072	3110	2962	3144	3196	2707	—	2446	2570	2602	2516	2495	2291	2465	2468	2202	

NOTE: — indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aThese questions appear in just one form. They are asked only of respondents who report use of the drug in the prior twelve months (i.e., "recent users").

TABLE 7-8
Alcohol: Trends in Degree and Duration of Feeling High for Twelfth Graders

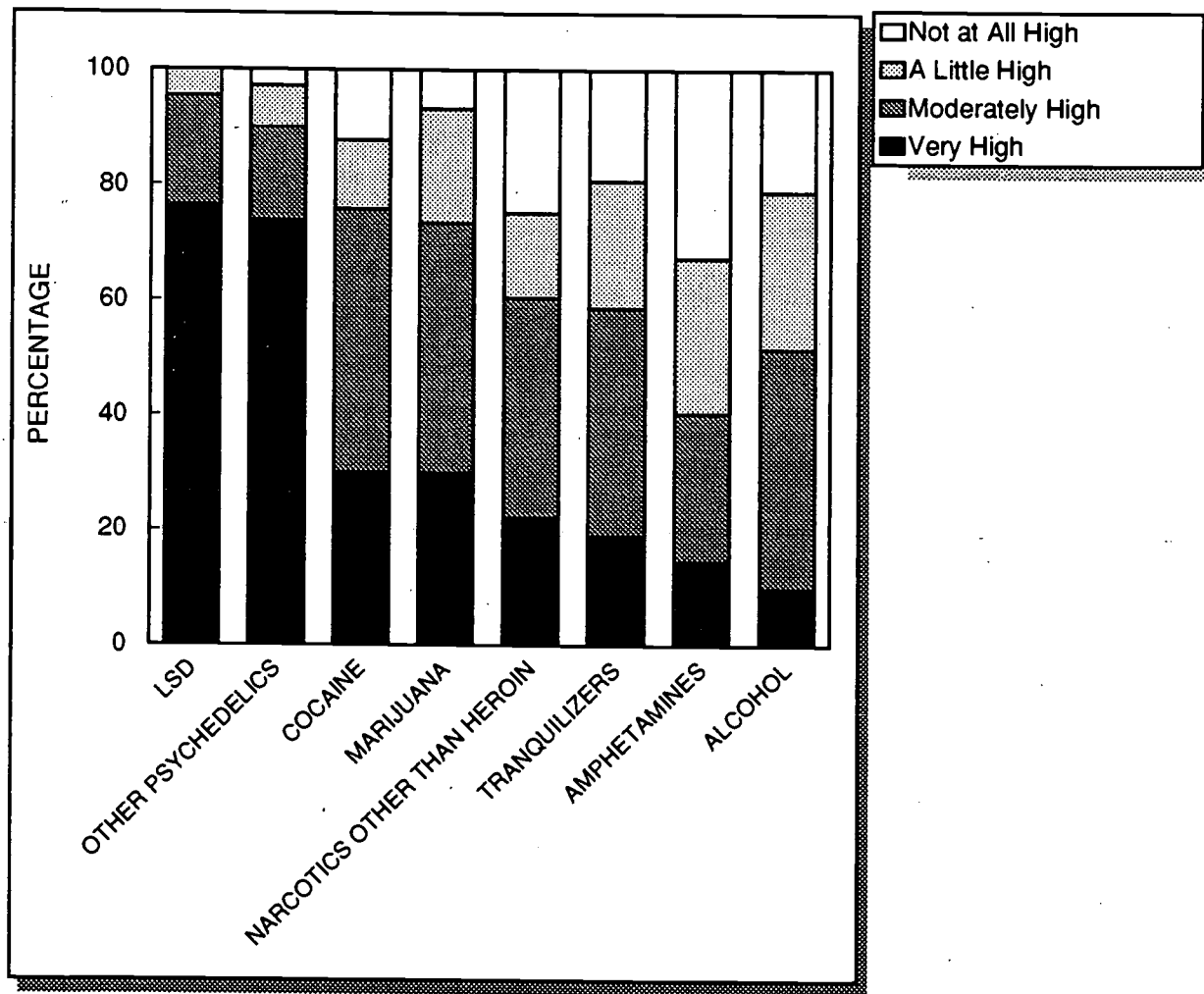
Q. When you drink alcoholic beverages how high do you usually get?*	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
% of Recent Users																										
Not at all high	23.6	21.6	20.6	19.1	19.6	20.7	18.9	18.8	19.0	19.7	18.5	18.8	20.0	22.1	23.0	20.6	24.2	23.8	19.7	20.7	23.2	22.0	20.6	21.1		
A little high	33.8	32.3	32.8	33.9	33.6	32.6	33.8	32.6	35.8	34.0	34.8	34.7	34.4	34.2	34.4	32.3	36.8	32.5	32.2	32.7	32.6	29.9	28.9	29.8	27.3	
Moderately high	35.9	38.0	39.6	39.9	38.7	39.7	41.4	40.9	38.8	39.2	38.5	39.8	38.8	38.2	35.9	36.2	34.0	35.6	36.5	38.3	36.5	35.5	37.5	37.5	41.7	
Very high	6.6	8.1	7.0	7.1	8.1	7.0	5.8	7.5	6.7	7.8	7.1	7.1	8.0	7.6	8.5	8.6	7.7	7.5	9.2	10.1	11.4	11.6	12.1	10.0		
Approx. N =	2419	2368	2578	3124	2764	2709	2912	2958	2808	2601	2618	2531	2718	2755	2211	1965	1898	1965	1960	1866	1867	1664	1915	1874	1619	
% of All Respondents																										
No use in last 12 months	15.2	14.3	13.0	12.3	12.5	13.2	14.7	14.1	14.1	17.1	16.1	16.0	14.6	14.8	18.8	21.2	22.7	23.6	25.4	26.4	25.7	28.2	24.7	25.6	27.0	
Not at all high	20.0	18.5	17.9	16.8	17.2	18.0	16.2	16.2	16.2	15.8	16.5	15.5	16.0	17.0	18.0	18.1	15.9	18.5	17.8	14.5	15.4	16.6	16.6	15.3	15.4	
A little high	28.7	27.7	28.5	29.7	29.4	28.3	28.9	28.0	30.7	28.2	29.2	29.1	29.4	29.2	28.0	25.5	28.5	24.8	24.0	24.1	24.2	21.5	21.8	22.2	19.9	
Moderately high	30.4	32.6	34.5	35.0	33.8	34.4	35.3	35.2	33.3	32.5	32.3	33.4	33.1	32.6	29.2	28.5	26.3	27.2	27.2	28.2	27.1	25.5	28.2	27.9	30.5	
Very high	5.6	6.9	6.1	6.2	7.1	6.1	5.0	6.5	5.7	6.5	5.9	6.0	6.8	6.5	6.1	6.7	6.7	5.9	5.6	6.8	7.5	8.2	8.7	9.0	7.3	
Approx. N =	2853	2763	2963	3562	3159	3122	3413	3443	3268	3137	3120	3011	3183	3232	2721	2493	2454	2572	2627	2533	2514	2318	2542	2517	2217	
Q. When you drink alcoholic beverages how long do you usually stay high?*																										
% of Recent Users																										
Usually don't get high	25.7	24.6	22.6	21.3	21.7	22.7	20.9	20.5	21.4	20.3	21.5	20.9	20.8	22.9	24.2	24.7	23.0	27.0	26.1	22.5	23.2	25.3	23.5	22.6	22.5	
One to two hours	40.5	38.5	38.8	39.8	41.9	39.5	40.3	41.3	40.8	42.2	41.5	40.6	43.8	42.0	41.3	39.4	40.1	37.3	38.8	40.5	36.7	33.1	33.6	36.8	32.3	
Three to six hours	30.1	33.8	34.8	35.7	32.7	33.8	35.6	34.4	33.7	33.1	33.5	34.9	31.5	32.1	31.6	31.7	31.7	30.7	30.4	32.2	34.2	35.7	36.9	34.5	39.6	
Seven to 24 hours	3.4	3.0	3.5	3.1	3.4	3.8	3.1	3.4	3.9	4.0	3.1	3.2	3.7	2.9	2.8	4.0	4.6	4.7	4.3	4.2	5.4	5.3	5.2	5.7	5.1	
More than 24 hours	0.2	0.2	0.3	0.1	0.2	0.2	0.1	0.4	0.3	0.3	0.4	0.4	0.2	0.1	0.2	0.3	0.6	0.3	0.3	0.6	0.6	0.6	0.5	0.9	0.5	
Approx. N =	2403	2358	2547	3098	2746	2697	2892	2947	2792	2588	2608	2509	2711	2748	2202	1949	1884	1951	1950	1857	1849	1657	1897	1853	1614	
% of All Respondents																										
No use in last 12 months	15.2	14.3	13.0	12.3	12.6	13.3	14.8	14.1	14.1	17.1	16.1	16.1	14.7	14.8	18.8	21.3	22.8	23.7	25.5	26.4	25.9	28.3	24.8	25.8	27.0	
Usually don't get high	21.8	21.1	19.7	18.7	19.0	19.7	17.8	17.6	18.3	16.9	18.0	17.5	17.8	19.5	19.6	19.4	17.8	20.6	19.5	16.5	17.2	18.2	17.6	16.8	16.4	
One to two hours	34.3	33.0	33.8	34.9	36.6	34.2	34.3	35.5	35.0	35.0	34.8	34.1	37.4	35.8	33.5	31.0	31.0	28.5	28.9	29.8	27.2	23.7	25.3	27.3	23.6	
Three to six hours	25.5	29.0	30.3	31.3	28.6	29.3	30.4	29.6	28.9	27.4	28.1	29.3	26.9	27.3	25.6	24.9	24.4	23.4	22.7	23.7	25.3	25.6	27.7	25.6	28.9	
Seven to 24 hours	2.9	2.6	3.0	2.7	3.0	3.3	2.7	2.9	3.3	3.4	2.6	2.7	3.2	2.5	2.2	3.2	3.5	3.6	3.2	3.1	4.0	3.8	3.9	4.2	3.7	
More than 24 hours	0.2	0.2	0.3	0.1	0.2	0.2	0.1	0.3	0.2	0.2	0.3	0.4	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.7	0.4	0.4	
Approx. N =	2834	2751	2928	3532	3142	3109	3393	3431	3252	3124	3110	2990	3177	3226	2712	2477	2441	2558	2616	2525	2496	2311	2524	2497	2211	

SOURCE: The Monitoring the Future Study, the University of Michigan.

*These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior twelve months (i.e., "recent users").

FIGURE 7-1

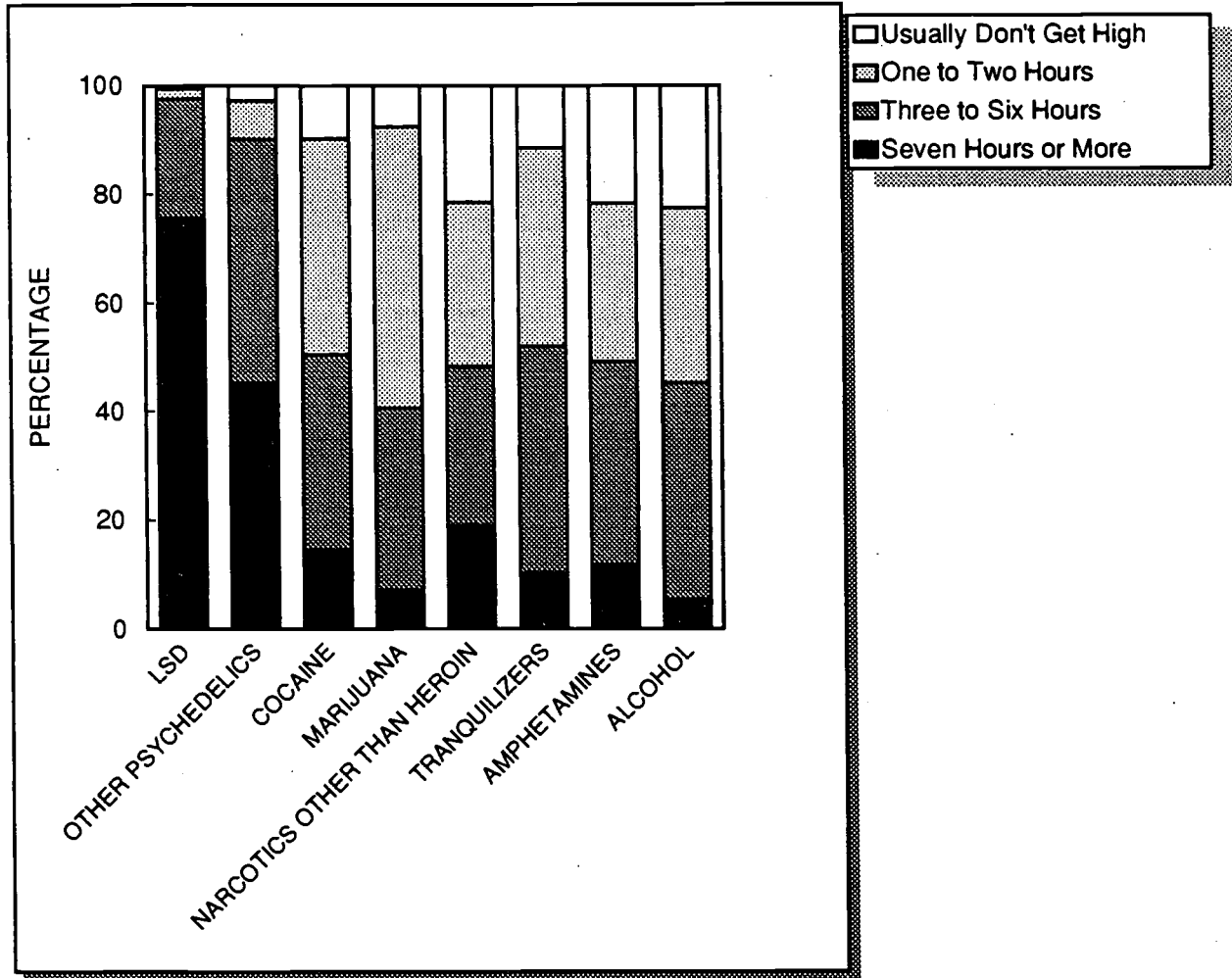
Degree of Drug Highs Attained by Recent Users
Twelfth Graders, 1999



NOTE: Data are based on answers from respondents reporting any use of the drug in the prior twelve months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

FIGURE 7-2

Duration of Drug Highs Attained by Recent Users
Twelfth Graders, 1999

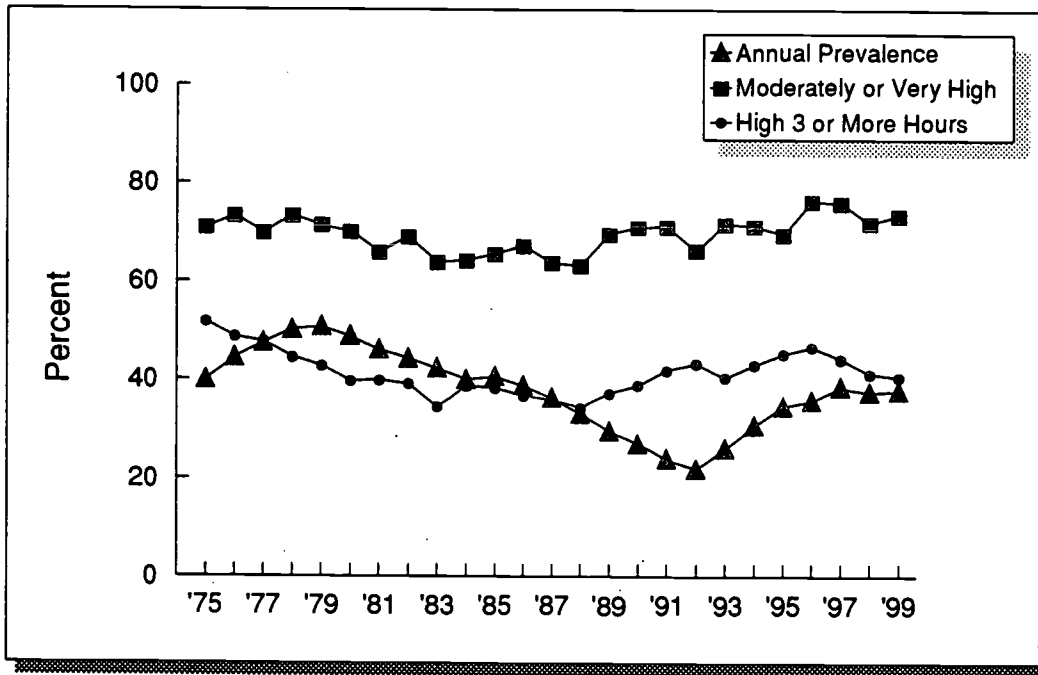


NOTE: Data are based on answers from respondents reporting any use of the drug in the prior twelve months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

FIGURE 7-3

Trends in Annual Prevalence of Marijuana, Percent of Recent Users Getting Moderately or Very High, and Percent of Recent Users Staying High Three or More Hours for Twelfth Graders

TWELFTH GRADERS



Chapter 8

ATTITUDES AND BELIEFS ABOUT DRUG USE

When this study was launched in 1975, we allocated a considerable amount of questionnaire content to the measurement of certain attitudes and beliefs related to drug use—ones that we believed might prove important in explaining young people's use of drugs. Over the years, this has proven to be a particularly fruitful investment.

In this section we present the cross-time results for three of these sets of attitude and belief questions. One set concerns students' beliefs about how harmful the various kinds of drug use are for the user; the second concerns the degree to which students personally disapprove of various kinds of drug use; and the third, asked only of seniors, deals with their attitudes about various forms of legal prohibition. Chapter 9 will present results on the closely related topics of parents' and friends' attitudes about drugs, as students perceive them.

The data presented below show inverse relationships at the aggregate level between (a) the level of reported use of a drug and (b) the level of perceived risk and disapproval of using that drug. For example, of the illicit drugs, marijuana has the highest level of use and one of the lowest levels of perceived risk and disapproval of its use. These relationships suggest that individuals who believe that the use of a particular drug involves risk of harm and/or who disapprove of its use are less likely to use that drug. A series of individual-level analyses of these data confirms this conclusion: strong correlations exist between individuals' use of drugs and their various attitudes and beliefs about using those drugs. Those seniors who use a given drug also are less likely to disapprove of its use or to see its use as dangerous, and they are more likely to report their own parents and friends as being accepting of its use.

Many of the attitudes and beliefs about drug use reported below have changed dramatically during the life of the study, as have actual drug-using behaviors. Beginning in 1979, scientists, policymakers, and, in particular, the electronic and print media gave considerable attention to the increasing levels of regular marijuana use among young people that were being documented by this study and to the potential hazards associated with such use. As discussed later in this chapter, attitudes and beliefs about the regular use of marijuana shifted in a more conservative direction after 1979—a shift that coincided with a reversal in the previous rapid rise of daily use and that very likely reflected the impact of the increased public attention. Between 1986 and 1987, a similar and even more dramatic shift occurred for cocaine use and continued for some years. During much of the 1990s, however, there was an important turnaround or “relapse” in these attitudes, accompanied by increased use of quite a number of the illicit drugs, in particular marijuana.

PERCEIVED HARMFULNESS OF DRUG USE

Beliefs about Harmfulness among Twelfth Graders

- For many drugs, the level of risk attributed to use varies considerably with the level of use being considered. Expecting this to be the case, we structured the questions to differentiate among “using once or twice,” “using occasionally” (for some drugs), and “using regularly.”
- A substantial majority of high school seniors perceive that *regular* use of *any of the illicit drugs* entails a great risk of harm for the user. As Table 8-2 shows, between 85% and 90% of the seniors perceive a great risk of harm from regular use of *cocaine, crack, cocaine powder, and heroin*. Additionally, the proportions attributing great risk to regular use of *LSD, amphetamines, and barbiturates* are 76%, 66%, and 54%, respectively.
- Regular use of *marijuana* is judged to involve a great risk to the user by 57% of the seniors.
- Over two-thirds of all seniors (71%) judge smoking one or more packs of *cigarettes* per day as entailing a great risk of harm for the user.
- Regular use of *alcohol* is more explicitly defined in several questions providing greater specificity on the amount of use. More than one-fifth of seniors (22%) associate great risk of harm with having one or two drinks nearly every day, fewer than half (43%) think there is great risk involved in having five or more drinks once or twice each weekend, and fewer than two-thirds (61%) think the user takes a great risk in consuming four or five drinks nearly every day. It is noteworthy that more than one-third do not view even heavy daily drinking as entailing great risk.
- Far fewer respondents feel that a person runs a great risk of harm by simply trying a drug once or twice—what we refer to as *experimental use*. Still, substantial proportions of high school seniors view even the experimental use of most of the illicit drugs as risky. The percentages associating great risk with experimental use rank as follows: 62% for *steroids*, 56% for *heroin*, 52% for *cocaine*, 51% for *ice*, 48% for *crack*, 46% for *cocaine powder*, 45% for *PCP*, 35% for *LSD*, 32% for *amphetamines*, and 26% for *barbiturates*.
- By way of contrast, only 16% of seniors see experimenting with *marijuana* as entailing great risk.

- Just 8% of seniors believe there is much risk involved in trying an *alcoholic beverage* once or twice.

Beliefs about Harmfulness among Eighth and Tenth Graders

An abbreviated set of the same questions on harmfulness has been asked of eighth and tenth graders since 1991. Questions also were added about the perceived harmfulness of using *inhalants* (see Table 8-1). Perceived risk questions for *LSD* use were added in 1993. Although the findings are quite similar to those for seniors in general, there are some interesting differences.

- The most important difference is observed for *regular cigarette smoking*. Unfortunately, perceived risk is lowest at the ages when initiation is most likely to occur: while more than two-thirds of seniors (71%) see great risk in smoking a pack a day or more, fewer (63%) of the tenth graders and only slightly more than half (55%) of the eighth graders do.
- Regular use of *smokeless tobacco* is viewed as entailing great risk by about 37% of eighth graders, 44% of tenth graders, and 41% of twelfth graders. Again, because this behavior is often initiated at early ages, these figures are disturbingly low.
- In contrast to tobacco use, the younger students are somewhat more likely than seniors to see *marijuana* use as dangerous.
- Tenth graders are most likely to see the use of *cocaine powder* and *crack* as dangerous. This unusual pattern has been replicated every year since 1991.
- Similarly, seeing the use of *heroin* (without using a needle) as dangerous is highest in tenth grade and has been since this question was added in 1995.
- Eighth- and tenth-grade students are slightly more likely than twelfth graders to see weekend *binge drinking* as dangerous: 55% for eighth graders, 52% for tenth graders, and 43% for twelfth graders. Their views on *daily drinking* and experimentation are not much different from those of seniors.
- Experimentation with *inhalants* is seen as dangerous by relatively low may well explain the widespread use of inhalants at these ages. (The question is not asked of twelfth graders.)

TRENDS IN PERCEIVED HARMFULNESS OF DRUG USE

Trends in Perceived Harmfulness among Twelfth Graders

Several very important trends in student beliefs about the dangers associated with using various drugs have occurred over the life of the study. (See Table 8-2 and Figures 8-1a through 8-11a.)

- Some of the most important trends have involved *marijuana* use. (See Figure 8-1a). From the beginning of the study in 1975 through 1978, the degree of harmfulness perceived to be associated with all levels of marijuana use declined as use increased sharply. (See Figure 8-4). In 1979, for the first time, the proportion of seniors seeing risk to the user increased. This increase in perceived risk preceded an appreciable downturn in use (which began a year later in 1980) and continued fairly steadily through 1991, as use fell dramatically. However, in 1992 perceived risk began to drop and, while use continued to fall that year, the drop in perceived risk presaged a sharp increase in use beginning in 1993. Perceived risk continued to drop until 1997 and use continued to rise until 1997 (see Figure 8-4). We believe these changes in beliefs about the harmfulness of marijuana use played a critical role in causing both the downturn and the subsequent upturn in use. In both cases, the reversal in perceived risk preceded the reversal in actual use by a year. As Figures 8-1a and 8-4 illustrate, the decline in perceived risk decelerated in 1996, as did the increase in use. By 1997, the decline in perceived risk had ended to some extent, and annual prevalence stabilized (or even fell a bit) a year later.
- In the earlier years of this study, the most impressive increase (in absolute terms) in perceived risk occurred for *regular marijuana use*. The proportion of seniors who viewed regular marijuana use as involving a great risk doubled in just seven years, from 35% to 70% between 1978 and 1985. Subsequently, the proportion increased more slowly, reaching 79% in 1991. The dramatic change between those years occurred during a period when a substantial amount of scientific and media attention was devoted to the potential dangers of heavy marijuana use. Young people also had ample opportunity for vicarious learning about the effects of heavy use through observation, because such use was widespread among their peers. (Recall that one in nine seniors was an active daily marijuana user in 1978.) Concerns about the harmfulness of occasional and experimental use also increased, and those increases were even larger in proportional terms, though not in absolute terms. For example, the proportion of seniors seeing great risk in *trying marijuana* rose from 8% in 1978 to 27% in 1991, and for *occasional marijuana use* it rose from 12% to 41% over the same interval.

There are several possible explanations for the turnaround and decline in perceived risk of marijuana use during the 1990s. First, some of the forces that gave rise to the earlier increases in perceived risk became less influential: (1) because of lower use rates overall, fewer students had opportunities for vicarious learning by observing firsthand the effects of heavy marijuana use among their peers; (2) media coverage of the harmful effects of drug use, and of incidents resulting from drug use (particularly marijuana), decreased very substantially in the early 1990s (as has been documented by media surveys of national news programs); (3) media coverage of the anti-drug advertising campaign of the Partnership for a Drug-Free America also declined appreciably (as has been documented by both the Partnership and our own data from seniors on their levels of recalled exposure to such ads); and (4) congressional funding for drug abuse prevention programs and curricula in the schools was cut appreciably in the early 1990s. In addition, forces encouraging use became more visible; in particular, a number of rap groups, grunge groups, and other rock groups started to sing the praises of using marijuana (and sometimes other drugs), perhaps influencing young people to think that using drugs might not be so dangerous after all. Finally, the drug experiences of many teenagers' parents may have inhibited some parents from discussing drugs with their children and may have caused them uncertainty in knowing how to handle the apparent hypocrisy of telling their children not to do what they themselves did as teens. We believe that all of these factors may have contributed to the resurgence of marijuana use in the 1990s.

By the mid-1990s many of these sources of influence had reversed direction once again, laying the groundwork for an end to the rise in marijuana use (and illicit drug use more generally). First, because there was considerably more use among young people, and among many of their public role-model groups, the opportunity for vicarious learning by observing the consequences of use began to increase. And, as this study and others began to call the public's attention to the resurgence of the drug epidemic among youth, news stories on the subject increased substantially. Other institutions also changed their ways. The recording industry appeared to be producing fewer pro-drug lyrics and messages, in large part because of growing concern with overdose deaths among their artists. (A similar dynamic seems to have occurred in the fashion industry with the resulting demise of "heroin chic.") Various government initiatives to prevent drug use by young people also were launched, including the DHHS Secretary's Initiative to Prevent Marijuana Use. Congressional funding for drug prevention in the schools also increased appreciably.

Finally, parents have been exhorted repeatedly in the last couple of years to discuss drugs with their children, and it appears from recent surveys that more of them have. The extent of anti-drug ads has only very recently begun to increase, under a new federal, paid-advertising initiative.

Monitoring the Future

- Trends in the perceived risk of regular marijuana use and in 30-day prevalence of use are combined in Figure 8-4 in order to illustrate more clearly their degree of covariance over time, which we interpret as reflecting a causal connection.⁴⁶ The trend line for the perceived availability of marijuana is included in Figure 8-4 to show its lack of covariance with use and, thus, its inability to explain the substantial fluctuations in usage levels over the past 25 years.

We have hypothesized that perceived risk operates not only directly on the individual's use but also indirectly through its impact on personal disapproval. In turn, personal disapproval operates directly on use and, in the collective, indirectly by influencing peer norms. Presumably there is some lag in these indirect effects: while perceived risk began to fall in 1992, personal disapproval did not begin to decline for experimental marijuana use until 1993, when it dropped sharply and use rose sharply. These shifts continued through 1997.

- A similar cross-time profile of attitudes has emerged for *cocaine*. (See Figure 8-5.) First, the percentage who perceived great risk in *trying cocaine* once or twice dropped steadily from 43% to 31% between 1975 and 1980, a period of rapidly increasing use. However, rather than reversing sharply, as did perceived risk for marijuana use, perceived risk for experimental cocaine use moved rather little from 1980 to 1986, corresponding to a fairly stable period in actual use. Then, from 1986 to 1987, perceived risk for experimenting with cocaine did jump sharply from 34% to 48% in a single year, and in that year the first significant decline in use took place (see Figure 8-5.) From 1987 to 1990, perceived risk continued to rise as use fell. Perceived risk peaked around 1990 or 1991, and then decreased slightly until 1995, when a significant decline in perceived risk of trying cocaine occurred. There has been little further change since then. Trends in attitudes toward *crack* and *cocaine powder* use have been similar to those toward cocaine use. Crack use has shown the greatest recent decline in perceived risk, with the proportion of seniors reporting great risk associated with experimental use falling from 64% in 1990 to 48% by 1999 (including a 4 percentage point drop in 1999). (We believe that some "generational forgetting" of the hazards of crack may be operating here.)

We believe these changes in beliefs had an important impact on behavior. As Figure 8-2a illustrates, perceived risk for *regular cocaine use* began to rise in the

⁴⁶We have addressed an alternate hypothesis that a general shift toward a more conservative lifestyle might have accounted for the shifts in both attitudes and behaviors. The empirical evidence tended to contradict that hypothesis. See Bachman, J. G., Johnston, L. D., O'Malley, P. M., & Humphrey, R. H. (1988). Explaining the recent decline in marijuana use: Differentiating the effects of perceived risks, disapproval, and general lifestyle factors. *Journal of Health and Social Behavior*, 29: 92-112. Johnston also showed that an increasing proportion of the quitters and abstainers from marijuana use reported concern over the physical and psychological consequences of use as reasons for their nonuse. See Johnston, L. D. (1982). A review and analysis of recent changes in marijuana use by American young people, in *Marijuana: The national impact on education* (pp. 8-13). New York: American Council on Marijuana.

1980s, increasing gradually from 69% in 1980 to 82% in 1986; however, that fairly substantial change did not translate into a change in actual behavior, and we believe the explanation is that very few high school seniors were regular users or ever expected to be. Thus, as we had predicted earlier, it was not until seniors' attitudes about behaviors they saw as relevant to themselves began to change (i.e., attitudes about experimental and occasional cocaine use) that the behaviors also began to shift.^{47,48} Figure 8-5 shows trends in perceived risk, perceived availability, and actual use simultaneously—again, to illustrate that shifts in perceived risk could explain the downturn in use while shifts in availability could not.

We attribute changes in actual cocaine use between 1986 and 1991 to changes in risk associated with experimental and occasional use. We believe the changes in these attitudes resulted from three factors: (1) the greatly increased media coverage of cocaine use and its dangers that occurred in that interval (particularly in 1986); (2) an increasing number of anti-drug, and specifically anti-cocaine, “spots;” and (3) the widely publicized deaths in 1986 of sports stars Len Bias and Don Rogers, attributed to their cocaine use. The death of the sports stars, we believe, helped to bring home the notions, first, that no one—regardless of age or physical condition—is invulnerable to being killed by cocaine and, second, that one does not have to be an addict or regular user to suffer such adverse consequences. Finally, the addictive potential of cocaine also was emphasized heavily in the media during that period, in large part due to a media frenzy over crack use.

As with marijuana, 1991 saw an end to the increase in the perceived risk of cocaine use. Perceived risk began to fall after 1991, and since 1992 actual use has been rising among seniors. (See Figure 8-5.) The significant reversal of trends in beliefs set the stage for a resurgence in use, particularly when combined with the fact that the proportions of students using two of the so-called “gateway drugs”—cigarettes and marijuana—also had been rising. Since 1992, the proportion of twelfth graders using cocaine in the prior 12 months has risen steadily from 3.1% to 6.2% in 1999. Both crack and cocaine powder have been showing a rise in use. As we shall see below, similar reversals occurred in the eighth and tenth grades through 1998, as well, except that they started a year earlier among the eighth graders and resulted in larger changes in eighth and tenth grades than in twelfth

⁴⁷See also Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (1990). Explaining the recent decline in cocaine use among young adults: Further evidence that perceived risks and disapproval lead to reduced drug use. *Journal of Health and Social Behavior*, 31: 173-184. For a discussion of perceived risk in the larger set of factors influencing trends, and for a consideration of the forces likely to influence perceived risk, see also, Johnston, L. D. (1991). Toward a theory of drug epidemics. In R. L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93-132). Hillsdale, NJ: Lawrence Erlbaum.

⁴⁸Our belief in the importance of perceived risk of experimental and occasional use of cocaine led us to include in 1986 for the first time the question about the dangers of occasional cocaine use. It was the very next year that proved to have a sharp rise on this measure.

grade. But as Figure 8-3a (bottom panel) illustrates, the decline in perceived risk of trying crack decelerated in eighth and tenth grades after 1995, and the perceived risk of trying powder cocaine showed a similar pattern (see Table 8-1).

- For most of the illicit drugs other than marijuana and cocaine, the period from 1975 to 1979 revealed a modest but consistent trend in the direction of fewer seniors associating much risk with experimental or occasional use of them (see Table 8-2 and Figures 8-6a, 8-7a, and 8-8a). This trend continued for *amphetamines* and *barbiturates*, but not for other drugs, until about 1984.

In the early 1980s, there was little change in perceived risk, although perceived risk of harm from experimental or occasional use of all the illicit drugs other than marijuana dropped slightly in 1985 and 1986. However, the perceived risk of experimental or occasional use of all drugs except PCP began to increase in 1987, reached a peak in 1990 or 1991, and then began to decline noticeably until about 1996.

- For *heroin use*, there was a decline in perceived risk among seniors from 1990 through 1995. (These questions were not included in the eighth- and tenth-grade questionnaires until 1995.) This decline very likely was the result in part of the advent of smoking and snorting as modes of administration, made possible by the growing purity of heroin available on the street. As perceived risk fell, use by seniors rose, with annual prevalence of use increasing from 0.4% in 1991 to 1.1% by 1995. (Use also rose in the lower grades.) After 1995, however, perceived risk began to increase in all three grade (see Table 8-1 and Figure 8-8a) and usage rates pretty much stabilized (see Table 5-2). Perhaps not entirely coincidentally, the Partnership for a Drug-Free America launched a media campaign aimed at deglamorizing heroin in 1996. While the target audience was young adults, many secondary school students undoubtedly saw the ads as well. Unfortunately, there has been little further increase in perceived risk for heroin since 1997.
- In sum, between 1975 and 1978 or 1979 there was a distinct decline among seniors in perceived harmfulness associated with use of all the illicit drugs. After 1978, concerns about regular *marijuana* use increased dramatically, and concerns about the use of marijuana at less frequent levels increased considerably. After 1986, there was a sharp increase in the risks associated with *cocaine* use—particularly at the experimental and occasional use levels—and some increase in perceived risk of use of virtually all the *other illicit drugs* (see Figures 8-6a, 8-7a, and 8-8a). Between 1991 and 1995, the trends reversed, with fewer seniors seeing use of these drugs as being dangerous. By 1996 and 1997, among seniors the decline in perceived risk of *marijuana* use had sharply decelerated (see Figure

8-1a); the decline in perceived risk of *cocaine* use had leveled (see Figure 8-2a); the decline in the perceived risk of *LSD* use had decelerated (see Figure 8-7a); and the perceived risk of using *heroin* was actually rising (see Figure 8-8a). Only for *barbiturate* use (asked only of seniors, see Figure 8-6a) was there any appreciable further decline in perceived risk. In 1998, perceived risk for a few drugs gave evidence of rising—*marijuana*, *LSD*, and *amphetamines* (though the increases were not always statistically significant)—but in 1999 perceived risk declined some for these drugs and almost all others.

- The sharp decline in seniors' perceived risk of *LSD* use between 1991 and 1997 has been particularly noteworthy, confirming our concern that attitudes and beliefs of the newer generation of young people may not have been influenced by some of the direct and vicarious learning experiences that helped to make their predecessors more cautious about its use (see Figure 8-7a). In the late 1960s and early 1970s, young people became aware of the risks of bad trips, uncontrollable flashbacks, dangerous behaviors under the influence, etc. Today's teenagers know much less about those risks. Fortunately, there has been a much more modest decline since 1995. (See Figure 8-7a and Table 8-2.)
- The risks associated with experimental use of *crystal methamphetamine (ice)* fell from 62% in 1992 to 51% in 1999 among seniors (see Table 8-2). Seniors' self-reported annual use of ice rose from 1.3% in 1992 to 2.8% in 1996, stabilized, and then declined significantly to 1.9% in 1999.
- The perceived risk of trying *PCP*, though very high relative to other drugs in 1988, fell by 10 percentage points from its peak level of 59% in 1988 to 49% in 1995 before stabilizing. Again, we suspect that teens in more recent classes are simply much less familiar with the drug and its considerable dangers compared to those who grew up in an earlier period. (Annual prevalence of use rose among seniors, from 1.4% in 1993 to 2.6% in 1996, but has since declined to 1.8% in 1999.)
- After showing little systematic change in the latter half of the 1970s, the perceived risks associated with *alcohol use* at various levels rose during the 1980s (though not as dramatically as the perceived risks associated with marijuana and cocaine use) (see Figure 8-9a). The proportion perceiving great risk of harm in having one or two drinks nearly every day rose from 20% in 1980 to 33% in 1991 before it fell back to 22% by 1999, perhaps in part due to the publicity about the value of moderate alcohol consumption in protecting against heart disease. The proportion perceiving great risk in having four or five drinks nearly every day rose slightly from 65% in 1981 to 71% in 1990, remained fairly stable through 1992, and then declined to 61% by 1999.

The corresponding figure on perceived risk of *occasional binge drinking* (having five or more drinks once or twice a weekend) rose quite substantially, from 35% in 1979 to 49% in 1992, and then it, too, decreased—to 43% by 1997, where it has remained. (Recall that the reported prevalence of occasional binge drinking declined from 41% in 1981 to 28% in 1993 and then rose slightly to 32% by 1998.) The increases in perceived risk tended to be followed by some declines in the actual behaviors, while the decreases in perceived risk tended to be followed by some increases in those behaviors—once again suggesting the importance of these beliefs in influencing behavior. The increase in perceived risk during the 1980s may have been due in large part to the many efforts aimed at discouraging drunk driving.

- Despite all that is known today about the health consequences of *cigarette smoking*, between a quarter and a third (29%) of twelfth-grade students still do not believe that there is a great risk in smoking a pack or more of cigarettes per day (see Figure 8-10a).

Over a longer period, the number of seniors who thought *smoking a pack or more a day* involved great risk to the user increased, from 51% in 1975 to 64% in 1980. This shift corresponded with, and to some degree preceded, the downturn in current smoking found in this age group (compare Figures 5-4k and 8-10a). Between 1980 and 1984, the perceived risk statistic showed no further increase and use showed no further decrease. Then, from 1984 to 1993 perceived risk inched up from 64% to 70% while use remained quite stable. Risk declined a bit in 1994 and 1995 (as it did in the lower grades, as well) and use rose through 1997. Between 1995 and 1998 perceived risk rose about 5 percentage points, presaging a decline in smoking that began in 1998. Overall, in the 15-year interval since 1984, the percentage of seniors perceiving great risk in regular smoking has risen only about 7 percentage points, while use has risen, not fallen, by 5 percentage points. Clearly, influences other than perceived risk have been at work here.

- With regard to the regular use of *smokeless tobacco*, relatively few seniors reported much risk (see Figure 8-11a), although there was some increase in the proportion who did, from 26% in 1986 (when the belief was first measured) to 39% in 1993. From 1993 to 1995 such concerns decreased a bit, declining to 33% in 1995, but then rose to 41% by 1999.

Trends in Perceived Harmfulness among Eighth and Tenth Graders

- Data on perceived risk for eighth and tenth graders are not available for many of the drugs for which twelfth-grade data are provided, because the younger students were given a more limited set of questions.
- From the early 1990s until 1997, eighth and tenth graders showed troublesome declines in perceived risk for *marijuana* use, as did the seniors (see Table 8-1 and Figure 8-1a). Indeed, the decreases in the perceived risk of marijuana use, which had been occurring at least since 1991 for eighth graders and since 1992 for tenth graders, became very sharp. For eighth graders, perceived risk of trying marijuana dropped from 40% in 1991 to 25% in 1997. For tenth graders, this measure dropped from 32% in 1992 to 19% in 1997. As is clear from Figure 8-1a, however, these declines in perceived risk for marijuana use had been decelerating, and by 1998 these indicators began to turn upward. (In fact, perceived risk for regular marijuana use actually reversed among eighth graders in 1998, when their use also reversed direction.) Unfortunately, the upturn in perceived risk did not continue in 1999 in any grade—it stabilized.
- For *crack* and *cocaine powder* there was a large drop in perceived risk between 1991 and 1995 for both eighth and tenth graders. (For crack the declines were 12 and 10 percentage points for the two grades, respectively, and for cocaine powder, 11 and 6 percentage points.) There has been some further erosion in these beliefs in the years since then (see Table 8-1). Use of both drugs rose from a low point in 1991 or 1992 to a high point in 1998, over the same interval that perceived risk fell. In 1999 there was little further decline in risk at eighth grade and actually some reversal in tenth.
- Perceived risk of *LSD* use also had been declining in eighth and tenth grades since it was first measured in 1993, and, while it seemed to stabilize from 1995-1997, further declines were observed in both grades in 1998 (see Table 8-1). Use, which had been increasing fairly steadily, has been level since 1997.
- Questions about the dangers of *inhalant* use have been asked only of eighth and tenth graders over the years. Perceived risk was relatively stable between 1991 and 1995, before showing a clear jump in 1996, then holding steady, and rising again in tenth grade in 1999 (see Table 8-1). Partly in response to the findings of growing inhalant use among teenagers from this study, in 1995 the Partnership for a Drug-Free America launched a media campaign to increase adolescents' awareness about the dangers associated with inhalant use. The data here are consistent with the notion that their efforts were successful.

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- Because we see increased perceived risk as a central cause of the decline in various forms of illicit drug use, the softening in these beliefs in the early 1990s was troublesome, and it likely helps to explain the reversal of the downward trends in illicit drug use previously observed in the 1980s. It is a promising sign that the erosion in these beliefs seems to be ending for most drugs.
- For *steroids*, in 1992, a noteworthy and constructive change occurred across all three grade levels. There were increases of between 5 and 6 percentage points across the three grade levels in respondents saying there is a “great risk” to the user in taking steroids. Between 70% and 73% of each grade level reported such risk. This suggested that the widely publicized experience of professional football player Lyle Alzado, who believed he was dying of a brain tumor caused by his steroid use, had an important effect on young people’s beliefs about the harmfulness of this drug. The effect this “unfortunate role model” had was very similar to that of Len Bias on beliefs about the dangers of cocaine use, except that in Lyle Alzado’s case he became aware of the health consequences of his drug use well before his death and *intentionally* set about making his experience an object lesson for young people.⁴⁹ Unfortunately, this constructive development has not continued, and perceived risk slipped a bit in all three grades between 1992 and 1994 (after 1994 the question was dropped in the lower grades). Among the twelfth graders, perceived risk held steady for the next four years, followed by a sharp, 5.9 percentage point drop in 1999, which coincided with a sharp rise in use that year among eighth and tenth graders.
- Even fewer eighth and tenth graders recognize the risk associated with pack-a-day *cigarette smoking* than do seniors (see Figure 8-10a). From 1993 to 1995 perceived risk of smoking decreased some at all grade levels, as smoking rates rose in all grades. Since 1995, perceived risk has been rising in all three grade levels. Beginning in 1997 smoking rates began to decline in grades 8 and 10 and a year later began to decline among twelfth graders. It seems quite possible that the intense public debate over restrictive policies for the cigarette industry contributed to those changes in beliefs, which in turn appears to have contributed to the downturn in actual smoking.
- The dangers associated with having five or more drinks of *alcohol* once or twice each weekend had been slipping since 1991 in the case of eighth graders (down from 59% in 1991 to 52% in 1996) and since 1992 in the case of tenth graders (down from 56% in 1992 to 51% in 1996). (Recall that self-reported *binge*

⁴⁹The July 8, 1991, issue of *Sports Illustrated* magazine had an article by Lyle Alzado entitled “I Lied.” For a discussion of the importance of vicarious learning from unfortunate role models see Johnston, L. D. (1991). Toward a theory of drug epidemics. In R. L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 133-156). Hillsdale, NJ: Lawrence Erlbaum.

drinking had been rising gradually during the same time intervals.) After 1996, however, perceived risk of binge drinking began to rise gradually for both eighth and tenth graders, as their actual binge drinking began to decline for eighth graders and leveled among tenth graders. In 1999, this decline halted and binge drinking increased some among both eighth and tenth graders.

- The risks perceived to be associated with the regular use of *smokeless tobacco* showed some decline in perceived risk from 1993 to 1995 in all three grades and then increased by about the same amount between 1995 and 1999 (see Figure 8-11a). In fact, among twelfth graders, perceived risk reached its highest point in 1999 (41%) since this question was first asked in 1986 (and when it was 26%).

PERSONAL DISAPPROVAL OF DRUG USE

At the beginning of the Monitoring the Future study we also included a set of questions to measure the moral sentiment respondents attach to various types of drug use. The phrasing, "Do you disapprove of people (who are 18 or older) doing each of the following?" was adopted. The answer alternatives are "don't disapprove," "disapprove," and "strongly disapprove." Responses of "disapprove" or "strongly disapprove" are combined as "disapproval."

Extent of Disapproval among Twelfth Graders

- The vast majority of twelfth graders do not condone regular use of any of the illicit drugs (see Table 8-4). Even *regular marijuana use* is disapproved of (or strongly disapproved of) by 79%, and regular use of each of the other illicit drugs received disapproval from between 90% and 96% of today's high school seniors.
- For each of the drugs included in this set of questions, fewer respondents indicated disapproval of experimental or occasional use than of regular use. However, the differences are not great for the use of illicit drugs other than marijuana, because nearly all seniors disapprove of even experimenting with them. For example, 83% disapprove of experimenting with *LSD*, 84% with *cocaine powder*, 87% with *barbiturates*, 88% with *crack*, and 94% with *heroin*. This widespread disapproval of illicit drug use among peers no doubt is underestimated by adolescents themselves and, as we have written elsewhere, provides the basis for some potentially powerful prevention messages in the form of normative education.⁵⁰

⁵⁰Johnston, L. D. (1991). Contributions of drug epidemiology to the field of drug abuse prevention. In C. Leukefeld & W. Bukoski (Eds.) *Drug abuse prevention research: Methodological issues* (pp. 57-80). (NIDA Research Monograph 107). Washington, DC: National Institute on Drug Abuse.

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- For *marijuana*, the rate of disapproval varies substantially for different usage habits, although not as much as it has in the past. About half (49%) disapprove of even trying marijuana and 63% disapprove of its occasional use.
- Smoking a pack (or more) of *cigarettes* per day received the disapproval of more than two-thirds (70%) of twelfth-grade students.
- Taking *one or two drinks nearly every day* is disapproved of by 67% of the seniors. Curiously, *weekend binge drinking* (five or more drinks once or twice each weekend) is disapproved of by fewer seniors (63%), despite the fact that many more seniors see a great risk in weekend binge drinking (43%) than in having one or two drinks nearly every day (22%).

One likely explanation for these anomalous findings may be that a greater proportion of this age group are themselves weekend binge drinkers rather than moderate daily drinkers. Therefore, they may express attitudes accepting of their own behavior, even though such attitudes may be somewhat inconsistent with their beliefs about possible consequences. It also may be that the ubiquitous advertising of alcohol use in partying situations has managed to increase social acceptability from what it would be in the absence of such advertising. In any case, this divergence between the perceived risk associated with the two behaviors and level of disapproval of them helps to illustrate the point that, while perceived risk may influence disapproval (as we have hypothesized), other factors also play a role in determining the level of disapproval.

Extent of Disapproval among Eighth and Tenth Graders

- Attitudes about *inhalant* use have been asked only of the eighth- and tenth-grade students, and in 1999 the great majority (85% and 88%, respectively) said they disapprove of even trying them.
- Currently the rates of disapproval for the use of *crack* and *cocaine powder* are about equivalent across all grade levels (see Table 8-3).
- *Marijuana* use shows the greatest age-related difference in disapproval rates. The lower the grade level, the higher the rate of disapproval. To illustrate, in 1999, 49% of twelfth graders said they disapprove of trying marijuana compared to 56% of tenth graders and 71% of eighth graders (see Table 8-3). There now is considerable evidence that these attitudes do shift with age—that there is an “age effect” common to all cohorts. For example, the eighth graders of 1991 for the most part constituted the tenth graders of 1993 and the twelfth graders of 1995, and their disapproval of trying marijuana fell from 85% in eighth grade, to 70%

by tenth grade and to 57% by twelfth grade. This drop far exceeds the secular trend at any given grade level. It is also possible that, in addition to any age effects, there are lasting differences between class cohorts (i.e., cohort effects).

- Disapproval of *alcohol* use also is higher at the lower grade levels. For example, 63% of the seniors said they disapprove of *weekend binge drinking* versus 70% of the tenth graders and 80% of the eighth graders. We think it quite possible that a cohort shift in attitudes about drinking has been taking place, because the minimum drinking age has shifted in a number of states and because drinking has been illegal for the younger cohorts for a greater proportion of their lives.
- Similarly, for *cigarette* use, 70% of twelfth graders, 76% of tenth graders, and 81% of eighth graders said they disapprove of someone smoking one or more packs per day. Oddly enough, the eighth graders, who are least likely to see regular smoking as dangerous, are the most likely to disapprove of it. This disparity may help to explain why so many do begin to smoke. In the absence of an underlying belief that smoking really represents a hazard to them, many may not be deterred by the predominant peer norms alone.

TRENDS IN DISAPPROVAL OF DRUG USE

As illustrated below, while the perceived risk associated with a drug often reverses course a year *prior* to the actual use of that drug, disapproval tends to move in a way more consistent with use. In other words, it tends to rise when use falls and to fall when use rises.

Trends in Disapproval among Twelfth Graders

- Between 1975 and 1977, a substantial decrease occurred in disapproval of *marijuana* use at any level of frequency (see Figure 8-1b and Table 8-4). The proportion of seniors in the class of 1977 (compared with the class of 1975) who disapproved of experimenting was 14 percentage points lower, the proportion who disapproved of occasional use was 11 percentage points lower, and the proportion who disapproved of regular use was about 6 percentage points lower. These undoubtedly were continuations of longer-term trends that began in the late 1960s, as the norms of American young people against illicit drug use seriously eroded. Between 1977 and 1990, however—a thirteen-year interval—there was a very substantial reversal of that trend as disapproval of experimental marijuana use rose by 34 percentage points, disapproval of occasional use by 36 percentage points, and disapproval of regular use by 26 percentage points. There were no further significant changes in 1991 or 1992, although disapproval of experimental use continued to rise. Beginning in 1993 (a year *after* perceived risk began to decline), a sharp drop in disapproval of marijuana use emerged. Between 1992

and 1997, disapproval dropped 19 percentage points for experimental use, 17 percentage points for occasional use, and 11 percentage points for regular use. These changes accompanied a significant increase in the self-reported use of marijuana. By the mid-1990s, the decline in disapproval of marijuana use began to decelerate, and in 1998 it actually began to rise a bit for the first time in some years. It then declined again in 1999.

- Until 1980 the proportion of seniors who disapproved of trying *amphetamines* remained extremely stable at 75% (see Figure 8-6b and Table 8-4). This proportion dropped some in 1981 (to 71%) and then increased gradually over a decade, until it reached 87% in 1991, where it remained in 1992. After 1992, a reversal began: disapproval had dropped by 7 percentage points by 1996. Self-reported use increased over the same period. In 1997 and 1998, disapproval began to increase again and then leveled in 1999. (Perceived risk had begun to increase a year earlier.)
- During the late 1970s, personal disapproval of experimenting with *barbiturates* increased (from 78% in 1975 to 84% in 1979) and then remained relatively stable through 1984, when it began to increase again (see Figure 8-6b). By 1990, disapproval had reached 91%, and use declined very substantially from 1975 to 1992. Between 1993 and 1996, disapproval dropped to 85% as use rose; but, as with amphetamines, disapproval began to rise again in 1997.
- Concurrent with the years of increase in actual *cocaine* use, disapproval of experimental use of cocaine declined somewhat, from a high of 82% in 1976 to a low of 75% in 1979 (see Figure 8-2b). It then leveled for four years, before edging upward for a couple of years to 80% in 1986. There was a sharp rise in disapproval between 1986 and 1987, the same year that perceived risk rose dramatically. This rise continued through 1991, reaching 94% of seniors disapproving of trying cocaine. Between 1992 and 1997, disapproval slowly declined to 88% in 1997 (as use steadily increased) before leveling. Disapproval of trying both *cocaine powder* and *crack cocaine* (see Figure 8-3b) peaked in 1992, after which there was a modest falloff. In 1999, both measures increased (not significantly).
- We believe that the parallel (or slightly lagged) trends between perceived risk and disapproval—particularly for marijuana and cocaine use—are no accident. We hypothesize that perceived risk is an important influence on an individual's level of disapproval of a drug-using behavior, although there surely are other influences as well. As levels of personal disapproval change, these individually-held attitudes are communicated among friends and acquaintances, and thus perceived norms change as well (as will be illustrated in the next chapter). It is noteworthy

that as perceived risk for use of most of the illicit drugs began to reverse in 1991 or 1992, personal disapproval of use of virtually all of them appeared to level. In 1993, personal disapproval among seniors began to drop for use of nearly all of the illicit drugs (see Table 8-4) and it continued to fall for use of many of them through 1997, although it has leveled for many since then. This time lag suggests that perceived risk influences disapproval, which, in turn, changes peer norms.

- Despite the large changes that seem to have taken place in adult use of cigarettes, and presumably in adult attitudes about smoking, young people's disapproval of **regular cigarette smoking** (a pack or more per day) has changed surprisingly little throughout this study. Disapproval increased from 66% to 71% between 1976 and 1980, slightly ahead of the downturn in use between 1977 and 1981. Disapproval fluctuated slightly throughout the 1980s and 1990s, with some increase between 1982 (69%) and 1986 (75%) and some gradual decline through 1997 (67%). (Use increased from 1992 through 1997.) Since 1997, there has been some small rebound in disapproval, which reached 70% in 1999, as use declined slightly. This lack of appreciable change is surprising, because so many anti-smoking laws and policies have been enacted. Very likely, the promotion and advertising efforts of the tobacco industry help to account for this lack of change in disapproval as does the widespread portrayal of smoking by characters, often the lead characters, in movies and on television.

It is worth noting that the disapproval rates among eighth and tenth graders also drifted downward between 1991 and 1996 but have been rising some since 1997.

- Figure 8-9b tracks disapproval rates for several different patterns of **alcohol** use. It shows that twelfth graders' disapproval of most forms of alcohol use rose throughout the 1980s and into the early 1990s. However, since 1992 or 1993 there has been a considerable falloff in the proportion disapproving of many of these behaviors.
- With regard to abstinence, the proportion of seniors who disapproved of even **trying alcohol** doubled, from a low point of 16% in 1980 to 33% by 1992, before falling back to 25% by 1998, where it remained in 1999 (see Figure 8-9b).

It seems likely that the increased minimum drinking age in many states between 1981 and 1987 contributed to these changes in attitude about abstinence, since more recent senior classes grew up under the higher minimum drinking age.⁵¹ If so, this illustrates the considerable capacity of laws to influence informal norms. It also seems likely that the activities of Mothers Against Drunk Driving, which

⁵¹O'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.

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peaked in 1984, and of the designated driver effort, which occurred mostly from 1989 to 1992, helped to influence these attitudes.⁵²

- Disapproval of weekend *binge drinking* rose gradually but substantially, from a low of 56% in 1981 to a high of 71% by 1992. Over that same 11-year interval, the self-reported rate of binge drinking declined from a high of 41% in 1981 to a low of 28% in 1992.

After 1992, disapproval of binge drinking briefly fell, from 71% in 1992 to 65% by 1994. Since then it has remained fairly stable and now stands at 63%.

Trends in Disapproval among Eighth and Tenth Graders

Table 8-3 provides eight-year trends (1991-1999) in disapproval for eighth and tenth graders, as well as for twelfth graders. The lower panels in many of the figures in this chapter provide the same information for individual drugs, when data for the lower grade levels are available.

- In 1992, tenth- and twelfth-grade students showed little change in disapproval of the use of illicit drugs, but eighth graders showed some erosion in their attitudes with respect to using *marijuana*, *cocaine powder*, and *crack*. In 1993, rates of disapproval for using these drugs continued to decline among eighth graders and began to decline among tenth and twelfth graders, as well (see Table 8-3 and Figures 8-1b, 8-3b). Between 1993 and 1996, disapproval of both *marijuana* use and *LSD* use declined in all three grades.
- The declines in personal disapproval were particularly sharp for *marijuana* at all three grade levels. Between 1991 and 1997, the proportion of eighth graders who disapproved of trying marijuana fell from 85% to 68%. Personal disapproval among tenth graders fell from 75% to 54%, and among twelfth graders it fell from 69% to 51% over the same period. Finally, in 1998 there were some early signs of a reversal in this trend at all grade levels, although none of the increases reached statistical significance. In 1999 we saw a significant increase in disapproval of experimental use for the eighth graders, a leveling of disapproval rates for tenth graders, and a decline in this measure for twelfth graders.
- From 1993 to 1996, disapproval of *LSD* use declined along with perceived risk; and self-reported use increased. Since 1996, there has been some leveling in disapproval among eighth and tenth graders and some increase in disapproval of *LSD* use among twelfth graders.

⁵²O'Malley, P. M., & Johnston, L. D. (1999). Drinking and driving among U.S. high school seniors, 1984-1997. *American Journal of Public Health*, 89, 678-684.

- The softening in attitudes about using *cocaine powder* and *crack* eventually translated into a change in usage levels. From roughly 1992 through 1997, use of these drugs was up in all grades and, indeed, crack use continued to rise in 1998 before falling in 1999 for eighth and tenth graders (see Tables 2-1 through 2-3).
- Regarding the use of *inhalants*, there was a little slippage in the disapproval rates among eighth graders from 1991 to 1995, but none among tenth graders. Recall that perceived risk for inhalants jumped between 1995 and 1996. Disapproval inched up from 1995 through 1998, but jumped significantly in both grades (by 1.8 percentage points) in 1999.
- Disapproval of weekend *binge drinking* declined among eighth graders between 1991 and 1996 and among tenth and twelfth graders between 1992 and 1997 before leveling (see Figure 8-9b).
- Disapproval of *smoking one or more packs of cigarettes per day* also declined significantly, from 1991 to 1996 among eighth and tenth graders and from 1992 to 1996 among twelfth graders (see Figure 8-10b), corresponding to periods of sharp increases in their use of cigarettes. Since 1996, however, disapproval has been turning upward in both lower grades, and the same has been happening since 1997 in grade 12. These recent changes in attitude may well have been brought about by the extremely adverse publicity suffered by the tobacco industry during these years. Also, the Joe Camel advertising campaign was ended, billboards advertising cigarettes were removed, and a number of states initiated anti-smoking campaigns aimed at youth.

ATTITUDES REGARDING THE LEGALITY OF DRUG USE

At the beginning of the study in 1975, legal restraints on drug use appeared likely to be in a state of flux for some time; therefore, we decided to measure attitudes about legal sanctions. As it turns out, some dramatic changes in these attitudes have occurred during the life of the study. Table 8-5 presents a set of questions on this subject along with the answers provided by each senior class. The set lists a sampling of illicit and licit drugs and asks respondents whether their use should be prohibited by law. A distinction is made between use in public and use in private—one that has proven quite important. (These questions have not been asked of the eighth- and tenth-grade respondents.)

Attitudes of Twelfth Graders

- The great majority of seniors believe that the use in public of *illicit drugs other than marijuana* should be prohibited by law. For instance, in the case of *amphetamines* or *barbiturates*, 76% of the seniors believe that use in public should be prohibited, and 84% believe that such use of *heroin* should be prohibited. Even use in private is opposed by the majority, though by smaller proportions: for example, 55% believe that the use in private of *barbiturates* or *amphetamines* should be illegal, 63% for *LSD* use, and 73% for *heroin* use.
- The great majority of seniors (72%) also favor legally prohibiting *marijuana* use in public places, despite the fact that half have used marijuana themselves and despite the fact that many do not judge it to be as dangerous as other drugs. Considerably fewer (39%) feel that marijuana use in private should be prohibited.
- Some 43% of twelfth graders believe that *cigarette smoking* in “certain specified public places” should be prohibited by law. Were the question more specific as to the types of public places in which smoking might be prohibited (e.g., restaurants and hospitals), quite different results might have emerged. Somewhat more think *getting drunk* in public should be prohibited (53%).
- For *all drugs* included in the question, fewer seniors believe that use in private settings should be illegal than believe this about use in public. This is particularly true for *getting drunk* and for *marijuana* use.

Trends in These Attitudes among Twelfth Graders

- From 1975 through 1978 there were modest declines (shifts of 5 to 7 percentage points, depending on the substance) in the proportions of seniors who favored legal prohibition of private use of any of the five illicit drugs (see Table 8-5). By 1990 (twelve years later), all of these proportions had increased substantially, with shifts of 8 to 31 percentage points. The proportion who thought *marijuana* use in private should be prohibited by law more than doubled, from 25% in 1978 to 56% in 1990—a dramatic shift.

Then, between 1990 and 1996, positions on prohibition of the use of all the illicit drugs softened once again, particularly in the case of marijuana, where the percentage favoring prohibitive laws fell from 56% in 1990 to 39% in 1997. By 1997, most of these declines had ended. By 1999, seniors' policy preferences with regard to most of the illegal drugs had leveled.

- There has been rather little change in the proportion of seniors who said *smoking cigarettes* “in certain specified public places” should be prohibited by law. In 1977, 42% held this view versus 43% in 1999, 22 years later.
- Attitudes about the legality of *drunkenness* in public or private places have changed little over the past 24 years, but there was a small change toward less tolerance of drunkenness in private. The stability of attitudes about the preferred legality for this culturally ingrained drug-using behavior contrasts sharply with the lability of attitudes regarding the legality of using illicit drugs.

THE LEGAL STATUS OF MARIJUANA

Another set of questions asks in more detail what legal sanctions, if any, seniors think should be attached to the use and sale of marijuana. Respondents also are asked to guess how they would be likely to react to the legalized use and sale of the drug. The answers to such a hypothetical question must be interpreted with considerable caution, of course.

Attitudes and Predicted Responses to Legalization

- As shown in Table 8-6, in 1999 one-third (33%) of all seniors believed that marijuana use should be treated as a crime. Slightly more than one-quarter thought it should be entirely legal (27%), and almost another one-quarter (24%) felt it should be treated as a minor violation—like a parking ticket—but not as a crime.
- Asked whether they thought it should be legal to sell marijuana *if* it were legal to use it, just over half (55%) said “yes.” However, about four out of five of those answering “yes” (43% of all respondents) would permit the sale *only* to adults. A small minority (12%) favored the sale to anyone, regardless of age.
- Most high school seniors felt that they would be little affected personally by the legalization of either the sale or the use of marijuana. More than half (59%) of the respondents said that they would not use the drug even if it were legal to buy and use it, and another 17% indicated they would use it about as often as they do now or less often. Only 7% said they would use it more often than they do at present and only another 9% thought they would try it. Some 8% said they did not know how their behavior would be affected if marijuana were legalized.

A study of decriminalization effects at the state level during the late 1970s found no evidence of any impact of decriminalization (which falls well short of the fully legalized situation posited in the question we ask) on the use of marijuana, nor

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even on attitudes or beliefs concerning its use.⁵³ However, the situation today is very different, with much more peer disapproval and more rigorous enforcement of drug laws. More recent studies suggest that there is indeed an impact of decriminalization, such that “youths living in decriminalized states are significantly more likely to report currently using marijuana.”⁵⁴

Trends in Attitudes and Predicted Responses

- In the twelve-year interval between 1978 and 1990, American young people became much more supportive of legal prohibitions of the use of all *illegal drugs*, whether used in private or in public (see Table 8-5).
- Between 1976 and 1979, seniors' preferences for decriminalization or legalization of *marijuana* remained fairly constant (see Table 8-6); but between 1979 and 1990 the proportion favoring outright legalization dropped by half (from 32% in 1979 to 16% in 1990), while there was a corresponding doubling in the proportion saying marijuana use should be a crime (from 24% to 53%). Also reflecting this increased conservatism about marijuana use, somewhat fewer said they would support legalized *sale* even if *use* were made legal (down from 65% in 1979 to 48% in 1990).

After 1990 these policy attitudes began to soften again. Fewer favored criminal penalties and more favored legal sale (see Table 8-6). For example, in 1996 the proportion saying that using marijuana should be entirely legal was 31%, up from 16% in 1990. As with some other attitudes treated in this volume, there was a leveling in these attitudes by 1997. In 1998, there was some movement in a more conservative direction once again, but not much further change in 1999.

- One thing that has become clear over the past 24 years is that young people's policy preferences regarding the legal status of marijuana and other drugs track rather closely the extent to which they personally disapprove of the use of those drugs *and* the extent to which they are using them.
- The predictions about personal marijuana use, if sale and use were legalized, have been quite similar for all high school classes. The slight shifts being observed are mostly attributable to the changing proportions of seniors who actually use marijuana.

⁵³See Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1981). *Marijuana decriminalization: The impact on youth, 1975-1980* (Monitoring the Future Occasional Paper No. 13). Ann Arbor: Institute for Social Research.

⁵⁴Chaloupka, F. J., Pacula, R. L., Farrelly, M. C., Johnston, L. D., O'Malley, P. M., & Bray, J. W. (February 1999). *Do higher cigarette prices encourage youth to use marijuana?* NBER Working Paper No. 6939.

TABLE 8-1

Trends in Harmfulness of Drugs as Perceived by Eighth, Tenth, and Twelfth Graders, 1991-99

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Percentage saying "great risk"																														
	8th Grade						10th Grade						12th Grade																		
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1991	1992	1993	1994	1995	1996	1997	1998	1999	1991	1992	1993	1994	1995	1996	1997	1998	1999	change			
	'98-'99 change						'98-'99 change						'98-'99 change																		
Try marijuana once or twice	40.4	39.1	36.2	31.6	28.9	27.9	25.3	28.1	28.0	0.0	30.0	31.9	29.7	24.4	21.5	20.0	18.8	19.6	19.2	-0.4	27.1	24.5	21.9	19.5	16.3	15.6	14.9	16.7	15.7	-1.0	
Smoke marijuana occasionally	57.9	56.3	53.8	48.6	45.9	44.3	43.1	45.0	45.7	+0.7	48.6	48.9	46.1	38.9	35.4	32.8	31.9	32.5	33.5	+1.0	40.6	39.6	35.6	30.1	25.6	25.9	24.7	24.4	23.9	-0.5	
Smoke marijuana regularly	83.8	82.0	79.6	74.3	73.0	70.9	72.7	73.0	73.3	+0.3	82.1	81.1	78.5	71.3	67.9	65.9	65.9	65.8	65.9	+0.2	78.6	76.5	72.5	65.0	60.8	59.9	58.1	58.5	57.4	-1.1	
Try inhalants once or twice ^b	35.9	37.0	36.5	37.9	36.4	40.8	40.1	38.9	40.8	+1.9	37.8	38.7	40.9	42.7	41.6	47.2	47.5	45.8	48.2	+2.3s	—	—	—	—	—	—	—	—	—	—	
Try inhalants regularly ^b	65.6	64.4	64.6	65.5	64.8	68.2	68.7	67.2	68.8	+1.6	69.8	67.9	69.6	71.5	71.8	75.8	74.5	73.3	76.3	+3.0ss	—	—	—	—	—	—	—	—	—	—	
Take LSD once or twice ^c	—	—	42.1	38.3	36.7	36.5	37.0	34.9	34.1	-0.8	—	—	48.7	46.5	44.7	45.1	44.5	43.5	45.0	+1.5	46.6	42.3	39.5	38.8	36.4	36.2	34.7	37.4	34.9	-2.5	
Take LSD regularly ^c	—	—	68.3	65.8	64.4	63.6	64.1	59.6	58.8	-0.8	—	—	78.9	75.9	75.5	73.8	72.3	73.9	73.9	+1.6	84.3	81.8	79.4	79.1	78.1	77.8	76.6	76.5	76.1	-0.4	
Try crack once or twice ^b	62.8	61.2	57.2	54.4	50.8	51.0	49.9	49.3	48.7	-0.6	70.4	69.6	66.6	64.7	60.9	60.9	59.2	58.0	57.8	-0.1	60.6	62.4	57.6	58.4	54.6	56.0	54.0	52.2	48.2	-4.0s	
Take crack occasionally ^b	82.2	79.6	76.8	74.4	72.1	71.6	71.2	70.6	70.6	0.0	87.4	86.4	84.4	83.1	81.2	80.3	78.7	77.5	79.1	+1.7	76.5	76.3	73.9	73.8	72.8	71.4	70.3	68.7	67.3	-1.4	
Try cocaine powder once or twice ^b	55.5	54.1	50.7	48.4	44.9	45.2	45.0	44.0	43.3	-0.6	59.1	59.2	57.5	56.4	53.5	53.6	52.2	50.9	51.6	+0.7	53.6	57.1	53.2	55.4	52.0	53.2	51.4	48.5	46.1	-2.4	
Take cocaine powder occasionally ^b	77.0	74.3	71.8	69.1	66.4	65.7	65.8	65.2	65.4	+0.1	82.2	80.1	79.1	77.8	75.6	75.0	73.9	71.8	73.6	+1.8	69.8	70.8	68.6	70.6	69.1	68.8	67.7	65.4	64.2	-1.2	
Try heroin once or twice without using a needle ^c	—	—	—	—	—	60.1	61.3	63.0	63.0	+0.2	—	—	—	—	70.7	72.1	73.1	71.7	73.7	+2.0	—	—	—	—	—	55.6	58.6	60.5	59.6	58.5	-1.1
Take heroin occasionally without using a needle ^c	—	—	—	—	—	76.8	76.6	79.2	79.0	-0.1	—	—	—	—	85.1	85.8	86.5	84.9	86.5	+1.6	—	—	—	—	—	71.2	71.0	74.3	73.4	73.6	+0.2
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	11.0	12.1	12.4	11.6	11.6	11.8	10.4	12.1	11.6	-0.5	9.0	10.1	10.9	9.4	9.3	8.9	9.0	10.1	10.5	+0.4	9.1	8.6	8.2	7.6	5.9	7.3	6.7	8.0	8.3	+0.3	
Take one or two drinks nearly every day	31.8	32.4	32.6	29.9	30.5	28.6	29.1	30.3	29.7	-0.6	36.1	36.8	35.9	32.5	31.7	31.2	31.8	31.9	32.9	+0.9	32.7	30.6	28.2	27.0	24.8	25.1	24.8	24.3	21.8	-2.5	
Have five or more drinks once or twice each weekend	59.1	58.0	57.7	54.7	54.1	51.8	55.6	56.0	55.3	-0.8	54.7	55.9	54.9	52.9	52.0	50.9	51.8	52.5	51.9	-0.6	48.6	49.0	48.3	46.5	45.2	49.5	43.0	42.8	43.1	+0.3	
Smoke one or more packs of cigarettes per day ^d	51.6	50.8	52.7	50.8	49.8	50.4	52.6	54.3	54.8	+0.5	60.3	59.3	60.7	59.0	57.0	57.9	59.9	61.9	62.7	+0.8	69.4	69.2	69.5	67.6	65.6	68.2	68.7	70.8	70.8	0.0	
Use smokeless tobacco regularly	35.1	35.1	36.9	35.5	33.5	34.0	35.2	36.5	37.1	+0.6	40.3	39.6	44.2	42.2	38.2	41.0	42.2	42.8	44.2	+1.4	37.4	35.5	38.9	36.6	33.2	37.4	38.6	40.9	41.1	+0.2	
Take steroids ^e	64.2	69.5	70.2	67.6	—	—	—	—	—	—	67.1	72.7	73.4	72.5	—	—	—	—	—	—	65.6	70.7	69.1	66.1	66.4	67.6	67.2	68.1	62.1	-5.9ss	
Approx. N (in thousands) =	17.4	18.7	18.4	17.4	17.5	17.9	18.8	18.1	16.7		14.7	14.8	15.3	15.9	17.0	15.7	15.6	15.0	13.6		2.5	2.7	2.8	2.6	2.6	2.4	2.6	2.5	2.3		

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 of use estimates for the two years is due to rounding error. SOURCE: The Monitoring the Future Study, the University of Michigan.

^aAnswer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.
^b8th and 10th grade: Beginning in 1997, data based on two-thirds of N indicated due to changes in questionnaire forms.
^c8th and 10th grade: Data based on one of two forms in 1993-96; N is one-half of N indicated. Beginning in 1997, data based on one-third of N indicated due to changes in questionnaire forms.
^d8th and 10th grade: Beginning in 1999, data based on two-thirds of N indicated due to changes in questionnaire forms.
^e8th and 10th grade: Data based on two forms in 1991 and 1992. Data based on one of two forms in 1993 and 1994; N is one-half of N indicated.

TABLE 8-2
Long-Term Trends in Harmfulness of Drugs as Perceived by Twelfth Graders

Q. *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	1991	1992	1993	1994	1995	1996	1997	1998	1999	Class of '98-'99 change		
Try marijuana once or twice	15.1	11.4	9.5	8.1	9.4	10.0	13.0	11.5	12.7	14.7	14.8	15.1	18.4	19.0	23.6	23.1	27.1	24.5	21.9	19.5	16.3	15.6	14.9	16.7	15.7	15.7	-1.0	
Smoke marijuana occasionally	18.1	15.0	13.4	12.4	13.5	14.7	19.1	18.3	20.6	22.6	24.5	25.0	30.4	31.7	36.5	36.9	40.6	39.6	35.6	30.1	25.6	25.9	24.7	24.4	23.9	23.9	-0.5	
Smoke marijuana regularly	43.3	38.6	36.4	34.9	42.0	50.4	57.6	60.4	62.8	66.9	70.4	71.3	73.5	77.0	77.5	77.8	78.6	76.5	72.5	65.0	60.8	59.9	58.1	58.5	57.4	57.4	-1.1	
Try LSD once or twice	49.4	45.7	43.2	42.7	41.6	43.9	45.5	44.9	44.7	45.4	43.5	42.0	44.9	45.7	46.0	44.7	46.6	42.3	39.5	38.8	36.4	36.2	34.7	37.4	34.9	34.9	-2.5	
Take LSD regularly	81.4	80.8	79.1	81.1	82.4	83.0	83.5	83.5	83.2	83.8	82.9	82.6	83.8	84.2	84.3	84.5	84.3	81.8	79.4	79.1	78.1	77.8	76.6	76.6	76.5	76.1	76.1	-0.4
Try PCP once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Try MDMA once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Try cocaine once or twice	42.6	39.1	35.6	33.2	31.5	31.3	32.1	32.8	33.0	35.7	34.0	33.5	47.9	51.2	54.9	59.4	59.4	56.8	57.6	57.2	53.7	54.2	53.6	54.6	52.1	52.1	-2.5	
Take cocaine occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Take cocaine regularly	73.1	72.3	68.2	68.2	69.5	69.2	71.2	73.0	74.3	78.8	79.0	82.2	88.5	89.2	90.2	91.1	90.4	90.2	90.1	89.3	87.9	88.3	87.1	86.3	85.8	85.8	-0.5	
Try crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Take crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Take crack regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Try cocaine powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Take cocaine powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Take cocaine powder regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Try heroin once or twice	60.1	58.9	55.8	52.9	50.4	52.1	52.9	51.1	50.8	49.8	47.3	45.8	53.6	54.0	53.8	55.4	55.2	50.9	50.7	52.8	50.9	52.5	56.7	57.8	56.0	56.0	+0.8	
Take heroin occasionally	75.6	75.6	71.9	71.4	70.9	70.9	72.2	69.8	71.8	70.7	69.8	68.2	74.6	73.8	75.5	76.6	74.9	74.2	72.0	72.1	71.0	74.8	76.3	76.9	77.3	77.3	+0.4	
Take heroin regularly	87.2	88.6	86.1	86.6	87.5	86.2	87.5	86.0	86.1	87.2	86.0	87.1	88.7	88.8	89.5	90.2	89.6	89.2	88.3	88.0	87.2	89.5	88.9	89.1	89.9	89.9	+0.8	
Try amphetamines once or twice	35.4	33.4	30.8	29.9	29.7	29.7	26.4	25.3	24.7	25.4	25.2	25.1	29.1	29.6	32.8	32.2	36.3	32.6	31.3	31.4	28.8	30.8	31.0	35.3	32.2	32.2	-3.1	
Take amphetamines regularly	69.0	67.3	66.6	67.1	69.9	69.1	66.1	64.7	64.8	67.1	67.2	67.3	69.4	69.8	71.2	71.2	74.1	72.4	69.9	67.0	65.9	66.8	66.0	67.7	66.4	66.4	-1.3	
Try crystal meth. (ice) once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Try barbiturates once or twice	34.8	32.5	31.2	31.3	30.7	30.9	28.4	27.5	27.0	27.4	26.1	25.4	30.9	29.7	32.2	32.4	35.1	32.2	29.2	29.9	26.3	29.1	26.9	29.0	26.1	26.1	-3.0	
Take barbiturates regularly	69.1	67.7	68.6	68.4	71.6	72.2	69.9	67.6	67.7	68.5	68.3	67.2	69.4	69.6	70.5	70.2	70.5	70.2	66.1	63.3	61.6	60.4	56.8	56.3	54.1	54.1	-2.3	
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	5.3	4.8	4.1	3.4	4.1	3.8	4.6	3.5	4.2	4.6	5.0	4.6	6.2	6.0	6.0	6.0	8.3	9.1	8.6	8.2	7.6	5.9	7.3	6.7	8.0	8.3	+0.3	
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	32.7	30.6	28.2	27.0	24.8	25.1	24.8	24.3	21.8	21.8	-2.5	
Take four or five drinks nearly every day	63.5	61.0	62.9	63.1	66.2	65.7	64.5	65.5	66.8	68.4	69.8	66.5	69.7	68.5	69.8	70.9	69.5	70.5	67.8	66.2	62.8	65.6	63.0	62.1	61.1	61.1	-1.0	
Have five or more drinks once or twice each weekend	37.8	37.0	34.7	34.5	34.9	35.9	36.3	36.0	38.6	41.7	43.0	39.1	41.9	42.6	44.0	47.1	48.6	49.0	48.3	46.5	45.2	49.5	43.0	42.8	43.1	43.1	+0.3	
Smoke one or more packs of cigarettes per day	51.3	56.4	58.4	59.0	63.0	63.7	63.3	60.5	61.2	63.8	66.5	66.0	68.6	68.0	67.2	68.2	69.4	69.2	69.5	67.6	65.6	68.2	68.7	70.8	70.8	70.8	0.0	
Use smokeless tobacco regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Take steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

Approx. N = 2804 2918 3052 3770 3250 3234 3604 3557 3305 3262 3250 3020 3315 3276 2796 2553 2549 2684 2759 2591 2603 2449 2579 2564 2306

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 of use estimates for the two years is due to rounding error.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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

TABLE 8-3
Trends in Disapproval of Drug Use by Eighth, Tenth, and Twelfth Graders, 1991-99

Q. Do you disapprove of people who ...	Percent who "disapprove" or "strongly disapprove"																														
	8th Grade			10th Grade			12th Grade ^b																								
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1991	1992	1993	1994	1995	1996	1997	1998	1999	1991-99 change	1998-99 change	1999 change										
Try marijuana once or twice	84.6	82.1	79.2	72.9	70.7	67.5	69.0	70.7	+1.8s	74.6	74.8	70.3	62.4	59.8	55.5	54.1	56.0	56.2	+0.2	68.7	69.9	63.3	57.6	56.7	52.5	51.0	48.8	-2.8			
Smoke marijuana occasionally	89.5	88.1	85.7	80.9	79.7	76.5	78.1	78.4	79.3	+0.9	83.7	83.6	79.4	72.3	70.0	66.9	66.2	67.3	68.2	+1.0	79.4	79.7	75.5	68.9	66.7	62.9	63.2	64.4	62.5	-2.0	
Smoke marijuana regularly	92.1	90.8	88.9	85.3	85.1	82.8	84.6	84.5	84.5	-0.1	90.4	90.0	87.4	82.2	81.1	79.7	79.7	80.1	79.8	-0.3	89.3	90.1	87.6	82.3	81.9	80.0	78.8	81.2	78.6	-2.6	
Try inhalants once or twice ^c	84.9	84.0	82.5	81.6	81.8	82.9	84.1	83.0	85.2	+2.2s	85.2	85.6	84.8	84.9	84.5	86.0	86.9	85.6	88.4	+2.8sss	—	—	—	—	—	—	—	—	—		
Take inhalants regularly ^c	90.6	90.0	88.9	88.1	88.8	89.3	90.3	89.5	90.3	+0.8	91.0	91.5	90.9	91.0	90.9	91.7	91.7	91.1	92.4	+1.2s	—	—	—	—	—	—	—	—	—		
Try LSD once or twice ^d	—	—	77.1	75.2	71.6	70.9	72.1	69.1	69.4	+0.3	—	—	82.1	79.3	77.9	76.8	76.6	76.7	77.8	+1.1	90.1	88.1	85.9	82.5	81.1	79.6	80.5	82.1	83.0	+0.9	
Take LSD regularly ^d	—	—	79.8	78.4	75.8	75.3	76.3	72.5	72.5	-0.1	—	—	86.8	85.6	84.8	84.5	83.4	82.9	84.3	+1.4	96.4	95.5	95.8	94.3	92.5	93.2	92.9	93.5	94.3	+0.8	
Try crack once or twice ^c	91.7	90.7	89.1	86.9	85.9	85.0	85.7	85.4	86.0	+0.6	92.5	92.5	91.4	89.9	88.7	88.2	87.4	87.1	87.8	+0.8	92.1	93.1	89.9	89.5	91.4	87.4	87.0	86.7	87.6	+0.9	
Take crack occasionally ^c	93.3	92.5	91.7	89.9	89.8	89.3	90.3	89.5	89.9	+0.4	94.3	94.4	93.6	92.5	91.7	91.9	91.0	90.6	91.5	+0.8	94.2	95.0	92.8	92.8	94.0	91.2	91.3	90.9	92.3	+1.4	
Try cocaine powder once or twice ^c	91.2	89.6	88.5	86.1	85.3	83.9	85.1	84.5	85.2	+0.7	90.8	91.1	90.0	88.1	86.8	86.1	85.1	84.9	86.0	+1.1	88.0	89.4	86.6	87.1	88.3	83.1	83.0	83.1	84.3	+1.2	
Take cocaine powder occasionally ^c	93.1	92.4	91.6	89.7	89.7	88.7	90.1	89.3	89.9	+0.5	94.0	94.0	93.2	92.1	91.4	91.1	90.4	89.7	90.7	+1.0	93.0	93.4	91.2	91.0	92.7	89.7	89.3	88.7	90.0	+1.3	
Try heroin once or twice without using a needle ^d	—	—	—	—	—	—	—	—	—	+0.6	—	—	—	—	—	—	—	—	+0.4	—	—	—	—	—	—	—	—	—	—	—	—
Take heroin occasionally without using a needle ^d	—	—	—	—	—	—	—	—	—	+0.6	—	—	—	—	—	—	—	—	+1.3	—	—	—	—	—	—	—	—	—	—	—	—
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	51.7	52.2	50.9	47.8	48.0	45.5	45.7	47.5	48.3	+0.9	37.6	39.9	38.5	36.5	36.1	34.2	33.7	34.7	35.1	+0.3	29.8	33.0	30.1	28.4	27.3	26.5	26.1	24.5	24.6	+0.1	
Take one or two drinks nearly every day	82.2	81.0	79.6	76.7	75.9	74.1	76.6	76.9	77.0	+0.1	81.7	81.7	78.6	75.2	75.4	73.8	75.4	74.6	75.4	+0.8	76.5	75.9	77.8	73.1	73.3	70.8	70.0	69.4	67.2	-2.2	
Have five or more drinks once or twice each weekend	85.2	83.9	83.3	80.7	80.7	79.1	81.3	81.0	80.3	-0.7	76.7	77.6	74.7	72.3	72.2	70.7	70.2	70.5	69.9	-0.6	67.4	70.7	70.1	65.1	66.7	64.7	65.0	63.8	62.7	-1.1	
Smoke one or more packs of cigarettes per day ^c	82.8	82.3	80.6	78.4	78.6	77.3	80.3	80.0	81.4	+1.4	79.4	77.8	76.5	73.9	73.2	71.6	73.8	75.3	76.1	+0.8	71.4	73.5	70.6	69.8	68.2	67.2	67.1	68.8	69.5	+0.7	
Use smokeless tobacco regularly	79.1	77.2	77.1	75.1	74.0	74.1	76.5	76.3	78.0	+1.8s	75.4	74.6	73.8	71.2	71.0	71.0	72.3	73.2	75.1	+1.8s	—	—	—	—	—	—	—	—	—	—	
Take steroids ^f	89.8	90.3	89.9	87.9	—	—	—	—	—	—	90.0	91.0	91.2	90.8	—	—	—	—	—	—	90.5	92.1	92.1	91.9	91.0	91.7	91.4	90.8	88.9	-1.9	
Approx. N (in thousands) =	17.4	18.5	18.4	17.4	17.6	18.0	18.8	18.1	16.7	14.8	14.8	15.3	15.9	17.0	15.7	15.6	15.0	13.6	—	—	2.5	2.6	2.7	2.6	2.6	2.4	2.6	2.5	2.3		

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 of use estimates for the two years is due to rounding error. SOURCE: The Monitoring the Future Study, the University of Michigan.

^aAnswer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. For 8th and 10th grades, there was another category—"Can't say, drug unfamiliar"—which was included in the calculation of these percentages.
^bThe twelfth-grade questions ask about people who are 18 or older.
^c8th and 10th grade: Data based on one of two forms in 1993-96; N is one-half of N indicated due to changes in questionnaire forms.
^d8th and 10th grade: Data based on one of two forms in 1993-96; N is one-half of N indicated. Beginning in 1997, data based on one-third of N indicated due to changes in questionnaire forms.
^e8th and 10th grade: Data based on two-thirds of N indicated due to changes in questionnaire forms.
^f8th and 10th grade: Data based on two forms in 1991 and 1992 and on one of two forms in 1993 and 1994; N is one-half of N indicated.

TABLE 8-4
Long-Term Trends in Disapproval of Drug Use by Twelfth Graders

Q.	Do you disapprove of people (who are 18 or older) doing each of the following?	Percentage "disapproving" ^b																									
		1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Class of 98-99
	Try marijuana once or twice	47.0	38.4	33.4	33.4	34.2	39.0	40.0	45.5	46.3	49.3	51.4	54.6	56.6	60.8	64.6	67.8	68.7	69.9	63.3	57.6	56.7	52.5	51.0	51.6	48.8	-2.8
	Smoke marijuana occasionally	54.8	47.8	44.3	43.5	45.3	49.7	52.6	59.1	60.7	63.5	65.8	69.0	71.6	74.0	77.2	80.5	79.4	79.7	75.5	68.9	66.7	62.9	63.2	64.4	62.5	-2.0
	Smoke marijuana regularly	71.9	69.5	65.5	67.5	69.2	74.6	77.4	80.6	82.5	84.7	85.5	86.6	89.2	89.3	89.8	91.0	89.3	90.1	87.6	82.3	81.9	80.0	78.8	81.2	78.6	-2.6
	Try LSD once or twice	82.8	84.6	83.9	85.4	86.6	87.3	86.4	88.8	89.1	88.9	89.5	89.2	91.6	89.8	89.7	89.8	90.1	88.1	85.9	82.5	81.1	79.6	80.5	82.1	83.0	+0.9
	Take LSD regularly	94.1	95.3	95.8	96.4	96.9	96.7	96.8	96.7	97.0	96.8	97.0	96.6	97.8	96.4	96.4	96.3	96.4	95.5	95.8	94.3	92.5	93.2	92.9	93.5	94.3	+0.8
	Try MDMA once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-0.4
	Try cocaine once or twice	81.3	82.4	79.1	77.0	74.7	76.3	74.6	76.6	77.0	79.7	79.3	80.2	87.3	89.1	90.5	91.5	93.6	93.0	92.7	91.6	90.3	90.0	88.0	89.5	89.1	-0.4
	Take cocaine regularly	93.3	93.9	92.1	91.9	90.8	91.1	90.7	91.5	93.2	94.5	93.8	94.3	96.7	96.2	96.4	96.7	97.3	96.9	97.5	96.6	96.1	95.6	96.0	95.6	94.9	-0.6
	Try crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+0.9
	Take crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+1.4
	Take crack regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+1.3
	Try cocaine powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+1.2
	Take cocaine powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+1.3
	Take cocaine powder regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+1.2
	Try heroin once or twice	91.5	92.6	92.5	92.0	93.4	93.5	93.5	94.6	94.3	94.0	94.0	93.3	96.2	95.0	95.4	95.1	96.0	94.9	94.4	93.2	92.8	92.1	92.3	93.7	93.5	-0.2
	Take heroin occasionally	94.8	96.0	96.0	96.4	96.8	96.7	97.2	96.9	96.9	97.1	96.8	96.6	97.9	96.9	97.2	96.7	97.3	96.8	97.0	96.2	95.7	95.0	95.4	96.1	95.7	-0.4
	Take heroin regularly	96.7	97.5	97.2	97.8	97.9	97.6	97.8	97.5	97.7	98.0	97.6	97.6	98.1	97.2	97.4	97.5	97.8	97.2	97.5	97.1	96.4	96.3	96.4	96.6	96.4	-0.3
	Try amphetamines once or twice	74.8	75.1	74.2	74.8	75.1	75.4	71.1	72.6	72.3	72.8	74.9	76.5	80.7	82.5	83.3	85.3	86.5	86.9	84.2	81.3	82.2	79.9	81.3	82.5	81.9	-0.6
	Take amphetamines regularly	92.1	92.8	92.5	93.5	94.4	93.0	91.7	92.0	92.6	93.6	93.3	93.5	95.4	94.2	94.2	95.5	96.0	95.6	96.0	94.1	94.3	93.5	94.3	94.0	93.7	-0.2
	Try barbiturates once or twice	77.7	81.3	81.1	82.4	84.0	83.9	82.4	84.4	83.1	84.1	84.9	86.8	89.6	89.4	89.3	90.5	90.6	90.3	89.7	87.5	87.3	84.9	86.4	86.0	86.6	+0.6
	Take barbiturates regularly	93.3	93.6	93.0	94.3	95.2	95.4	94.2	94.4	95.1	95.1	95.5	94.9	96.4	95.3	95.3	96.4	97.1	96.5	97.0	96.1	95.2	94.8	95.3	94.6	94.7	0.0
	Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	21.6	18.2	15.6	15.6	16.0	17.2	18.2	18.4	17.4	20.3	20.9	21.4	22.6	27.3	29.4	29.8	33.0	30.1	28.4	27.3	26.5	26.1	24.5	24.6	+0.1	
	Take one or two drinks nearly every day	67.6	68.9	66.8	67.7	68.3	69.0	69.1	69.9	68.9	72.9	70.9	72.8	74.2	75.0	76.5	77.9	76.5	75.9	77.8	73.1	73.3	70.8	70.0	69.4	67.2	-2.2
	Take four or five drinks nearly every day	88.7	90.7	88.4	90.2	91.7	90.8	91.8	90.9	90.0	91.0	92.0	91.4	92.2	92.8	91.6	91.9	90.6	90.8	90.6	89.8	88.8	89.4	88.6	86.7	86.9	+0.2
	Have five or more drinks once or twice each weekend	60.3	58.6	57.4	56.2	56.7	55.6	55.5	58.8	56.6	59.6	60.4	62.4	62.0	65.3	66.5	68.9	67.4	70.7	70.1	65.1	66.7	64.7	65.0	63.8	62.7	-1.1
	Smoke one or more packs of cigarettes per day	67.5	65.9	66.4	67.0	70.3	70.8	69.9	69.4	70.8	73.0	72.3	75.4	74.3	73.1	72.4	72.8	71.4	73.5	70.6	69.8	68.2	67.2	67.1	68.8	69.5	+0.7
	Take steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-1.9

Approx. N = 2677 2957 3085 3686 3221 3261 3610 3651 3341 3254 3265 3113 3302 3311 2799 2566 2547 2645 2723 2588 2603 2399 2601 2545 2310

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 of use estimates for the two years is due to rounding error.
 SOURCE: The Monitoring the Future Study, the University of Michigan.
 *The 1975 question asked about people who are "20 or older."
 bAnswer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

TABLE 8-5
Trends in Twelfth Graders' Attitudes Regarding Legality of Drug Use

Q. Do you think that people (who are 18 or older) should be prohibited by law from doing each of the following? ^a	Percent saying "yes" ^b																										
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change of '98-'99	
Smoke marijuana in private	32.8	27.5	26.8	25.4	28.0	28.9	35.4	36.6	37.8	41.6	44.7	43.8	47.6	51.8	51.5	56.0	51.6	52.4	48.0	42.9	44.0	40.4	38.8	39.8	39.3	-0.5	
Smoke marijuana in public places	63.1	59.1	58.7	59.5	61.8	66.1	67.4	72.8	73.6	75.2	78.2	78.9	79.7	81.3	80.0	81.9	79.8	78.3	77.3	72.5	72.9	70.0	69.4	72.2	71.5	-0.6	
Take LSD in private	67.2	65.1	63.3	62.7	62.4	65.8	62.6	67.1	66.7	67.9	70.6	69.0	70.8	71.5	71.6	72.9	68.1	67.2	63.5	63.2	64.3	62.0	61.2	64.7	62.6	-2.1	
Take LSD in public places	85.8	81.9	79.3	80.7	81.5	82.8	80.7	82.1	82.8	82.4	84.8	84.9	85.2	86.0	84.4	84.9	83.9	82.2	82.1	80.5	81.5	79.2	80.3	82.7	80.4	-2.3	
Take heroin in private	76.3	72.4	69.2	68.8	68.5	70.3	68.8	69.3	69.7	69.8	73.3	71.7	75.0	74.2	74.4	76.4	72.8	71.4	70.7	70.1	72.2	70.8	70.6	73.9	72.9	-1.0	
Take heroin in public places	90.1	84.8	81.0	82.5	84.0	83.8	82.4	82.5	83.7	83.4	85.8	85.0	86.2	86.6	85.2	86.7	85.4	83.3	84.5	82.9	84.8	82.3	84.3	86.4	84.2	-2.2	
Take amphetamines or barbiturates in private	57.2	53.5	52.8	52.2	53.4	54.1	52.0	53.5	52.8	54.4	56.3	56.8	59.1	60.2	61.1	64.5	59.7	60.5	57.4	55.7	57.5	54.6	54.6	58.5	55.1	-3.4	
Take amphetamines or barbiturates in public places	79.6	76.1	73.7	75.8	77.3	76.1	74.2	75.5	76.7	76.8	78.3	79.1	79.8	80.2	79.2	81.6	79.7	78.5	78.0	76.4	77.6	74.3	76.5	77.4	76.1	-1.3	
Get drunk in private	14.1	15.6	18.6	17.4	16.8	16.7	19.6	19.4	19.9	19.7	19.8	18.5	18.6	19.2	20.2	23.0	22.0	24.4	22.1	21.0	21.6	21.4	20.5	20.2	20.5	+0.3	
Get drunk in public places	55.7	50.7	49.0	50.3	50.4	48.3	49.1	50.7	52.2	51.1	53.1	52.2	53.2	53.8	52.6	54.6	54.3	54.1	53.6	54.3	54.5	52.8	51.7	51.2	52.8	+1.7	
Smoke cigarettes in certain specified public places	—	—	—	42.0	42.2	43.1	42.8	43.0	42.0	40.5	39.2	42.8	45.1	44.4	48.4	44.5	47.3	44.9	47.6	45.9	47.3	45.1	43.4	41.3	41.1	43.2	+2.1

Approx. N = 2620 2959 3113 3783 3288 3224 3611 3627 3315 3236 3254 3074 3332 3288 2813 2571 2512 2671 2759 2603 2578 2422 2587 2563 2283

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 of use estimates for the two years is due to rounding error.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aThe 1975 question asked about people who are "20 or older."
^bAnswer alternatives were: (1) No, (2) Not sure, and (3) Yes.

TABLE 8-6

Trends in Twelfth Graders' Attitudes Regarding Marijuana Laws

(Entries are percentages)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
Q. <i>There has been a great deal of public debate about whether marijuana use should be legal. Which of the following policies would you favor?</i>	27.3	32.6	33.6	32.9	32.1	26.3	23.1	20.0	18.9	18.6	16.6	14.9	15.4	15.1	16.6	15.9	18.0	18.7	22.8	26.8	30.4	31.2	30.8	27.9	27.3	
Using marijuana should be entirely legal																										
It should be a minor violation like a parking ticket but not a crime	25.3	29.0	31.4	30.2	30.1	30.9	29.3	28.2	26.3	23.6	25.7	25.9	24.6	21.9	18.9	17.4	19.2	18.0	18.7	19.0	18.0	21.0	20.7	24.3	23.7	
It should be a crime	30.5	25.4	21.7	22.2	24.0	26.4	32.1	34.7	36.7	40.6	40.8	42.5	45.3	49.2	50.0	53.2	48.6	47.6	43.4	39.4	37.3	33.8	34.0	32.6	32.5	
Don't know	16.8	13.0	13.4	14.6	13.8	16.4	15.4	17.1	18.1	17.2	16.9	16.7	14.8	13.9	14.6	13.6	14.3	15.7	15.1	14.8	14.4	13.9	14.5	15.2	16.5	
Q. <i>If it were legal for people to USE marijuana, should it also be legal to SELL marijuana?</i>	27.8	23.0	22.5	21.8	22.9	25.0	27.7	29.3	27.4	30.9	32.6	33.0	36.0	36.8	38.8	40.1	36.8	37.8	36.7	33.1	32.3	29.4	29.1	30.2	30.2	
No	37.1	49.8	52.1	53.6	53.2	51.8	48.6	46.2	47.6	45.8	43.2	42.2	41.2	39.9	37.9	38.8	41.4	39.5	40.7	41.7	43.4	46.7	44.8	42.4	42.9	
Yes, but only to adults	16.2	13.3	12.7	12.0	11.3	9.6	10.5	10.7	10.5	10.6	11.2	10.4	9.2	10.5	9.2	9.6	9.4	9.6	10.1	11.6	11.7	11.1	12.5	11.9	12.1	
Yes, to anyone	18.9	13.9	12.7	12.6	12.6	13.6	13.2	13.8	14.6	12.8	13.1	14.4	13.6	12.8	14.1	11.6	12.5	13.1	12.5	13.7	12.6	12.8	13.7	15.5	14.7	
Don't know																										
Q. <i>If marijuana were legal to use and legally available, which of the following would you be most likely to do?</i>	53.2	50.4	50.6	46.4	50.2	53.3	55.2	60.0	60.1	62.0	63.0	62.4	64.9	69.0	70.1	72.9	70.7	72.5	69.0	64.6	60.2	59.9	56.4	58.3	59.0	
Not use it, even if it were legal and available	8.2	8.1	7.0	7.1	6.1	6.8	6.0	6.3	7.2	6.6	7.5	7.6	7.3	7.1	6.7	7.0	6.3	7.4	7.3	7.6	8.8	8.8	9.1	8.1	9.3	
Try it	22.7	24.7	26.8	30.9	29.1	27.3	24.8	21.7	19.8	19.1	17.7	16.8	16.2	13.1	13.0	10.1	11.7	10.2	11.9	14.3	17.1	17.3	18.4	17.9	15.2	
Use it about as often as I do now	6.0	7.1	7.4	6.3	6.0	4.2	4.7	3.8	4.9	4.7	3.7	5.0	4.1	4.3	2.4	2.7	3.3	3.2	3.5	4.7	4.9	4.8	6.1	5.9	6.5	
Use it more often than I do now	1.3	1.5	1.5	2.7	2.5	2.6	2.5	2.2	1.5	1.6	1.6	2.0	1.3	1.5	2.1	1.1	1.6	1.0	1.4	1.5	1.6	1.6	2.0	2.0	1.9	
Use it less often than I do now	8.5	8.1	6.6	6.7	6.1	5.9	6.9	6.0	6.4	6.0	6.5	6.1	6.3	5.0	5.7	6.1	6.4	5.7	7.0	7.3	7.4	7.7	7.9	7.8	8.1	
Don't know																										

Approx. N = 2600 2970 3110 3710 3280 3210 3600 3620 3300 3220 3080 3330 3277 2812 2570 2515 2672 2768 2597 2574 2426 2585 2566 2285

SOURCE: The Monitoring the Future Study, the University of Michigan.

FIGURE 8-1a

**Trends in Perceived Harmfulness of Marijuana Use
for Eighth, Tenth and Twelfth Graders**

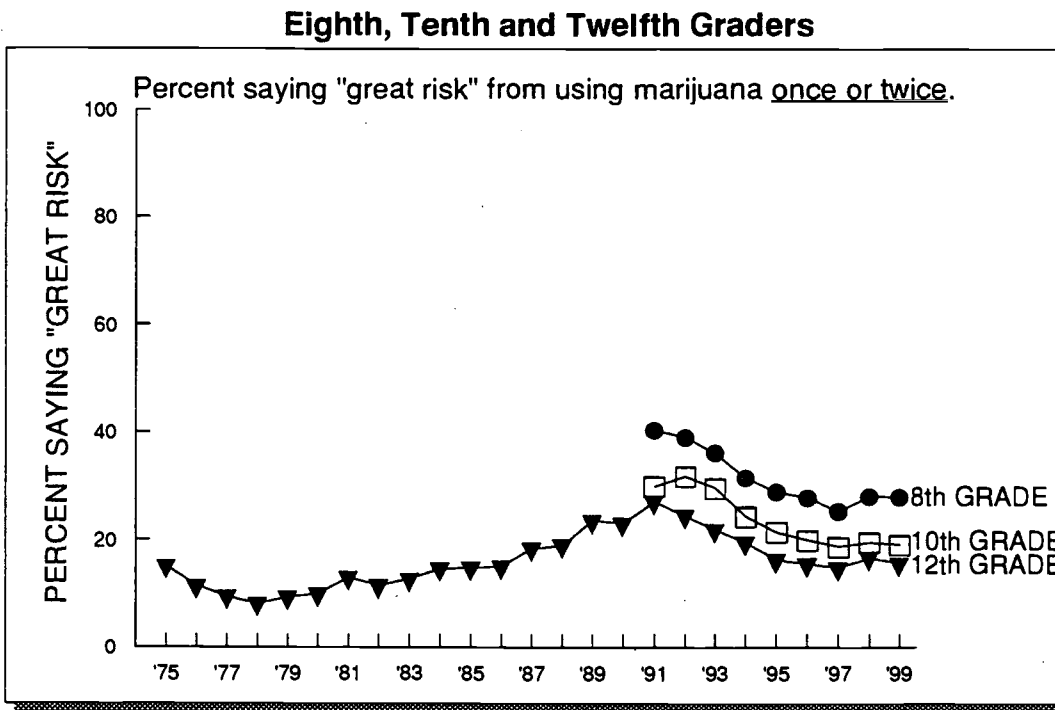
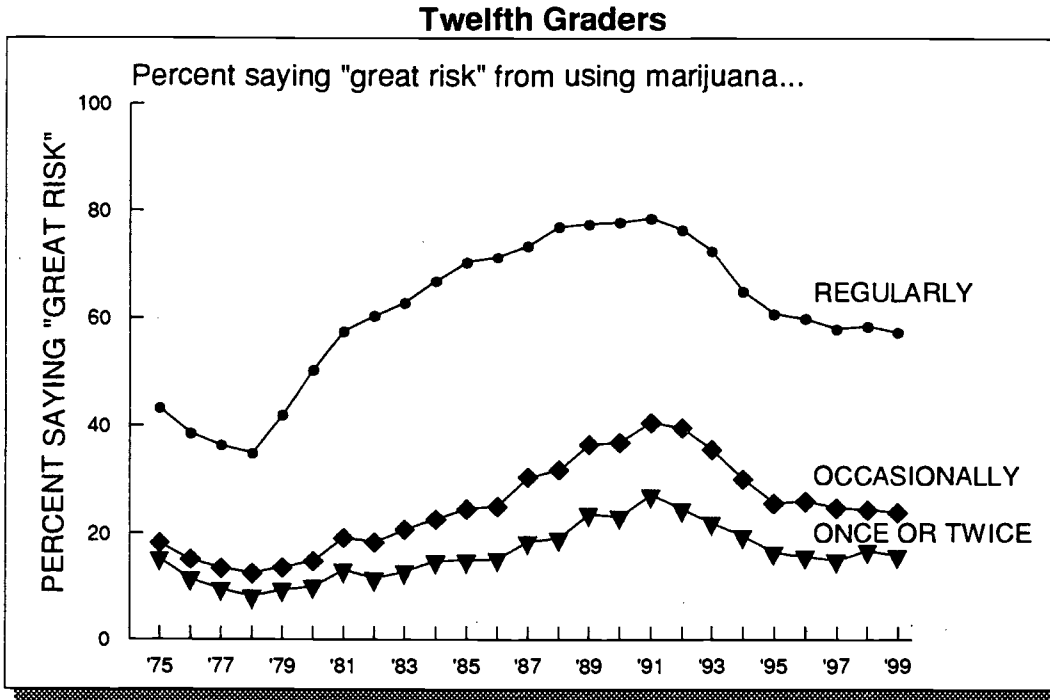
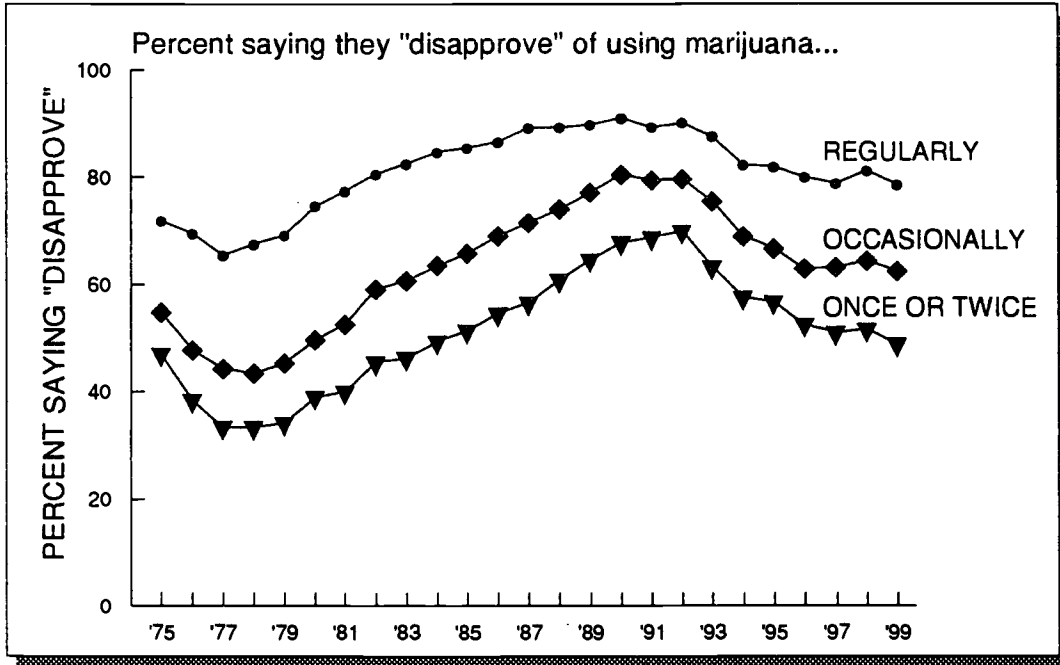


FIGURE 8-1b

**Trends in Disapproval of Marijuana Use
for Eighth, Tenth and Twelfth Graders**

Twelfth Graders



Eighth, Tenth and Twelfth Graders

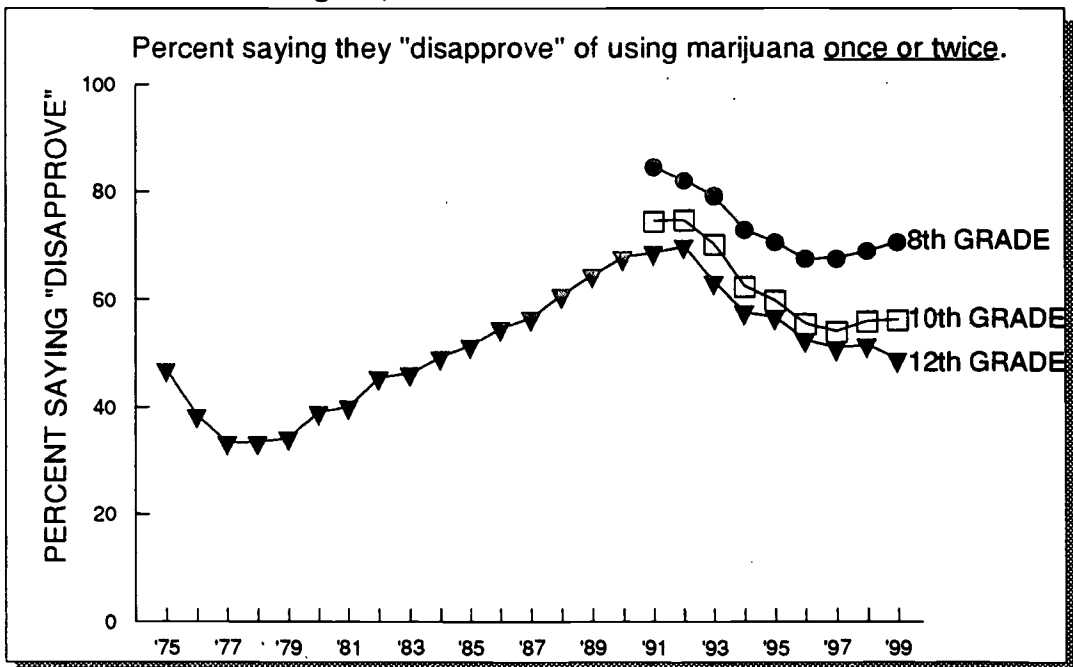
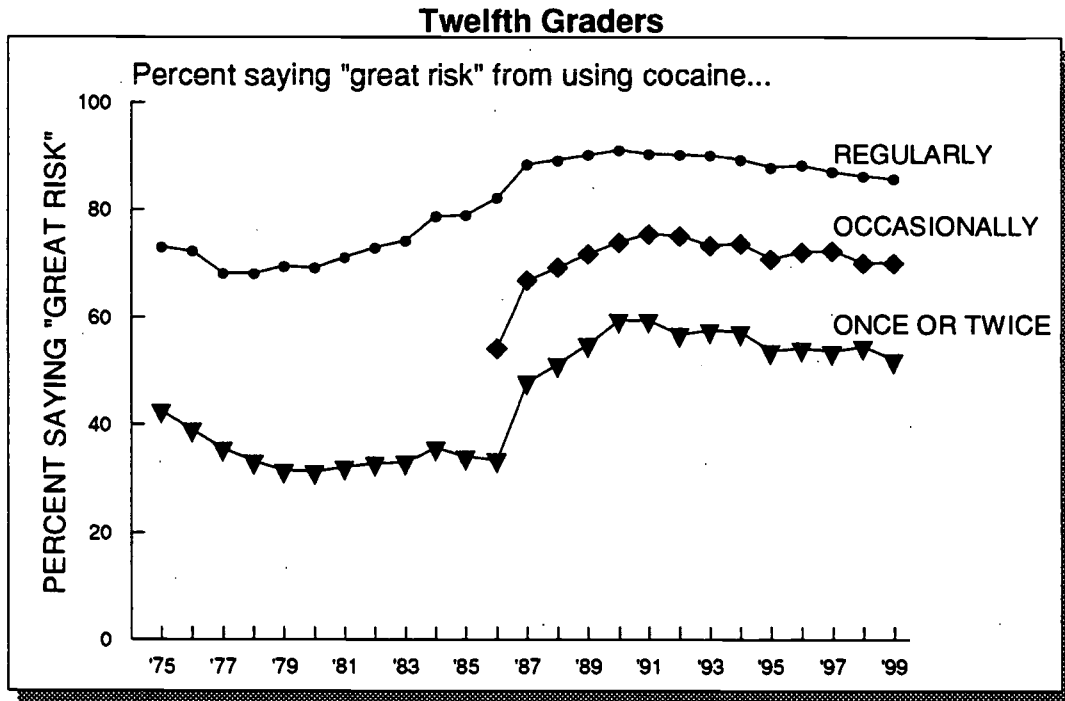


FIGURE 8-2a

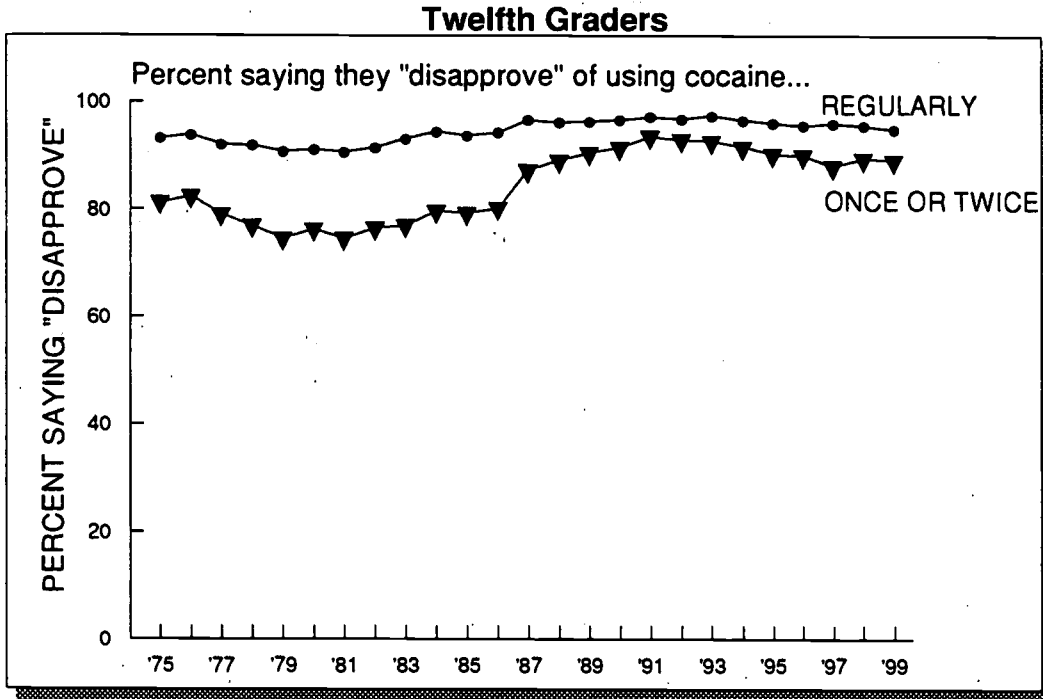
**Trends in Perceived Harmfulness of Cocaine Use
for Twelfth Graders**



NOTE: Data not available for Eighth and Tenth graders.

FIGURE 8-2b

Trends in Disapproval of Cocaine Use
for Twelfth Graders

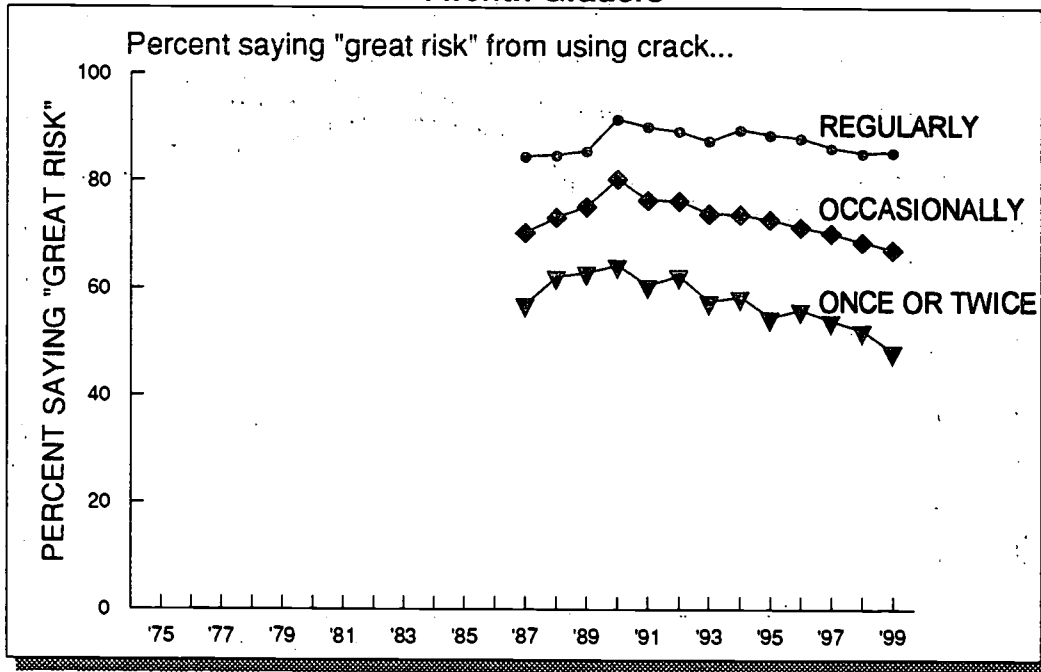


NOTE: Data not available for Eighth and Tenth graders.

FIGURE 8-3a

**Trends in Perceived Harmfulness of Crack Use
for Eighth, Tenth and Twelfth Graders**

Twelfth Graders



Eighth, Tenth and Twelfth Graders

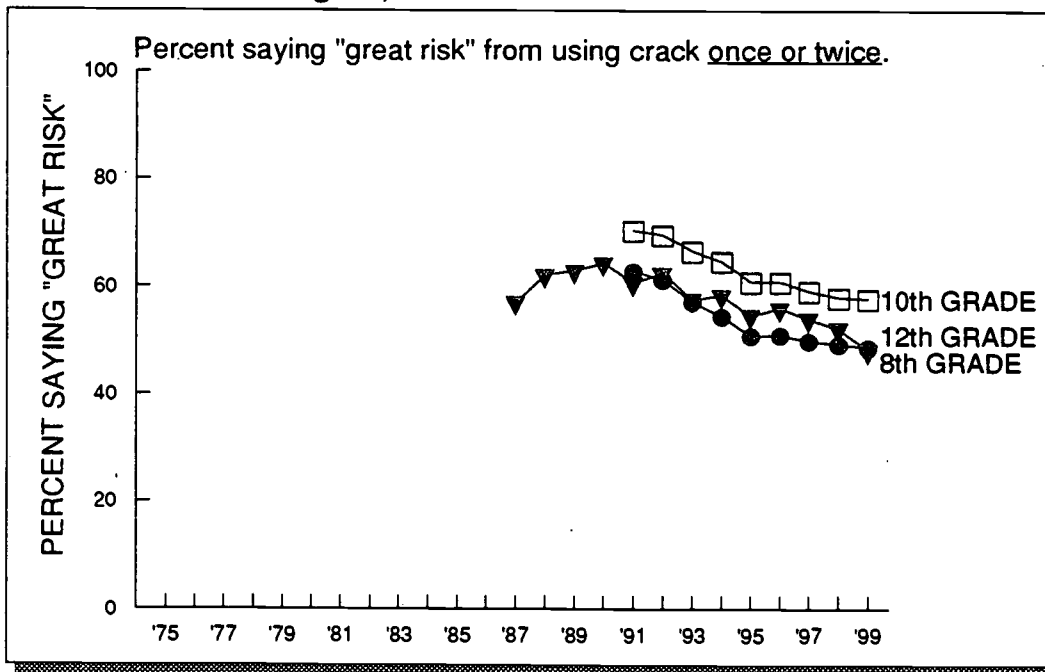
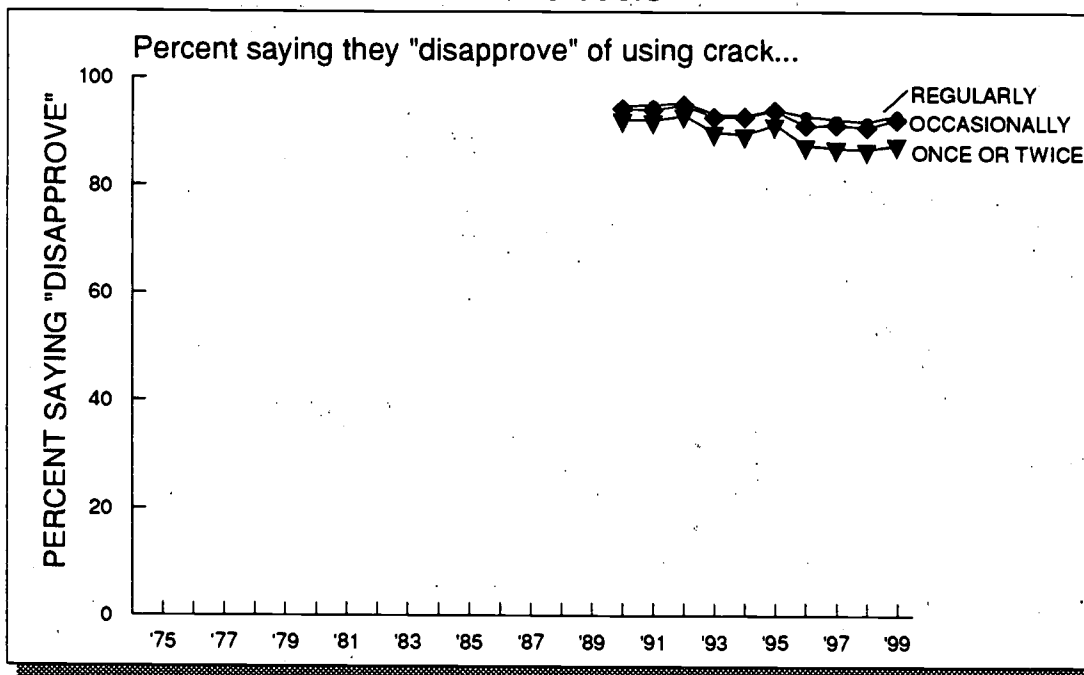


FIGURE 8-3b

Trends in Disapproval of Crack Use
for Eighth, Tenth and Twelfth Graders

Twelfth Graders



Eighth, Tenth and Twelfth Graders

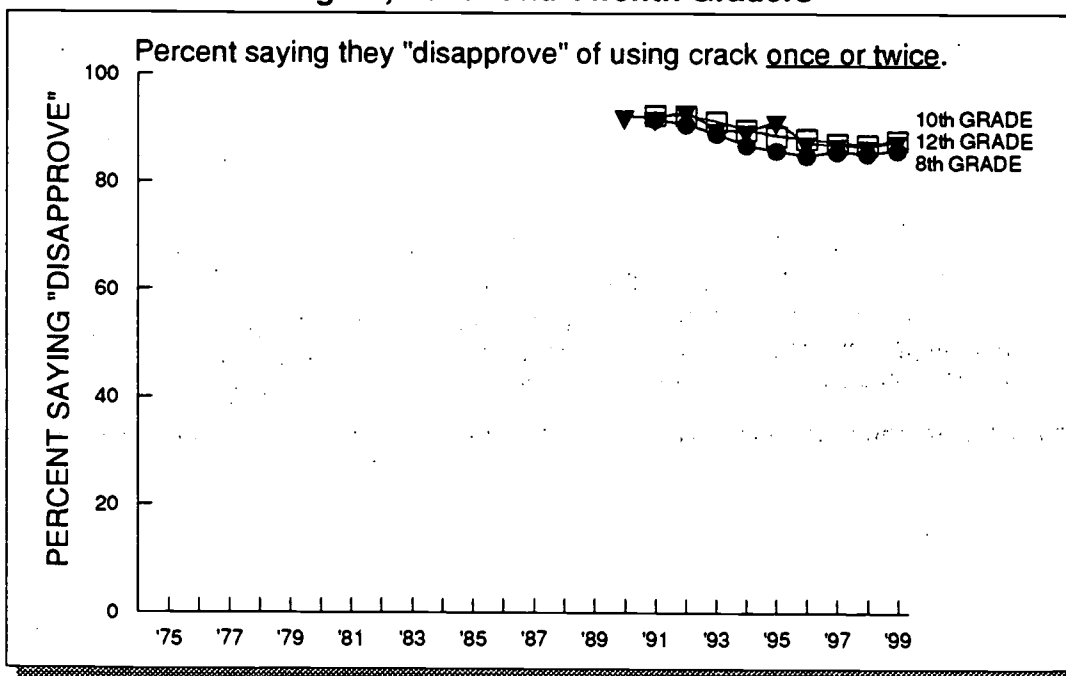


FIGURE 8-4

**Marijuana: Trends in Perceived Availability,
Perceived Risk of Regular Use, and
Prevalence of Use in Past Thirty Days for Twelfth Graders**

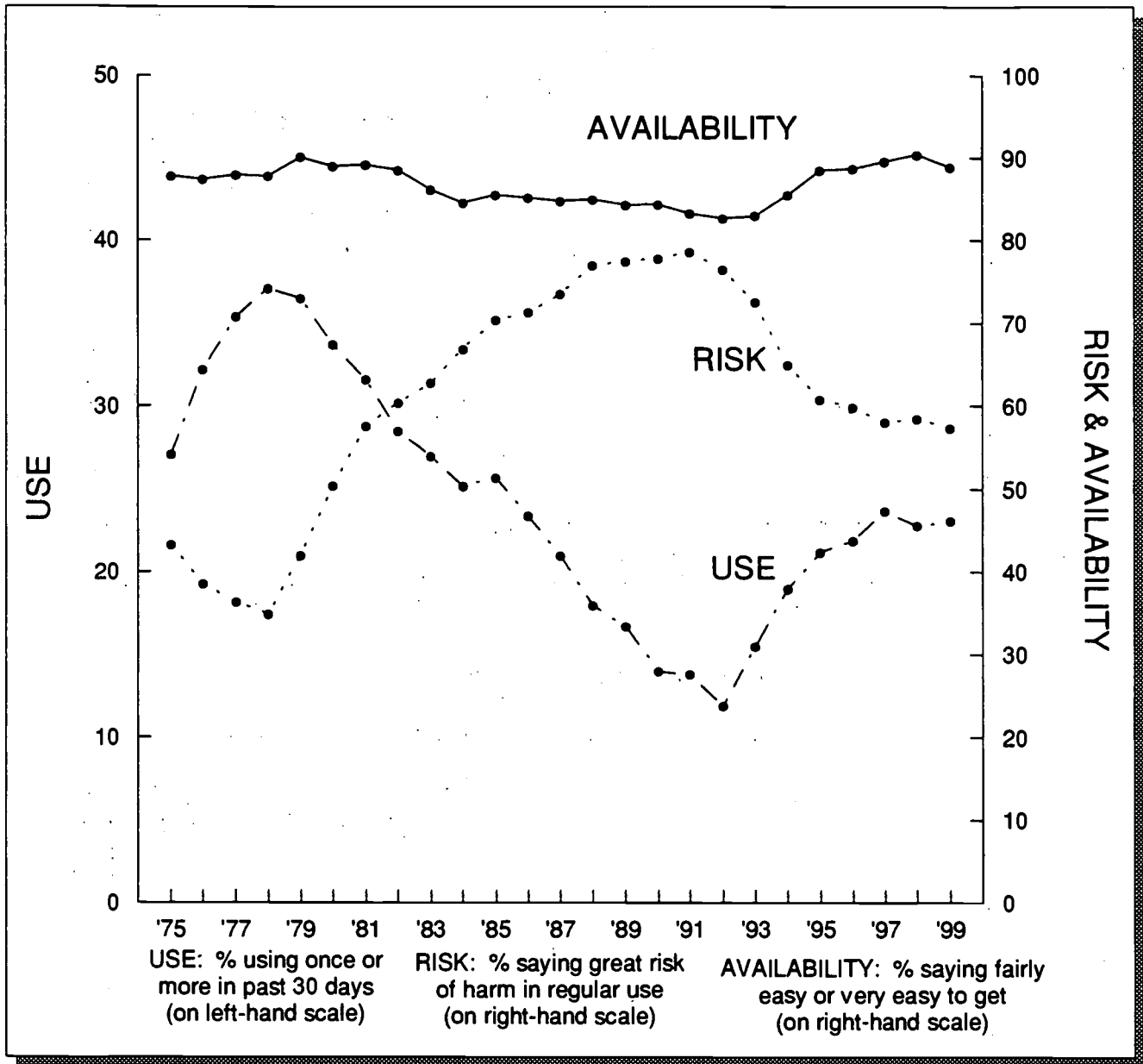


FIGURE 8-5

**Cocaine: Trends in Perceived Availability,
Perceived Risk of Trying, and
Prevalence of Use in Past Year for Twelfth Graders**

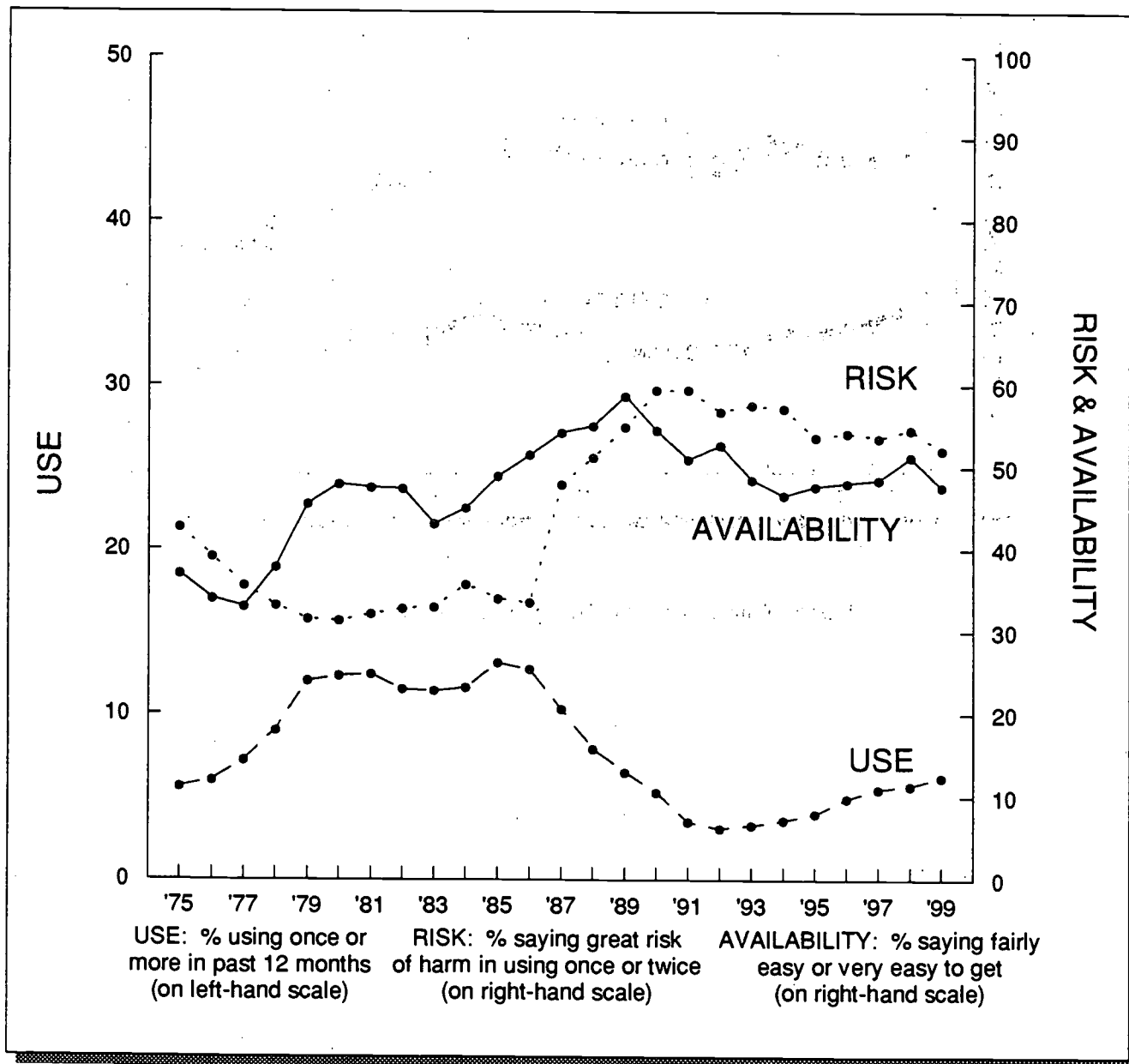
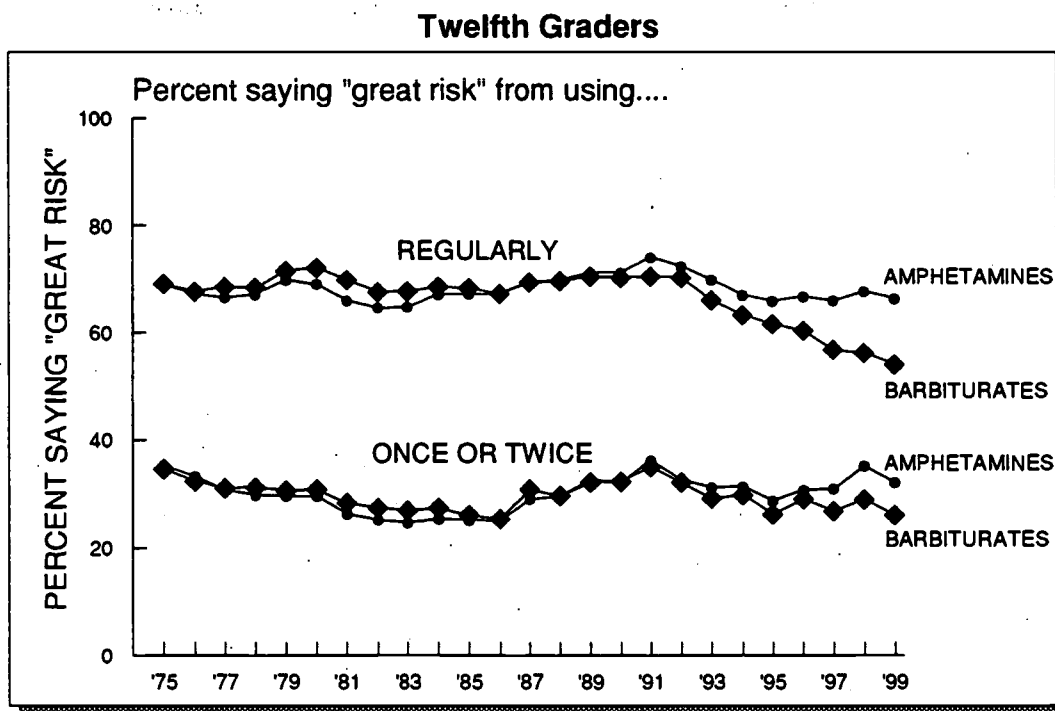


FIGURE 8-6a

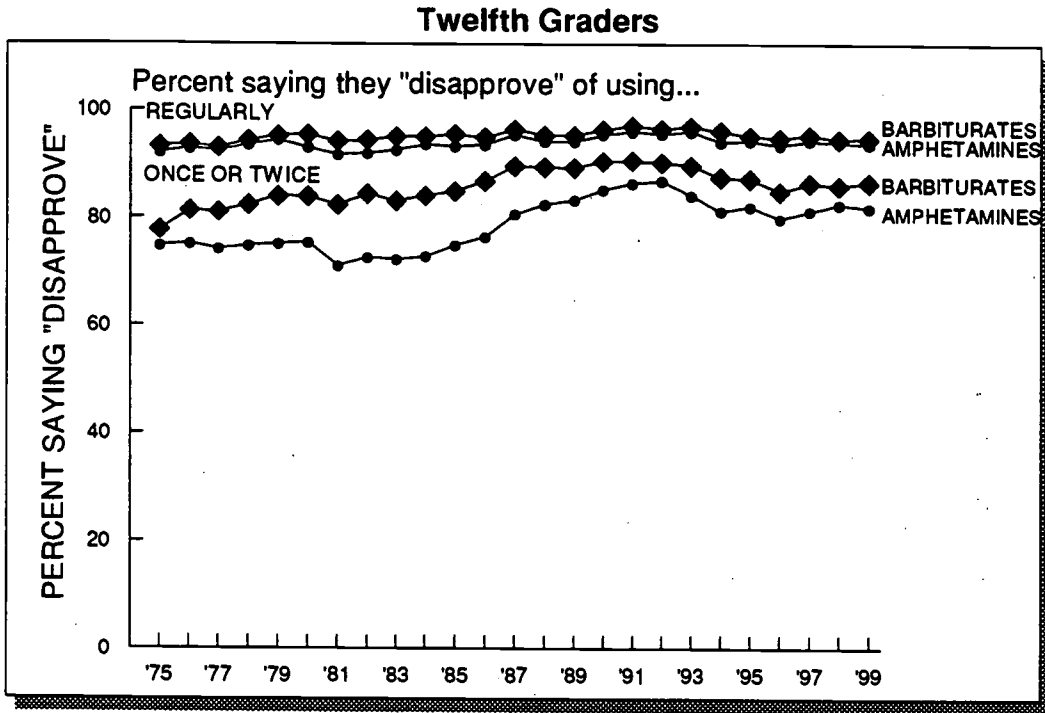
Trends in Perceived Harmfulness of Amphetamine and Barbiturate Use
for Twelfth Graders



NOTE: Data not available for Eighth and Tenth graders.

FIGURE 8-6b

Trends in Disapproval of Amphetamine and Barbiturate Use
for Twelfth Graders

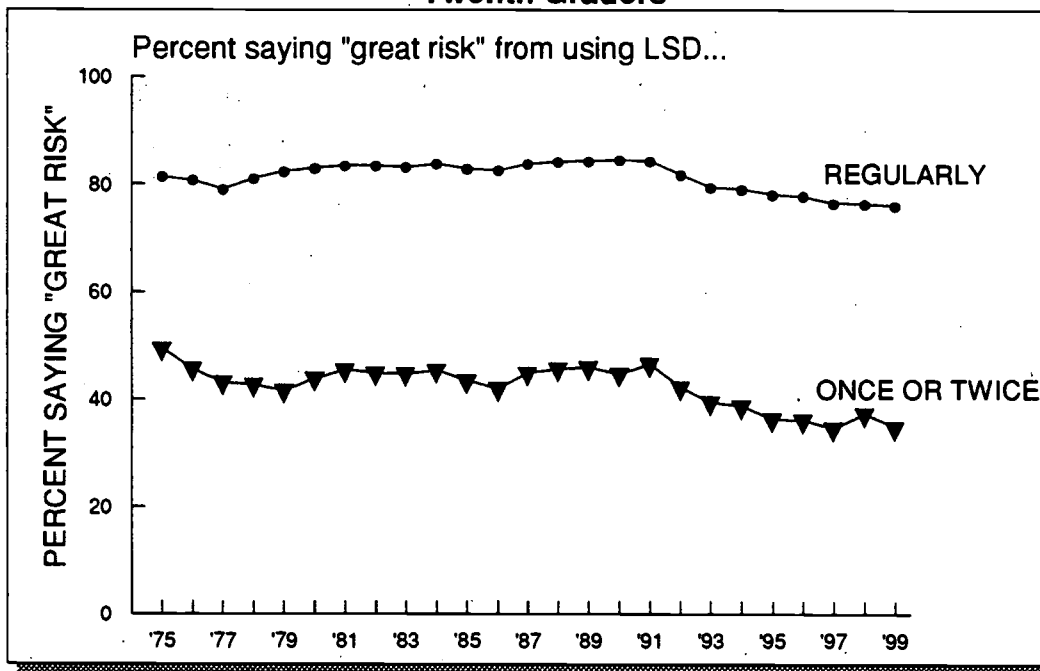


NOTE: Data not available for Eighth and Tenth graders.

FIGURE 8-7a

Trends in Perceived Harmfulness of LSD Use
for Eighth, Tenth and Twelfth Graders

Twelfth Graders



Eighth, Tenth and Twelfth Graders

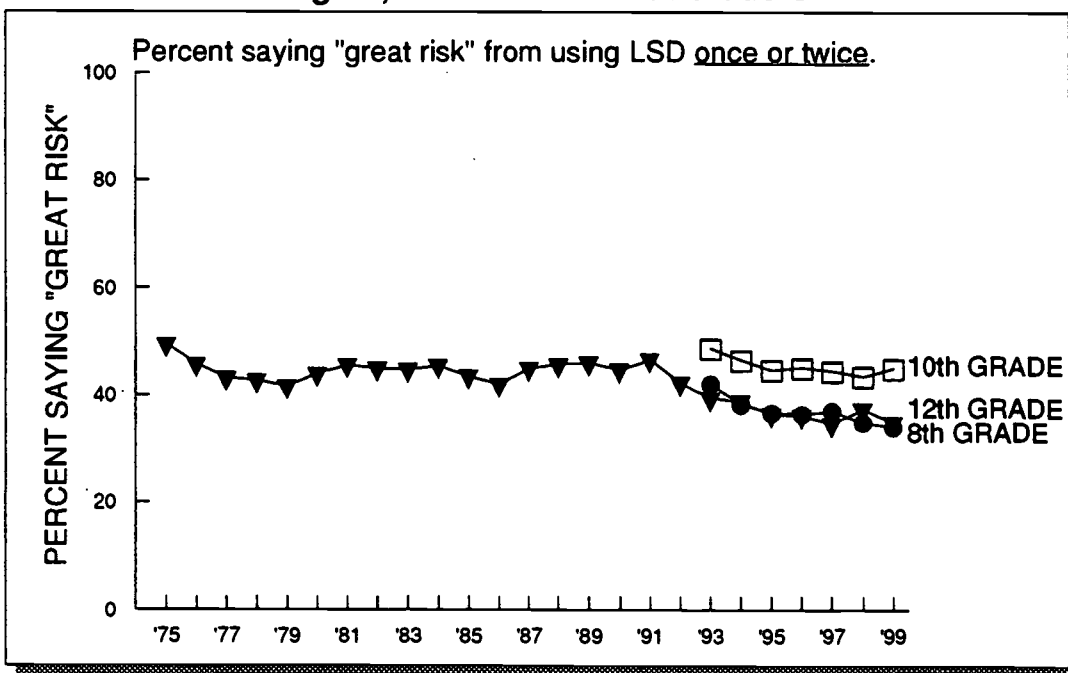
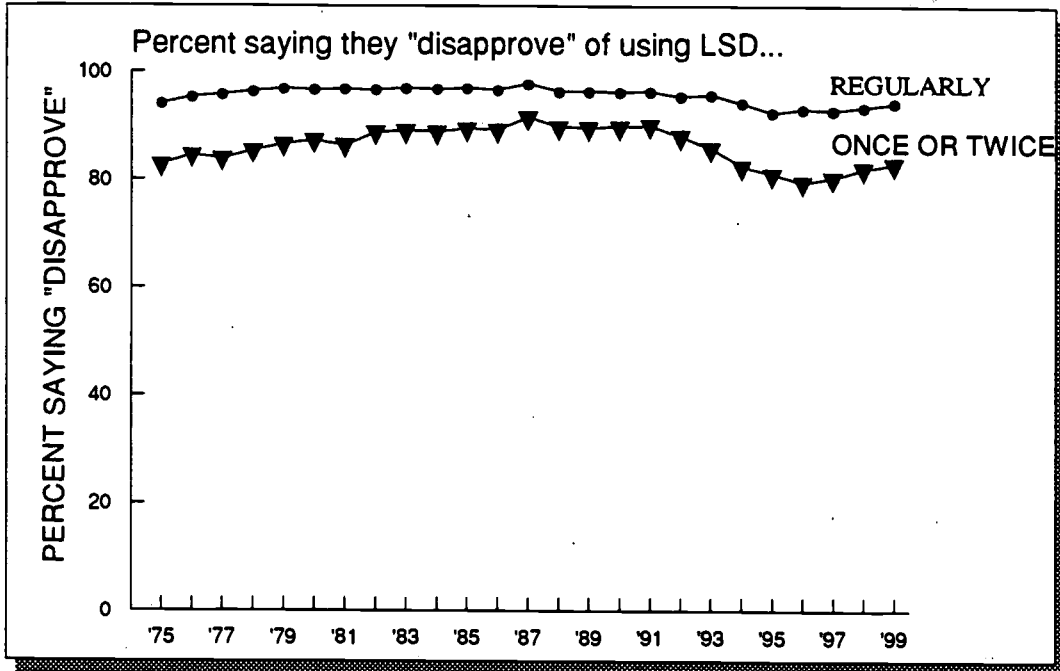


FIGURE 8-7b

Trends in Disapproval of LSD Use
for Eighth, Tenth and Twelfth Graders

Twelfth Graders



Eighth, Tenth and Twelfth Graders

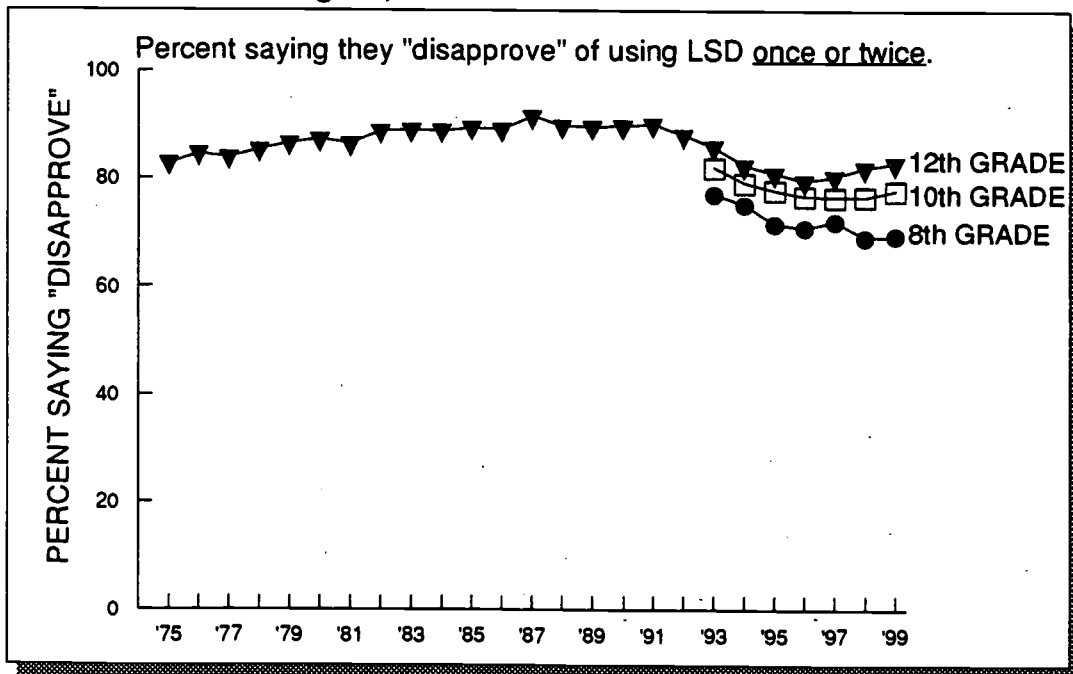
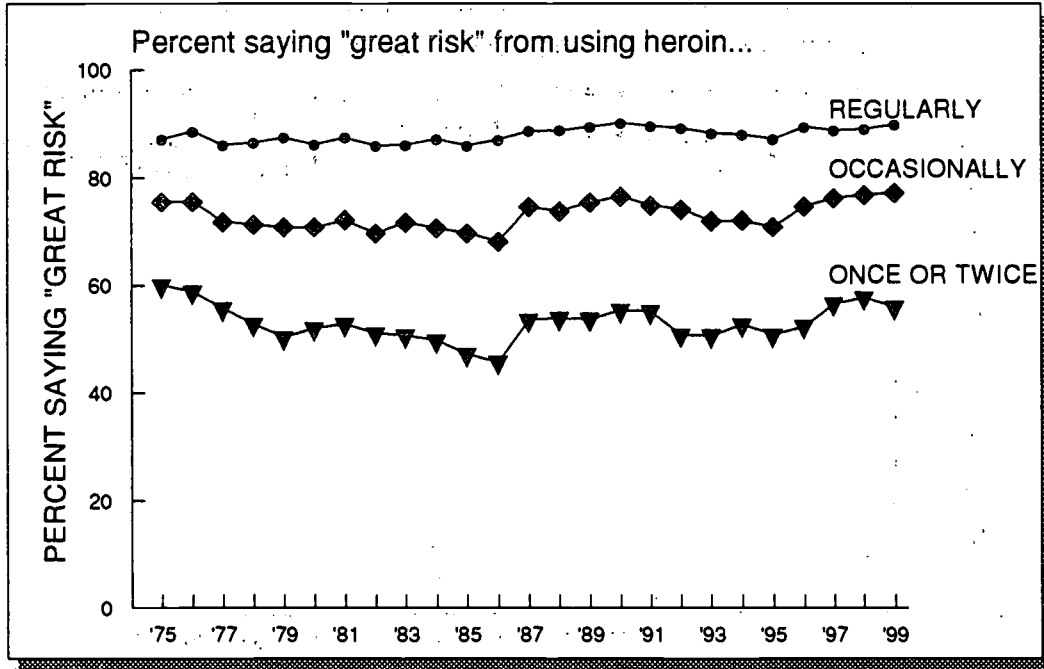


FIGURE 8-8a

Trends in Perceived Harmfulness of Heroin Use
for Twelfth Graders

Twelfth Graders

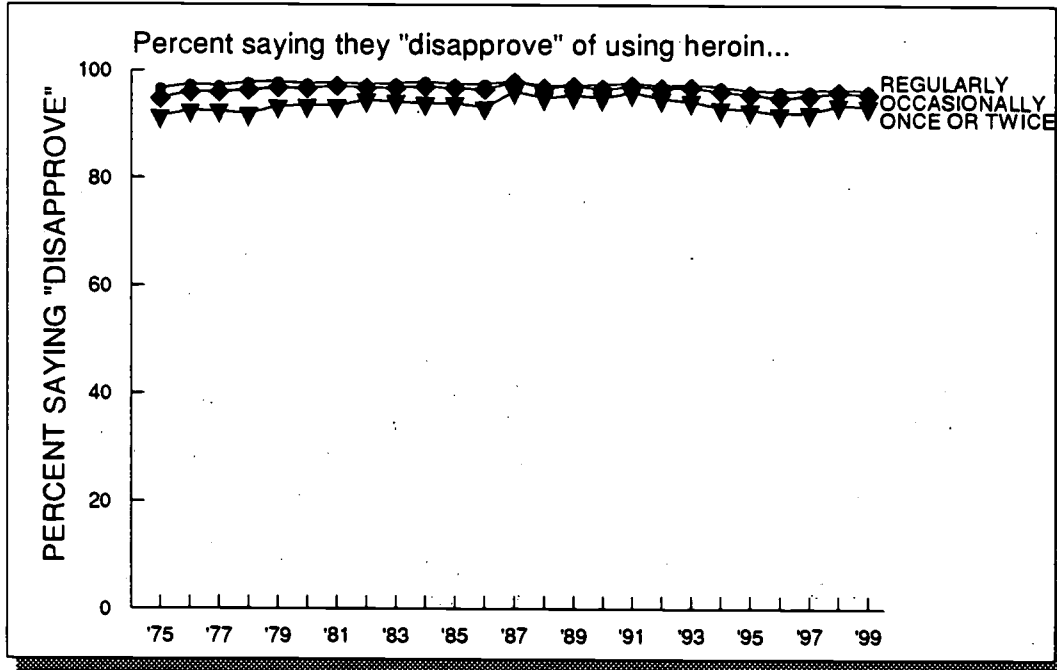


NOTE: Data not available for Eighth and Tenth graders.

FIGURE 8-8b

Trends in Disapproval of Heroin Use
for Twelfth Graders

Twelfth Graders

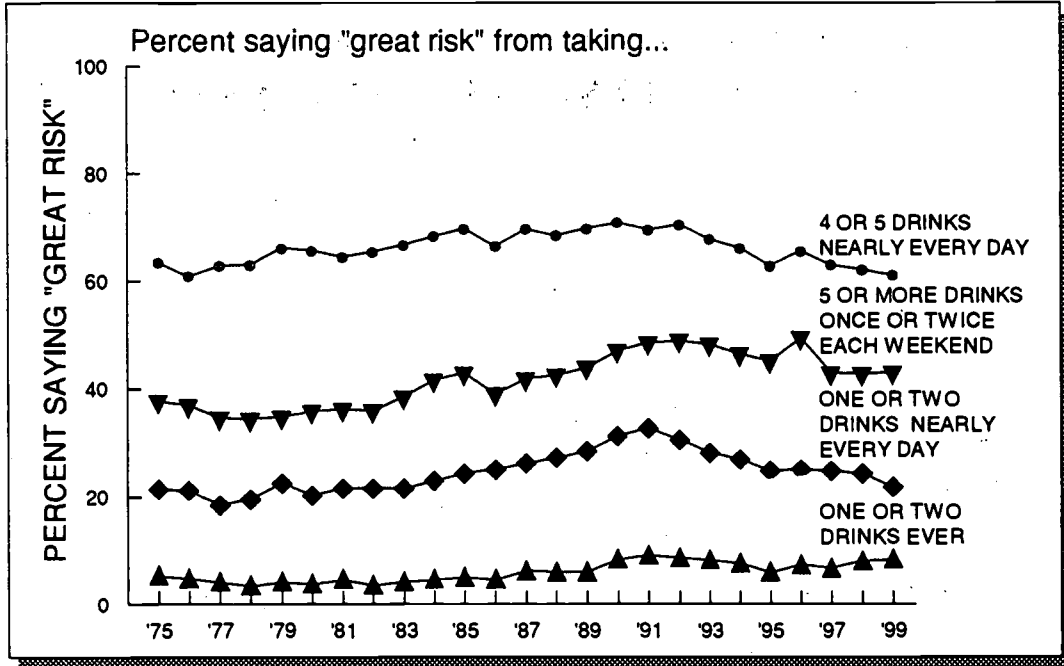


NOTE: Data not available for Eighth and Tenth graders.

FIGURE 8-9a

**Trends in Perceived Harmfulness of Alcohol Use
for Eighth, Tenth and Twelfth Graders**

Twelfth Graders



Eighth, Tenth and Twelfth Graders

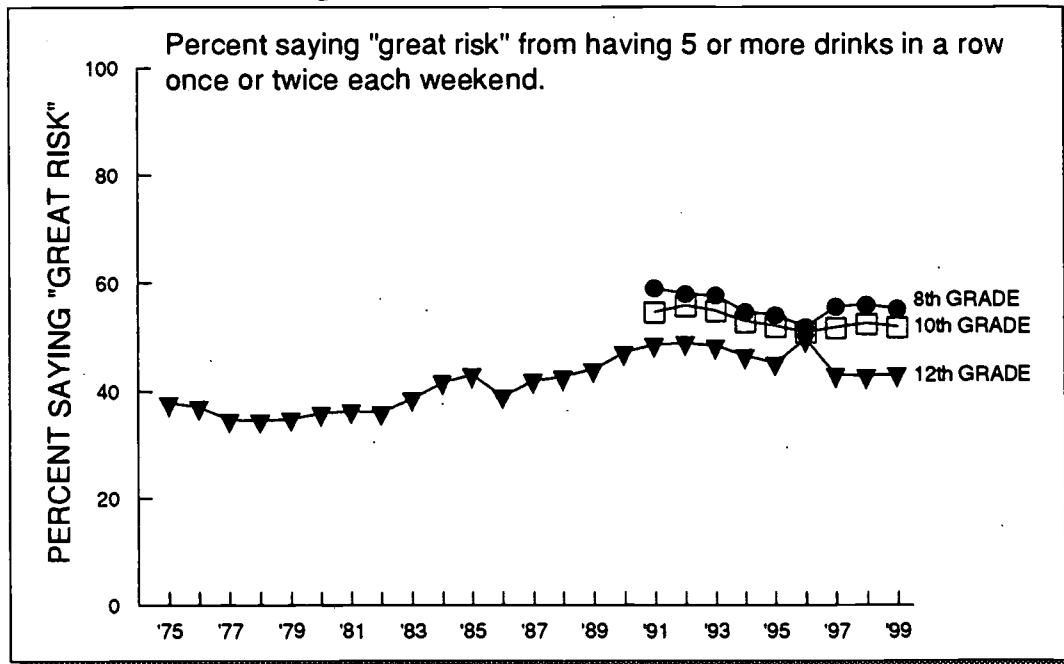
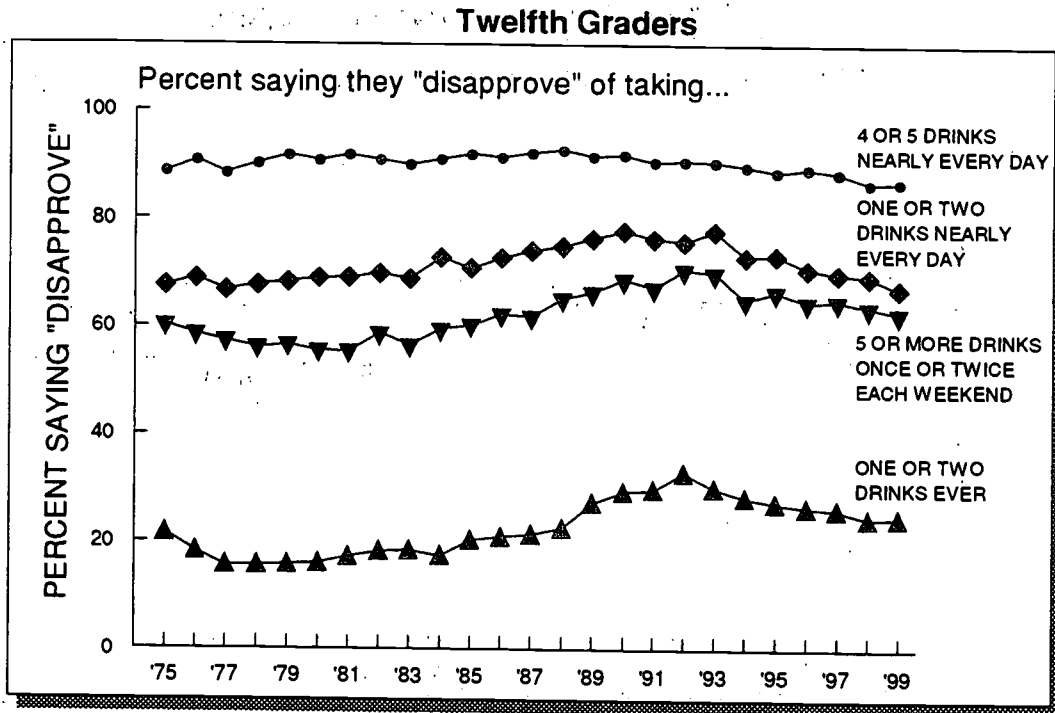


FIGURE 8-9b

Trends in Disapproval of Alcohol Use
for Eighth, Tenth and Twelfth Graders



Eighth, Tenth and Twelfth Graders

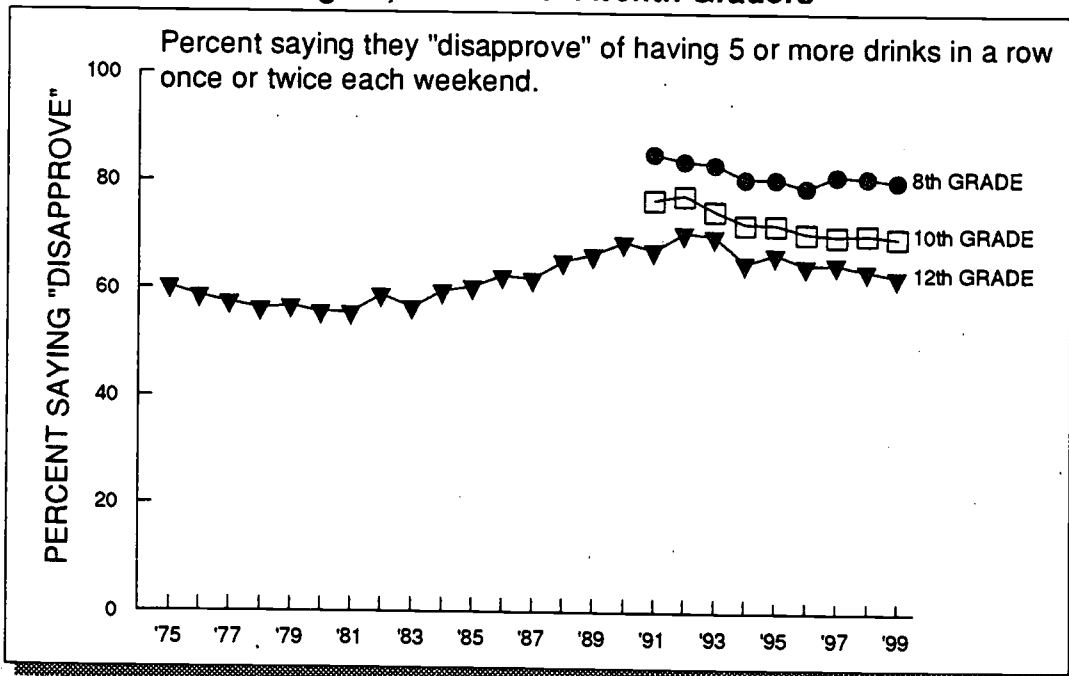


FIGURE 8-10a

Trends in Perceived Harmfulness of Smoking One or More Packs of Cigarettes per Day for Eighth, Tenth and Twelfth Graders

Eighth, Tenth and Twelfth Graders

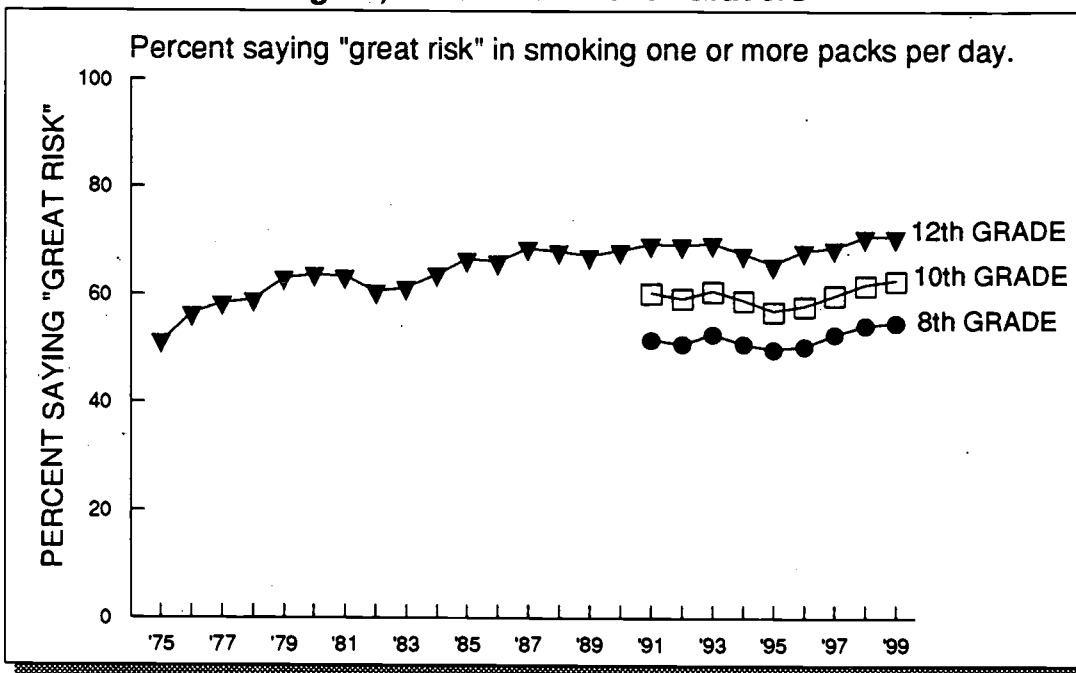


FIGURE 8-10b

**Trends in Disapproval of Smoking One or More Packs
of Cigarettes per Day for Eighth, Tenth and Twelfth Graders**

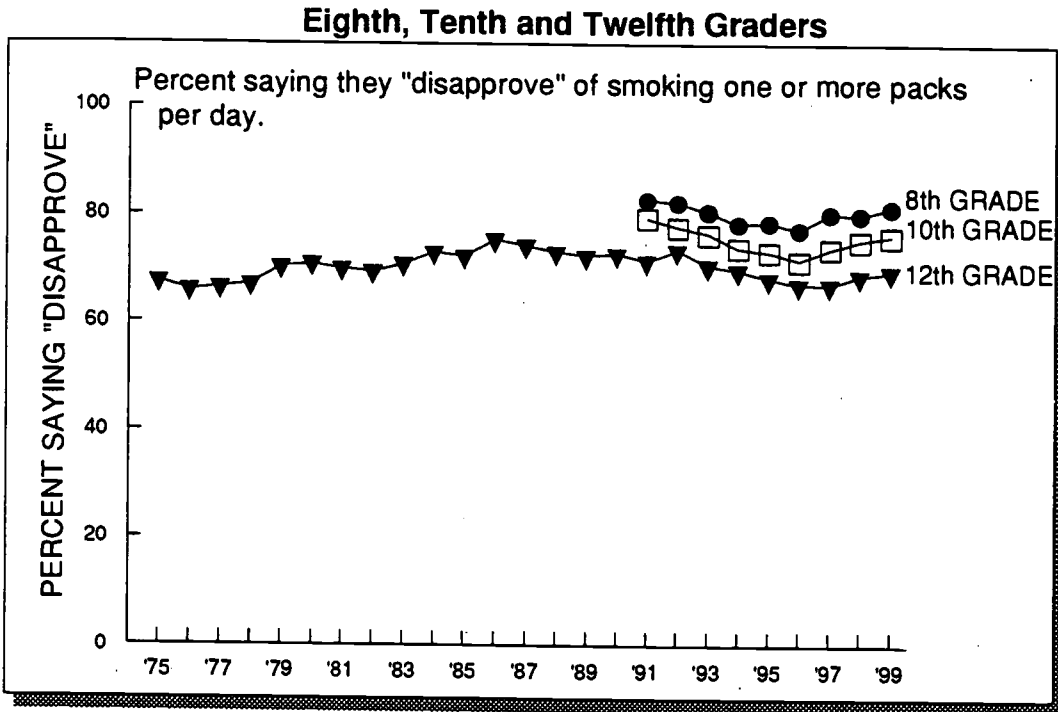


FIGURE 8-11a

Trends in Perceived Harmfulness of Using Smokeless Tobacco Regularly for Eighth, Tenth and Twelfth Graders

Eighth, Tenth and Twelfth Graders

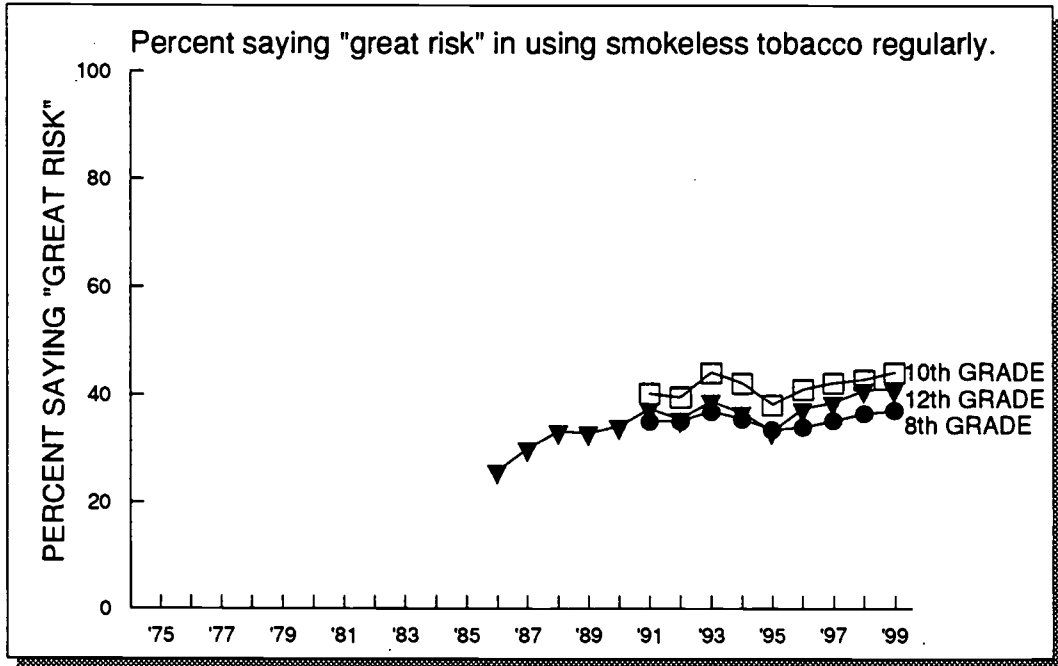
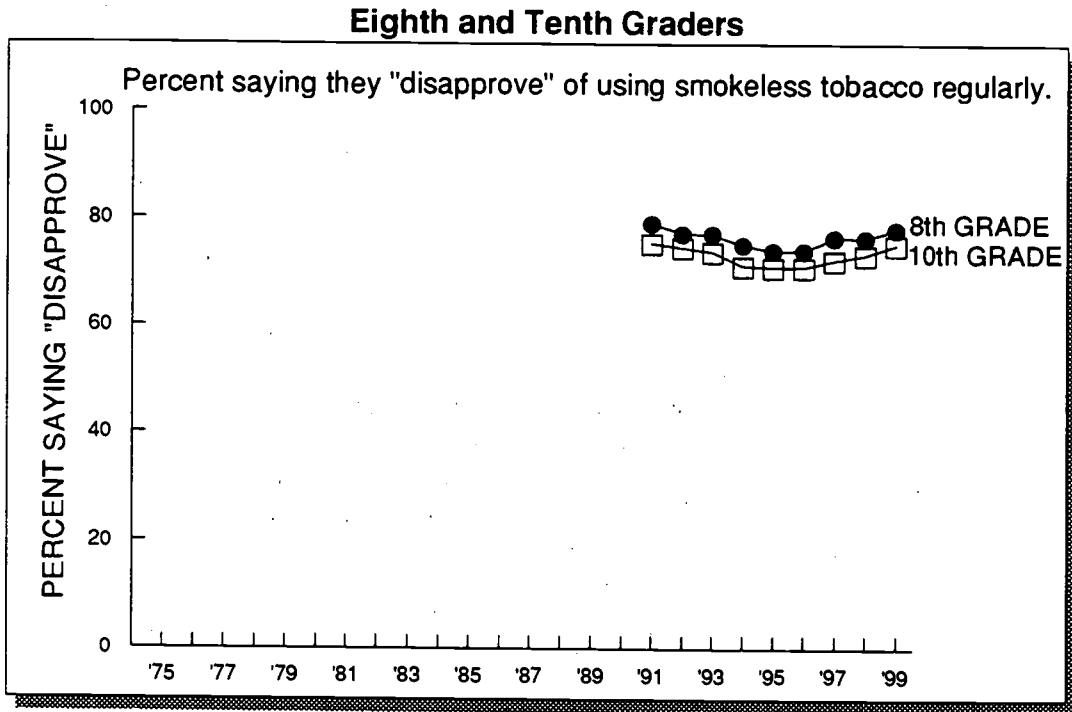


FIGURE 8-11b

Trends in Disapproval of Using Smokeless Tobacco Regularly for Eighth and Tenth Graders



NOTE: Data not available for Twelfth graders.

Chapter 9

THE SOCIAL MILIEU

The social milieu refers to the social environment in which young people find themselves—in particular, the influences from other people likely to affect their drug use. In the preceding chapter we dealt with students' own attitudes about various forms of drug use. Such attitudes about drug use, as well as drug-related behaviors, obviously do not emerge in a social vacuum. Drugs are discussed in the media; they are a topic of considerable interest and conversation among young people; and they are also a matter of much concern to parents, concern that often is strongly communicated to their children. We know young people are affected by the actual drug-taking behaviors of their friends and acquaintances, as well as by the availability of the various drugs. This section presents data on several of these relevant aspects of the social milieu.

We begin with questions about parental and peer attitudes, questions that closely parallel the questions about respondents' own attitudes about drug use. Measures of perceived *parental attitudes* were included in the study in 1975-1979, but these measures were dropped because there was little variation over time in students' responses. Thus, the data discussed in this chapter are based on those early results.

PERCEIVED ATTITUDES OF PARENTS AND FRIENDS: TWELFTH GRADERS

Perceptions of Parental Attitudes

- Drug use appears to constitute one area in which the perceived position of parents approaches unanimity. Even at the height of the drug epidemic in 1979, a large majority of seniors reported that their parents would disapprove or strongly disapprove of their doing *any of the drug use behaviors* listed in Table 9-1. (The data for the perceived parental attitudes are not provided in tabular form, but they are displayed in Figures 9-1a, 9-1b, and 9-2.)
- In 1979, over 97% of seniors said that their parents would disapprove or strongly disapprove of their smoking *marijuana* regularly, even just trying *LSD* or *amphetamines*, or having *four or five drinks* every day. (Although the questions did not ask about more frequent use of LSD or amphetamines or about any use of heroin, it is obvious that if such behaviors had been included in the list, virtually all seniors would have indicated parental disapproval.)

Monitoring the Future

- Even experimental use of *marijuana* was seen as parentally disapproved by the great majority of the 1979 seniors (85%). Assuming that the students were generally correct about their parents' attitudes, these results clearly showed a substantial generational difference of opinion about use of this drug at that time.
- Also likely to be perceived as rating high parental disapproval (91-93% disapproval) were *occasional marijuana* use, taking *one or two drinks* nearly every day, and *smoking a pack or more of cigarettes daily*.
- A slightly lower proportion of seniors (85%) felt their parents would disapprove of their having *five or more drinks once or twice every weekend*. This was the same percentage that said their parents would disapprove of simply experimenting with marijuana, showing a considerably more tolerant parental attitude toward alcohol than marijuana use.

Perceptions of Friends' Attitudes

- Since the beginning of the study, a parallel set of questions has asked respondents to estimate their friends' attitudes about drug use (see Table 9-1). These questions ask, "How do you think your close friends feel (or would feel) about you [taking the specified drug at the specified level]?" Peer disapproval, in 1999, for experimenting with a drug was highest for trying *crack* (94%), *cocaine powder* (92%), *cocaine* (89%), *amphetamines* (83%), and *LSD* (83%). Presumably, if *heroin* or *PCP* were on the list, they, too, would receive very high peer disapproval.
- Even experimenting with *marijuana* would be viewed with disapproval by friends, according to most seniors (55%); and a large majority think their friends would disapprove if they smoked marijuana regularly (75%).
- More than two-thirds of all seniors think they would face peer disapproval if they smoked a *pack or more of cigarettes daily* (71%).
- While *heavy drinking on weekends* was judged by more than half (58%) to be disapproved by their friends (many of whom exhibit that behavior themselves), substantially more (72%) think consumption of *one or two drinks nearly every day* would be disapproved, and the great majority (82%) would face the disapproval of their friends if they drank *four or five drinks nearly every day*.
- In sum, peer norms among twelfth-grade students differ considerably for the various drugs and for varying degrees of involvement with those drugs, but overall they tend to be quite conservative. The great majority of seniors have

friendship circles that do not condone the use of illicit drugs other than marijuana, and about half (55%) of them believe their friends would disapprove of their even trying marijuana.

- Although we did not have the space to include these questions in the eighth- and tenth-grade questionnaires, there seems little doubt that these students would have reported at least as restrictive peer norms as the twelfth graders, and perhaps more restrictive ones, based on the cross-grade comparisons in levels of personal disapproval discussed in Chapter 8.

A Comparison of the Attitudes of Parents, Peers, and Twelfth Graders

A comparison of seniors' perceptions of friends' disapproval with seniors' perceptions of parents' disapproval, in the earlier years for which comparison was possible (1975-1979), showed several interesting findings.

- First, there was rather little variability from year to year in students' perceptions of their parents' attitudes. Nearly *all* high school seniors said their parents would disapprove of any of the drug behaviors listed. Nor was there much variability among the different drugs in perceived parental attitudes. However, *peer* norms varied much more from drug to drug. From these facts, we may conclude that peer norms have a much greater chance of explaining variability in the respondents' own individual attitudes or use than parental norms, simply because peer norms vary more. We wish to emphasize that this is quite different than saying that parental attitudes do not matter, or even that they matter less than peer attitudes.
- Despite less variability in parental attitudes, the *ordering* for disapproval of drug use behaviors was much the same as for peers. That is, among the illicit drugs asked about, the highest frequencies of perceived disapproval were for trying cocaine, while the lowest frequencies were for trying marijuana.
- A comparison with the seniors' own attitudes regarding drug use reveals that, on average, they are much more in accord with their peers than with their parents (see Figures 9-1a, 9-1b, and 9-2). The differences between seniors' own disapproval ratings in 1979 and those attributed to their parents tended to be large, with parents seen as more conservative overall in relation to *every drug*, licit or illicit. The largest difference occurred in the case of *marijuana* experimentation, which only 34% of seniors in 1979 said they disapproved of versus 85% who said their parents would disapprove. Although seniors' own disapproval rate of experimenting with marijuana has risen considerably (it was 49% in 1999), it is likely that the greatest disparity would still remain between students' own attitudes and those of their parents (versus their peers) on the issue of such marijuana use.

Trends in Perceptions of Parents' and Friends' Attitudes

A number of important changes in twelfth graders' perceptions of their peers' attitudes have taken place. These shifts are presented graphically in Figures 9-1a, 9-1b, and 9-2. Adjusted trend lines have been used for data collected before 1980. We discovered that the deletion in 1980 of the parental attitude questions, which were located immediately preceding the questions about friends' attitudes, removed what we judged to be an artifactual depression of the ratings of friends' attitudes, a phenomenon known as a question-context effect. This effect was particularly evident in the trend lines dealing with friends' disapproval of alcohol use, where otherwise smooth trend lines showed abrupt upward shifts in 1980. It appears that when questions about parents' attitudes were present, respondents tended to understate peer disapproval in order to emphasize the *difference* between their parents' attitudes and their peers' attitudes. In the adjusted lines, we have attempted to correct for that artifactual depression in the 1975, 1977, and 1979 scores.⁵⁵ We think the adjusted trend lines give a more accurate picture of the change that took place then. Note that the question-context effect seems to have had more influence on the questions dealing with cigarettes and alcohol than on those dealing with illicit drugs. Aside from this change, attributable to question context, a number of real and important changes have occurred in friends' disapproval.

- For each level of *marijuana* use—trying once or twice, occasional use, and regular use—there was a *drop* in perceived disapproval of both parents and friends in the late 1970s. We know from our other findings that these perceptions of peers' norms correctly reflected actual shifts in the individual attitudes of their peers—that is, disapproval of marijuana use was, in fact, decreasing among seniors (see Figures 9-1a and 9-2b). There is little reason to suppose such perceptions were less accurate in reflecting shifts in parents' attitudes. Therefore, we conclude that the social norms regarding marijuana use among adolescents and adults had been relaxing before 1979. However, consistent with the seniors' reports about their own attitudes, there then was a sharp reversal in peer norms; and peer disapproval of marijuana use continued to increase for more than a decade, through 1992. In 1993 another sharp reversal occurred, with the percentage of seniors saying that their friends would disapprove dropping from 4 to 7 percentage points, depending on the level of use (i.e., once or twice, occasionally, or regularly). Perceived peer disapproval dropped another 9 to 14 percentage points by 1997, before beginning a slight (nonsignificant) turn upward in 1998.

⁵⁵The correction evolved as follows: we assumed that a more accurate estimate of the true change between 1979 and 1980 could be obtained by taking an average of the changes observed in the year prior and the year subsequent, rather than by taking the observed change (which we knew to contain the effect of a change in question context). We thus calculated an *adjusted* 1979-1980 change score by taking an average of one-half the 1977-1979 change score (our best estimate of the 1978-1979 change) plus the 1980-1981 change score. This estimated change score was then subtracted from the observed change score for 1979-1980, the difference being our estimate of the amount by which peer disapproval of the behavior in question was being understated because of the context in which the questions occurred prior to 1980. The 1975, 1977, and 1979 observations were then adjusted upward by the amount of that correction factor.

- From 1975 through 1980, relatively little change occurred in either self-reported attitudes or perceived peer attitudes toward trying *amphetamines* once or twice (see Figure 9-1b); then, in 1981, both measures showed significant and parallel dips in disapproval, and at the same time use rose sharply. From 1981 to 1992, disapproval rose as use declined. Between 1992 and 1996, both friends' disapproval and personal disapproval of experimental use decreased significantly, as use increased slightly. Friends' disapproval leveled in 1997 and then began to rise in 1998.
- Peer disapproval of *LSD* use, which had been high and relatively stable for some years, decreased steadily between 1988 and 1997, as use increased significantly (see Figure 9-1b). In 1998, peer disapproval began to increase, and continued to increase into 1999.
- While perceived attitudes of friends were not asked about *barbiturate* use, it seems likely that such perceptions moved in parallel to the seniors' own attitudes, since such parallel movement has been observed for the use of virtually all other drugs (see Figures 9-1a and 9-1b).
- Seniors' own disapproval of experimental *cocaine* use dropped between 1976 and 1979, as use increased, and then it rose very gradually through 1991. Questions on friends' attitudes about cocaine use were added to the study in 1986. Between 1986 and 1992, a sharp increase in peer disapproval of experimental or occasional cocaine use was observed, with the proportion saying that their close friends would disapprove of their experimenting with cocaine rising from 80% in 1986 to 92% in 1992. This corresponds to the period in which an even larger increase in perceived risk occurred, and we hypothesize that the change in the perceived dangers of using cocaine contributed to changes in the acceptability of using that drug.⁵⁶ From 1993 through 1995, perceived friends' disapproval stabilized, followed by some decrease in 1996 and 1997. Friends' disapproval then rose once again in 1998 and held in 1999.
- With regard to *regular cigarette smoking*, the proportion of seniors saying that their friends would disapprove of them daily smoking a pack or more rose from 64% (adjusted) in 1975 to 74% in 1980 (see Figure 9-2). Use declined from 1977 to 1981. Through the next 12 years, perceived peer disapproval fluctuated by only a few percentage points and then dropped significantly between 1992 and 1995, from 76% to 69%. Use rose from 1992 to 1997. Reported peer disapproval flattened from 1995 to 1998 and then began to rise in 1999. (Use declined in both 1998 and 1999.)

⁵⁶Johnston, L. D. (1991). Toward a theory of drug epidemics. In R. L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93-132). Hillsdale, NJ: Lawrence Erlbaum.

- For alcohol, the perceived peer norms for *weekend binge drinking* generally moved in parallel with seniors' statements about their own personal disapproval: a slight decline in friends' disapproval occurred from the mid-1970s until the early 1980s, followed by a period of gradual increase between 1983 and 1992. (See Figure 9-2.) Some divergence occurred when seniors reported their own attitudes becoming less tolerant while perceived peer norms changed more slowly, suggesting some "collective ignorance" of the extent to which peers disapproved of this activity. Both measures declined some between 1992 and 1998. The proportion saying their close friends would disapprove dropped some, from 61% to 56%, before rebounding to 58% in 1999.
- *Heavy daily drinking* is seen by the great majority of seniors (82% in 1999) as disapproved by their peers. Little systematic change occurred for almost two decades (from 1975 to 1993), followed by a slight decline between 1993 and 1997, then followed by a leveling. Taking *one or two drinks nearly every day* saw some growth in peer disapproval between 1981 and 1990 (from 70% to 79%), but it has fallen back some in the years since then (to 72% in 1999).

FRIENDS' USE OF DRUGS

It is generally acknowledged that much youthful drug use is initiated through a peer social-learning process, and research has shown a high correlation between an individual's illicit drug use and that of his or her friends. Such a correlation can, and probably does, reflect several causal patterns: (a) a person with friends who use a drug will be more likely to try the drug; (b) conversely, the individual who is already using a drug will be more likely to introduce friends to the experience; and (c) users are more likely to establish friendships with other people who use.

Given the potential importance of exposure to drug use by others, we thought it useful to monitor students' association with others taking drugs, as well as their perceptions about the extent to which their friends use drugs. Two sets of questions, each in a different questionnaire form and each covering all or nearly all of the categories of drug use treated in this report, ask seniors to indicate for each drug (a) how often during the past 12 months they were around people taking it to get high or for "kicks" and (b) what proportion of their own friends use it. (The data dealing with direct exposure to use may be found in Table 9-2. The questions dealing with friends' use are shown in Table 9-4.) As would be expected, respondents' answers to these two questions are highly correlated with the respondents' own drug use; thus, for example, seniors who have recently used marijuana are much more likely to report that they have been around others getting high on marijuana and that most of their friends use it. The questions on proportions of friends using the various drugs were included in the questionnaires used for eighth and tenth graders, and the results for those age groups will be discussed in a separate section below.

Exposure to Drug Use by Friends and Others: Twelfth Graders

- A comparison of the aggregated responses about friends' use, and about being around people in the last 12 months who were using various drugs to get high, reveals a high degree of correspondence between these two indicators of exposure, even though these two questions appear in separate forms of the questionnaire. For each drug, the proportion of respondents saying "none" of their friends use it is fairly close to the proportion who say that during the last 12 months they have not been around anyone who was using that drug to get high. Similarly, the proportion reporting that "most" or "all" of their friends use a given drug is roughly the same as the proportion saying they have "often" been around people getting high on that drug.
- As would be expected, reports of exposure and friends' use closely parallel the figures on seniors' own use (compare Figures 4-1 and 9-4). It is no surprise that the highest levels of exposure involved *alcohol*; a majority (54%) said they have "often" been around people using it to get high. What may come as a surprise is that 30% of all seniors said that most or all of their friends *get drunk* at least once a week. (This *is* consistent, however, with the fact that 31% said they personally had taken five or more drinks in a row at least once during the prior two weeks.)
- After alcohol, students are exposed next most frequently to *marijuana*. Over three-quarters of the twelfth graders (76%) reported some exposure to marijuana during the prior year. Some 34% said they have "often" been around people using it to get high, and another 22% said they have been exposed "occasionally." Nearly a quarter (24%) said that most or all of their friends smoke marijuana.
- *Amphetamines* rank next in exposure: 30% of seniors reported some exposure to use in the prior year, and 31% said they have friends who use them.
- Among all seniors, 26% have been around someone using *cocaine* to get high over the past year, and more than one-quarter (28%) said they have friends who use it.
- For the remaining illicit drugs, any exposure to use in the past year ranges from 24% for *LSD* down to 8% for *heroin*.
- A majority of seniors (54%) reported no exposure to *any of the illicit drugs other than marijuana* during the prior year, and more than one-fifth (22%) reported no exposure to *any illicit drug* (including marijuana) during the prior year. Thus, exposure to *marijuana* use, at least, is still widespread (at 76%), but exposure to the use of *drugs other than marijuana* occurred for slightly less than half (46%).

Monitoring the Future

- Slightly less than one in every three seniors (31%) reported that most or all of their friends smoke *cigarettes*, but 89% have at least some friends who smoke.

Friends' Use of Drugs: Eighth and Tenth Graders

While the questions about exposure to use were not included in the questionnaires for eighth and tenth graders, the questions regarding the proportion of their friends who use each drug were.

- As would be expected, eighth- and tenth-grade students are considerably less likely to have friends who use the various drugs than are twelfth graders (see Table 9-3). For example, for *marijuana*, almost half (45%) of the eighth graders and more than two-thirds (71%) of the tenth graders said they have friends who use it, compared to the 81% of twelfth graders who do.
- In contrast, among eighth graders, 30% said they have friends who use *inhalants* versus 20% of the tenth graders and 22% of the twelfth graders.
- Exposure to *alcohol* use through friends is much more widespread. Almost three-quarters (73%) of the eighth graders and 91% of the tenth graders reported having friends who use alcohol. In fact, one-fourth (25%) of the eighth graders and one-half (50%) of the tenth graders said that most or all of their friends drink, and the proportions saying that most or all of their friends *get drunk* at least once a week is one in ten (10%) in eighth grade and almost one in four (23%) in tenth grade.
- Exposure to *cigarette smoking* by friends also is very high for these young people, with nearly three-quarters (71%) of the eighth graders and 86% of the tenth graders saying they have at least some friends who smoke.
- Nearly a third of the eighth graders (30%) and almost half of the tenth graders (45%) have friends who use *smokeless tobacco*.

TRENDS IN FRIENDS' USE OF DRUGS

Trends in Exposure to Drug Use by Friends and Others: Twelfth Graders

- Between 1976 and 1978, seniors' reports of exposure to *marijuana* use increased in about the same proportion as did actual self-reported monthly use. Both exposure to use and actual use stabilized in 1979, and then both dropped steadily so that the proportion saying they were "often" around people using marijuana decreased by more than half between 1979 and 1992 (from 39% to 16%). After 1992, however, there were significant *increases* in such exposure, reaching 33%

in 1997, paralleling the significant rise in self-reported use. Then in 1998, both measures dropped, although exposure rebounded to 34% in 1999.

- The proportion of seniors exposed to *cocaine* users showed a consistent increase from 1976 to 1979, as self-reported use also rose. Between 1979 and 1984, there was little change in exposure to use, coinciding with a period of stability in self-reported use. Then, in 1985 and 1986 there was an increase in reported exposure to use; these were the peak years in self-reported use. From 1986 through 1993, seniors' exposure to cocaine use dropped appreciably, with the proportion saying they had any friends who used cocaine falling from 46% in 1986 to 25% in 1993 (see Table 9-4). Self-reported use fell by two-thirds during this interval. Then self-reported cocaine use nearly doubled between 1992 and 1999 and, as expected, the proportion of friends reported as using cocaine increased substantially *except* for a significant drop in 1999.
- The proportion having any friends who used *amphetamines* rose from 41% to 51% between 1979 and 1982, paralleling a sharp increase in self-reported use over that period. The proportion saying they were around people using amphetamines "to get high or for kicks" also jumped substantially between 1980 and 1982 (by 9 percentage points).⁵⁷ It then fell continually, a full 26 percentage points, between 1982 and 1992 (to 25%) as self-reported use declined substantially. From 1992 to 1997, both self-reported use and exposure to use increased, and both have leveled since then.
- Although we did not ask students about their own use of *MDMA (ecstasy)* until 1996, we did ask about friends' use beginning in 1990. This measure stayed fairly stable at 11% to 13% between 1990, when it was first measured, and 1993. There was a substantial increase between 1993 and 1997 in the proportion of seniors reporting having at least some friends who were users (from 13% to 28%); in 1998, there was a decline (to 25%) and in 1999 another increase (to 27%).
- For all of the other illicit drugs (including *inhalants, nitrite inhalants, LSD, other hallucinogens, tranquilizers, barbiturates, PCP, and methaqualone*) the trends in exposure and/or trends in friends' use closely paralleled the trends in self-reported use.
- The proportion saying that most or all of their friends smoke *cigarettes* dropped steadily and substantially between 1976 and 1981, from 37% to 22%. During this period self-reported use dropped markedly, and more seniors perceived their

⁵⁷This finding was important, since it indicated that a substantial part of the increase observed in self-reported amphetamine use was due to influences other than simply an increase in the use of over-the-counter diet pills or stay-awake pills, which presumably are not used to get high. Obviously, more young people were using stimulants for recreational purposes. Of course, the question still remains of whether the active ingredients in those stimulants really were amphetamines.

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friends as disapproving of regular smoking. Between 1982 and 1992, both friends' use and self-reported use remained relatively stable; in fact, in 1992 the friends' use rate was close to the 1981 rate. In 1976, the peak year for actual use, 37% said most or all of their friends smoked; in 1981, 22%, and in 1992, 21%. After 1992 there was a significant increase in the proportion who said most or all of their friends smoke cigarettes, up to 34% by 1997, and self-reported smoking also increased significantly during this same period. However, 1998 was a turnaround year for the twelfth graders: smoking rates started to drop slightly, as did reported friends' use.

- The proportion saying most or all of their friends *get drunk* at least once a week increased between 1976 and 1979, from 27% to 32%; during the same period the prevalence of self-reported, *occasional heavy drinking* rose by about the same amount. There was little change in either measure for about five years. After 1983 self-reports by seniors of their own heavy drinking began to decline, but reported heavy drinking by friends showed a later, more modest decline. Self-reported heavy drinking fell from 41% to 28% between 1983 and 1993, while reports of friends getting drunk at least once a week fell from 31% to 28%. Both measures then rose slightly for a few years but have been fairly stable since 1997.

The most impressive fact here is that nearly one-third of all high school seniors (30% in 1999) said that most or all of their friends get drunk at least once a week; this is almost the same proportion that said they personally have been binge drinking in the past two weeks (31%). Fewer than one in five (19%) said that none of their friends get drunk that often.

Implications for Validity of Self-Reported Usage Questions

We have noted a high degree of correspondence in the aggregate-level data presented in this report among seniors' self-reports of their *own* drug use, their reports concerning *friends'* use, and their own *exposure* to such use. Drug-to-drug comparisons in any given year across these three types of measures tend to be highly parallel, as are the changes from year to year.⁵⁸ We take this consistency as additional evidence of the validity of the self-report data (and of trends in the self-report data), since there should be less reason to distort answers on use by unidentified friends (or general exposure to use) than to distort reporting one's own use. Figure 9-3 illustrates the degree of cross-time correspondence between the proportion of seniors saying they personally used marijuana in the 30 days prior to the survey and those saying most or all of their friends use marijuana.

⁵⁸Those minor instances of noncorrespondence may well result from the larger sampling errors in our estimates of these environmental variables, which are measured on a sample size one-fifth or one-sixth the size of the self-reported usage measures.

Trends in Friends' Use: Eighth and Tenth Graders

Friends' use trend data for grades 8 and 10 have been available since 1991 (see Table 9-3). In general, they show trends that are highly consistent with the trends in self-reported use at these grade levels. These questions are asked of all of the eighth- and tenth-grade respondents, providing large sample sizes.

- In 1992, eighth graders showed an increase in self-reported use of a number of drugs (including *marijuana*, *inhalants*, *cocaine powder*, and *crack*) as well as increases in the proportions of their friends using them. In 1993, these trends continued among eighth graders, who were then joined by tenth and twelfth graders. In 1997, the eighth graders began to show a decline in their use of a number of drugs (including *marijuana*, *inhalants*, and *heroin*), and decreases in the proportions of their friends reported using them began a year later. Twelfth graders again followed suit for some of the drugs.
- For *marijuana*, self-reported use increased very sharply in all grades between 1992 and 1996, a fact also reflected in reported use by friends. The proportions saying that some of their friends smoke marijuana rose by 10 percentage points among eighth graders and by 11 percentage points among tenth graders in 1994 alone (see Table 9-3). Between 1994 and 1996, reported friends' use in both grades rose an additional 10 percentage points. For eighth graders, friends' use has declined since 1996, as has self-reported use. Tenth graders also showed a decline in friends' use between 1996 and 1998, as self-reported use leveled and then declined until 1999.
- In all three grades, the proportions saying that they have friends who use *inhalants* rose consistently from 1991 through 1996. Self-reported usage rates also rose from 1991 to 1995. In 1996, use of inhalants leveled or reversed in all three grades, as did reported friends' use in 1997.
- For *alcohol*, self-reported use and friends' use have also moved in fairly parallel ways since 1992. Self-reported drinking in the past 30 days was fairly stable among both eighth and tenth graders between 1992 and 1996, as was the proportion that said they have at least some friends who drink alcohol. (In 1997 both measures showed some decline among eighth graders, followed in 1998 by some decline in both grades.) Self-reported *drunkenness* increased slightly in both grades between 1992 and 1996, as did the proportion saying they have some friends who get drunk weekly. Here, too, in 1997 a small reversal showed up on both measures among eighth graders, followed by parallel declines in both grades in 1998.

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- The data from eighth and tenth graders show a steadily increasing proportion of friends smoking *cigarettes* between 1991 and 1996. Self-reported smoking rates rose during the same period. In 1997, both measures showed a slight reversal in both grades—a reversal that has continued into 1999.

PERCEIVED AVAILABILITY OF DRUGS

One set of questions asks respondents how difficult they think it would be to obtain each of a number of different drugs if they wanted it. The answers range across five categories from “probably impossible” to “very easy.”⁵⁹ We use the term “perceived availability” in discussing the responses to these questions. We recognize that availability is multidimensional, and respondents may take into consideration a variety of factors, including knowing where to get access, the difficulty of getting to an access place, and, for some respondents, even possibly the monetary cost. We suspect that for most respondents, the monetary price will not be considered, and thus our measure is likely to be somewhat less general than a concept of availability that includes price.

While no systematic effort has been undertaken to assess directly the validity of these measures, it must be said that they do have a rather high level of face validity, particularly if it is the subjective reality of “perceived availability” that is purported to be measured. It also seems quite reasonable to us to assume that, to some extent, perceived availability tracks actual availability.

Perceived Availability

- There are substantial differences in the perceived availability of the various drugs. In general, the more widely used drugs are reported to be available by higher proportions of the age group, as would be expected (see Table 9-5). Also as would be expected, drugs are generally perceived to be more available by older age groups. Both associations are consistent with the notion that availability is largely attained through friendship circles. The higher the proportion of a friendship circle that uses a drug, the greater the proportion of students who have access to it.
- Because many *inhalants*—such as glues, butane, and aerosols—are universally available, we do not include a question about their availability.
- In addition, the availability of *alcohol* and *cigarettes* is not asked of twelfth graders because we have assumed that these drugs are almost universally

⁵⁹In the questionnaires used for eighth and tenth graders, an additional answer category of “can’t say, drug unfamiliar” is offered; respondents who chose this answer are included in the calculation of percentages. Generally, fewer than 20% of the respondents selected this answer.

available to them as well. However, eighth and tenth graders are asked about the availability of *alcohol* and *cigarettes*, and even at these grade levels it is seen as extremely high. At present, both are seen as about equally available.

- Among eighth and tenth graders, *cigarettes* are seen as highly available: 74% of eighth graders and 88% of tenth graders thought they would be “fairly easy” or “very easy” to get.
- The great majority of these teens also see *alcohol* as readily available: 72% of the eighth graders and 88% of the tenth graders said they could get it fairly easily or very easily.
- In contrast, far fewer younger students see that illicit drugs are as accessible. Even so, *marijuana* was described as “fairly easy” or “very easy” to get by almost half (48%) of the eighth graders, followed by *amphetamines* and *crack* (26%), *cocaine powder* (25%), *steroids* (23%), *barbiturates* (21%), *LSD* and *heroin* (19%).
- When we compare eighth, tenth, and twelfth graders, we find that perceived availability rises sharply with grade level. For example, in 1999, 48% of eighth graders said *marijuana* would be “fairly easy” or “very easy” to get, versus 78% of tenth graders and 89% of twelfth graders. In fact, for the other drugs included in the questions, the proportion of students saying they are available to them nearly doubles between eighth grade and twelfth grade. These differences are probably attributable to the overall differences in prevalence of use rates across these grade levels. Children in lower grades are considerably less likely to have friends who use these drugs and, thus, are less likely to have access through those friends. The differences between age groups may also reflect less willingness and/or less motivation on the part of those who deal drugs to establish contact with younger children.
- *Marijuana* appears to be available to almost all high school seniors; some 89% reported that they think it would be “very easy” or “fairly easy” for them to get it—almost twice the number who reported ever having used it (50%).
- After marijuana, twelfth-grade students indicated that *amphetamines* are among the easiest drugs to obtain (58%).
- Just under half of the seniors saw *LSD* (45%), *steroids* (45%), and *cocaine powder* (44%) as readily available, while somewhat fewer saw the following drugs as readily available: *crack* and *narcotics other than heroin* (41%), and *MDMA (ecstasy)* (40%).

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- **Barbiturates, tranquilizers, heroin, hallucinogens other than LSD, crystal methamphetamine (ice), and PCP** were reported as available by substantial minorities of seniors (38%, 33%, 32%, 30%, 28%, and 27%, respectively). See Table 9-6 for the full list of drugs included in the questions for twelfth graders; a few of these were not asked of the younger students.
- Even drugs with lower usage rates, such as the **nitrite inhalants**, are seen as available by at least a fifth of the seniors.
- Previously, we have found that two-thirds or more of the twelfth graders who had actually used any of the illicit drugs in the past year felt that drugs would be easy for them to get.

Trends in Perceived Availability for Twelfth Graders

Trend data on availability for seniors are presented in Table 9-6 and Figures 9-5a through 9-5c. A glance at those three figures will show that there have been some substantial fluctuations in the perceived availability of most drugs over the 24 years covered by the study.

- **Marijuana** has been the most consistently available illicit drug, but even it showed some small variations over the years. For the first time since the study began in 1975, marijuana showed a small but statistically significant decline in perceived availability between 1982 and 1984 (down 4 percentage points to 85%), undoubtedly due to the reduced proportion of seniors who had friends using it. There was no further change for the next four years, followed by a slight decline between 1988 and 1992. Between 1992 and 1998 there was a fair increase in availability, corresponding to a sharp increase in the proportion of friends using it. In 1999 a slight decline began. What is most noteworthy, however, is how little change there has been over the years in perceived availability, as measured by how many seniors say that marijuana is “fairly” or “very” easy to get. By this measure, marijuana has been almost universally available to American high school seniors (from 83% to 90%) over at least the past 24 years.
- The perceived availability of **amphetamines** jumped 13 percentage points between 1977 and 1982 (to 71%), but it then dropped gradually by 14 percentage points between 1982 and 1991 (to 57%). Then, between 1991 and 1995, perceived availability increased steadily, reaching 63% in 1995, followed by a significant decrease to 59% in 1996, after which it began to drift up a bit before falling some in 1999.
- The perceived availability of **barbiturates** (see Figure 9-5b) fell from 1975 to 1980 by 11 percentage points but then jumped 6 percentage points from 1980 to

1981, when “look-alikes” were common. From 1982 to 1991 a long gradual decline of 13 points occurred, parallel to a long-term drop in the number of barbiturate users. Perceived availability rose slightly, along with use, in the early 1990s; but it has been falling back again since 1993, even though use continued to increase slightly.

- Between 1977 and 1980—a period of increased overall *cocaine* use—there was a substantial increase (15 percentage points) in the perceived availability of cocaine (see Table 9-6 and Figure 9-5a). Perceived availability then leveled and even dropped some in 1983, before rising sharply and steadily through 1989. After 1986, actual use of cocaine dropped sharply until 1993, as reported availability continued to rise. Because there was an increase, and not a drop, in perceived availability between 1986 and 1989, we are inclined to discount reduction in supply as an explanation for the significant decline in use observed during that period.

Between 1989 and 1994, there was a significant decrease of 12 percentage points in perceived availability—perhaps reflecting the impact of the greatly reduced proportion of seniors who had friends using cocaine. (The percentage reporting having friends who use it dropped by 11 points during that interval.) From 1994 to 1998, the perceived availability of *cocaine* increased slightly, as did its use among seniors. While use continued to rise in 1999, reported availability showed a significant decline.

- We have asked about the perceived availability of *crack* only since 1987; it has fluctuated between 40% and 47%, with no clear trend (see Figure 9-5a).
- The use of *tranquilizers* declined fairly steadily between 1977 and 1992, and perceived availability also declined fairly steadily and quite substantially during that interval. In fact, the proportion of seniors who thought they could get tranquilizers “fairly easily” has fallen by more than half—from 72% in 1975 to 33% in 1999.
- The perceived availability of *LSD* fell sharply in the first several years covered by the study (1975-1978), perhaps reflecting the end of a longer-term steep decline (see Figure 9-5c). Perceived availability then leveled for awhile, before dropping further in the first half of the 1980s. Between 1986 and 1995, there followed a substantial, though slightly irregular, increase in the perceived availability of LSD, which rose from 29% to 54% (the highest level it reached in over two decades). Since 1995, there has been a falloff in perceived availability (to 45% in 1999).

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- The perceived availability of *hallucinogens/psychedelics other than LSD* followed a very similar trajectory to that of LSD from 1975 through 1986 (see Figure 9-5c) but quite a different one thereafter. From 1987 to 1995 there was a gradual rise in availability, in contrast to the sharp rise for LSD, followed by a leveling in 1995-1998, and then a sharp decline in 1999. While LSD and the other hallucinogens, taken as a set, were about equally available in the late 1970s, LSD availability is substantially higher in the 1990s.
- Between 1979 and 1987, self-reported *use* of *PCP* dropped substantially, before stabilizing at a very low level for some years. However, perceived availability rose from 23% in 1987 (when it was first measured) to 32% in 1992 and changed very little through 1998. It dropped in 1999. (Self-reported use increased slightly from 1993 to 1996 and has decreased slightly since then.)
- From 1975 through 1978, perceived *heroin* availability (see Figure 9-5b) declined some. Then a rather long, irregular, and gradual increase in perceived availability began and continued through 1992. (The 1978-1992 rise was from 16% to 35% of the seniors saying heroin would be “fairly easy” or “very easy” to get.) Despite this substantial increase in perceived availability, there was very little change in use during that period. From 1992 to 1998, perceived availability was fairly level, although use increased significantly among seniors in 1995 before leveling. Perceived availability fell in 1999.
- The stability of heroin use during the 1980s and early 1990s despite a substantial increase in availability is worthy of note. It suggests that availability alone is not sufficient to stimulate trial (though it may affect the consumption pattern of established users). It was not until the 1990s that word about methods for taking heroin other than by injection started to be widely diffused. The view that these methods were less dangerous than injection removed an important deterrent for at least some teenagers.
- Much like heroin, *other narcotics* showed a gradual, upward shift in perceived availability, from 26% in 1978 to 38% in 1989, and a slight, further increase through 1998.
- A glance at Figure 9-5b shows that *heroin* and *other narcotics* have become much more accessible to young people over the past 21 years, while *barbiturates* and *tranquilizers* have become much less so.

Trends in Perceived Availability for Eighth and Tenth Graders

- Because information on the perceived availability of drugs was first gathered from eighth and tenth graders in 1992, we can characterize change only since then. From 1992 to 1996, eighth and tenth graders showed a rise in the availability of several of the illicit drugs. These data are not presented graphically but are provided in Table 9-5. Availability then leveled or dropped in 1997 and declined further in 1998 for most of these drugs.
- The proportion of eighth graders seeing *marijuana* as easy to get rose sharply between 1992 and 1996, from 42% to 55%, while among tenth graders there was an even greater increase (from 65% to 81%) over the same interval. Since then, availability has shown significant declines in both grades. Among twelfth graders availability tilted down in 1999.
- Between 1992 or 1993 and 1995 or 1996, the availability of several other illicit drugs (*LSD, PCP, crack, powdered cocaine, heroin, other narcotics, and amphetamines*) rose modestly among eighth and tenth graders as their use increased. Both grades then showed some decline in the availability of these drugs through 1998, and most continued to decline in 1999.
- *Barbiturates* and *tranquilizers* did not show any increase in availability in the early 1990s in eighth or tenth grade, but both drugs did show a decline in availability after 1995 (or 1996, in the case of tenth graders).
- *Ice* has shown rather little change in availability since 1992 (when it was first measured) among eighth graders, but some modest increases occurred among tenth graders from 1993 to 1996. (Availability also rose in twelfth grade in the mid-1990s.)
- After holding fairly steady (at very high levels) for some years, the availability of *cigarettes* to eighth and tenth graders began to decline modestly after 1996, perhaps as a result of increased enforcement of laws prohibiting sales to minors.
- *Alcohol* has shown rather little change in availability since 1992, although availability has fallen a couple of percentage points since 1996 in both grades.

The Importance of Supply Reduction Versus Demand Reduction

- Overall, it is important to note that *supply reduction*—that is, reduced access to the drugs—does not appear to have played as major a role as many had assumed in perhaps the two most important downturns in drug use that have occurred to date, namely, those for *marijuana* and *cocaine* (see Figures 8-4 and 8-5). In the

case of cocaine, perceived availability actually rose during much of the period of the downturn in use. (These data are corroborated by data from the Drug Enforcement Administration on trends in the price and purity of cocaine on the streets.⁶⁰) In the case of marijuana, perceived availability has remained very high for twelfth graders over the last 25 years, while use dropped substantially from 1979 through 1992.⁶¹ Similarly, *amphetamine* use declined appreciably from 1981 to 1992, with only a modest corresponding change in perceived availability. Finally, until 1995, *heroin* use had not risen among seniors even though availability had increased substantially.

- What *did* change dramatically were young peoples' beliefs about the dangers of using *marijuana* and *cocaine*. As we have been saying for some years, we believe these changes led to a decrease in use directly through their impact on the young peoples' demand for these drugs and indirectly through their impact on personal disapproval and, subsequently, peer norms. Because the perceived risk of *amphetamine* use was changing little when amphetamine use was declining substantially (1981-1986), other factors must have helped to account for the decline in demand for that class of drugs—quite conceivably some displacement by cocaine. Because the three classes of drugs (marijuana, cocaine, and amphetamines) have shown *different* patterns of change, it is highly unlikely that a general factor (e.g., a general shift against drug use) can explain their various trends.

The increase in marijuana use in the 1990s among twelfth graders adds more compelling evidence to this interpretation. It was *both* preceded and accompanied by a decrease in perceived risk. (Between 1991 and 1997 there was a 21 percentage point decline in the perceived risk of regular marijuana use.) Peer disapproval dropped sharply in 1993 through 1997, *after* perceived risk began to change, consistent with our interpretation that perceived risk can be an important determinant of disapproval. Perceived availability remained fairly constant from 1991-1993 and then increased 7 percentage points through 1998.

⁶⁰ Caulkins, J. P. (1994). *Developing price series for cocaine*. Santa Monica, CA: RAND.

⁶¹ There is now evidence, however, that an increase in price during the later part of that interval, at least, may have played a role in reducing use. See Pacula, R. L., Grossman, M., Chaloupka, F. J., O'Malley, P. M., Johnston, L. D., & Farrelly, M. C. (in press). Marijuana and youth. In J. Gruber (Ed.), *An economic analysis of risky behavior among youths*. The University of Chicago Press. Also appears as Working Paper 7703, National Bureau of Economic Research, Inc. (2000).

TABLE 9-1
Trends in Proportion of Friends Disapproving of Drug Use
Twelfth Graders

Q. How do you think your close friends feel (or would feel) about you . . .	Percent saying friends disapprove ^a																												
	1975 ^b	1976	1977 ^b	1978	1979 ^b	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change			
Trying marijuana once or twice	44.3	—	41.8	—	40.9	42.6	46.4	50.3	52.0	54.1	54.7	56.7	58.0	62.9	63.7	70.3	69.7	73.1	66.6	62.7	58.1	55.8	53.0	53.8	55.1	+1.3			
Smoking marijuana occasionally	54.8	—	49.0	—	48.2	50.6	55.9	57.4	59.9	62.9	64.2	64.4	67.0	72.1	71.1	76.4	75.8	79.2	73.8	69.1	65.4	63.1	59.9	60.4	61.6	+1.3			
Smoking marijuana regularly	75.0	—	69.1	—	70.2	72.0	75.0	74.7	77.6	79.2	81.0	82.3	82.9	85.5	84.9	86.7	85.9	88.0	83.5	80.6	78.9	76.1	74.1	74.7	74.5	-0.1			
Trying LSD once or twice	85.6	—	86.6	—	87.6	87.4	86.5	87.8	87.8	87.6	88.6	89.0	87.9	89.5	88.4	87.9	87.9	87.3	83.5	83.4	82.6	80.8	79.3	81.7	83.2	+1.5			
Trying cocaine once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	91.1	91.4	91.1	89.2	87.3	88.8	88.7	-0.1			
Taking cocaine occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.4	93.7	93.9	93.8	92.5	90.8	92.2	91.8	-0.4		
Trying crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.6	95.1	93.9	93.8	93.0	92.3	93.7	93.9	+0.2		
Taking crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	95.9	96.4	95.3	96.1	94.7	94.8	96.2	96.0	-0.2		
Trying cocaine powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	93.4	93.3	94.0	94.2	93.5	92.1	91.4	91.9	91.8	-0.1	
Taking cocaine powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.0	95.0	94.8	95.2	94.7	95.3	93.6	93.9	94.5	94.0	-0.4
Trying an amphetamine once or twice	78.8	—	80.3	—	81.0	78.9	74.4	75.7	76.8	77.0	77.0	79.4	80.0	82.3	84.1	84.2	85.3	85.7	83.2	84.5	81.9	80.6	80.4	82.6	83.0	+0.4			
Taking one or two drinks nearly every day	67.2	—	71.0	—	71.0	70.5	69.5	71.9	71.7	73.6	75.4	75.9	71.8	74.9	76.4	79.0	76.6	77.9	76.8	75.8	72.6	72.9	71.5	72.3	71.7	-0.6			
Taking four or five drinks nearly every day	89.2	—	88.1	—	88.5	87.9	86.4	86.6	86.0	86.1	88.2	87.4	85.6	87.1	87.2	88.2	86.4	87.4	87.2	85.2	84.1	82.6	82.5	82.8	82.2	-0.5			
Having five or more drinks once or twice each weekend	55.0	—	53.4	—	51.3	50.6	50.3	51.2	50.6	51.3	55.9	54.9	52.4	54.0	56.4	59.0	58.1	60.8	58.5	59.1	58.0	57.8	56.4	55.5	57.6	+2.1			
Smoking one or more packs of cigarettes per day	63.6	—	68.3	—	73.4	74.4	73.8	70.3	72.2	73.9	73.7	76.2	74.2	76.4	74.4	75.3	74.0	76.2	71.8	72.4	69.2	69.3	68.5	69.0	71.2	+2.2			

Approx. N = 2488

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 of use estimates for the two years is due to rounding error.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aAnswer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined. ^bThese numbers have been adjusted to correct for a lack of comparability of question context among administrations. (See text for discussion.)

TABLE 9-2
Trends in Twelfth Graders' Exposure to Drug Use
(Entries are percentages)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Class of '98-'99 change	
Q.																											
<i>During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?</i>																											
Any illicit drug*	17.4	16.5	15.1	15.0	15.7	17.3	18.6	20.6	22.1	22.3	24.5	26.1	28.7	31.4	32.4	35.8	38.7	33.9	29.2	24.7	22.0	21.2	22.8	22.1	22.8	22.1	-0.7
% saying not at all	34.8	39.0	40.7	40.4	36.3	36.1	31.4	29.8	28.3	27.2	26.3	23.3	20.8	22.0	20.7	18.2	18.0	24.0	29.3	32.3	33.8	34.7	33.2	34.7	33.2	35.6	+2.4
Any illicit drug* except marijuana	44.9	44.2	44.7	41.7	41.5	37.4	37.5	40.6	40.2	40.7	44.7	48.3	52.2	52.9	54.6	60.0	58.4	57.4	54.7	52.8	50.3	52.1	11.7	9.9	11.7	9.9	+1.8
% saying not at all	11.8	13.5	12.1	13.7	14.1	17.1	16.6	14.2	14.6	12.9	12.1	10.2	9.6	10.7	9.2	7.9	7.5	9.6	9.4	11.1	12.1	12.1	11.7	9.9	11.7	9.9	+1.8
Marijuana	20.5	19.0	17.3	17.0	18.0	19.8	22.1	23.8	25.6	26.5	28.0	29.6	33.0	35.2	36.6	40.4	43.2	39.0	32.8	27.3	24.4	23.2	24.5	24.2	24.5	24.2	-0.3
% saying not at all	32.5	37.0	39.0	38.9	38.8	33.1	28.0	26.1	24.8	24.2	24.0	20.6	17.9	19.5	17.8	16.0	15.6	20.9	27.6	30.7	31.8	32.9	31.4	34.4	34.4	+3.0	
LSD	78.8	80.0	81.9	81.9	82.8	82.6	83.9	86.2	87.5	86.8	86.9	87.1	86.6	85.0	85.1	84.3	82.2	79.0	75.8	73.9	72.4	74.1	76.9	76.4	76.4	76.4	-0.5
% saying not at all	2.2	2.0	1.8	2.0	1.4	2.0	1.9	1.4	1.5	1.3	1.6	1.8	1.6	2.2	2.6	2.9	3.0	3.9	4.2	6.1	4.7	5.1	3.2	4.1	3.2	4.1	+0.9
Other psychedelics	76.5	76.7	76.7	77.6	79.6	82.4	83.2	86.9	87.3	87.5	88.2	90.0	91.0	91.2	90.6	90.6	90.3	87.9	86.0	84.2	83.4	82.2	84.1	82.3	84.1	82.3	-1.8
% saying not at all	3.1	3.2	2.9	2.2	2.2	2.0	2.6	1.1	1.7	1.4	1.5	1.2	1.1	1.3	1.2	1.3	1.1	1.9	2.3	2.5	2.7	2.8	1.7	2.7	2.7	+1.0	
Cocaine	77.0	73.4	69.8	64.0	62.3	63.7	65.1	66.7	64.4	61.7	62.6	65.1	69.8	69.8	72.3	78.7	80.2	80.8	81.2	78.4	75.0	74.4	73.4	74.2	74.2	+0.9	
% saying not at all	3.0	3.7	4.6	6.8	5.9	6.6	6.6	5.2	6.7	7.1	7.8	5.9	5.1	5.4	4.7	3.4	2.7	2.9	2.5	3.2	4.0	4.2	3.7	4.6	4.6	+0.9	
Heroin	91.4	90.3	91.8	92.4	92.6	93.4	92.9	94.9	94.0	94.5	94.0	94.2	94.3	93.5	94.6	94.9	94.6	94.3	92.7	92.1	91.4	90.9	91.3	91.9	91.9	+0.6	
% saying not at all	0.8	1.1	0.9	0.7	0.4	0.6	1.0	0.7	1.1	0.5	1.0	0.9	0.8	1.0	0.5	0.9	0.7	1.1	0.7	1.2	1.6	1.2	0.9	1.3	0.9	+0.3	
Other narcotics	81.9	81.3	81.8	82.0	80.4	82.5	81.5	82.7	82.0	81.6	84.4	85.6	85.2	86.2	85.8	88.7	88.9	87.6	85.1	84.5	81.5	79.6	79.3	78.1	78.1	-1.2	
% saying not at all	1.8	2.4	2.0	1.7	1.7	1.7	2.4	2.2	2.0	1.8	2.1	1.7	1.7	1.7	1.6	1.4	1.3	1.7	1.7	2.1	3.4	2.5	2.8	3.9	3.9	+1.1	
Amphetamines	59.6	60.3	60.9	58.1	59.2	50.5	49.8	53.9	55.0	59.0	63.5	68.3	72.1	72.6	71.7	76.4	75.5	75.3	71.8	71.9	68.5	69.0	70.1	69.9	70.1	-0.2	
% saying not at all	6.8	7.9	6.7	7.4	8.3	12.1	12.3	10.1	9.0	6.5	5.8	4.5	4.1	4.7	4.1	3.1	3.0	3.9	4.1	4.5	5.6	5.2	4.7	6.3	6.3	+1.6	
Barbiturates	69.0	70.0	73.5	73.6	74.8	74.1	74.3	77.5	78.8	81.1	84.2	86.9	87.6	88.2	86.7	90.0	89.8	88.1	87.0	85.5	84.5	83.9	83.9	82.9	82.9	-1.0	
% saying not at all	4.5	5.0	3.4	3.3	3.4	4.0	4.3	3.0	2.7	1.7	2.1	1.5	1.4	1.7	1.7	1.2	1.1	1.6	1.7	2.0	2.9	2.5	2.7	3.8	3.8	+1.2	
Tranquilizers	67.7	66.0	67.5	67.5	70.9	71.0	73.4	76.5	76.9	76.6	80.4	81.6	81.8	84.9	83.7	85.8	87.3	86.2	83.5	84.3	82.1	81.1	82.7	81.8	82.7	81.8	-0.9
% saying not at all	5.5	6.3	4.9	4.3	3.2	4.2	3.5	2.9	2.9	2.2	2.5	2.6	2.2	2.1	1.9	1.4	1.9	1.7	1.8	2.3	3.5	3.2	2.8	3.7	3.7	+0.9	
Alcoholic beverages	6.0	5.6	5.5	5.2	5.3	6.0	6.0	6.0	6.0	6.0	5.9	6.1	6.9	7.7	6.4	8.3	9.4	8.2	10.0	8.8	8.5	8.6	7.8	8.2	8.2	+0.5	
% saying not at all	57.1	60.8	60.8	61.2	60.2	61.0	59.3	60.2	58.7	59.5	58.0	58.7	56.4	55.5	56.1	54.5	53.1	51.9	54.0	54.0	54.5	53.9	54.5	53.9	54.5	53.5	-1.0
% saying often	2950	3075	3682	3253	3259	3608	3645	3334	3238	3252	3078	3296	3300	2795	2556	2525	2630	2730	2581	2608	2407	2595	2541	2312	2312	2312	-1.0
Approx. N =																											

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 of use estimates for the two years is due to rounding error.
SOURCE: The Monitoring the Future Study, the University of Michigan.
*These estimates were derived from responses to the questions listed. "Any illicit drug" includes all drugs listed except alcohol.

TABLE 9-3

Trends in Friends' Use of Drugs as Estimated by Eighth, Tenth, and Twelfth Graders, 1991-99

(Entries are percentages)

	8th Grade			10th Grade			12th Grade			'98-'99 change	'98-'99 change																				
	1991	1992	1993	1994	1995	1996	1997	1998	1999			1991	1992	1993	1994	1995	1996	1997	1998	1999											
Q. How many of your friends would you estimate . . .																															
Smoke marijuana																															
% saying none	78.1	74.9	69.2	58.9	53.9	49.2	49.2	53.3	55.2	+1.9	51.7	54.1	47.3	36.6	31.5	26.5	26.6	29.6	29.2	-0.4	34.2	36.9	32.6	24.4	23.9	22.0	18.6	16.8	19.3	+2.5	
% saying most or all	3.3	4.1	6.0	10.5	12.7	15.2	13.8	12.6	12.1	-0.5	7.9	8.0	11.2	18.0	21.3	26.4	25.0	23.5	23.7	+0.3	10.0	10.3	13.9	18.9	20.7	22.2	22.5	23.8	24.2	+0.4	
Use inhalants																															
% saying none	79.5	76.9	73.7	70.8	67.9	67.7	67.1	68.1	70.1	+2.0	82.7	82.2	78.9	76.4	74.7	74.3	76.3	77.2	79.8	+2.6ss	80.8	77.8	76.3	73.5	72.5	72.8	72.6	74.1	78.4	+4.2ss	
% saying most or all	2.4	2.9	3.7	4.2	5.0	5.2	4.8	4.5	4.4	-0.1	1.4	1.5	1.8	2.0	2.1	2.2	2.2	2.5	1.8	-0.7ss	0.7	1.8	1.8	2.0	2.0	2.0	2.4	1.9	2.7	1.8	-0.8
Take crack																															
% saying none	91.4	89.1	87.5	84.8	82.3	81.5	80.7	80.8	81.7	+0.8	86.8	86.8	84.9	82.7	80.2	78.6	78.0	77.8	79.1	+1.4	82.4	82.2	82.1	80.0	80.8	78.4	77.8	75.6	81.0	+5.5sss	
% saying most or all	0.9	1.0	1.3	1.6	1.6	2.0	1.8	1.9	1.9	0.0	0.8	0.7	0.9	1.0	1.2	1.2	1.5	1.7	1.5	-0.3	0.6	0.7	0.9	1.0	1.1	0.9	1.1	1.7	1.5	-0.1	
Take cocaine powder																															
% saying none	91.6	89.3	87.9	85.7	83.8	82.6	82.4	82.9	83.5	+0.6	85.3	85.9	84.6	82.7	80.3	78.3	77.5	77.0	79.0	+2.0	80.2	80.3	81.9	79.3	80.8	77.2	75.2	77.1	78.0	+0.9	
% saying most or all	0.9	1.1	1.3	1.7	1.6	1.7	1.6	2.0	1.9	-0.1	0.8	0.8	0.8	1.1	1.3	1.4	1.7	2.0	1.7	-0.3	1.8	2.0	1.6	1.9	1.7	1.9	2.0	1.9	1.9	0.0	
Take heroin																															
% saying none	93.9	92.7	91.1	89.7	88.4	88.0	87.8	88.2	88.6	+0.5	92.2	91.9	90.7	89.5	88.9	88.3	88.2	88.5	89.2	+0.7	88.6	86.8	86.7	85.7	85.5	84.4	84.4	83.5	87.3	+3.8ss	
% saying most or all	0.7	0.9	0.9	1.3	1.3	1.4	1.2	1.3	1.4	+0.1	0.6	0.6	0.7	0.6	0.8	0.7	0.9	1.0	0.9	-0.1	0.4	0.7	1.1	1.0	1.1	0.9	0.8	1.3	1.0	-0.3	
Drink alcoholic beverages																															
% saying none	27.9	23.6	24.3	23.0	24.1	22.9	24.2	25.4	26.6	+1.2	7.1	8.7	8.2	7.2	7.8	7.6	7.8	8.6	8.7	+0.2	8.8	9.5	11.1	9.9	9.1	10.4	9.3	8.8	9.8	+1.0	
% saying most or all	21.0	23.7	25.5	27.4	27.5	28.8	25.9	25.0	25.0	0.0	49.6	48.2	49.9	50.3	50.7	53.4	50.7	50.1	50.3	+0.2	58.6	56.9	57.0	59.6	56.4	56.4	60.9	61.0	58.2	-2.9	
Get drunk at least once a week																															
% saying none	57.2	52.0	52.0	49.7	51.3	48.8	51.7	52.4	51.8	-0.6	24.9	27.4	25.5	23.1	24.7	23.3	23.8	25.1	24.3	-0.8	20.2	20.1	20.8	18.6	21.1	21.5	17.6	18.9	18.5	-0.4	
% saying most or all	7.2	8.4	9.0	10.6	9.9	10.9	9.3	8.8	9.7	+1.0	19.3	18.6	20.2	20.3	20.6	23.1	21.8	21.2	22.9	+1.7	29.7	28.6	27.6	28.4	27.4	29.0	30.9	31.7	30.1	-1.6	
Smoke cigarettes																															
% saying none	32.3	27.6	26.2	23.9	23.9	21.9	23.1	24.8	28.7	+3.9s	18.8	18.0	14.6	13.7	12.0	10.7	11.9	12.9	14.1	+1.2	14.3	15.6	15.2	11.9	12.1	11.7	10.1	10.5	10.7	+0.3	
% saying most or all	11.8	14.4	16.7	19.0	20.5	22.5	19.7	19.4	17.0	-2.4	18.2	18.7	22.8	24.7	27.8	32.8	29.3	27.8	26.2	-1.5	21.8	21.4	25.0	25.3	27.5	30.4	34.4	33.9	31.1	-2.9	
Use smokeless tobacco																															
% saying none	63.5	62.5	62.7	61.4	62.2	62.1	65.5	67.3	70.2	+2.9	46.9	46.9	42.5	41.6	42.1	45.0	48.0	52.5	54.9	+2.4	--	--	--	--	--	--	--	--	--	--	
% saying most or all	3.8	4.2	3.8	4.8	4.7	5.1	3.5	3.5	3.5	0.0	7.5	7.3	7.7	7.6	7.3	6.0	6.4	5.8	4.4	-1.4	--	--	--	--	--	--	--	--	--	--	
<i>Approx. N</i>	16.0	16.6	16.5	15.8	15.3	16.1	16.1	16.0	15.3	14.3	14.0	14.6	15.0	16.1	14.8	14.7	14.4	13.1	2.3	2.4	2.4	2.4	2.3	2.4	2.2	2.2	2.3	2.3	2.3	2.1	

NOTES: Level of significance of difference between the two years: s = .05, ss = .01, sss = .001. '-' indicates data not available.
Any apparent inconsistency between the change estimate and the prevalence of use estimates for the two years is due to rounding error.
SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 9-4
Long-Term Trends in Proportion of Friends Using Drugs as Estimated by Twelfth Graders
(Entries are percentages)

Q.	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
How many of your friends would you estimate . . .																											
Take any illicit drug ^a	14.2	15.4	13.1	12.5	11.0	12.5	14.6	13.7	17.4	19.0	17.6	17.8	18.3	20.9	23.1	29.0	30.9	32.7	29.0	21.7	21.4	19.4	16.6	15.4	18.0	+2.7	
% saying none	31.9	31.7	33.2	36.3	37.0	32.5	29.8	26.5	23.8	20.9	22.7	21.5	18.6	15.8	15.7	11.6	11.7	12.0	15.5	20.3	21.7	23.8	23.7	25.9	25.5	-0.4	
Take any illicit drug ^a other than marijuana	33.3	44.5	42.5	43.6	38.7	37.6	36.7	35.3	38.8	38.7	38.2	36.7	37.6	43.5	43.8	49.9	53.7	52.9	51.3	46.3	46.3	45.5	44.9	44.4	48.8	+4.4s	
% saying none	10.6	8.9	7.7	8.5	10.4	11.1	11.9	10.9	11.0	10.3	10.4	10.3	9.2	6.9	7.7	5.1	4.6	5.3	7.1	7.1	7.7	8.9	7.0	8.9	7.4	-1.5	
Smoke marijuana	17.0	17.1	14.1	13.9	12.4	13.6	17.0	15.6	19.7	22.3	20.5	20.8	21.6	24.7	27.5	31.7	34.2	36.9	32.6	24.4	23.9	22.0	18.6	16.8	19.3	+2.5	
% saying none	30.3	30.6	32.3	35.3	35.5	31.3	27.7	23.8	21.7	18.3	19.8	18.2	15.8	13.6	13.4	10.1	10.0	10.3	13.9	18.9	20.7	22.2	22.5	23.8	24.2	+0.4	
Use inhalants	75.7	81.4	81.1	80.0	80.9	82.2	83.5	81.6	83.9	80.7	78.8	77.6	75.3	79.2	77.9	80.0	80.8	77.8	76.3	73.5	72.5	72.8	72.6	74.1	78.4	+4.2ss	
% saying none	1.1	1.1	1.0	1.1	1.1	1.2	0.9	1.3	1.1	1.1	1.5	2.0	1.9	1.2	1.9	1.0	0.7	1.8	1.8	2.0	2.0	2.4	1.9	2.7	1.8	-0.8	
Use nitrites	--	--	--	--	--	78.4	81.0	82.6	82.5	85.5	85.0	84.4	82.0	81.7	86.4	86.7	89.6	91.1	91.0	89.3	90.0	89.3	88.8	88.1	87.1	+2.0	
% saying none	--	--	--	--	--	1.9	1.3	1.2	0.9	0.7	1.2	1.0	1.2	1.3	0.7	0.9	0.6	0.4	0.7	0.7	0.8	0.8	0.7	1.0	0.7	-0.3	
Take LSD	63.5	69.4	68.1	70.1	71.1	71.9	71.5	72.2	76.0	76.1	75.6	75.5	74.7	75.9	74.8	75.0	76.6	71.9	68.7	65.9	63.1	62.1	63.5	63.2	67.8	+4.6ss	
% saying none	2.7	2.8	3.0	2.0	1.9	1.8	2.2	2.4	1.4	2.0	1.5	1.8	1.6	1.5	2.4	1.9	1.7	2.4	3.8	4.2	4.8	5.0	3.7	4.7	3.9	-0.9	
Take other psychedelics	58.8	69.7	68.6	70.8	71.8	71.8	73.7	74.4	77.9	78.7	78.0	77.7	78.3	82.2	81.9	84.1	84.9	83.0	80.7	78.6	76.2	73.6	73.7	72.6	77.5	+4.9ss	
% saying none	4.7	3.0	2.8	2.0	2.2	2.2	2.1	1.9	1.6	1.9	1.4	1.3	1.2	0.9	1.4	1.0	0.8	1.0	1.7	2.2	2.2	2.2	2.3	2.6	3.1	-0.7	
Take PCP	--	--	--	--	72.2	77.8	82.8	82.7	85.8	85.8	84.1	83.9	84.5	86.5	85.3	87.0	88.0	87.3	84.4	84.5	81.7	79.7	80.3	79.8	83.2	+3.4s	
% saying none	--	--	--	--	1.7	1.6	0.9	0.9	1.1	1.1	1.2	1.2	1.1	0.8	1.2	0.5	0.5	0.9	1.9	1.2	1.2	1.3	1.4	1.6	1.5	-0.1	
Take MDMA (Ecstasy)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	87.6	88.1	89.3	87.2	84.1	79.3	75.8	72.3	75.5	73.3	-2.2	
% saying none	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2	1.7	2.1	1.2	1.7	2.8	3.0	2.6	2.5	2.7	+0.3	
Take cocaine	66.4	71.2	69.9	66.8	61.1	58.4	59.9	59.3	62.4	61.1	56.2	54.4	56.3	62.3	62.6	68.3	73.2	73.7	75.5	73.9	75.2	71.9	71.5	68.8	72.2	+3.4s	
% saying none	3.4	3.2	3.6	4.0	6.0	6.1	6.3	4.9	5.1	5.1	5.8	6.2	5.1	3.4	3.7	2.1	1.5	1.5	2.1	1.5	2.0	2.2	2.0	3.2	2.9	-0.3	
Take crack	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	72.6	74.6	73.9	80.8	82.4	82.2	82.1	80.0	78.4	77.8	75.6	+5.5sss
% saying none	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2	1.1	2.1	0.6	0.7	0.9	1.0	1.1	0.9	1.1	1.7	-0.1
Take cocaine powder	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	74.7	75.4	80.2	80.3	81.9	79.3	80.8	77.2	75.2	77.1	78.0	+0.9
% saying none	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3	2.5	1.8	2.0	1.6	1.9	1.7	1.9	2.0	1.9	1.9	0.0

(Table continued on next page)

TABLE 9-4 (cont.)

Long-Term Trends in Proportion of Friends Using Drugs as Estimated by Twelfth Graders

Q.	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change of '98-'99
How many of your friends would you estimate ...	84.8	86.4	87.1	85.7	87.1	87.0	87.5	86.8	88.0	87.0	85.5	84.7	86.1	87.6	86.0	88.6	88.6	86.8	86.7	85.7	85.5	84.4	84.4	83.5	87.3	+3.8ss
Take heroin	0.7	0.8	0.7	0.9	0.5	1.0	0.5	0.7	0.8	0.8	0.9	1.1	0.9	0.7	1.1	0.4	0.4	0.7	1.1	1.0	1.1	0.9	0.8	1.3	1.0	-0.3
% saying none	71.2	75.9	76.3	76.8	76.9	77.6	76.9	76.1	79.2	78.6	77.2	78.2	76.8	80.8	80.8	82.8	86.3	85.1	83.9	81.5	80.5	78.2	77.8	75.2	77.1	+1.8
% saying most or all	2.1	2.2	1.7	1.4	1.5	1.7	1.5	1.4	1.4	1.6	1.4	1.8	1.4	1.2	1.4	0.9	0.5	1.1	1.2	1.0	1.6	1.5	1.4	2.9	1.8	-1.1
Take other narcotics	49.0	57.8	58.7	59.3	59.3	56.1	51.2	49.4	53.9	54.9	56.7	58.2	60.5	66.6	66.5	71.3	75.7	75.7	72.5	71.9	69.7	67.8	67.3	66.2	69.2	+3.0
% saying none	5.9	5.6	4.1	4.7	4.3	4.8	6.4	5.4	5.1	4.5	3.4	3.4	2.6	1.9	2.6	1.9	1.3	1.3	2.0	1.8	2.0	2.8	2.4	3.4	2.8	-0.6
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take amphetamines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying none	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take crystal meth. (ice)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying none	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take barbiturates	55.0	63.7	65.3	67.5	69.3	69.5	68.9	68.7	71.7	73.4	72.9	74.4	75.7	80.3	79.7	82.6	85.2	83.6	82.2	81.8	82.2	78.4	79.6	77.2	79.1	+1.9
% saying none	4.3	3.5	3.0	2.3	2.1	2.6	2.1	1.8	1.7	1.7	1.6	1.4	1.1	1.1	1.4	0.6	0.5	0.6	1.0	1.1	1.4	1.6	1.1	2.5	1.4	-1.1s
% saying most or all	68.3	73.0	71.7	73.0	72.3	67.5	65.0	64.5	70.3	73.9	74.0	76.5	78.0	82.9	83.4	85.7	88.0	86.9	85.8	85.8	84.5	81.9	83.9	82.6	84.5	+2.0
Take quaaludes	3.0	1.8	2.9	2.2	2.8	3.6	3.6	2.6	2.6	1.7	1.3	1.6	1.0	1.0	1.3	0.8	0.5	0.8	1.1	1.1	1.3	1.7	1.1	2.0	1.4	-0.6
% saying none	54.4	63.7	62.2	65.2	68.0	70.3	70.5	70.1	73.3	73.4	74.2	75.8	76.7	80.1	82.0	85.1	86.5	85.4	84.5	83.5	84.2	81.9	82.1	80.3	83.6	+3.4s
% saying most or all	3.5	3.1	2.7	1.8	2.0	1.9	1.4	1.1	1.2	1.5	1.2	1.3	1.0	0.7	1.5	0.5	0.4	0.7	0.9	0.9	1.1	1.4	0.8	2.3	1.3	-1.0s
Drink alcoholic beverages	3.3	4.9	5.6	5.1	4.6	3.9	5.3	4.3	4.5	5.4	5.4	4.4	4.6	4.3	4.9	8.0	8.8	9.5	11.1	9.9	9.1	10.4	9.3	8.8	9.8	+1.0
% saying none	68.4	64.7	66.2	68.9	68.5	68.9	67.7	69.7	69.0	66.6	66.0	68.0	71.8	68.1	67.1	60.5	58.6	56.9	57.0	59.6	56.4	60.9	61.0	58.2	-2.9	—
% saying most or all	17.6	19.3	19.0	18.0	16.7	16.9	18.2	16.9	16.1	18.5	17.5	15.3	14.4	15.6	17.2	20.8	20.2	20.1	20.8	18.6	21.1	21.5	17.6	18.9	18.5	-0.4
Get drunk at least once a week	30.1	26.6	27.6	30.2	32.0	30.1	29.4	29.9	31.0	29.6	29.9	31.8	31.3	29.6	31.1	27.5	29.7	28.6	27.6	28.4	27.4	29.0	30.9	31.7	30.1	-1.6
% saying none	4.8	6.3	6.3	6.9	7.9	9.4	11.5	11.7	13.0	14.0	13.0	12.2	11.7	12.3	13.5	15.1	14.3	15.6	15.2	11.9	12.1	11.7	10.1	10.5	10.7	+0.3
% saying most or all	41.5	36.7	33.9	32.2	28.6	23.3	22.4	24.1	22.4	19.2	22.8	21.5	21.0	20.2	23.1	21.4	21.8	21.4	25.0	25.3	27.5	30.4	34.4	33.9	31.1	-2.9
Take steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying none	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Approx. N = 2640 2697 2788 3247 2933 2987 3307 3303 3095 2945 2971 2798 2948 2961 2587 2361 2339 2373 2410 2337 2379 2156 2292 2313 2060

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 of use estimates for the two years is due to rounding error.

SOURCE: The Monitoring the Future Study, the University of Michigan.

*These estimates were derived from responses to the questions listed. "Any illicit drug" includes all of the drugs listed except MDMA (Ecstasy), cocaine powder, crystal methamphetamine (ice), alcohol, get drunk, cigarettes, and steroids. PCP and the nitrites were not included in 1975 through 1978. Crack was not included in 1975 through 1986.

TABLE 9-5

Trends in Perceived Availability of Drugs by Eighth, Tenth, and Twelfth Graders, 1992-99

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

Percent saying "fairly easy" or "very easy" to get*

	8th Grade										10th Grade										12th Grade										'98-'99 change
	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change				
Marijuana	42.3	43.8	49.9	52.4	54.8	54.2	50.6	48.4	-2.1s	65.2	68.4	75.0	78.1	81.1	80.5	77.9	78.2	+0.4	82.7	83.0	85.5	88.5	88.7	89.6	90.4	88.9	-1.5				
LSD	21.5	21.8	21.8	23.5	23.6	22.7	19.3	18.3	-1.0	33.6	35.8	36.1	39.8	41.0	38.3	34.0	34.3	+0.2	44.5	49.2	50.8	53.8	51.3	50.7	48.8	44.7	-4.1s				
PCP ^b	18.0	18.5	17.7	19.0	19.6	19.2	17.5	17.1	-0.3	23.7	23.4	23.8	24.7	26.8	24.8	23.9	24.5	+0.6	31.7	31.7	31.4	31.0	30.5	30.0	30.7	26.7	-4.0s				
Crack	25.6	25.9	26.9	28.7	27.9	27.5	26.5	25.9	-0.7	33.7	33.0	34.2	34.6	36.4	36.0	36.3	36.5	+0.2	43.5	43.6	40.5	41.9	40.7	40.6	43.8	41.1	-2.7				
Cocaine powder	25.7	25.9	26.4	27.8	27.2	26.9	25.7	25.0	-0.8	35.0	34.1	34.5	35.3	36.9	37.1	36.8	36.7	-0.2	48.0	45.4	43.7	43.8	44.4	43.3	45.7	43.7	-2.1				
Heroin	19.7	19.8	19.4	21.1	20.6	19.8	18.0	17.5	-0.5	24.3	24.3	24.7	24.6	24.8	24.4	23.0	23.7	+0.8	34.9	33.7	34.1	35.1	32.2	33.8	35.6	32.1	-3.5s				
Other narcotics ^b	19.8	19.0	18.3	20.3	20.0	20.6	17.1	16.2	-1.0	26.9	24.9	26.9	27.8	29.4	29.0	26.1	26.6	+0.5	37.1	37.5	38.0	39.8	40.0	38.9	42.8	40.8	-2.0				
Amphetamines	32.2	31.4	31.0	33.4	32.6	30.6	27.3	25.9	-1.5	43.4	46.4	46.6	47.7	47.2	44.6	41.0	41.3	+0.3	58.8	61.5	62.0	62.8	59.4	59.8	60.8	58.1	-2.7				
Crystal meth. (ice) ^b	16.0	15.1	14.1	16.0	16.3	15.7	16.0	14.7	-1.3	18.8	16.4	17.8	20.7	22.6	22.9	22.1	21.8	-0.3	26.0	26.6	25.6	27.0	26.9	27.6	29.8	27.6	-2.1				
Barbiturates	27.4	26.1	25.3	26.5	25.6	24.4	21.1	20.8	-0.3	38.0	38.8	38.3	38.8	38.1	35.6	32.7	33.2	+0.5	44.0	44.5	43.3	42.3	41.4	40.0	40.7	37.9	-2.8				
Tranquilizers	22.9	21.4	20.4	21.3	20.4	19.6	18.1	17.3	-0.7	31.6	30.5	29.8	30.6	30.3	28.7	26.5	26.8	+0.3	40.9	41.1	39.2	37.8	36.0	35.4	36.2	32.7	-3.6s				
Alcohol	76.2	73.9	74.5	74.9	75.3	74.9	73.1	72.3	-0.8	88.6	88.9	89.8	89.7	90.4	89.0	88.0	88.2	+0.2	—	—	—	—	—	—	—	—	—				
Cigarettes	77.8	75.5	76.1	76.4	76.9	76.0	73.6	71.5	-2.1ss	89.1	89.4	90.3	90.7	91.3	89.6	88.1	88.3	+0.2	—	—	—	—	—	—	—	—	—				
Steroids	24.0	22.7	23.1	23.8	24.1	23.6	22.3	22.6	+0.3	37.6	33.6	33.6	34.8	34.8	34.2	33.0	35.9	+2.9ss	46.8	44.8	42.9	45.5	40.3	41.7	44.5	44.6	+0.1				
Approx. N =	8355	16775	16119	15496	16318	16482	16208	15397	7014	14652	15192	16209	14887	14856	14423	13112	2586	2670	2526	2552	2340	2517	2520	2215							

NOTES: Level of significance of difference between the two years: s = .05, ss = .01, sss = .001. — indicates data not available. Any apparent inconsistency between the change estimate and the prevalence of use estimates for the two years is due to rounding error. SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 9-6

Long-Term Trends in Perceived Availability of Drugs by Twelfth Graders

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

Percent saying "fairly easy" or "very easy" to get*

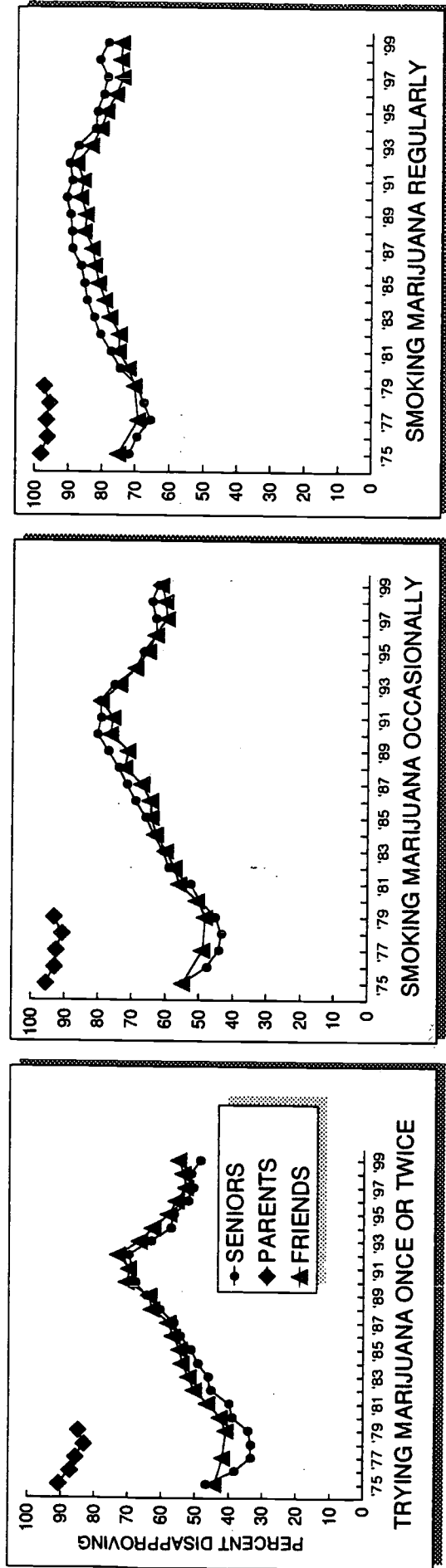
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
Marijuana	87.8	87.4	87.9	87.8	90.1	89.0	89.2	88.5	86.2	84.6	85.5	85.2	84.8	85.0	84.3	84.4	83.3	82.7	83.0	85.5	88.5	88.7	89.6	90.4	88.9	-1.5	
Amyl/butyl nitrites	—	—	—	—	—	—	—	—	—	—	—	—	—	23.9	25.9	26.8	24.4	22.7	25.9	26.7	26.0	23.9	23.8	25.1	21.4	-3.7s	
LSD	46.2	37.4	34.5	32.2	34.2	35.3	35.0	34.2	30.9	30.6	30.5	28.5	31.4	33.3	38.3	40.7	39.5	44.5	49.2	50.8	53.8	51.3	50.7	48.8	44.7	-4.1s	
Some other psychedelic	47.8	35.7	33.8	33.8	34.6	35.0	32.7	30.6	26.6	26.6	26.1	24.9	25.0	26.2	28.2	28.3	28.0	29.9	33.5	33.8	35.8	33.9	33.9	35.1	29.5	-5.7sss	
PCP	—	—	—	—	—	—	—	—	—	—	—	—	—	22.8	24.9	28.9	27.7	27.6	31.7	31.7	31.4	31.0	30.5	30.0	26.7	-4.0s	
MDMA (Ecstasy)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.7	22.0	22.1	24.2	28.1	31.2	34.2	36.9	38.8	40.1	+1.9
Cocaine	37.0	34.0	33.0	37.8	45.5	47.9	47.5	47.4	43.1	45.0	48.9	51.5	54.2	55.0	58.7	54.5	51.0	52.7	48.5	46.6	47.7	48.1	48.5	51.3	47.6	-3.8s	
Crack	—	—	—	—	—	—	—	—	—	—	—	—	—	41.1	42.1	47.0	42.4	39.9	43.5	43.6	40.5	41.9	40.7	40.6	43.8	41.1	-2.7
Cocaine powder	—	—	—	—	—	—	—	—	—	—	—	—	—	52.9	50.3	53.7	49.0	46.0	48.0	45.4	43.7	43.8	44.4	43.3	45.7	43.7	-2.1
Heroin	24.2	18.4	17.9	16.4	18.9	21.2	19.2	20.8	19.3	19.9	21.0	22.0	23.7	28.0	31.4	31.9	30.6	34.9	33.7	34.1	35.1	32.2	33.8	35.6	32.1	-3.5s	
Some other narcotic (including methadone)	34.5	26.9	27.8	26.1	28.7	29.4	29.6	30.4	30.0	32.1	33.1	32.2	33.0	35.8	38.3	38.1	34.6	37.1	37.5	38.0	39.8	40.0	38.9	42.8	40.8	-2.0	
Amphetamines	67.8	61.8	58.1	58.5	59.9	61.3	69.5	70.8	68.5	68.2	66.4	64.3	64.5	63.9	64.3	59.7	57.3	58.8	61.5	62.0	62.8	59.4	59.8	60.8	58.1	-2.7	
Crystal meth. (ice)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.1	24.3	26.0	26.6	25.6	27.0	26.9	27.6	29.8	27.6	-2.1
Barbiturates	60.0	54.4	52.4	50.6	49.8	49.1	54.9	55.2	52.5	51.9	51.3	48.3	48.2	47.8	48.4	45.9	42.4	44.0	44.5	43.3	42.3	41.4	40.0	40.7	37.9	-2.8	
Tranquilizers	71.8	65.5	64.9	64.3	61.4	59.1	60.8	58.9	55.3	54.5	54.7	51.2	48.6	49.1	45.3	44.7	40.8	40.9	41.1	39.2	37.8	36.0	35.4	36.2	32.7	-3.6s	
Alcohol	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	95.0
Steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.7	46.8	44.8	42.9	45.5	40.3	41.7	44.5	44.6	+0.1

Approx. N = 2627 2865 3065 3598 3172 3240 3578 3602 3385 3269 3274 3077 3271 3231 2806 2549 2476 2586 2670 2526 2552 2340 2517 2520 2215

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 of use estimates for the two years is due to rounding error. SOURCE: The Monitoring the Future Study, the University of Michigan.

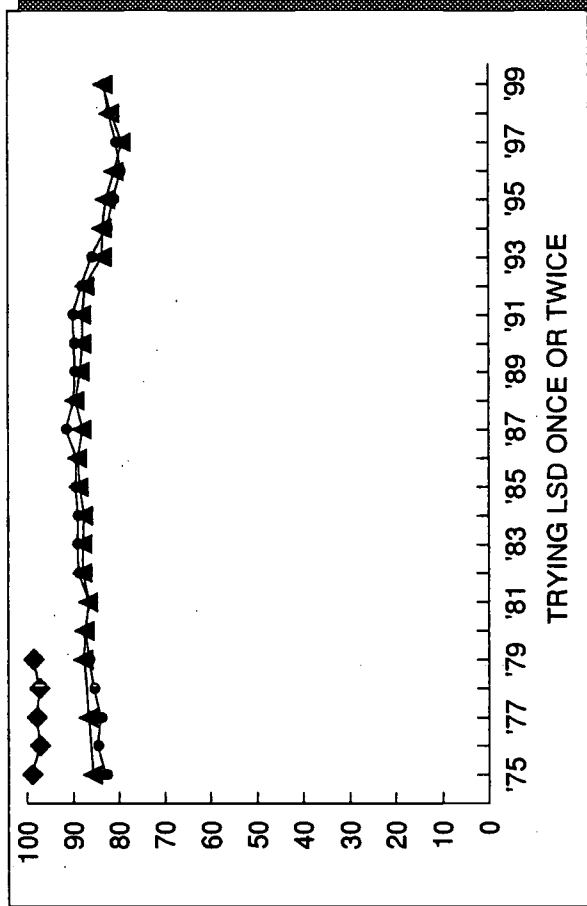
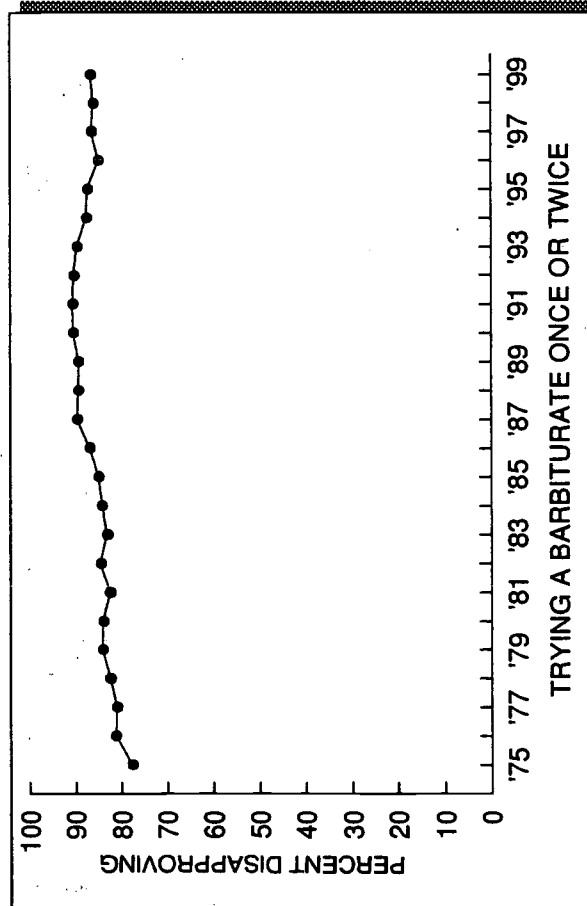
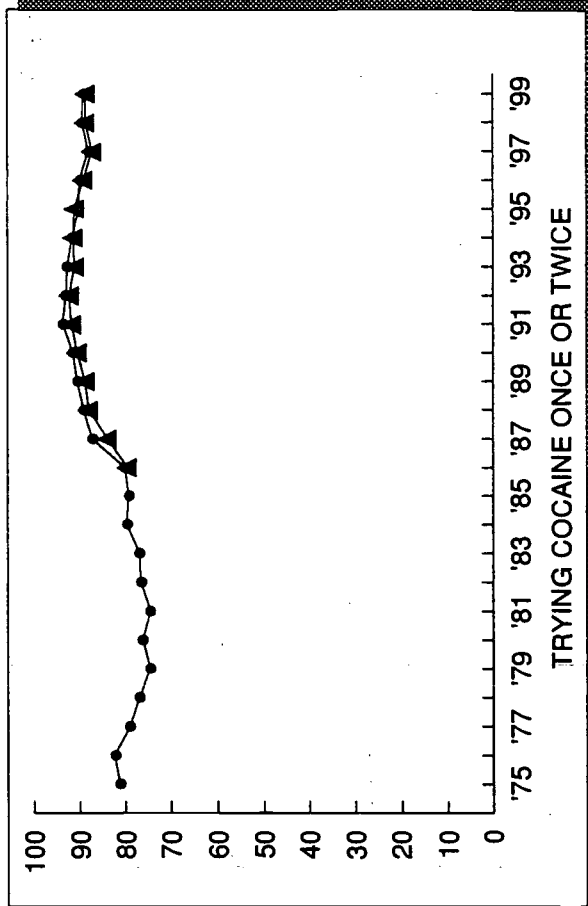
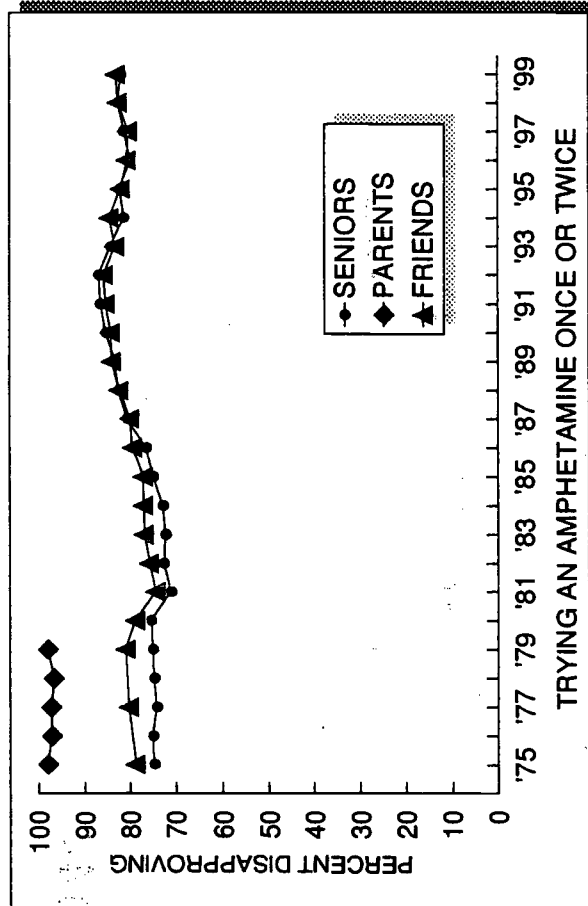
*Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

FIGURE 9-1a
Trends in Disapproval of Illicit Drug Use
Twelfth Graders, Parents, and Peers



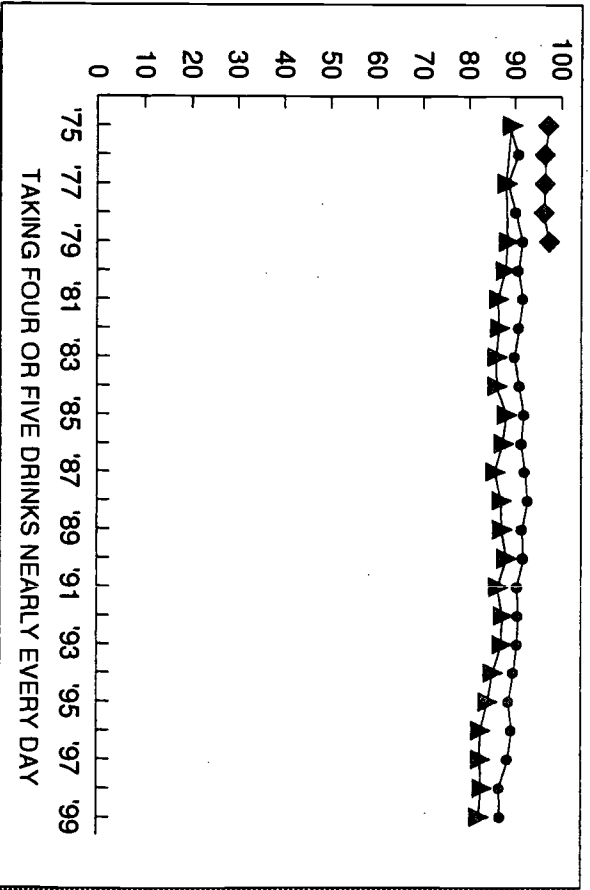
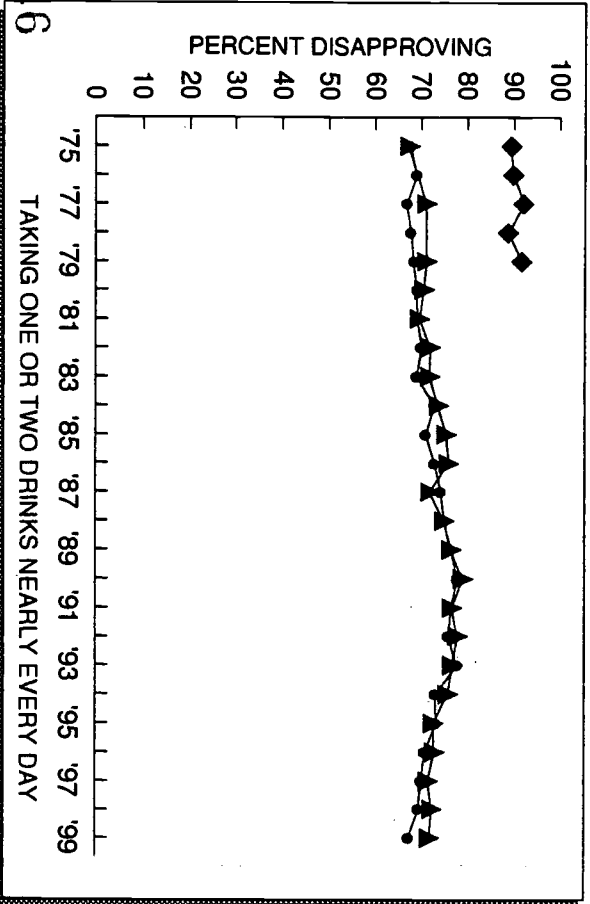
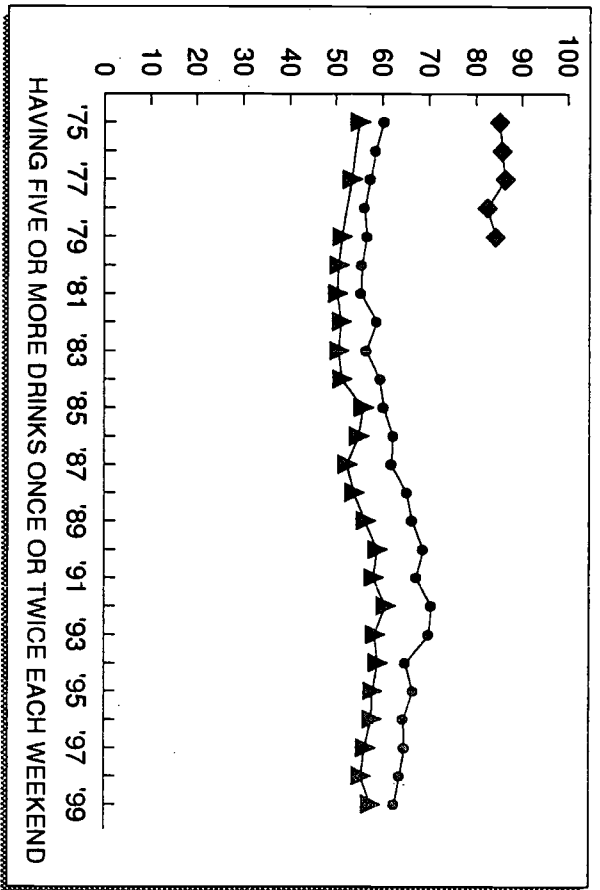
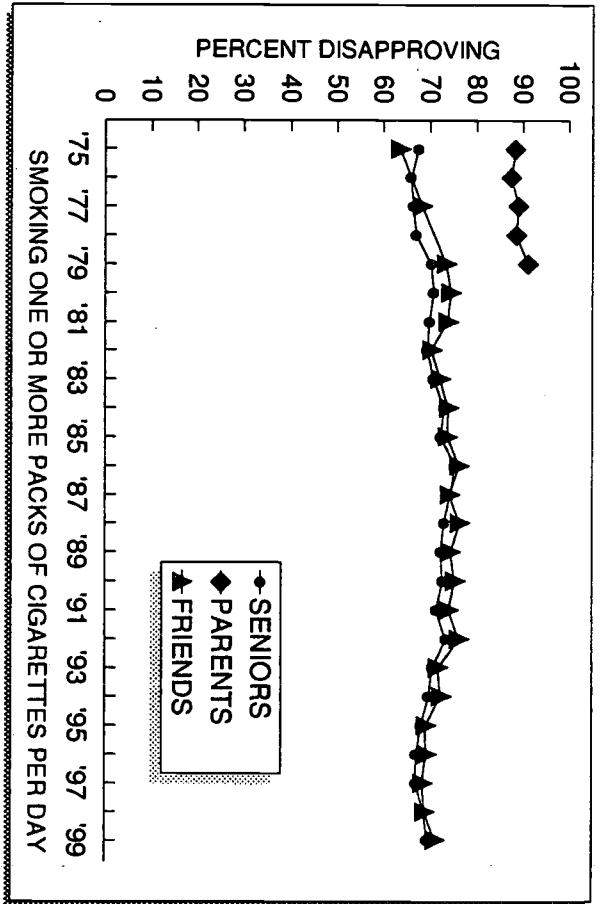
NOTE: The 1975, 1977, and 1979 points indicating the percentage of seniors who said their friends would disapprove have been adjusted to compensate for lack of comparability of question-context between administration years. (See text for discussion.)

FIGURE 9-1b
Trends in Disapproval of Illicit Drug Use
Twelfth Graders, Parents, and Peers



NOTE: The 1975, 1977, and 1979 points indicating the percentage of seniors who said their friends would disapprove have been adjusted to compensate for lack of comparability of question-context between administration years. (See text for discussion.)

FIGURE 9-2
Trends in Disapproval of Licit Drug Use
Twelfth Graders, Parents, and Peers



NOTE: The 1975, 1977, and 1979 points indicating the percentage of seniors who said their friends would disapprove have been adjusted to compensate for lack of comparability of question-context between administration years. (See text for discussion.)

FIGURE 9-3

Trends in Thirty-Day Prevalence of Marijuana Use and Friends' Use of Marijuana for Twelfth Graders

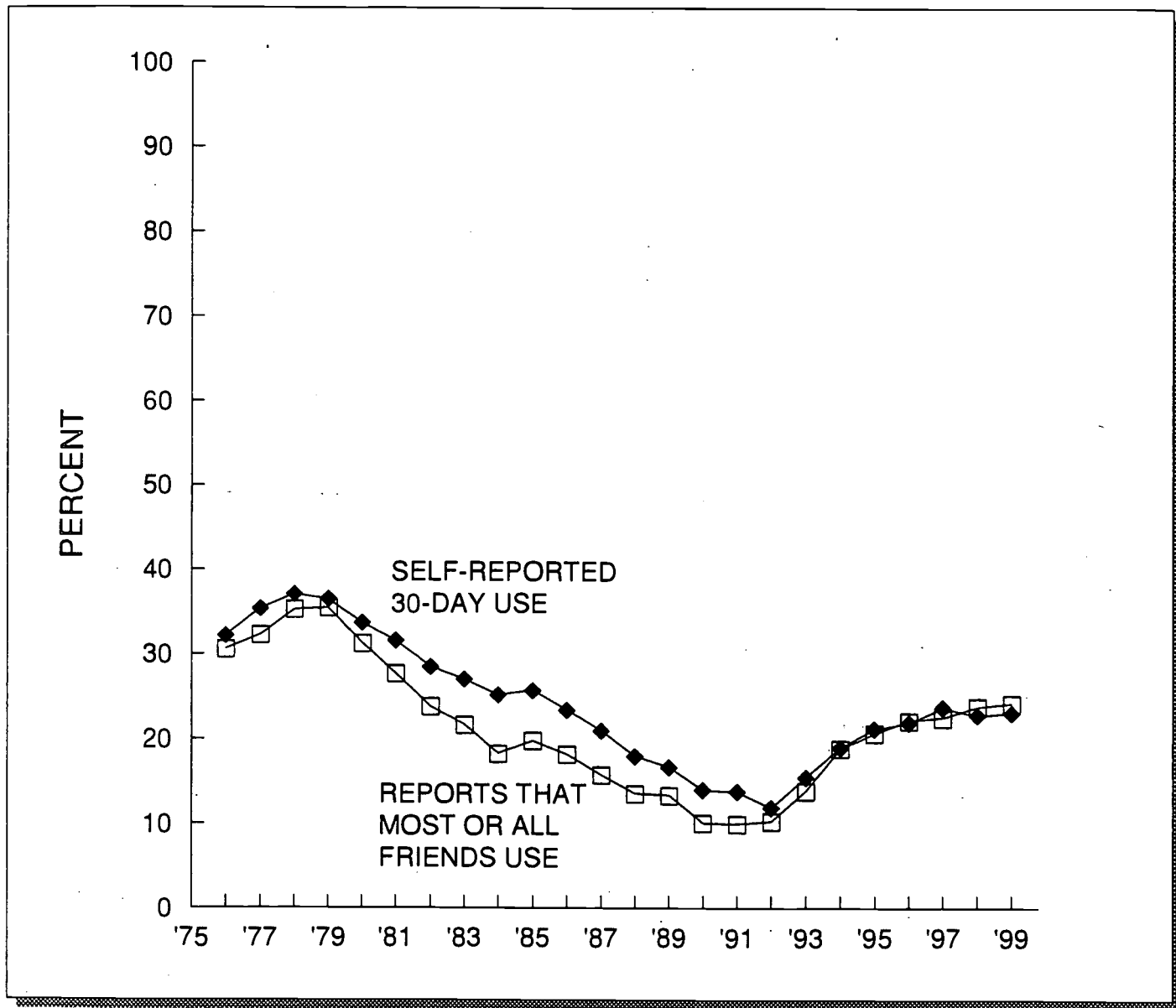
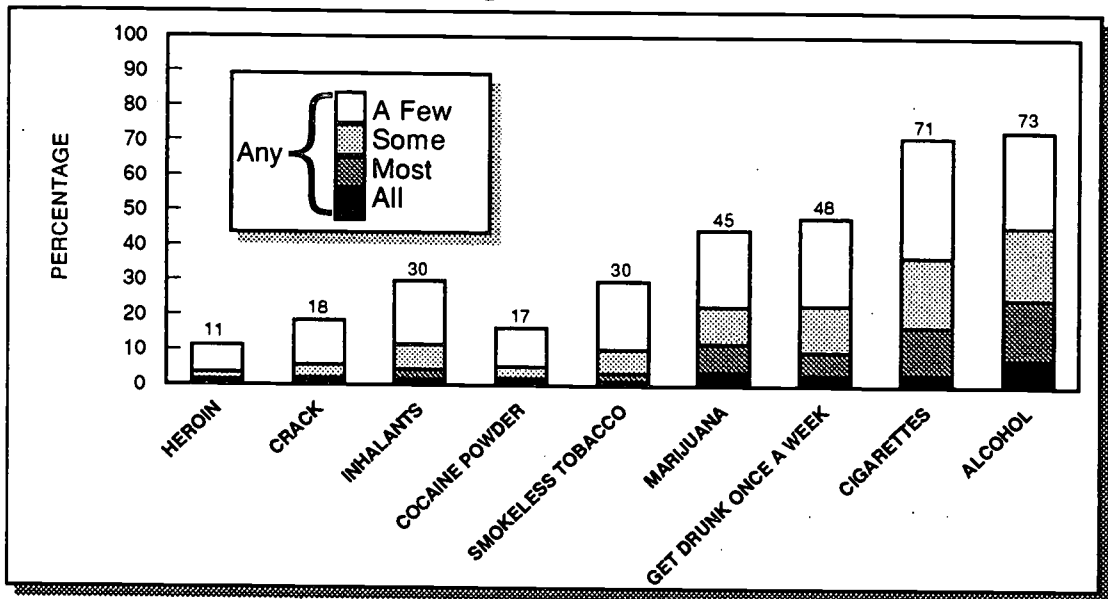


FIGURE 9-4

Proportion of Friends Using Each Drug
as Estimated by Eighth, Tenth, and Twelfth Graders, 1999

Eighth Graders



Tenth Graders

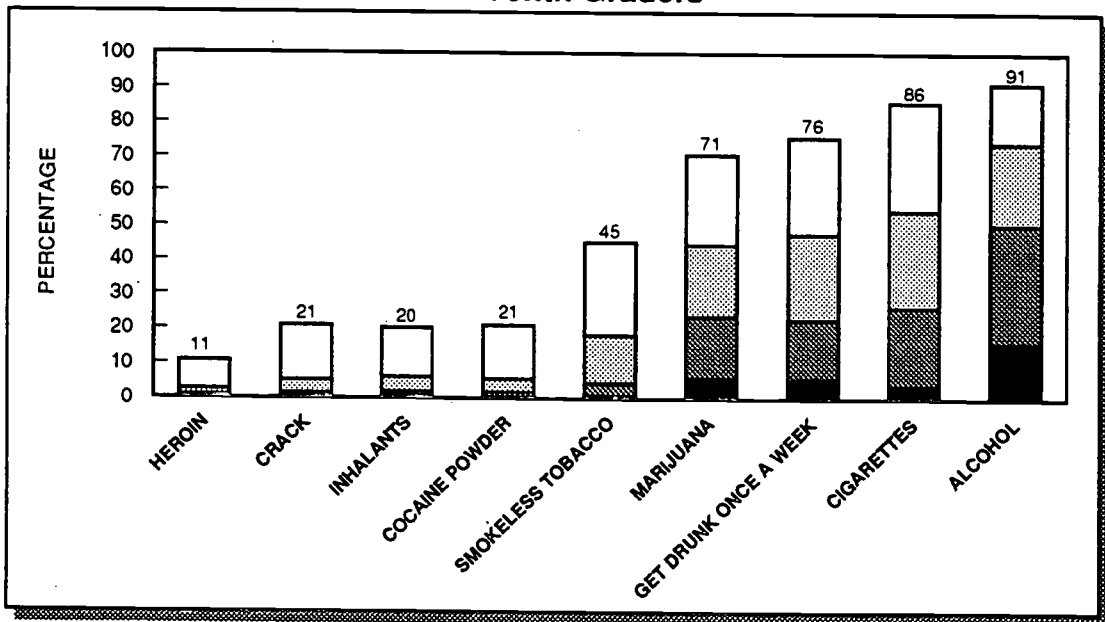
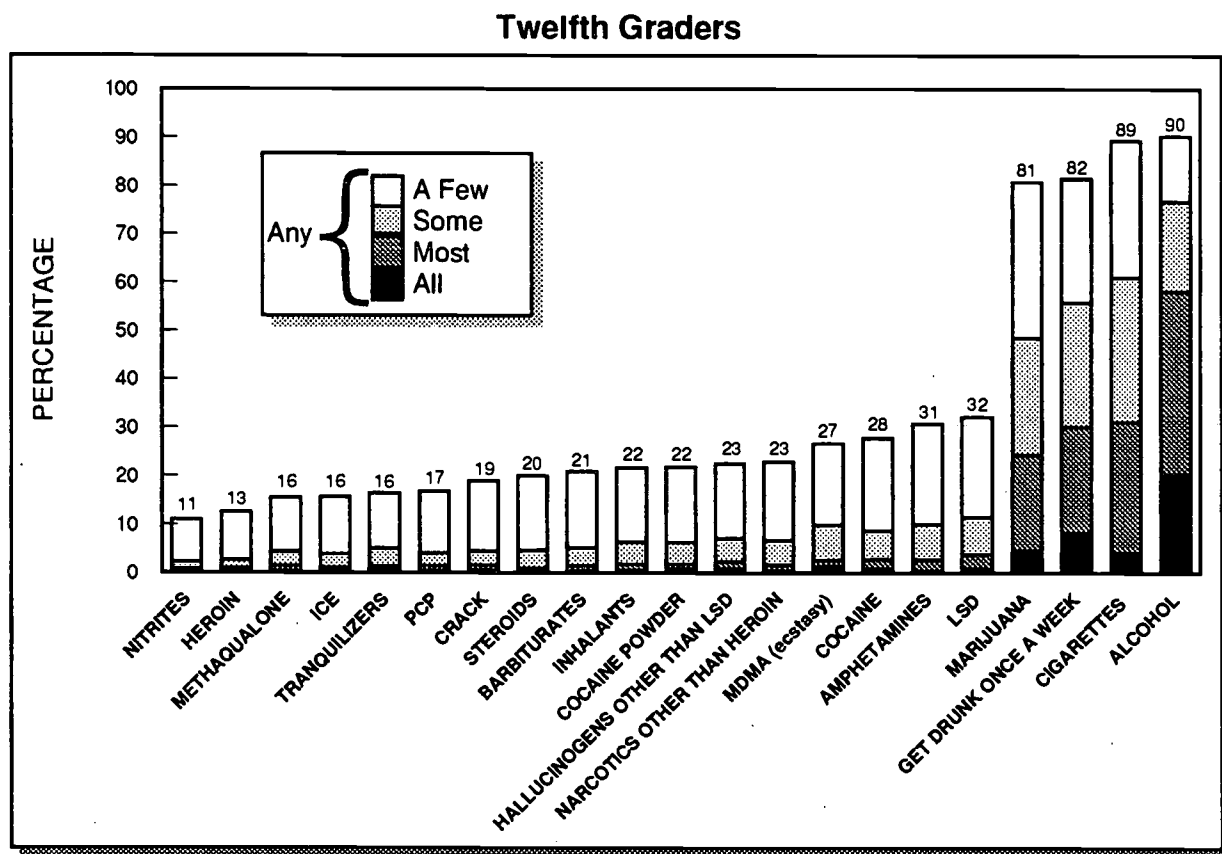


FIGURE 9-4 (cont.)

**Proportion of Friends Using Each Drug
as Estimated by Eighth, Tenth, and Twelfth Graders, 1999**



450

FIGURE 9-5a

Trends in Perceived Availability of Drugs for Twelfth Graders

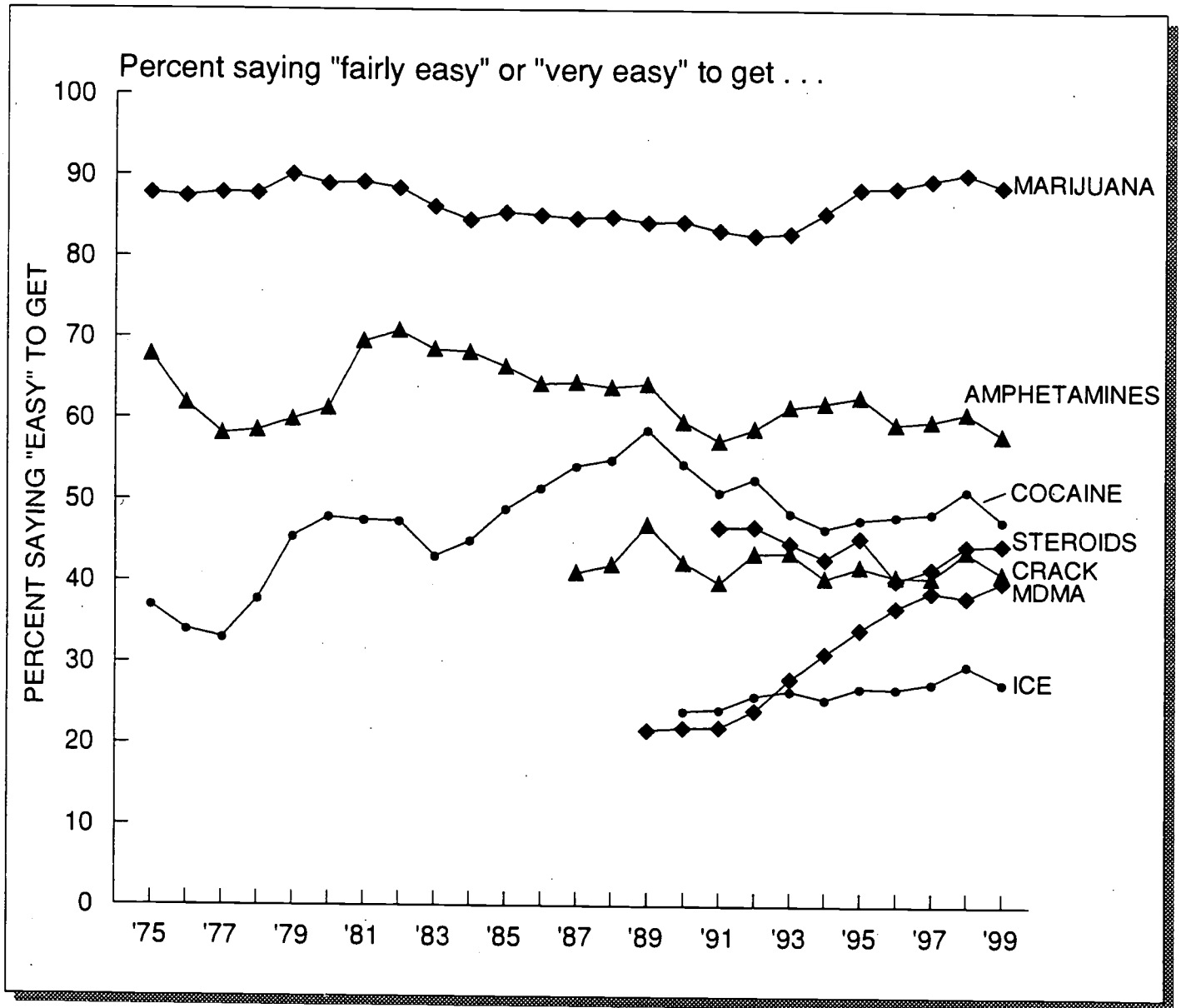


FIGURE 9-5b

Trends in Perceived Availability of Drugs for Twelfth Graders

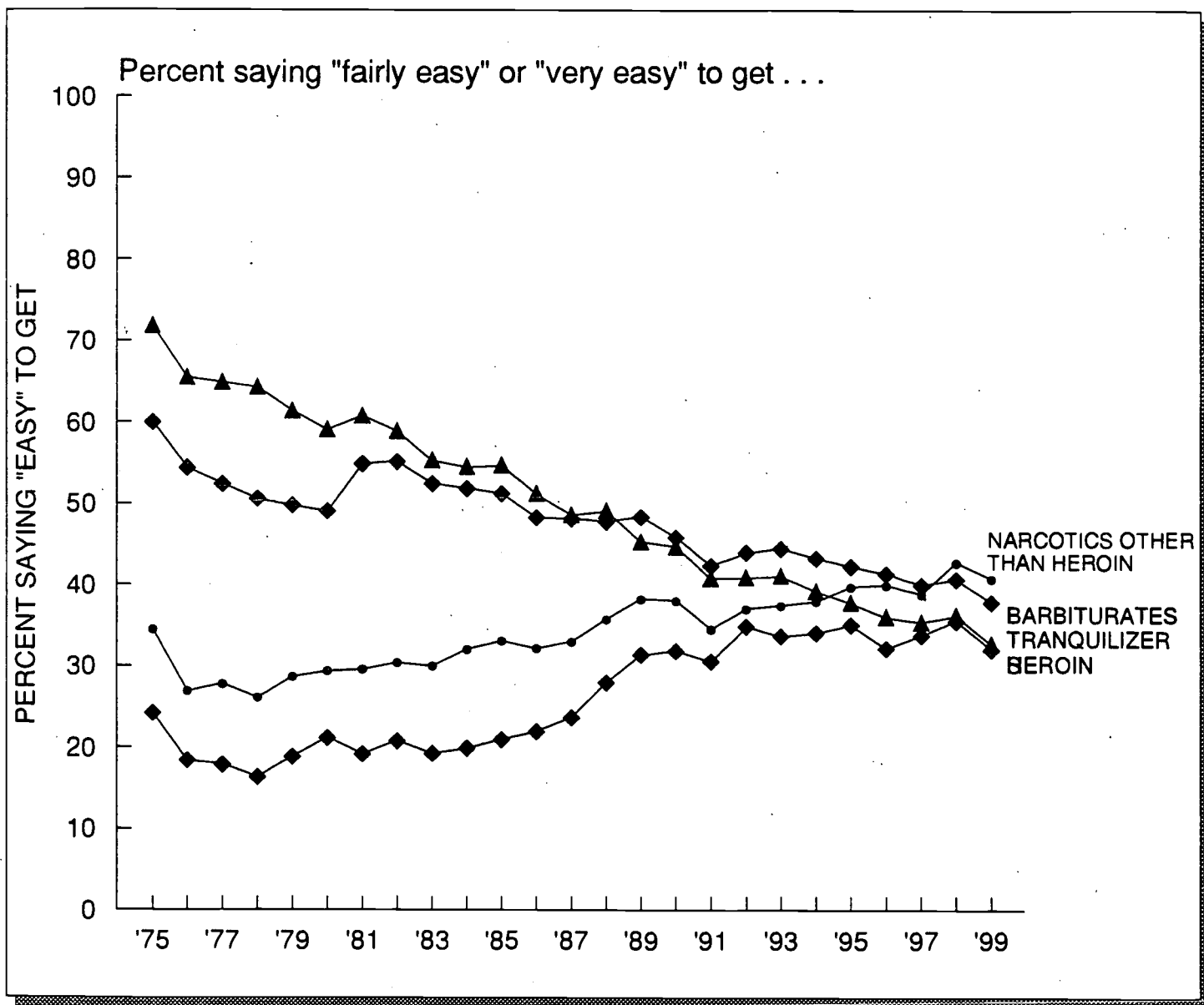
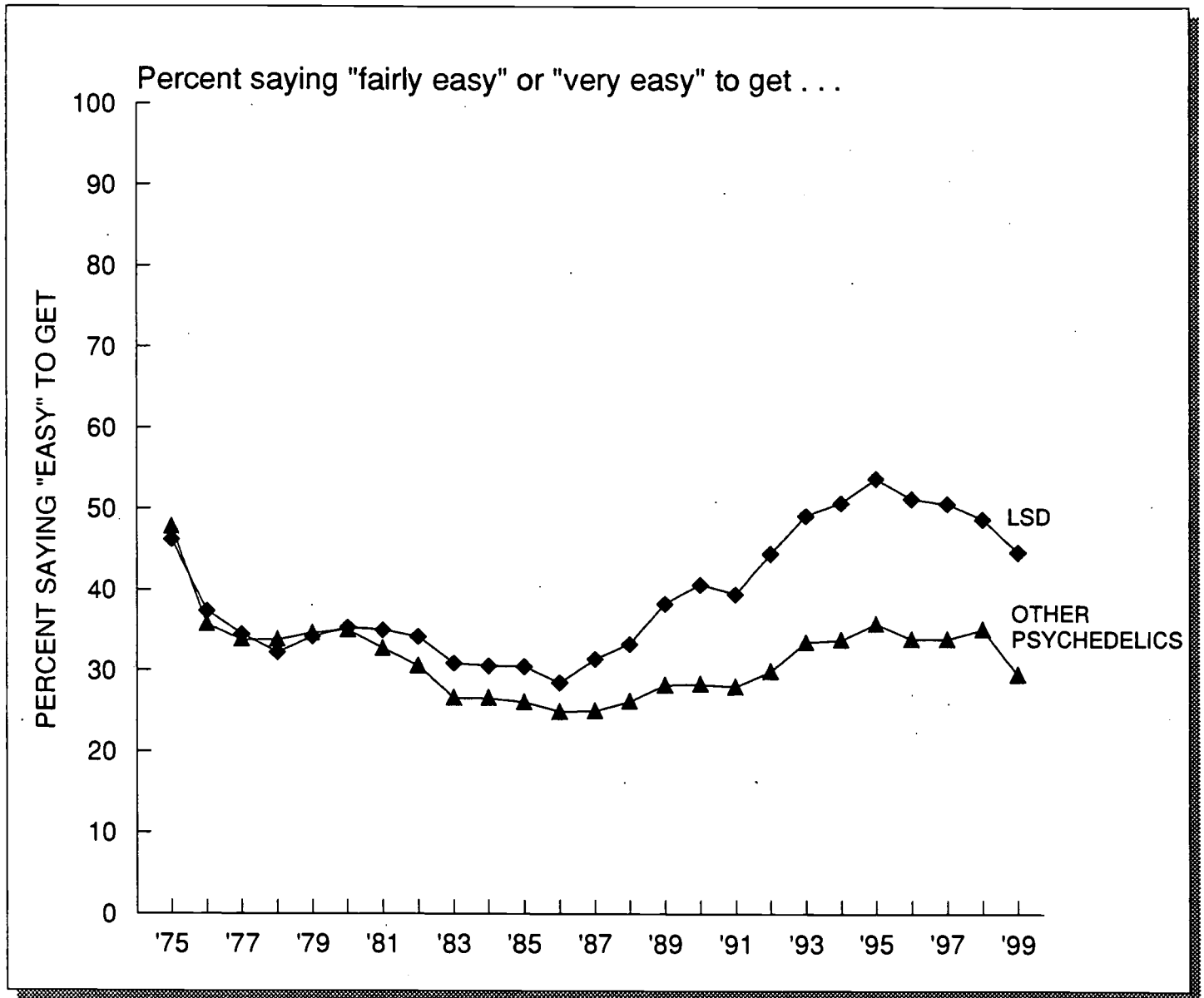


FIGURE 9-5c

Trends in Perceived Availability of Drugs for Twelfth Graders



Chapter 10

OTHER FINDINGS FROM THE STUDY

This section presents additional recent findings from the Monitoring the Future study. The first two sections, on the use of nonprescription stimulants and the daily use of marijuana, represent original analyses not reported elsewhere. They are followed by synopses of some findings that have been presented elsewhere.

THE USE OF NONPRESCRIPTION STIMULANTS

As is discussed in other chapters of this report, between 1979 and 1981 we observed a substantial increase in reported stimulant use by high school students. We had reason to believe that a fair part of that increase was attributable to the use of nonprescription stimulants of two general types—"look-alike" drugs (pseudo-amphetamines, usually sold by mail order, which look like and often have names that sound like real amphetamines) and over-the-counter stimulants (primarily diet pills and stay-awake pills). These drugs usually contain caffeine, ephedrine, and/or phenylpropanolamine as their active ingredient(s).

Prompted by this development, we introduced new questions in some questionnaire forms, beginning in 1982, in order to assess more accurately the use of amphetamines as well as to assess the use of the "look-alikes," diet pills, and stay-awake pills of the nonprescription variety. For example, in a single form of the twelfth-grade questionnaire forms, beginning in 1982, respondents were asked to indicate on how many occasions (if any) they had taken nonprescription diet pills such as Dietac™, Dexatrim™, and Prolamine™ (a) in their lifetime, (b) in the prior 12 months, and (c) in the prior 30 days. (These correspond to the standard usage questions asked for all drugs.) Similar questions were asked about the use of nonprescription stay-awake pills (such as No-Doz™, Vivarin™, Wake™, and Caffedrine™) and the "look-alike" stimulants. (The latter are described at some length in the actual question.)

In three of the five questionnaire forms in 1982 and 1983 (and in all questionnaire forms thereafter) respondents were also asked about their use of prescription amphetamines, with explicit instructions to exclude the use of over-the-counter and "look-alike" drugs.

Prevalence of Use in 1999 among Seniors

- Tables 10-1a, 10-1b, and 10-1c provide the prevalence of use levels for these various classes of stimulants. As can be seen, a substantial proportion of twelfth-grade students (17%) has used over-the-counter *diet*

pills and 5% have used them in just the past month. Some 0.7% of seniors reported using them daily.

- Based on the data presented earlier in this report, we know that very similar proportions are using actual *amphetamines* outside of medically prescribed use: twelfth graders' self-reported prevalence rates in 1999 were 16% lifetime, 5% monthly, and 0.3% daily use.
- Currently, *stay-awake pills* are the most widely used stimulant, with 26% lifetime, 7% monthly, and 0.6% daily prevalence rates.
- Somewhat fewer students knowingly used the *look-alikes* than used diet pills or amphetamines (adjusted), with 9% lifetime, 2% monthly, and 0.5% daily prevalence rates. Of course, it is probable that some proportion of those who thought they were getting real amphetamines were actually sold look-alikes, which are far cheaper for drug dealers to purchase.
- In 1983, the newly revised question on *amphetamine use* yielded prevalence estimates about one-quarter to one-third lower than those yielded by the original version of the question, indicating that, indeed, some distortion in the unadjusted estimates occurred as a result of respondents including some nonprescription stimulant use. However, we believe that there should be little or no such distortion in recent years, primarily due to improvement in the questions but also to the considerable decline in use of diet pills and look-alikes, as discussed below.

Subgroup Differences

- Figures 10-1a-c show the prevalence figures for these drug classes for *males and females* separately. It can be seen that the use of *diet pills* is dramatically higher among females than among males. In fact, the absolute prevalence levels for twelfth-grade females are impressively high; 27% reported some experience with them and 8%—or about one in every thirteen females—reported use in just the last month. For all other types of stimulants, the prevalence rates for both sexes are fairly close.
- A similar comparison between those planning four years of college (referred to here as the “college-bound”) and those who are not, has shown some differences in use of nonprescription stimulants in the past (Tables 10-2a-c). This year's results, however, show practically no difference between these two groups in their use of *stay-awake pills*: the annual prevalence rate is 14% for the noncollege-bound versus 15% for the college-bound. Use of *diet pills* is also very similar for both groups. The annual prevalence for the noncollege-bound is 9% versus 10% for the college-bound. The use of *look-alikes* is only slightly higher among the noncollege-bound (5% versus 4%).

- With regard to regional differences, there is little difference for *diet pills*, with all four regions having an annual prevalence of 9%-11%. For *stay-awake pills*, the North Central region still has the highest prevalence rate (17%) but the other regions are only slightly lower (13% to 16%). The *look-alikes* show a low prevalence rate in the West (1.9%) with little regional differences among the other regions at present (5% to 7%).
- For *diet pills*, annual prevalence is now somewhat higher in the non-urban areas (13%) than in large cities (9%) or other metropolitan areas (10%). The *stay-awake pills* and the *look-alikes* are also both lower in the large cities than in the other two strata.
- The use of all of the nonprescription stimulants (i.e., *diet pills*, *stay-awake pills*, and “*look-alikes*”) is substantially higher among those who have used illicit drugs than among those who have not, and it is highest among those who have become most involved with illicit drugs (see Table 10-3). For example, only 2% of twelfth graders who have abstained from any illicit drug use report ever having used a *look-alike* stimulant, compared to 5% of those who report having used only marijuana and 28% of those who report having used some illicit drug other than marijuana (usually in addition to marijuana).

Trends in Use among Seniors

- The questions on amphetamine use were revised in 1982 to eliminate the inappropriate reporting of the use of nonprescription stimulants. It is worth noting that the figures for the 1982 use of *amphetamines adjusted* (i.e., excluding the use of nonprescription stimulants) were higher than the *unadjusted* figures for all years prior to 1980. (See Tables 5-1 through 5-4 in Chapter 5.) This suggests that amphetamine use indeed increased between 1979 and 1982—or at least increased in the use of what, to the best of the respondents’ knowledge, were amphetamines. Not all of the increase in amphetamine use was an artifact. The data presented earlier on the proportion of seniors who were around people using amphetamines to “get high” support this conclusion (see Chapter 9).
- The longer-term trends for the look-alikes seem to parallel pretty closely the long-term trends for illicit drug use. There was a decline in annual prevalence from 10.8% in 1982 to 5.2% in 1991, followed by some increase (to 6.8% in 1995), with some fall off thereafter (to 5% in 1999). Most of the initial decline occurred among those who had used illicit drugs other than marijuana—the group primarily involved in the use of look-alikes, who themselves were a shrinking proportion of the total (see Table 10-1c).

- The use of *diet pills* decreased even more substantially, in this case between 1983 and 1993. Over that interval, annual prevalence fell from 21% to 8%. Nearly all the decline occurred among the group who had used illicit drugs other than marijuana. After 1991, use rose some (to 10% in 1995), where it has remained since (see Table 10-1a).
- Unlike the use of other nonprescription stimulants, the use of *stay-awake pills* increased substantially in the early to mid-1980s (see Table 10-1b). The annual prevalence of use increased from 12% in 1982 (when use was first measured) to 26% in 1988, dropped back somewhat, to 20% by 1992, and remained fairly level for several years before dropping back to 16% in 1999. (Both the increase and decrease were observed most strongly among those who had used illicit drugs.)
- All subgroups (defined by sex, college plans, region of the country, and population size) showed similarly large increases from 1982 to 1988 in their use of *stay-awake pills*. All subgroups' annual prevalence of use decreased between 1988 and 1992, though there was rather little decrease in the North Central region. After 1992, use stabilized in virtually all subgroups until the 1999 decline, which also occurred broadly.
- Subgroup differences in trends in the use of *diet pills*, for the most part, reflect the overall trends.
- Note in Tables 10-2a-c that the annual prevalence rates among African American students are substantially lower than among Whites and have been for a long time.
- Subgroup differences in trends in the use of *look-alikes* also generally reflect the overall trends.

THE USE OF MARIJUANA ON A DAILY BASIS

In past reports in this series, we summarized a number of findings regarding daily marijuana users, including what kind of people they are, how use changes after high school for different subgroups, and what daily users see as the negative consequences of their use.⁶² In 1982, a special question segment was introduced in one twelfth-grade questionnaire form to secure more detailed measurement of individual patterns of daily marijuana use. More specifically, respondents were asked (a) whether at any time during their lives they had ever used marijuana on a daily or near-daily basis for at least a month

⁶²For the original reports see the following, which are available from the author: Johnston, L. D. (1981). Frequent marijuana use: Correlates, possible effects, and reasons for using and quitting. In R. DeSilva, R. Dupont, & G. Russell (Eds.), *Treating the marijuana dependent person* (pp. 8-14). New York: The American Council on Marijuana. Also see Johnston, L. D. (1982). A review and analysis of recent changes in marijuana use by American young people. In *Marijuana: The national impact on education* (pp. 8-13). New York: The American Council on Marijuana.

and, if so, (b) how recently they had done so, (c) when they first had done so, and (d) how many total months they had smoked marijuana daily, cumulating over their whole lifetime. The results of our analyses of the data follow.

Lifetime Prevalence of Daily Marijuana Use among Seniors

- ***Current daily marijuana use***, defined as use on 20 or more occasions in the past 30 days, has fluctuated widely since the study began, as we know from the trend data presented in Chapter 5. Among twelfth-grade respondents, it rose from 6% in 1975 to 10.7% in 1978, declined to 1.9% by 1992, and then began to increase again. In 1999, it stood at 6%, the highest prevalence rate since 1982.
- Using the newer questions on duration of daily use, we have found that, since 1982, the ***lifetime prevalence of daily marijuana use for a month or more*** has been far higher than current daily marijuana use—e.g., at 18% in 1999 (almost one in every five seniors) versus 6% for current daily use. In other words, the proportion that described themselves as having been daily or near-daily users at some time in their lives is three times as high as the number who described themselves as current daily users.

However, we believe it very likely that this ratio has changed dramatically over the life of the study as a result of the large secular trends in daily use. Therefore, it would be inaccurate to extrapolate, for example, that the lifetime prevalence of daily use for the class of 1978 was three to four times their 10.7% current use figure for that year. An investigation of data from a follow-up panel of the class of 1978 confirmed this assertion.

Utilizing data collected in 1989 from follow-up panels from the graduating classes of 1976 through 1988 combined, we found that the lifetime prevalence of daily marijuana use for these graduates (ranging in age from about 19 to 31) was 20%. Approximately one-fourth of the older portion of that group—graduates from the classes of 1976 through 1979—indicated having been daily marijuana users for a month or more at some time in their lives.

Grade of First Daily Marijuana Use

- Of the 1999 seniors who reported being daily marijuana users at some time in their lives (i.e., 18% of the sample), over half (60% of all daily users, or 10.7% of all seniors) began that pattern of use *before* tenth grade. We are confident that different graduating classes show disparate age-associated patterns of onset, depending on the secular trends and, to a lesser degree, cohort effects. The percentages of all seniors who started daily marijuana use in each grade level are presented in Table 10-4.

Recency of Daily Marijuana Use by Seniors

- Three-fourths (77%) of those twelfth graders who reported *ever* having been daily marijuana users (for at least a one-month interval) have used marijuana that frequently in the past year. About one-quarter (22%) of them said they last used the drug that frequently “about two years ago” or longer.
- More than one-third (36%) of all seniors who said they have ever been daily marijuana users for a month or more (6.5% of the entire sample) classified themselves as having used it daily or almost daily “during the past month.” Our operational definition of current daily users on the standard prevalence and frequency of use questions—20 or more uses in the last 30 days—yields a 6% rate in 1999, close to the 6.5% rate based on the respondents’ own definition. In fact, these two rates generally have been quite close across the years.

Duration of Daily Marijuana Use by Seniors

- It seems likely that the most serious long-term health consequences associated with marijuana use will be directly related to the duration of heavy use, and in the late 1970s there was considerable concern that a large population of chronic heavy users would evolve. Thus, a question was introduced asking respondents to estimate the *cumulative* number of months they have smoked marijuana daily or nearly daily. While hardly an adequate measure of the many possible cross-time patterns of use (it may eventually prove to be important to distinguish among a number of these patterns), this question does provide a gross measure of the total length of exposure to heavy use.
- Table 10-4 gives the distribution of answers to this question. It shows that of the 18% of 1999 seniors with any daily marijuana use experience lasting a month or more, slightly more than half (53%) reported that their intervals of daily use totaled “about one year” or less. (One-quarter, or 25%, used marijuana daily less than three months cumulatively.) More than one-third (40%, or 7.2% of *all* seniors) used marijuana daily “about two years” or more cumulatively. Fortunately, only about one percent (1.4%) reported daily use of the drug for a total of 6 years or longer, but the fact that one in fourteen seniors today has smoked marijuana daily for two years or more may come as a shock to many.

Subgroup Differences

- There is some *gender difference* in the proportion having ever been a daily user (18.5% for males and 14.4% for females), and the cumulative

duration of daily use is somewhat longer for males. (The gender differences have been larger in many previous years.)

- Whether or not the student has *college plans* is strongly related to lifetime prevalence of daily marijuana use, as well as to current prevalence. Of those planning four years of college, 14.2% had used marijuana daily compared with 22.1% of those without such plans. In addition, the college-bound users show a distinctly shorter cumulative duration of use, and a lower proportion of them used marijuana daily during the past month. Among those in each group who did use the drug daily, the age-at-onset is younger for the noncollege-bound (see Table 10-4).
- At present there are some *regional differences* in lifetime prevalence of daily marijuana use. The North Central is lowest (at 14%) while the others are between 18% and 20%.
- The differences in lifetime daily use associated with *urbanicity* are modest (as is true for current daily use). Lifetime prevalence of daily marijuana use is 16% in the large cities, 19% in the smaller cities, and 17% in the nonurban areas.

Trends in Use of Marijuana on a Daily Basis

- Table 10-5a presents trend data on the lifetime prevalence of daily marijuana use for a month or more. It shows a decline from 1982, when this measure was first used, through 1992—from 21% to 8%. By 1997 it had risen substantially to 19%, before easing to 18% in 1998, where it remained in 1999.
- Between 1982 and 1992, the decline in lifetime prevalence of *daily marijuana* use was slightly stronger among males (from 20% to 8%) than among females (from 18% to 8%); the absolute drop was larger among the noncollege-bound (23% to 11%) than among the college-bound (14% to 6%), although the proportional drop was not. In the turnaround that began in 1993, most of the increase appears to have occurred among the males, who are now back to 19%, and the noncollege-bound, who are back to 22%.
- Lifetime prevalence of daily marijuana use had dropped in all four regions of the country. Between 1982 and 1992, it dropped in the Northeast, North Central, and South, and between 1982 and 1990, it dropped in the West. The decline was greatest in the Northeast, where it dropped from 25% in 1982 to 9% in 1992. The current daily use measure in this question set shows the recent turnaround occurring in all regions since 1991 or 1992, with steady increases through 1997. A leveling and possible decline was observable in 1998, however.

- All three population density levels exhibited long-term declines in lifetime daily use from 1982 to 1992, and all showed an increase thereafter, until 1998, when a leveling or decline was observed in all three strata.
- Daily prevalence of use *prior to tenth grade* declined from 13% in the class of 1982 to 5% in the class of 1993. (This corresponds to people who were ninth graders between 1979 and 1990.) The decline in earlier use halted among the twelfth graders surveyed in 1993 and prevalence then began to climb. Subgroup trends may be examined in Table 10-5b.

OTHER PUBLICATIONS FROM THE STUDY

A number of other publications emanate from the Monitoring the Future study each year. Below we give a brief synopsis of the findings contained in five published this year. A more complete listing may be found on the project's Web site.

*Comparing Confidential versus Anonymous Questionnaire Results*⁶³

Since 1975, the Monitoring the Future study has been annually surveying nationally representative samples of twelfth-grade students under confidential conditions. Names and addresses are requested so that longitudinal panel follow-up surveys can be conducted by mail.

When representative samples of eighth- and tenth-grade students were added in 1991 to the annual study, these students were surveyed under confidential conditions, just as the twelfth graders had been since the study began in 1975 and for the same reason—to permit follow-up surveys. For a variety of reasons, it was later decided that there would be no further longitudinal panel follow-up surveys of eighth and tenth graders, making it unnecessary to obtain names and addresses. Accordingly, in 1998 we chose to switch from a confidential to a fully anonymous procedure. Beginning with the new schools in 1998 (i.e., schools chosen to participate in both 1998 and 1999), the surveys have used anonymous procedures for the eighth and tenth grades. A comparison group of schools comprised the schools participating in 1997 and 1998, all of whom were surveyed under the confidential procedure in both years. Thus, in 1998 there were two quite well-matched groups of schools: those participating for the first time (anonymous) and those participating for a second time (confidential). Both of these half-samples are national replicates.

This article compared the reporting of drug use and related attitudes and beliefs by national samples of eighth- and tenth-grade students under these two different modes of administration: confidential and anonymous. The results showed that there were clearly

⁶³ O'Malley, P. M., Johnston, L. D., Bachman, J. G., & Schulenberg, J. (2000). A comparison of confidential versus anonymous survey procedures: Effects on reporting of drug use and related attitudes and beliefs in a national study of students. *Journal of Drug Issues*, 30, 35-54.

no differences between the conditions in tenth graders' reports of drug use and related attitudes and beliefs. With eighth graders, the results showed at most only a very modest mode of administration effect, and quite possibly no effect at all. The results are reassuring to researchers who conduct surveys of drug use and related attitudes and beliefs among secondary school students.

Substance Use among African American Youth⁶⁴

Although there is a growing literature on racial/ethnic differences in alcohol, tobacco, and other drug use among adolescents, relatively little is known about the social epidemiology of drug use *within* the black youth population. The purpose of this article was to address this knowledge gap. Monitoring the Future project data were used to examine empirically the prevalence, trends, and sociodemographic correlates of drug use among nationally representative samples of African American eighth, tenth, and twelfth graders (approximate N = 25,000).

Alcohol is the drug most widely used by African American youth, followed by tobacco and marijuana. By twelfth grade, seven in ten African American secondary students have used alcohol, less than 50% have smoked cigarettes, 25% have used marijuana, and less than 2% have used cocaine. Trend data indicate that, although alcohol use has been relatively stable over time, cigarette and marijuana use increased during the 1990s. Gender and family structure are significant sociodemographic correlates of drug use, with use being, on average, higher among males than females, and higher among students who do not live with either of their parents than among those who live with at least one of their parents. The relationships between drug use and socioeconomic status, urbanicity, and region vary depending on students' grade level and the specific drug in question. These findings provide an important empirical baseline for future research on the epidemiology and etiology of drug use among African American young people.

Changes in Smoking Prevalence among High and Low Risk Strata⁶⁵

This study used Monitoring the Future data from high school seniors to identify students at low, moderate, and high risk for cigarette use, and to examine changes in the prevalence of daily smoking within risk groups from 1976 to 1995. Risk classification was based on grade point average, truancy, nights out per week, and religious commitment. Logistic regression models were used to estimate trends for all seniors and separately for White (n = 244,221), African American (n = 41,005), and Hispanic (n = 18,457) male and female subgroups. Risk group distribution (low = 45%, moderate = 30%, and high = 25%) changed little over time. Between 1976 and 1990, greater absolute declines in smoking occurred among high-risk students (17 percentage points) than among low-risk students (6 percentage points). Particularly large declines occurred

⁶⁴ Wallace, J. M., Jr., Forman, T. A., Guthrie, B. J., Bachman, J. G., O'Malley, P. M., Johnston, L. D. (1999). The epidemiology of tobacco, alcohol, and other drug use among African American youth. *Journal of Studies on Alcohol*, 60, 800-809.

⁶⁵ An, L. C., O'Malley, P. M., Schulenberg, J., Bachman, J. G., and Johnston, L. D. (1999). Changes at the high end of risk in cigarette smoking among U.S. high school seniors, 1976-1995. *American Journal of Public Health*, 89, 699-705.

among high-risk African Americans and Hispanics. Smoking increased in all risk groups in the 1990s. It was concluded that among high school seniors, a large part of the overall change in smoking occurred among high-risk youth. Policies and programs to reduce smoking among youth must have broad appeal, especially to those at the higher end of the risk spectrum.

Drug Use in the Military⁶⁶

The U.S. armed forces adopted "zero tolerance" policies concerning illicit drug use in 1980 and later developed policies to discourage tobacco and alcohol abuse. This article examined drug use among young active-duty recruits both before and after enlistment, compared with nonmilitary age-mates, and documented historical shifts in such drug use across two decades.

Analyses employed Monitoring the Future's longitudinal panel data from twenty nationally representative samples of high school seniors (classes of 1976-1995), each surveyed just before graduation and again within two years. Separate analyses for men (n = 12,082) and women (n = 15,345) contrasted those who entered military service, college, and civilian employment.

Illicit drug use declined more among young military recruits than among their civilian counterparts. Analyses of male recruits at multiple time periods showed (1) declines in the prevalence of marijuana use and cocaine use after the initiation of routine military drug testing and (2) lower proportions of smokers of half-a-pack or more of cigarettes per day who entered service after the initiation of tobacco bans during basic training.

Recent military drug policies appear to deter illicit drug use among enlistees and also to discourage some smokers from enlisting.

Changes in Well-Being and Substance Use in Young Adulthood⁶⁷

This study utilized longitudinal panel data from the classes of 1976 through 1992 to examine cohort differences in well-being and in substance use with a particular emphasis on determining whether the course of well-being and substance use during the transition to young adulthood varies as a function of cohort.

The transition out of high school and into young adulthood is associated with an increased sense of well-being. This study showed that the post-high school upturn in some aspects of well-being varied somewhat by cohort, gender, and life path. The major exception to a widespread increase in self-esteem, self-efficacy, and social support occurred among those who were not progressing in terms of educational, occupational, or

⁶⁶ Bachman, J. G., Freedman-Doan, P., O'Malley, P. M., Johnston, L. D., and Segal, D. R. (1999). Changing patterns of drug use among U.S. military recruits before and after enlistment. *American Journal of Public Health, 89*, 672-677.

⁶⁷ Schulenberg, J., O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (2000). Spread your wings and fly: The course of well-being and substance use during the transition to young adulthood. In L. J. Crockett & R. K. Silbereisen (Eds.), *Negotiating adolescence in times of social change* (pp. 224-255). New York: Cambridge University Press.

family pursuits. The increase in self-efficacy (and a concomitant decrease in fatalism) that accompanies the post-high school transition has been somewhat less pronounced among recent cohorts compared to earlier ones.

The transition out of high school was also associated with increased substance use. However, changes in substance use appeared to be more influenced by social change. The extent of increase in substance use, or even whether an increase occurred, depends on one's life path: greater increases were associated with leaving the parental home, and less increases (or decreases) were associated with getting married.

OTHER DATA ON CORRELATES AND TRENDS

Hundreds of correlates of drug use, without accompanying interpretation, may be found in the series of annual volumes from the study entitled *Monitoring the Future: Questionnaire Responses from the Nation's High School Seniors*.⁶⁸ For each year since 1975, a separate hardbound volume presents univariate and selected bivariate distributions on all questions contained in the study. A host of variables dealing explicitly with drugs—many of them not covered here—are contained in that series. Bivariate tables are provided for *all* questions each year distributed against an index of lifetime illicit drug involvement, making it possible to examine the relationships between hundreds of potential “risk factors” and drug use.

A special cross-time reference index is contained in each volume to facilitate locating the same question across different years. One can thus derive *trend* data on some 1,500 to 2,000 variables for the entire sample or for important subgroups (based on gender, race, region, college plans, and drug involvement).

MONITORING THE FUTURE WEB SITE

Any reader wishing to get more information on the study, or to check for recent findings and publications, can reach the study's Web site at www.MonitoringTheFuture.org. Prior to publication in this monograph series, many of the latest findings on substance use trends, and related attitudes and beliefs, are posted on the Web site. This usually occurs in mid- to late-December of the year in which the data were gathered, immediately following their public release to the press.

⁶⁸This series is available from the Monitoring the Future study. Institute for Social Research, The University of Michigan, Ann Arbor, Michigan 48106-1248.

TABLE 10-1a
Non-Prescription Diet Pills: Trends in Twelfth Graders' Lifetime, Annual, and Thirty-Day Prevalence of Use, by Sex^a

(Entries are percentages)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change
Lifetime																			
Total	29.6	31.4	29.7	28.7	26.6	25.5	21.5	19.9	17.7	17.2	15.0	14.8	14.9	15.6	16.0	16.6	15.7	17.1	+1.4
Males	16.5	17.4	14.8	14.8	13.1	12.4	9.4	9.1	7.8	5.9	6.4	5.6	4.5	6.1	5.5	8.1	6.4	6.5	+0.1
Females	42.2	44.8	43.1	41.5	39.7	38.3	32.6	30.2	28.3	28.1	23.2	23.3	23.7	23.9	25.5	24.5	25.7	26.5	+0.8
Annual																			
Total	20.5	20.5	18.8	16.9	15.3	13.9	12.2	10.9	10.4	8.8	8.4	8.0	9.3	9.8	9.3	9.8	9.6	10.2	+0.6
Males	10.7	10.6	9.2	9.0	6.9	6.4	4.9	4.3	4.3	3.0	4.3	3.2	2.5	3.5	3.7	4.9	4.3	4.0	-0.3
Females	29.5	30.0	27.5	24.4	23.2	21.1	18.8	17.2	16.7	14.2	12.2	12.3	14.9	15.1	14.1	14.6	15.4	15.7	+0.3
Thirty-Day																			
Total	9.8	9.5	9.9	7.3	6.5	5.8	5.1	4.8	4.3	3.7	4.0	3.8	4.2	3.8	4.3	4.6	4.8	5.4	+0.6
Males	5.0	4.0	4.8	3.7	3.2	2.7	1.8	2.3	1.9	1.4	1.9	1.9	1.3	1.1	2.3	2.3	2.2	2.6	+0.4
Females	14.0	13.7	14.2	10.7	9.6	8.9	8.3	7.0	6.7	5.5	5.8	4.9	6.4	5.7	5.8	7.0	7.6	7.8	+0.2

NOTE: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$.
SOURCE: The Monitoring the Future Study, the University of Michigan.

^aData based on one form. The total N each year for 1982-89 is approximately 3,300. For 1990-99, the total N each year is approximately 2,600.

TABLE 10-1b

Stay-Awake Pills: Trends in Twelfth Graders' Lifetime, Annual, and Thirty-Day Prevalence of Use, by Sex^a

(Entries are percentages)

Prevalence	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change
Lifetime																			
Total	19.1	20.4	22.7	26.3	31.5	37.4	37.4	36.3	37.0	37.0	35.6	30.5	31.3	31.2	30.5	31.0	29.6	25.5	-4.1s
Males	20.2	22.3	23.2	28.0	32.0	34.8	38.0	37.7	35.3	36.0	34.4	30.4	30.2	29.0	27.4	27.3	29.0	23.3	-5.7s
Females	16.9	18.2	21.7	24.9	31.3	39.4	36.7	35.1	39.2	37.9	37.3	30.1	32.2	32.3	32.1	34.5	30.1	26.9	-3.2
Annual																			
Total	11.8	12.3	13.9	18.2	22.2	25.2	26.4	23.0	23.4	22.2	20.4	19.1	20.7	20.3	19.0	19.7	19.0	15.7	-3.3s
Males	12.8	13.8	15.4	19.7	22.3	25.5	27.6	24.8	22.3	22.3	20.9	19.7	20.3	19.7	18.2	17.4	19.5	14.5	-5.0s
Females	10.0	10.5	12.5	17.0	22.2	25.0	25.2	21.7	24.5	22.0	20.2	17.6	20.4	20.1	18.7	21.0	18.0	15.9	-2.1
Thirty-Day																			
Total	5.5	5.3	5.8	7.2	9.6	9.2	9.8	8.5	7.3	6.8	7.2	7.0	6.3	7.3	7.5	7.8	7.4	6.8	-0.6
Males	6.0	5.5	6.2	7.7	9.5	9.3	11.0	10.0	7.1	7.6	7.8	7.9	5.9	6.3	8.0	6.7	8.7	5.0	-3.7s
Females	4.7	4.5	5.5	6.7	9.3	9.1	8.6	6.9	7.3	5.5	6.5	5.5	5.8	7.1	6.1	8.2	5.8	7.4	+1.6

NOTE: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$.
SOURCE: The Monitoring the Future Study, the University of Michigan.

^aData based on one form. The total N each year for 1982-89 is approximately 3,300. For 1990-99, the total N each year is approximately 2,600.

TABLE 10-1c
Look-Alikes: Trends in Twelfth Graders' Lifetime, Annual, and Thirty-Day Prevalence of Use, by Sex^a

(Entries are percentages)

Prevalence	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change
	of	of	of	of	of	of	of	of	of	of	of	of	of	of	of	of	of	of	'98-99
	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class
Lifetime																			
Total	15.1	14.8	15.3	14.2	12.7	11.9	11.7	10.5	10.7	8.9	10.1	10.5	10.3	11.6	10.7	10.8	9.4	9.2	-0.2
Males	13.6	14.2	14.1	14.1	12.3	10.9	10.4	10.1	11.6	8.3	11.0	10.1	9.0	10.8	10.0	10.6	9.4	7.2	-2.2
Females	15.1	14.4	15.2	13.8	12.6	12.3	12.1	10.2	9.9	8.8	9.3	10.4	11.2	10.6	10.3	10.7	8.9	9.7	+0.8
Annual																			
Total	10.8	9.4	9.7	8.2	6.9	6.3	5.7	5.6	5.6	5.2	5.4	6.2	6.0	6.8	6.5	6.4	5.7	5.0	-0.7
Males	9.5	9.2	9.7	8.3	6.5	6.4	4.2	6.1	6.6	4.9	6.2	6.4	5.9	7.0	5.7	7.2	6.0	4.6	-1.4
Females	10.7	8.6	8.5	7.8	6.7	6.0	6.3	5.0	4.6	4.7	4.5	5.4	5.7	5.4	6.0	5.5	5.0	4.4	-0.6
Thirty-Day																			
Total	5.6	5.2	4.4	3.6	3.4	2.7	2.7	2.4	2.3	2.1	2.4	2.7	2.4	3.0	3.1	2.7	2.7	2.4	-0.3
Males	4.0	4.5	4.5	3.8	3.4	2.4	1.7	2.3	2.6	2.0	2.5	2.0	2.5	3.0	2.6	2.7	3.1	1.9	-1.2s
Females	5.2	5.4	3.8	3.1	3.0	2.7	3.0	2.2	1.8	1.8	2.2	2.9	2.0	2.1	2.7	2.6	2.0	2.0	0.0

NOTE: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$.
SOURCE: The Monitoring the Future Study, the University of Michigan.

^aData based on one form. The total N each year for 1982-89 is approximately 3,300. For 1990-99, the total N each year is approximately 2,600.

TABLE 10-2a

Nonprescription Diet Pills: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who had used in last twelve months																									
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change '98-'99
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	14300	15400	15200	13600	
Total	—	—	—	—	—	—	—	20.5	20.5	18.8	16.9	15.3	13.9	12.2	10.9	10.4	8.8	8.4	8.0	9.3	9.8	9.3	9.8	9.6	10.2	+0.6
Sex:																										
Male	—	—	—	—	—	—	—	10.7	10.6	9.2	9.0	6.9	6.4	4.9	4.3	4.3	3.0	4.3	3.2	2.5	3.5	3.7	4.9	4.3	4.0	-0.3
Female	—	—	—	—	—	—	—	29.6	30.0	27.5	24.4	23.2	21.1	18.8	17.2	16.7	14.2	12.2	12.3	15.0	15.1	14.1	14.6	15.4	15.7	+0.3
College Plans:																										
None or under 4 yrs.	—	—	—	—	—	—	—	23.3	21.4	18.2	20.7	16.1	14.9	13.1	11.9	13.2	8.9	10.5	9.7	10.8	11.5	10.8	12.0	10.7	9.1	-1.6
Complete 4 yrs.	—	—	—	—	—	—	—	17.5	19.0	18.8	14.7	15.0	13.3	11.7	10.9	9.7	8.6	8.0	7.3	9.3	9.3	8.6	9.2	10.1	10.4	+0.3
Region:																										
Northeast	—	—	—	—	—	—	—	19.1	18.5	18.4	16.5	14.9	14.3	10.5	10.4	11.5	5.7	6.3	7.6	8.6	8.2	10.1	8.1	8.6	8.6	0.0
North Central	—	—	—	—	—	—	—	24.6	23.3	20.2	19.2	16.6	15.0	13.7	15.0	11.1	10.7	9.3	8.4	11.8	11.8	9.5	10.2	10.4	10.4	0.0
South	—	—	—	—	—	—	—	18.2	19.2	19.6	14.9	13.9	13.1	12.0	9.3	10.0	9.0	7.7	9.2	8.9	10.8	9.4	11.5	10.1	11.2	+1.1
West	—	—	—	—	—	—	—	18.9	21.1	15.8	17.3	16.4	13.5	12.1	8.7	8.9	8.8	10.3	5.4	7.4	6.3	7.9	7.8	8.6	9.3	+0.7
Population																										
Density:																										
Large MSA	—	—	—	—	—	—	—	19.7	18.7	17.3	17.1	15.0	13.0	12.1	10.3	7.4	7.7	7.4	7.3	8.5	10.7	8.5	9.4	9.5	9.0	-0.5
Other MSA	—	—	—	—	—	—	—	20.0	22.8	18.6	17.1	15.6	13.7	12.4	10.9	11.2	9.2	8.4	6.8	9.9	8.9	9.3	8.7	9.1	9.5	+0.4
Non-MSA	—	—	—	—	—	—	—	21.7	19.2	20.5	16.5	15.2	15.2	11.9	11.7	11.7	9.1	9.2	10.5	9.1	10.1	10.0	12.3	11.0	12.6	+1.6
Parental																										
Education: ^a																										
1.0-2.0 (Low)	—	—	—	—	—	—	—	19.5	15.9	19.2	14.6	12.0	13.5	13.4	9.5	5.1	9.4	10.6	6.9	11.0	8.9	8.3	14.4	11.8	9.9	-1.9
2.5-3.0	—	—	—	—	—	—	—	21.6	21.3	18.2	17.8	15.6	13.1	12.0	9.9	12.3	8.6	8.9	8.9	11.0	10.9	8.5	10.5	8.9	11.1	+2.2
3.5-4.0	—	—	—	—	—	—	—	20.6	20.2	20.6	18.0	16.6	14.5	11.5	11.8	9.2	8.2	7.9	7.8	10.6	11.5	9.7	8.8	9.9	10.5	+0.6
4.5-5.0	—	—	—	—	—	—	—	19.3	22.4	17.4	16.8	15.0	15.9	12.0	10.4	12.0	9.3	6.6	8.0	8.5	7.5	8.8	10.7	11.6	11.2	-0.4
5.5-6.0 (High)	—	—	—	—	—	—	—	21.0	22.3	19.1	17.1	15.7	11.6	13.6	13.4	12.2	8.5	8.2	6.2	5.3	9.2	8.4	9.4	9.6	7.4	-2.2
Race (2-year average): ^b																										
White	—	—	—	—	—	—	—	23.2	22.2	20.4	18.4	16.3	14.7	13.4	12.5	11.0	9.8	9.2	9.7	10.9	10.9	10.9	10.8	11.2	11.2	0.0
Black	—	—	—	—	—	—	—	6.6	8.1	6.4	5.5	7.5	6.9	4.3	2.9	3.5	3.0	4.5	6.1	5.3	4.3	5.3	4.9	4.2	-0.7	
Hispanic	—	—	—	—	—	—	—	11.6	12.6	14.8	10.8	7.8	7.9	9.6	9.6	9.8	5.6	4.6	7.1	7.1	7.5	7.0	8.2	9.3	9.8	+0.5

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '-' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table. Data based on one of five forms in 1982-89; N is one-fifth of N indicated. Beginning in 1990, data based on one of six forms; N is one-sixth of N indicated.

^aParental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables. ^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE 10-2b
Stay-Awake Pills: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who had used in last twelve months																									
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	of '98-'99 change
Approx. N = 9400	15400	17100	17800	15500	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	14300	15400	14300	15400	14300	15400	15200	13600
Total	—	—	—	—	—	—	11.8	12.3	13.9	18.2	22.3	25.2	26.4	23.0	23.4	22.2	20.4	19.2	20.7	20.3	19.0	19.7	19.0	15.7	15.7	-3.3s
Sex:																										
Male	—	—	—	—	—	—	12.8	13.8	15.4	19.7	22.3	25.5	27.6	24.8	22.3	22.3	20.9	19.7	20.3	19.7	18.2	17.4	19.5	14.5	14.5	-5.0s
Female	—	—	—	—	—	—	10.0	10.5	12.5	17.0	22.2	25.0	25.2	21.7	24.5	22.0	20.2	17.6	20.4	20.1	18.7	21.0	18.0	15.9	15.9	-2.1
College Plans:																										
None or under 4 yrs.	—	—	—	—	—	—	11.4	10.8	12.5	15.5	18.1	23.1	23.3	21.8	22.9	21.0	20.5	18.6	20.1	21.1	18.2	21.8	18.5	14.3	14.3	-4.2
Complete 4 yrs.	—	—	—	—	—	—	10.5	12.6	14.0	20.4	24.9	26.5	27.5	24.1	24.1	22.3	21.0	18.7	20.6	19.7	18.3	19.1	18.4	15.1	15.1	-3.3
Region:																										
Northeast	—	—	—	—	—	—	9.6	9.5	11.9	18.2	20.4	26.4	23.8	18.4	22.0	18.3	18.2	20.2	21.2	18.4	22.5	19.1	17.6	16.0	16.0	-1.6
North Central	—	—	—	—	—	—	15.1	16.8	16.3	18.4	24.5	26.8	27.5	29.1	28.4	31.8	25.7	22.0	26.2	24.2	19.8	23.8	22.0	17.3	17.3	-4.7
South	—	—	—	—	—	—	9.6	10.7	12.0	13.3	19.8	20.9	25.6	20.4	20.6	16.1	17.6	18.7	20.2	18.8	17.5	20.1	18.8	15.6	15.6	-3.2
West	—	—	—	—	—	—	13.5	11.5	16.0	25.6	25.5	28.9	28.9	24.0	22.9	23.4	20.0	14.9	13.7	19.1	16.5	13.3	16.8	13.3	13.3	-3.5
Population Density:																										
Large MSA	—	—	—	—	—	—	11.5	11.1	12.2	17.7	19.0	25.6	23.2	20.9	19.0	16.7	15.2	16.7	18.4	18.9	14.4	15.5	15.3	9.6	9.6	-5.7s
Other MSA	—	—	—	—	—	—	12.4	14.5	14.0	19.1	24.1	24.1	27.7	22.9	25.1	25.3	21.2	19.8	21.1	19.3	20.2	18.4	21.1	18.4	18.4	-2.7
Non-MSA	—	—	—	—	—	—	11.3	10.5	15.4	17.4	22.1	27.0	27.4	25.2	24.5	21.7	23.4	19.9	22.3	23.6	20.7	26.8	18.9	17.3	17.3	-1.6
Parental Education: ^a																										
1.0-2.0 (Low)	—	—	—	—	—	—	8.8	8.2	8.3	10.9	12.0	15.0	17.1	18.1	15.3	14.9	16.2	11.0	16.6	13.2	11.5	18.2	11.7	7.9	7.9	-3.8
2.5-3.0	—	—	—	—	—	—	10.6	10.1	13.9	15.5	19.5	22.8	22.5	21.6	23.2	20.2	22.8	19.0	18.1	19.0	21.0	16.5	13.4	3.1	3.1	-3.1
3.5-4.0	—	—	—	—	—	—	12.6	13.5	13.5	21.3	26.5	30.0	28.4	26.0	25.6	23.9	22.4	18.6	21.6	24.3	17.4	17.6	19.9	18.3	18.3	-1.6
4.5-5.0	—	—	—	—	—	—	13.2	15.3	16.1	24.0	23.7	29.9	30.3	24.0	28.0	25.1	20.0	21.1	24.4	20.4	23.2	20.2	20.3	15.6	15.6	-4.7
5.5-6.0 (High)	—	—	—	—	—	—	13.0	16.7	18.0	20.2	28.7	24.9	32.3	25.1	22.3	25.8	17.8	20.2	18.4	17.3	17.4	19.3	22.6	14.9	14.9	-7.7s
Race (2-year average): ^b																										
White	—	—	—	—	—	—	13.6	15.0	18.7	23.7	27.7	30.4	29.8	27.7	27.4	25.8	24.0	23.7	23.9	23.3	23.1	23.2	20.7	2.7	2.7	-2.5s
Black	—	—	—	—	—	—	2.0	3.0	3.6	4.4	5.5	6.2	6.0	6.4	5.1	3.5	3.5	3.6	4.8	4.4	5.3	6.2	3.6	3.6	3.6	-2.6
Hispanic	—	—	—	—	—	—	5.7	8.3	8.4	9.7	13.8	15.6	16.5	14.1	11.6	11.9	13.3	14.2	12.3	9.5	9.6	10.1	12.3	12.3	12.3	+2.2

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. "—" indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table. Data based on one of five forms in 1982-89; N is one-fifth of N indicated. Beginning in 1990, data based on one of six forms; N is one-sixth of N indicated.

^aParental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables. ^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE 10-2c
Look-Alikes: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who had used in last twelve months																										
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change	
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16900	15400	15400	14300	15400	15200	13600		
Total	—	—	—	—	—	—	—	—	10.8	9.4	9.7	8.2	6.9	6.3	5.7	5.6	5.2	5.4	6.2	6.0	6.8	6.5	6.4	5.7	5.0	-0.7	
Sex:																											
Male	—	—	—	—	—	—	—	—	9.5	9.2	9.7	8.3	6.5	6.4	4.2	6.1	6.6	4.9	6.2	6.4	5.9	7.0	5.7	7.2	6.0	4.6	
Female	—	—	—	—	—	—	—	—	10.7	8.7	8.5	7.8	6.7	6.0	6.3	5.0	4.6	4.7	4.5	5.5	5.7	5.4	6.0	5.5	5.0	4.4	
College Plans:																											
None or under 4 yrs.	—	—	—	—	—	—	—	—	13.6	11.9	11.2	10.0	10.0	8.1	7.0	8.0	7.9	7.2	4.4	7.6	7.0	7.5	7.0	10.1	6.2	5.2	
Complete 4 yrs.	—	—	—	—	—	—	—	—	7.1	6.1	7.0	6.5	4.8	4.9	3.8	4.6	4.4	3.9	5.4	5.5	5.7	6.2	5.5	4.9	4.8	4.4	
Region:																											
Northeast	—	—	—	—	—	—	—	—	9.3	9.0	10.7	9.0	7.4	4.6	4.9	4.0	3.8	4.4	4.9	4.4	4.6	5.6	6.3	5.6	6.5	5.1	
North Central	—	—	—	—	—	—	—	—	14.5	12.3	10.9	9.0	7.6	7.3	8.5	7.3	8.2	7.1	8.4	8.7	8.5	7.9	7.7	6.2	4.8	-1.4	
South	—	—	—	—	—	—	—	—	9.8	7.7	9.0	7.3	5.6	6.1	5.5	4.7	6.0	4.5	4.7	6.2	5.1	5.8	5.6	6.7	5.0	6.7	
West	—	—	—	—	—	—	—	—	7.4	7.9	7.6	7.7	7.7	6.9	4.7	4.6	4.4	3.1	4.4	4.6	5.0	7.3	6.3	5.1	6.0	1.9	
Population Density:																											
Large MSA	—	—	—	—	—	—	—	—	10.2	9.5	10.2	6.1	7.1	4.4	4.3	3.3	3.0	3.3	3.0	4.7	5.3	7.2	5.4	4.5	6.1	3.0	
Other MSA	—	—	—	—	—	—	—	—	10.8	10.0	9.4	9.2	6.3	6.4	6.4	5.9	7.2	7.3	4.7	7.3	6.0	6.0	5.4	4.8	6.2	5.7	
Non-MSA	—	—	—	—	—	—	—	—	11.2	8.4	9.6	8.6	7.8	8.2	5.9	7.2	7.3	5.4	8.7	5.5	6.7	7.6	9.2	11.7	4.3	5.9	
Parental Education: ^a																											
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	9.8	7.2	9.9	9.0	6.1	5.7	6.3	4.6	3.1	6.6	4.3	4.9	8.2	6.5	3.2	7.0	3.3	4.7	
2.5-3.0	—	—	—	—	—	—	—	—	11.4	9.8	9.9	8.3	6.9	6.9	5.2	5.7	6.3	5.1	5.3	7.5	6.5	5.3	6.7	7.1	5.5	7.3	
3.5-4.0	—	—	—	—	—	—	—	—	10.3	9.5	9.6	8.8	8.0	6.3	5.7	5.9	5.9	5.1	6.6	6.5	4.4	9.5	5.4	7.4	5.0	3.4	
4.5-5.0	—	—	—	—	—	—	—	—	10.4	8.3	6.1	5.9	5.9	6.7	4.5	5.4	5.9	4.7	4.0	5.6	7.1	4.9	6.7	5.8	6.2	5.0	
5.5-6.0 (High)	—	—	—	—	—	—	—	—	6.9	6.7	8.1	7.9	4.3	4.6	4.3	5.3	4.7	2.5	5.4	3.0	4.0	4.3	6.3	2.8	6.1	3.1	
Race (2-year average): ^b																											
White	—	—	—	—	—	—	—	—	—	10.9	10.3	9.8	8.3	7.1	6.3	6.1	6.4	6.2	6.1	6.6	7.0	7.2	7.1	7.6	7.4	6.0	
Black	—	—	—	—	—	—	—	—	—	2.0	2.4	2.4	2.2	2.7	2.7	2.6	2.1	1.5	1.7	1.6	1.4	1.9	1.4	0.9	1.0	+0.1	
Hispanic	—	—	—	—	—	—	—	—	—	6.1	7.0	5.8	3.8	3.0	3.2	3.5	3.4	2.2	1.6	5.3	5.8	3.6	3.9	3.6	3.4	3.4	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '—' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table.

Data based on one of five forms in 1982-89; N is one-fifth of N indicated. Beginning in 1990, data based on one of six forms; N is one-sixth of N indicated.

^aParental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables. To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE 10-3
Percentage of Twelfth Graders in Each Category
of an Illicit Drug Use Index Who Have Tried
Various Over-the-Counter Stimulants, 1999

(Entries are percentages)

Their lifetime use of ...	Lifetime Illicit Drug Use Groupings		
	<u>No Use</u>	<u>Used Marijuana Only</u>	<u>Used Other Illicit Drugs</u>
Diet pills	9.6 ^a	14.4	35.0
Stay-awake pills	10.5	29.5	50.0
Look-alikes	2.4	4.7	27.6
<i>Approx. N =</i>	970	550	540

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aThis means that, of those who have never used an illicit drug, 9.6 percent have used a diet pill at least once.

TABLE 10-4
Daily Marijuana Use: Responses to Selected Questions by Subgroups, Twelfth Graders, 1999

Q.	Thinking back over your whole life, has there ever been a period when you used marijuana or hashish on a daily, or almost daily, basis for at least a month?	Total	Sex		4-Year College Plans		Region			Population Density			
			Male	Female	No	Yes	North East	North Central	South West	Large MSA	Other MSA	Non-MSA	
													81.5
	No	82.2	81.5	85.6	77.9	85.8	82.1	85.7	80.9	79.6	83.7	80.8	82.9
	Yes	17.9	18.5	14.4	22.1	14.2	17.9	14.3	19.1	20.4	16.3	19.2	17.1
Q.	How old were you when you first smoked marijuana or hashish that frequently?												
	Grade 6 or earlier	0.9	1.1	0.5	1.8	0.6	0.8	0.2	0.9	1.9	0.5	1.0	1.0
	Grade 7 or 8	5.7	5.2	4.8	6.0	4.3	4.5	3.6	7.7	5.8	4.8	6.3	6.0
	Grade 9 (Freshman)	4.1	3.7	3.5	4.4	3.2	3.5	4.0	4.6	3.9	4.4	4.1	3.8
	Grade 10 (Sophomore)	3.8	5.0	2.7	5.5	3.2	3.7	4.0	2.9	5.2	3.9	4.7	1.8
	Grade 11 (Junior)	2.8	2.8	2.6	3.7	2.5	4.8	2.0	2.5	2.5	1.6	2.8	4.1
	Grade 12 (Senior)	0.6	0.8	0.4	0.7	0.4	0.6	0.4	0.4	1.1	1.1	0.4	0.4
	Never used daily	82.2	81.5	85.6	77.9	85.8	82.1	85.7	80.9	79.6	83.7	80.8	82.9
Q.	How recently did you use marijuana or hashish on a daily, or almost daily, basis for at least a month?												
	During the past month	6.5	7.6	3.6	5.6	5.0	7.6	4.8	6.6	7.9	5.4	7.4	6.2
	2 months ago	1.6	1.8	0.9	0.7	1.4	0.5	1.6	2.4	0.9	1.0	1.8	1.7
	3 to 9 months ago	2.8	2.3	3.2	4.6	2.4	3.2	2.3	2.6	3.2	2.4	3.1	2.5
	About 1 year ago	2.9	3.0	2.2	5.3	2.2	4.2	2.6	3.2	1.6	3.2	2.5	3.5
	About 2 years ago	2.3	2.5	2.4	3.9	1.7	1.2	1.8	2.2	4.4	2.3	3.0	1.0
	3 or more years ago	1.7	1.2	2.2	2.1	1.5	1.1	1.2	2.0	2.4	2.0	1.4	2.2
	Never used daily	82.2	81.5	85.6	77.9	85.8	82.1	85.7	80.9	79.6	83.7	80.8	82.9
Q.	Over your whole lifetime, during how many months have you used marijuana or hashish on a daily or near-daily basis?												
	Less than 3 months	4.5	4.7	4.0	3.9	4.3	5.7	4.3	3.7	5.2	4.1	4.9	4.3
	3 to 9 months	3.5	4.4	2.5	4.2	3.2	3.0	2.5	3.9	4.6	3.7	3.4	3.6
	About 1 year	1.5	0.8	2.0	1.3	1.4	1.3	0.6	2.2	1.6	1.6	1.9	0.5
	About 1 and 1/2 years	1.1	0.8	1.4	2.6	0.7	0.5	1.8	1.2	0.5	0.8	1.1	1.6
	About 2 years	2.3	2.7	1.4	2.4	1.6	4.4	2.6	1.6	1.2	2.0	2.5	2.1
	About 3 to 5 years	3.5	3.6	2.5	4.9	2.3	1.5	2.3	4.6	5.2	3.3	3.7	3.5
	6 or more years	1.4	1.4	0.7	2.7	0.7	1.4	0.2	1.8	2.1	0.8	1.7	1.5
	Never used daily	82.2	81.5	85.6	77.9	85.8	82.1	85.7	80.9	79.6	83.7	80.8	82.9
		N = 2229	1030	1083	421	1630	406	585	810	428	616	1032	582

NOTE: Entries are percentages that sum vertically to 100 percent.
SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 10-5a
Trends in Daily Use of Marijuana in Lifetime by Subgroups, Twelfth Graders^a

	Percent ever using daily for at least a month																			
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
All seniors	20.5	16.8	16.3	15.6	14.9	14.7	12.8	11.5	10.0	9.0	8.4	9.6	11.3	12.1	15.7	18.8	18.0	17.9	-0.1	
Sex:																				
Male	20.1	18.1	17.2	17.7	16.6	16.2	14.8	12.7	10.6	10.5	8.3	10.7	13.3	12.9	18.7	19.7	19.5	18.5	-1.0	
Female	18.0	13.5	12.9	12.0	11.6	12.2	9.6	9.7	7.9	6.4	7.5	7.2	8.5	7.9	10.7	15.2	13.9	14.4	+0.5	
College Plans:																				
None or under 4 yrs.	22.5	20.3	18.9	19.6	17.2	18.0	14.5	15.3	12.8	11.5	11.2	11.6	16.1	14.2	21.5	22.6	22.1	22.1	0.0	
Complete 4 yrs.	13.8	10.5	10.7	10.6	11.0	11.1	9.8	9.1	7.4	6.5	5.9	7.7	8.6	9.2	11.9	14.9	13.4	14.2	+0.8	
Region:																				
Northeast	25.1	20.4	24.1	20.9	21.5	17.0	13.1	14.6	10.4	10.3	8.7	12.0	12.2	12.8	21.3	24.6	22.7	17.9	-4.8	
North Central	21.1	15.9	12.8	16.3	11.3	12.7	10.3	13.4	10.8	8.4	8.0	9.3	11.0	13.6	14.6	16.5	16.1	14.3	-1.8	
South	15.7	12.7	14.0	8.9	11.3	11.9	10.9	8.1	8.7	7.4	5.9	8.3	11.8	11.2	12.7	14.9	15.6	19.1	+3.5	
West	20.8	21.4	17.6	18.5	18.3	19.7	19.0	12.3	11.0	11.3	13.4	10.4	10.2	10.6	17.0	23.0	20.6	20.4	-0.2	
Population Density:																				
Large MSA	23.8	20.0	19.4	18.1	17.0	16.7	14.0	10.6	8.3	7.2	8.4	8.6	10.3	13.9	15.3	18.8	18.0	16.3	-1.7	
Other MSA	20.3	18.2	16.6	16.0	14.9	15.0	14.9	12.4	11.7	11.1	8.9	10.2	13.6	11.3	18.2	20.1	19.7	19.2	-0.5	
Non-MSA	17.9	12.6	13.2	12.8	13.2	12.2	7.6	10.4	8.2	7.1	7.6	9.6	8.4	11.2	11.6	16.2	14.4	17.1	+2.7	

NOTE: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$.
SOURCE: The Monitoring the Future Study, the University of Michigan.

^aData based on one form. The total N each year for 1982-89 is approximately 3,300. For 1990-99, the total N each year is approximately 2,600.

TABLE 10-5b
Trends in Daily Use of Marijuana Prior to Tenth Grade by Subgroups, Twelfth Graders^a

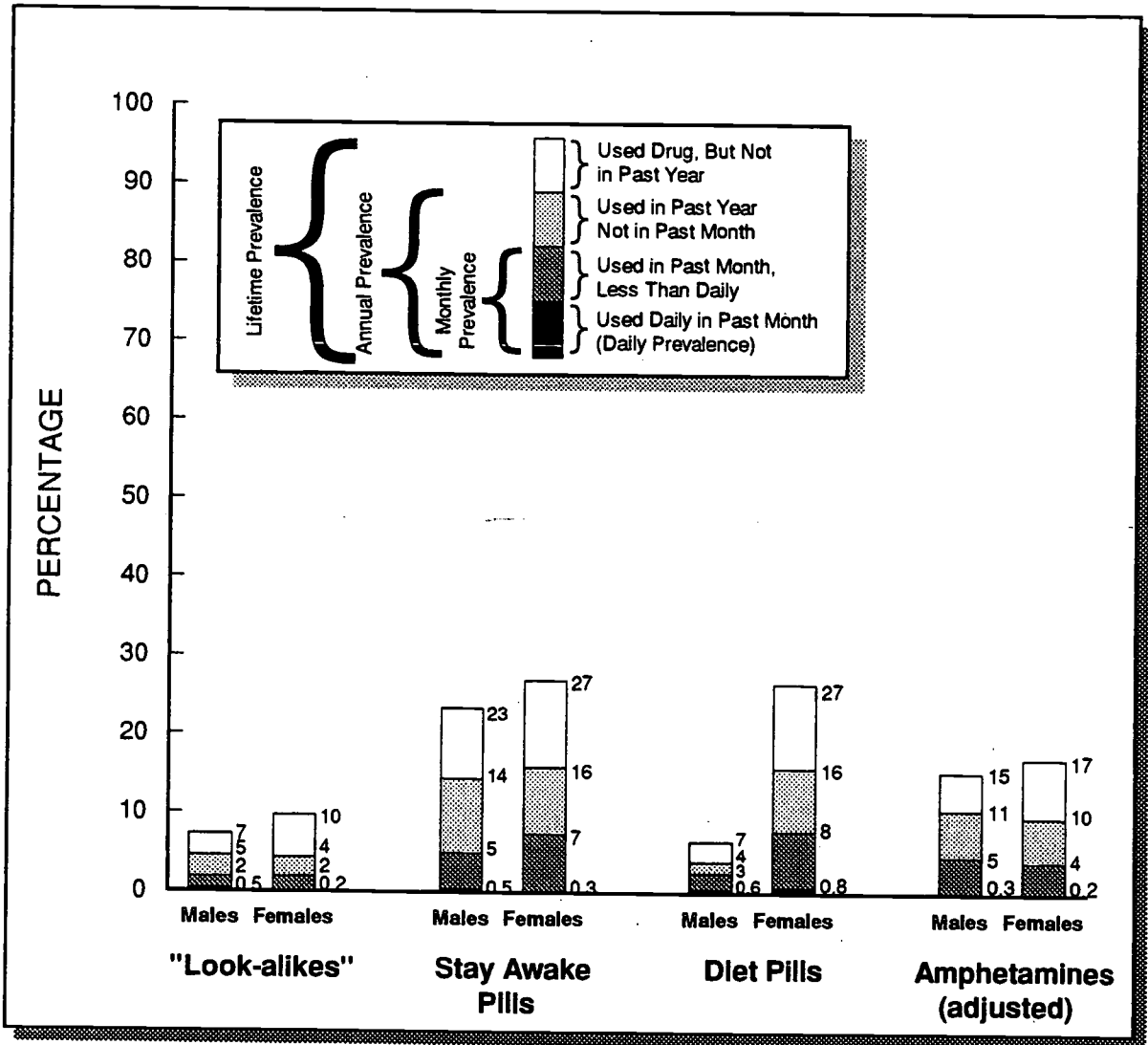
	Percent reporting first such use prior to tenth grade																			
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
All seniors	13.1	11.1	10.9	8.8	8.5	8.9	7.8	7.6	6.7	6.4	5.6	5.2	5.5	5.5	7.8	9.7	10.1	10.7	+0.6	
Sex:																				
Male	12.9	12.1	11.8	9.8	8.7	10.2	8.4	8.4	6.9	7.4	5.6	5.5	6.1	5.8	9.6	9.6	11.4	10.0	-1.4	
Female	11.5	8.3	8.0	6.5	6.6	7.1	6.6	6.0	4.9	4.4	5.0	4.1	4.4	3.4	4.9	8.1	8.0	8.8	+0.8	
College Plans:																				
None or under 4 yrs.	14.2	13.5	12.3	11.8	10.7	11.4	11.0	11.6	9.0	8.7	7.8	6.3	6.7	6.7	11.0	11.0	16.9	12.2	-4.7	
Complete 4 yrs.	8.2	6.5	6.6	5.5	5.2	6.4	5.3	5.1	4.6	4.3	3.8	4.2	4.4	4.2	5.8	7.9	7.1	8.1	+1.0	
Region:																				
Northeast	17.3	11.9	17.2	12.9	10.3	10.3	9.0	10.7	6.5	8.2	4.8	6.3	5.2	6.6	8.3	13.3	12.7	8.8	-3.9	
North Central	13.3	12.4	8.4	9.1	7.3	7.7	6.0	7.6	6.7	4.9	4.7	5.5	5.8	6.2	8.9	8.2	9.6	7.8	-1.8	
South	9.3	8.3	8.5	5.0	6.4	7.4	6.3	5.4	6.2	5.1	4.4	4.3	6.6	4.5	5.8	7.5	8.0	13.2	+5.2s	
West	12.6	13.9	12.1	8.9	11.2	11.7	11.9	8.1	8.0	8.6	9.8	5.1	3.2	5.0	10.1	12.3	12.1	11.6	-0.5	
Population Density:																				
Large MSA	15.6	13.7	12.4	12.0	9.6	11.8	8.1	6.0	5.9	5.4	5.7	5.5	4.6	6.0	9.2	10.0	9.3	9.7	+0.4	
Other MSA	12.5	12.0	11.5	8.3	8.4	8.8	9.6	8.1	8.1	7.7	5.8	5.3	6.9	5.5	8.3	9.8	11.4	11.4	0.0	
Non-MSA	11.7	8.2	8.5	6.6	7.6	6.4	4.3	7.6	4.3	5.3	5.3	4.8	4.2	4.8	5.6	9.4	8.6	10.8	+2.2	

NOTE: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$.
SOURCE: The Monitoring the Future Study, the University of Michigan.

^aData based on one form. The total N each year for 1982-89 is approximately 3,300. For 1990-99, the total N each year is approximately 2,600.

FIGURE 10-1

**Prevalence and Recency of Use, by Sex
Amphetamines and Non-Prescription Stimulants
Twelfth Graders, 1999**



Appendix A

**PREVALENCE AND TREND ESTIMATES ADJUSTED
FOR ABSENTEES AND DROPOUTS**

While the surveys reported here are drawn from the in-school population, we are sometimes asked whether the prevalence and trend estimates derived from twelfth graders are an accurate reflection of the reality which pertains to all young people who would be in the same class or age cohort, including those who have dropped out of school by senior year. In 1985 we published an extensive chapter addressing this question in a volume in the NIDA Research Monograph series.⁶⁹ We will attempt in this Appendix to summarize the main points relevant to this issue of sample coverage.

First, it should be noted that two segments of the entire class/age cohort are missing from the data collected each year from seniors: (1) those who are still enrolled in school but who are absent the day of data collection (the "absentees") and (2) those who will not graduate from high school (the dropouts). The absentees constitute virtually all of the nonrespondents shown in the response rate given in Table 3-1 in Chapter 3 of this volume (since refusal rates are negligible) or about 17% of all seniors (or 14% of the class/age cohort). Based on our review of available Census data, dropouts account for approximately 15% of the class/age cohort.

The methods we used to estimate the prevalence rates for these two missing segments are summarized briefly here. Then, the effects of adding in these two segments to the calculation of the overall prevalence rates for two important classes of drugs are presented, along with the impact on the trend estimates. Two illicit drugs have been chosen for illustrative purposes: marijuana, the most prevalent of the illicit drugs, and cocaine, one of the more dangerous and less prevalent drugs. Estimates for high school seniors are presented for both lifetime and 30-day prevalence for each drug.

CORRECTIONS FOR LOWER GRADE LEVELS

Before estimates of corrections for seniors are discussed, it should be noted that the twelfth grade represents the "worst case" in terms of underestimation. Rates of both dropping out and absenteeism are lower for eighth and tenth grades than for twelfth grade. With respect to dropping out, only a very few members of an age cohort have ceased attending school by grade eight, when most are age 13 or 14. Most tenth graders

⁶⁹Johnston, L. D., & O'Malley, P. M. (1985). Issues of validity and population coverage in student surveys of drug use. In B. A. Rouse, N. J. Casual, & L. G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57 (ADM) 85-1402). Washington, DC: U.S. Government Printing Office.

are age 15 or 16, and Census data indicate that only a small proportion (less than 5%) would have dropped out by then.⁷⁰ Thus, any correction for the missing dropouts should be negligible at eighth grade, and quite small at tenth grade.

Regarding absentees, Table 3-1, presented earlier, shows that while absentees comprise 17% of the twelfth graders who should be in school, they comprise only 15% of tenth graders and 13% of eighth graders in 1999. Thus, the eighth- and tenth-grade change in prevalence estimates that would result from corrections for this missing segment also would be considerably less than for twelfth graders.

In sum, the modest corrections, which we will show below to result from the corrections for dropouts and absentees at the twelfth grade level, set outer limits for what would be found at eighth and tenth grade; in fact, it is clear that the corrections would be considerably smaller at tenth grade and far smaller at eighth grade. Since the corrections described for twelfth graders turn out to be modest ones, we have not undertaken comparable corrections for eighth and tenth graders.

THE EFFECTS OF MISSING ABSENTEES

To be able to assess the effects of excluding absentees on the estimates of twelfth grade drug use, we included a question in the study which asks students how many days of school they had missed in the previous four weeks. Using this variable, we can place individuals into different strata as a function of how often they tend to be absent from school. For example, all students who had been absent 50% of the time could form one stratum. Assuming that absence on the particular day of the administration is a fairly random event, we can use the actual survey participants in this stratum to represent all students in their stratum, including the ones who happen to be absent that particular day. By giving them a double weight, they can be used to represent both themselves and the other 50% of their stratum who were absent that day. Those who say they were in school only one-third of the time would get a weight of three to represent themselves plus the two-thirds in their stratum who were not there, and so forth. Using this method, we found that absentees as a group have appreciably higher than average usage levels for all licit and illicit drugs. *However, looking at 1983 data, we found that the omission of absentees did not depress any of the prevalence estimates in any of the drugs by more than 2.7 percentage points, because they represent such a small proportion of the total target sample.* Considering that a substantial proportion of those who are absent likely are absent for reasons unrelated to drug use—such as illness and participation in extracurricular activities—it may be surprising to see even these differences. In any case, from the point of view of policy or public perceptions, the small “corrections” would

⁷⁰According to the *Statistical Abstract of the United States 1998*, in 1996 the proportion of the civilian non-institutionalized population of the United States enrolled in school is 97.7% among 7-13 year olds and 98.0% among 14-15 year olds. It drops to 92.8% for 16-17 year olds combined, but there is probably a considerable difference between age 16 and age 17 because state laws often require attendance through age 16. Eighth graders in the spring of the school year are mostly (and about equally) 13-14 years old; while tenth graders are mostly (and about equally) 15 and 16 years old. These data, then, would suggest that dropouts are no more than 0.8% of eighth graders and 4.0% of tenth graders. U.S. Department of Commerce. (1998). *Statistical Abstract of the United States 1998: The National Data Book*. (118th Ed.) Washington, D.C.: Bureau of the Census. (p. 168)

appear to be of little or no significance. (The correction in 1983 across all 13 drugs in lifetime prevalence averaged only 1.4 percentage points.) Further, such corrections should have virtually no effect on cross-time trend estimates unless the rate of absenteeism was changing appreciably; and we find no evidence in our data that it has. Put another way, the presence of a slight underestimate that is constant across time should not influence trend results. Should absentee rates start changing substantially, then it might be argued that such corrections should be presented routinely.

THE EFFECTS OF MISSING DROPOUTS

Unfortunately, we cannot derive corrections from data gathered from seniors to impute directly the prevalence rates for dropouts, as we did for absentees, since we have no completely appropriate stratum from which we have sampled. We believe, based on our own previous research, as well as the work of others, that dropouts generally have prevalence rates for all classes of drugs substantially higher than the in-school students. In fact, the dropouts may be fairly similar to the absentees.

We have consistently estimated the proportion who fail to complete high school to be approximately 15%; Figure A-1 displays the high school completion rate for the years 1972 through 1998 based on Census data. As the figure indicates, completion rates (and the complement, dropout rates) have been quite constant over this interval for persons 20-24 years old.⁷¹ (Younger age brackets are less appropriate to use because they include some young people who are still enrolled in high school.) Monitoring the Future probably covers some small proportion of the 15%, since the survey of seniors takes place a few months *before* graduation, and not everyone will graduate. On the other hand, perhaps 1% to 2% of the age group which Census shows as having a diploma get it through a General Equivalency Degree and thus would not be covered in Monitoring the Future. (Elliott and Voss reported this result for less than 2% of their sample in their follow-up study of 2617 ninth graders in California who were followed through their high school years.⁷²) So these two factors probably cancel each other out. Thus, we use 15% as our estimate of the proportion of a class cohort not covered.

Extrapolating to Dropouts from Absentees

To estimate the drug usage prevalence rates for this group we have used two quite different approaches. The first was based on extrapolations from seniors participating in this study. Using this method we developed estimates under three different assumptions: that the difference between dropouts and the participating seniors in the study was equivalent to (a) the difference between absentees and the participating seniors, (b) one and one-half times that difference, and (c) twice that difference. The last assumption we would consider a rather extreme one.

⁷¹U.S. Bureau of the Census (various years). *Current population reports, Series P-20*, various numbers. Washington, DC: U.S. Government Printing Office.

⁷²Elliott, D., & Voss, H. L. (1974). *Delinquency and dropout*. Lexington, MA: D.C. Heath-Lexington Books.

The second general method involved using the best national data then available on drug use among dropouts—namely the National Household Surveys on Drug Abuse (NHSDA).⁷³ While these surveys have rather small samples of dropouts in the relevant age range in any given year, they should at least provide unbiased estimates for dropouts still in the household population.

Using the first assumption—that dropouts are just like absentees—we found that no prevalence rate was changed by more than 5 percentage points over the estimate based on 1983 seniors only, even with the simultaneous correction for both absentees and dropouts. (The method for calculating prevalence rates for the absentees is the one described in the previous section.) The largest correction in 1983 involved marijuana, with lifetime prevalence rising from just under 60% to 64%. Even under the most extreme assumption—which results in exceptionally high prevalence rates for dropouts on all drugs, for example 90% lifetime prevalence for marijuana—the overall correction in any of the prevalence figures for any drug remained less than 7.5 percentage points. Again, marijuana showed the biggest correction (7.5% in annual prevalence, raising it from 46% uncorrected to 54% with corrections for both absentees and dropouts). As we would have expected, the biggest *proportional* change occurred for heroin, since it represents the most deviant end of the drug-using spectrum and thus usually would be most associated with truancy and dropping out.

Extrapolating from the Household Surveys

The second method of estimating drug use among dropouts was by comparing the household survey data on dropouts with the data from those remaining in school. We originally conducted secondary analyses of the archived data from the 1977 and 1979 National Household Surveys (NHSDA). (Analyses using more recent NHSDA data are shown in the next section.) Analyses were restricted to the age range 17 to 19 years old, since about 95% of the Monitoring the Future seniors fall in this range. Of course, the number of cases is small. In the 1977 NHSDA survey there were only 46 dropouts and 175 enrolled seniors in this age group. In the 1979 survey 92 dropouts and 266 seniors were included.

For marijuana, the estimated differences from the household survey data came out at a level which was at or below the *least* extreme assumption made in the previous method (where dropouts are assumed to have the same drug use levels as absentees). While comforting to the authors of the present report, we must admit that we believe these household samples under represented the more drug-prone dropouts to some degree. Thus we concluded that estimates closer to those made under the second assumption in the previous method may be closer to reality—that is, that dropouts are likely to deviate from

⁷³Fishburne, P. M., Abelson, H. I., & Cisin, I. (1980). *National survey on drug abuse: Main findings, 1979* (NIDA (ADM) 80-976). Washington, DC: U.S. Government Printing Office; Miller, J. D., et al., (1983). *National survey on drug abuse: Main findings, 1982* (NIDA (ADM) 83-1263). Washington, DC: U.S. Government Printing Office. See also Substance Abuse and Mental Health Services Administration. (1995). *National Household Survey on Drug Abuse: Main Findings 1992*. (DHHS Publication No. (SMA) 94-3012). Rockville, MD: Substance Abuse and Mental Health Services Administration.

participating seniors by one and one-half times the amount that absentees deviate from them.

We should note that there are a number of reasons for dropping out, many of which bear no relationship to drug use, including economic hardship in the family and certain learning disabilities and health problems. At the national level, the extreme groups such as those in jail or without a permanent place of residence are undoubtedly very small as a proportion of the total age groups and probably even as a proportion of all dropouts. Thus, regardless of their prevalence rates, they would be unable to move the overall prevalence estimates by a very large proportion except in the case of the most rare events—in particular, heroin use. We do believe that in the case of heroin use—particularly regular use—we are very likely unable to get a very accurate estimate even with the corrections used in this report. The same may be true for crack cocaine and PCP. For the remaining drugs, we conclude that our estimates based on participating seniors, though somewhat low, are not bad approximations for the age group as a whole.

Effects of Omitting Dropouts in Trend Estimates

Whether the omission of dropouts affects the estimates of trends in prevalence rates is a separate question, however, from the degree to which it affects absolute estimates at a given point in time. The relevant issues parallel those discussed earlier regarding the possible effects on trends of omitting the absentees. Most important is the question of whether the rate of dropping out has been changing in the country, since a substantial change would mean that seniors studied in different years would represent noncomparable segments of the whole class/age cohort. Fortunately for the purposes of this study, at least, the official government data provided in Figure A-1 indicate a quite stable rate of dropping out since 1972.

Given that there appears to be no sound evidence of an appreciable change in the dropout rate, the only reason that trend data from seniors would deviate from trends for the entire class cohort (including dropouts) would be if the constant proportion who have been dropping out showed trends contrary to those observed among seniors; and even then, because of their small numbers, they would have to show dramatically different trends to be able to change the trend story very much for the age group as a whole. There has been no hypothesis offered for such a differential shift among dropouts that these authors, at least, find very convincing.

One hypothesis occasionally heard was that more teens were being expelled from school, or voluntarily leaving school, because of their drug use; and that this explained the downturn in the use of many drugs being reported by the study in the 1980s. However, it is hard to reconcile this hypothesis with the virtually flat (or, if anything, slightly declining) dropout rates over the period displayed in Figure A-1, unless one posits a perfectly offsetting tendency for more completion among those who are less drug prone—hardly a very parsimonious explanation. Further, the reported prevalence of some drugs remained remarkably stable throughout those years of the study (e.g., alcohol and opiates other than heroin) and the prevalence of some rose (cocaine until 1987, and

amphetamines until 1981). These facts are not very consistent with the hypothesis that there had been an increased rate of departure by the most drug prone. Certainly more teens leaving school in the 1980s had drug problems than was true in the 1960s. (So did more of those who stayed in.) However, they still seem likely to be very much the same segment of the population, given the degree of association that exists between drug use and deviance and problem behaviors of various sorts.

MORE RECENT UPDATE ON CORRECTIONS FOR DROPOUTS

More recently, we have looked at additional data regarding the effects of exclusion of dropouts. One additional source of information is a special report from the 1988 National Household Survey on Drug Abuse.⁷⁴ This report compared selected drug use rates for 16-17 year old respondents who were classified as currently enrolled in school or as having dropped out of school. The authors of that report concluded that: "The percentage of youth aged 16 and 17 who reported use of any illicit drug, marijuana, cocaine, and alcohol did not differ significantly among dropouts and those currently enrolled in school" (p. 22). Differences in illicit drug use between high school graduates and dropouts were also slight among 21- to 25-year olds.

The authors noted that their findings appeared somewhat contrary to popular conceptions, as well as to some other research. Moreover, they reported that preliminary data for 20- to 34-year olds from the 1990 NHSDA showed higher rates of cocaine and marijuana use among dropouts. The authors conjectured that perhaps differences between dropouts and graduates emerge after age 25, when more young adults have finished college. They also noted that other variables, such as race, ethnicity, and socioeconomic status may confound the dropout versus graduate comparison. An additional problem was that, prior to the 1991 survey, the NHSDA did not include individuals who did not live in households; perhaps the more deviant dropouts were over represented in the excluded groups.

Subsequently, we have examined data from the 1991 National Household Surveys on Drug Abuse. Specifically, we obtained estimated prevalence rates for two key illicit drugs, marijuana and cocaine, among dropouts ages 16-18. Table A-1 indicates the lifetime and monthly prevalence rates for Monitoring the Future seniors, and for NHSDA seniors and NHSDA dropouts.

As can be seen, the 1991 NHSDA dropouts aged 16-18 were distinctly higher in cocaine and marijuana use than the NHSDA seniors, and the 1991 MTF seniors. (This result is contradictory to the results from the earlier report based on 1988 data. The relatively small numbers of dropouts make definitive statements difficult.) As discussed above, however, the relatively small proportion of the population who are dropouts reduces the impact that their higher prevalence rates have on overall population estimates.

⁷⁴National Institute on Drug Abuse. (1991). "Drug use among youth: Findings from the 1988 National Household Survey on Drug Abuse." (DHHS Publication No. (ADM) 91-1765). Rockville MD: National Institute on Drug Abuse.

Table A-2 compares the total population prevalence estimates derived using two quite different methods. The first method shows the estimates that result when we use the method we previously described, which provided the data shown in Figure A-2, where the prevalence rate among dropouts is assumed to be higher than seniors present by 1.5 times the difference between seniors present and seniors absent. Column (2) in Table A-2 is calculated by reweighting the data for absenteeism, and calculating the estimated prevalence among absentees. The prevalence among dropouts (column (4)) is estimated by assuming that they differ from seniors present by a factor 1.5 times greater than the difference between seniors present and seniors absent. The data in columns (1) and (2) are combined in appropriate proportion to derive estimated prevalence among seniors present plus absentees (column (3)). The data in columns (1), (2), and (4) are then combined in appropriate proportions to derive estimated prevalence rates for the entire class cohort (shown in column (6)). (For 1991, the percentage of dropouts is estimated at 15% and the percentage of seniors absent is 15.9% [based on data collected in participating schools]; these figures result in the following distribution for the *total* age cohort: seniors present, 71.5%; seniors absent, 13.5%; and dropouts, 15%.)

The second method for estimating prevalence rates for dropouts (column (9)), and the entire class cohort (column (10)), is based on the estimated prevalence from MTF seniors present and seniors absent, and then adjusts for the missing dropout segment by assuming that the difference between NHSDA seniors versus NHSDA dropouts (column (8)) is the best estimate of the difference between dropouts and stayins (column 10).

The data in columns (6) and (7) are prevalence rates reported in the 1991 NHSDA seniors and for dropouts age 16-18, and column (8) shows the algebraic difference. This absolute "bias" is treated as an estimate of the difference between seniors (present plus absent) versus dropouts. This "bias" is then applied to the estimated prevalence based on MTF data of seniors present plus absent (column (3)) to derive an estimate of the prevalence among dropouts (column (9)). These estimates are higher than the NHSDA estimates because MTF estimates for nondropouts are higher than the NHSDA estimates. Finally, the data in columns (3) and (9) are combined in appropriate proportion to derive estimates presented in column (10) for the entire cohort.

Note that the estimated prevalence rates among dropouts based on NHSDA data are not very different from the estimates using the "1.5" factor. (Compare columns (9) and (4)). Consequently, the "Total" estimates given in column (10) turn out to be highly similar to the "Total" estimates in column (5). This similarity suggests that the estimates of corrections for dropouts that we have been providing, based on earlier data, are probably quite reasonable. In fact, based on all of the NHSDA data, they may actually be conservatively high.

Finally, an additional piece of information relative to the comparison of drug use rates among students who stay in school versus dropouts comes from Fagan and Pabon

(1990),⁷⁵ who report some comparison data between high school students and dropouts from six inner-city neighborhoods. About 1,000 male students and 1,000 female students were compared with 255 male dropouts and 143 female dropouts. Although dropouts were generally more delinquent, and more involved with substance use, there was also a great deal of variability by specific class of substances. As would be generally expected, marijuana use was lower among students, compared to dropouts. Psychedelic use, on the other hand, was *higher* among students than among dropouts. Use of tranquilizers and barbiturates was also higher among students. Amphetamine use was lower among male students, but higher among female students, compared to same-sex dropouts. Similarly, cocaine use was lower among male students, but higher among female students, compared to dropouts. Students of both genders reported more heroin use than did dropouts. Inhalant use did not differ significantly between students and dropouts.

Overall, the data indicate some variation, depending on the class of drug. In fact, heroin use surprisingly was higher among students. The study shows that the usual assumption that dropouts invariably use drugs more than students is not always true.

SUMMARY AND CONCLUSIONS

In sum, while we believe there is some underestimation of the prevalence of drug use for the cohort at large, as a result of the dropouts being omitted from the universe of the study, we think the degree of underestimation is rather limited for all drugs (with the possible exceptions of heroin, crack, and PCP) and, more importantly, that trend estimates have been rather little affected. Short of having good trend data gathered directly from dropouts we cannot close the case definitively. Nevertheless, we think the available evidence argues strongly against alternative hypotheses—a conclusion that was also reached by the members of the NIDA technical review on this subject held in 1982.⁷⁶

...the analyses provided in this report show that failure to include these two groups (absentees and dropouts) does not substantially affect the estimates of the incidence and prevalence of drug use.

EXAMPLES OF REVISED ESTIMATES FOR TWO DRUGS

Figure A-2 provides the prevalence and trend estimates of marijuana and cocaine, for both the lifetime and thirty-day prevalence periods, showing (a) the original estimates based on *participating seniors* only; (b) the empirically derived, revised estimates based on *all seniors*, including the absentees; and (c) estimates for the *entire class/age cohort*.

⁷⁵Fagan, J. & Pabon, E. (1990). Contributions of delinquency and substance use to school dropout among inner-city youths. *Youth & Society*, 21, 306-354.

⁷⁶Clayton, R. R. & Voss, H. L. (1982). *Technical review on drug abuse and dropouts*. Rockville, MD: National Institute on Drug Abuse.

The last estimate was developed using the assumption judged to be most reasonable above—namely that the prevalence rate for dropouts differ from the prevalence rate for participating seniors by one and one-half times the amount that the prevalence rate for absentees does. *Estimates were calculated separately for each year, thus taking into account any differences from year to year in the participation or absentee rates.* The dropout rate was taken as a constant 15% of the age group across all years, based on Census estimates.

As Figure A-2 illustrates, any difference in the slopes of the trend lines between the original and revised estimates is extremely, almost infinitesimally, small. The prevalence estimates are higher, of course, but not dramatically so, and certainly not enough to have any serious policy implications. As stated above, the corrections for eighth and tenth grade samples should be considerably less, and there is certainly no reason to think that absentee or dropout rates at those levels have changed since 1991 in any way which could have changed their trend stories. Therefore, we have confidence that the trend stories which have shown up for the in-school populations represented in this study would be very similar to the trend stories which would pertain if the entire age cohorts had been the universes from which we sampled.

Table A-1. Comparison of 1991 Monitoring the Future Seniors, NHSDA Seniors, and NHSDA Dropouts

	MTF Seniors	NHSDA Seniors	NHSDA Dropouts 16-18
Marijuana			
Lifetime	36.7	31.9	60.7
30-Days	13.8	11.6	21.0
Cocaine			
Lifetime	7.8	8.6	20.0
30-Days	1.4	1.3	2.3

Table A-2. Estimated Prevalence Rates for Marijuana and Cocaine, 1991, Based on Data from Monitoring the Future and The National Household Survey on Drug Abuse

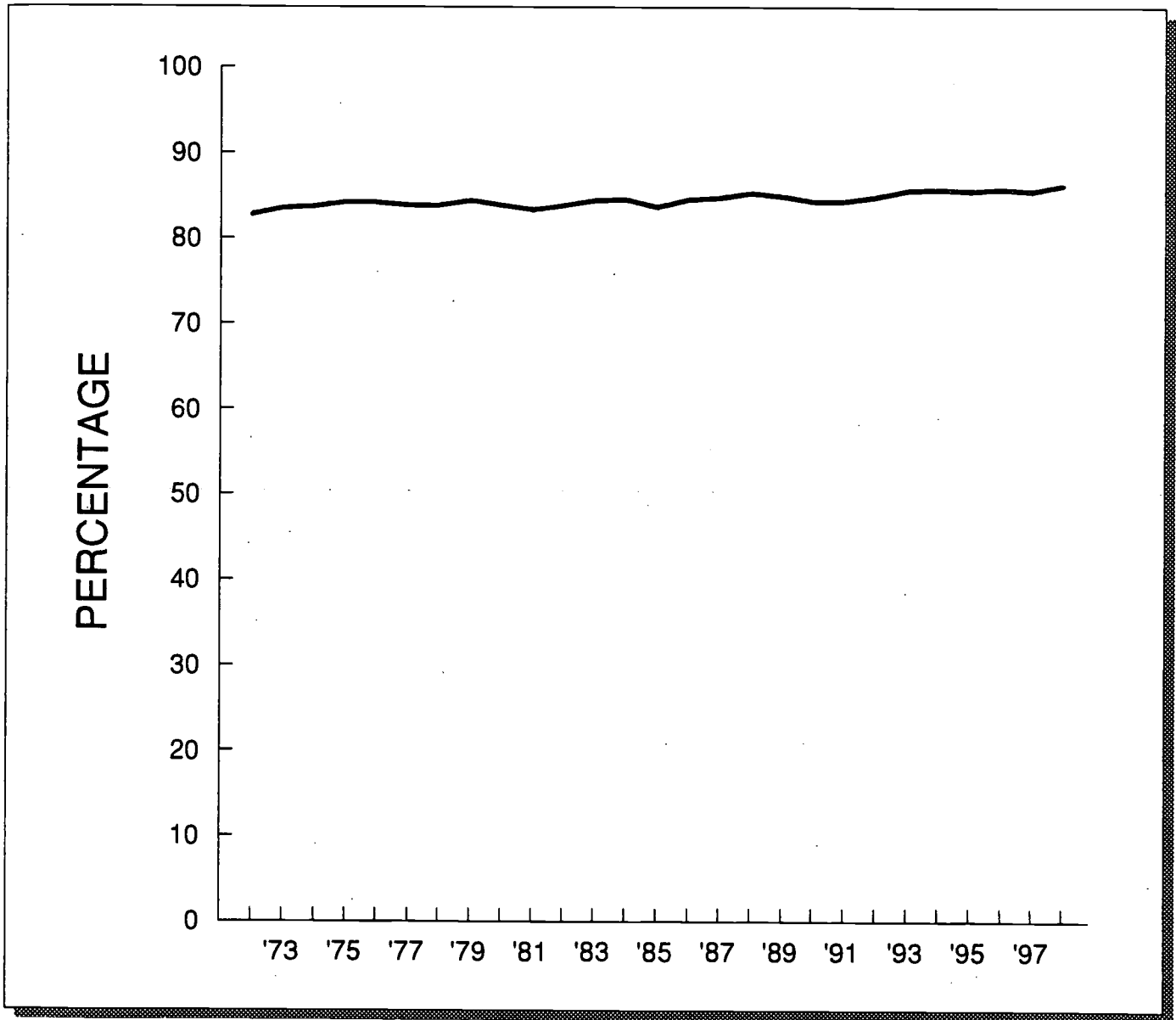
	Monitoring the Future				NHSDA		Combined Approach			
	(1) Seniors Present	(2) Seniors Absent	(3) Seniors Absent & Present	(4) Dropouts	(5) Total	(6) Seniors	(7) Dropouts (Age 16-18)	(8) Difference	(9) Dropouts	(10) Total
Marijuana										
Lifetime	36.7	49.9	38.8	56.5	41.4	31.9	60.7	28.8	67.6	43.1
30-Day	13.8	22.0	15.1	26.1	16.7	11.6	21.0	9.4	24.5	16.5
Cocaine										
Lifetime	7.8	15.3	9.0	19.1	10.3	8.6	20.0	11.4	20.4	10.7
30-Day	1.4	2.7	1.6	3.3	1.9	1.3	2.3	1.0	2.6	1.8

NOTES: The entries in columns are as follows:

- (1) estimates based on all MTF seniors who completed questionnaires.
- (2) estimated prevalence rates among seniors who were absent (using data from seniors who were present, as explained in text).
- (3) estimated prevalence rates among seniors present plus seniors who were absent.
- (4) estimated prevalence rates among dropouts, based on assumptions described in text.
- (5) estimated prevalence rates among seniors present, seniors who were absent, and same-age dropouts.
- (6) estimates based on all NHSDA respondents who were high school seniors.
- (7) estimates based on all NHSDA respondents, 16-18 years old, who were not attending school and had not graduated.
- (8) difference between columns (6) and (7), that is, the difference between all NHSDA seniors and dropouts; this is considered a valid estimate of the population difference between seniors and dropouts.
- (9) sum of columns (3) and (8), combining MTF estimated use among all seniors (present and absent) plus the estimated population difference between all seniors and dropouts, resulting in an estimated prevalence among dropouts.
- (10) weighted combined estimate of prevalence, using MTF estimates for all seniors (column (3)), and estimate of prevalence among dropouts (column (9)).

FIGURE A-1

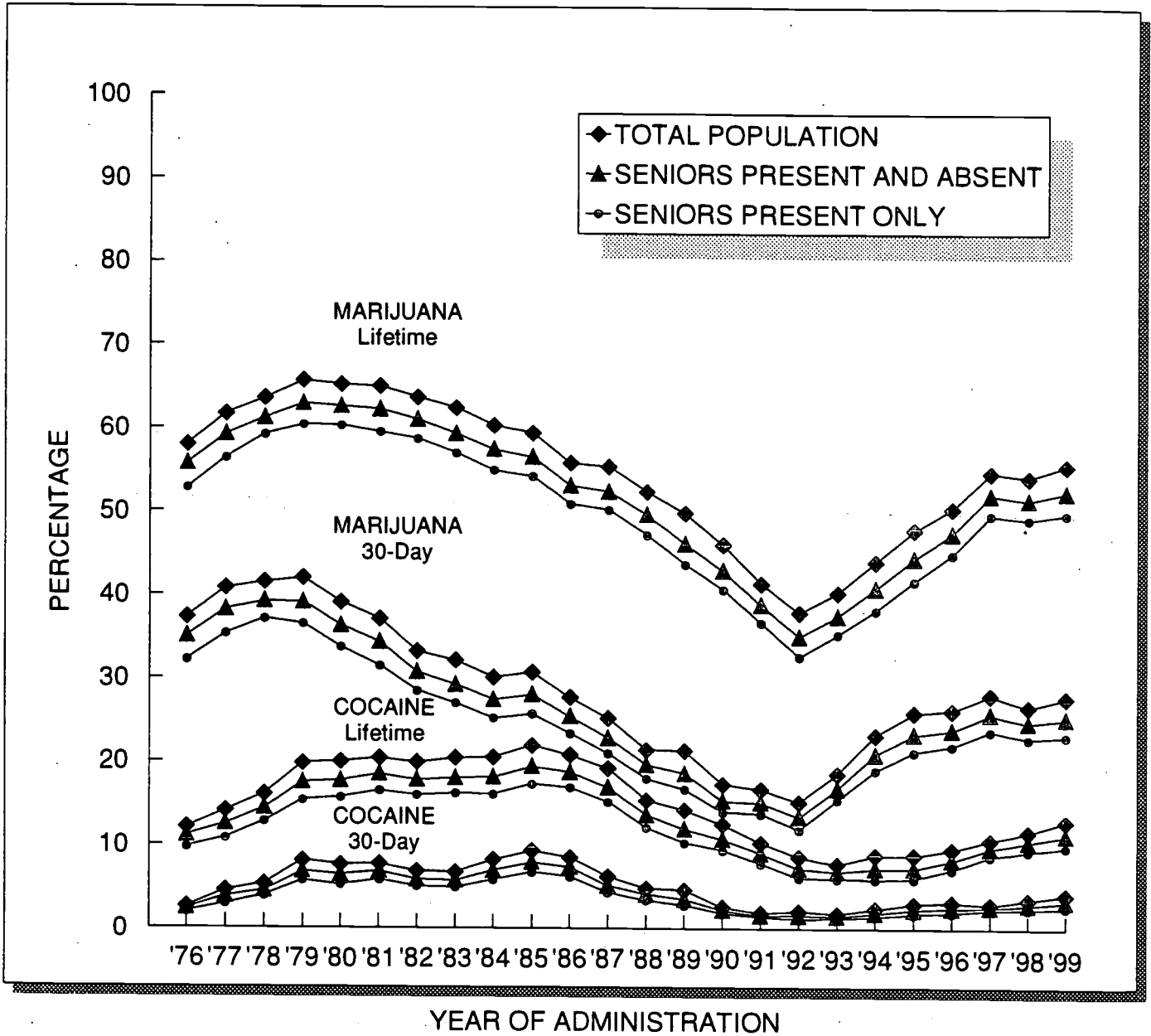
High School Completion by Persons 20-24 Years Old, 1972-1998
U.S. Population



Source: U.S. Bureau of the Census, Current Populations Survey, published and unpublished data; and 1980 Census.

FIGURE A-2

Estimates of Prevalence and Trends for the Entire Age/Class Cohort,
Adjusting for Absentees and Dropouts for Twelfth Graders



DEFINITION OF BACKGROUND AND DEMOGRAPHIC SUBGROUPS

Throughout this volume data are presented for the total sample of eighth, tenth, and twelfth graders. Data are also presented for many subgroups of students. The following are brief descriptions of the background and demographic subgroups used in this volume. (Note: All case counts provided in the tables are based on weighted Ns.)

- Total:** The total sample of respondents in a given year of the study.
- Gender:** *Male and female.* Respondents with missing data on the question asking the respondent's gender are omitted from both groupings.
- College Plans:** Respondents not answering the college plans question are omitted from both groupings. College plans groupings are defined as follows:
- None or under 4 years.* Respondents who indicate they "definitely won't" or "probably won't" graduate from a four-year college program. (Note that, among those who do not expect to complete a four-year college program, a number still expect to get some post-secondary education.)
- Complete 4 years.* Respondents who indicate they "definitely will" or "probably will" graduate from a four-year college program.
- Region:** Region of the country in which the respondent's school is located, as determined by the Survey Research Center's Sampling Section. There are four mutually exclusive regions of the country based on Census categories, defined as follows:
- Northeast.* Census classifications of New England and Middle Atlantic states include: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.
- North Central.* Census classifications of East North Central and West North Central states include: Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.
- South.* Census classifications of South Atlantic, East South Central, and West South Central states include: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina,

Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

West. Census classifications of Mountain and Pacific states include: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, and California.

**Population
Density:**

Population density of the area in which the schools are located. There are three mutually exclusive groups that have been variously defined, as described below. (The 1975-1985 samples were based on the 1970 Census; in 1986 one-half of the sample was based on the 1970 Census, the other half of the sample was based on the 1980 Census; in 1986 through 1993 the samples were based on the 1980 Census; in 1994 half of the sample was based on the 1980 Census and half on the 1990 Census; and after 1994, all samples were based on the 1990 Census. The three levels of population density were defined in terms of Standard Metropolitan Statistical Area (SMSAs) designations through 1985, when we changed to the new Census Bureau classifications of Metropolitan Statistical Areas (MSAs), as is described below:

Large MSAs. In the 1975-1985 samples these were the twelve largest Standard Metropolitan Statistical Areas (SMSA) as of the 1970 Census: New York, Los Angeles, Chicago, Philadelphia, Detroit, San Francisco, Washington, Boston, Pittsburgh, St. Louis, Baltimore and Cleveland. From 1986 to 1994, the "large MSA" group consisted of the 16 largest MSAs as of the 1980 Census. These 16 MSAs include all of the MSAs mentioned above (except Cleveland) plus the MSAs of Dallas-Fort Worth, Houston, Nassau-Suffolk, Minneapolis-St. Paul, and Atlanta.

Beginning with the first-year schools in 1994, the new sample design was based on the 1990 Census. In the 1990s sample only the 8 largest MSAs are represented at all three grade levels; the remaining are divided into pairs, with half belonging to the 12th and 8th grade samples and the other half belonging to the 10th grade sample. The 8 largest are New York NY-NJ, Los Angeles CA, Chicago IL, Philadelphia PA-NJ, Detroit MI, Washington DC-MD-VA, Dallas-Ft. Worth TX, and Boston MA. The remaining are: Houston TX, Atlanta GA, Seattle-Tacoma WA, Minneapolis MN-WI, St. Louis MO-IL, San Diego CA, Baltimore MD, Pittsburgh PA, Phoenix AZ, Oakland CA, Cleveland OH, Miami-Hialeah FL, Newark NJ, Denver CO, San Francisco CA, Kansas City MO-KS.

Other MSAs. Includes all other Metropolitan Statistical Areas (MSAs), as defined by the Census, except those listed above. Except in the New England states, an MSA is a county or group of contiguous counties that contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. In the New England states MSAs consisted of towns and cities, instead of counties, until 1994, after

which New England Consolidated Metropolitan Areas (NECMAs) were used to define MSAs. Each MSA must include at least one central city, and the complete title of an MSA identifies the central city or cities. For the complete description of the criteria used in defining MSAs, see the Office of Management and Budget publication, *Metropolitan Statistical Areas, 1990* (NTIS-PB90-214420), Washington, D.C. The population living in MSAs is designated as the metropolitan population.

Non-MSAs. Includes all areas not designated as Metropolitan Statistical Areas (MSAs)—in other words, they do not contain a town of at least 50,000 population. The population living outside MSAs constitutes the nonmetropolitan population.

**Parental
Education:**

This is an average of mother's education and father's education based on the respondent's answers about the highest level of education achieved by each parent, using the following scale: (1) completed grade school or less, (2) some high school, (3) completed high school, (4) some college, (5) completed college, (6) graduate or professional school after college. Missing data was allowed on one of the two variables. The respondent is instructed, "If you were raised mostly by foster parents, stepparents, or others, answer for them. For example, if you have both a stepfather and a natural father answer for the one that was most important in raising you."

**Race/
Ethnicity:**

A general question asks, "How do you describe yourself?"

White. Includes those respondents who describe themselves as White or Caucasian.

Black. Includes those respondents who in 1975-1990 describe themselves as Black or Afro-American or who, after 1990, describe themselves as Black or African American.

Hispanic. Includes those respondents who in 1975-1990 describe themselves as Mexican American or Chicano, or Puerto Rican or other Latin American. After 1990 this group includes those respondents who describe themselves as Mexican American or Chicano, or Cuban American, or Puerto Rican American, or other Latin American. After 1994, the term Puerto Rican American was shortened to Puerto Rican.

Appendix C

ESTIMATION OF SAMPLING ERRORS

This appendix provides some guidance for those who wish to calculate confidence intervals around the percentage estimates reported in this volume, or to assess the statistical significance of differences between percentage estimates.

All of the percentages reported in this volume are estimates of the response percentage that would have been obtained if, instead of using a sample survey, we had surveyed all eighth-, tenth-, or twelfth-grade students throughout the United States. Because we surveyed only a sample, and not the entire population, there are sampling errors associated with each estimate. For any particular percentage resulting from a sample survey we cannot know exactly how much error has resulted from sampling, but we can make reasonably good estimates of “confidence intervals”—ranges within which the “true” population value is very likely to fall. The word “true” in this context refers to the value that would be found if we had surveyed the total population—that is all eighth-, tenth-, or twelfth-grade students in the United States. This concept of “true” population value does not take account of biases that might occur due to refusals, intentional or unintentional distortion of responses, faulty question wording, and other factors.

CALCULATING CONFIDENCE INTERVALS

The most straightforward types of samples, from a statistical standpoint at least, are simple random samples. In such samples the confidence limits for a proportion are influenced by the size of the sample, or particular subsample, under consideration, and also by the value of the proportion. (Although the estimates in this volume are expressed as percentages, this appendix generally deals with the equivalent proportion, for ease of presentation.)

The *standard error*⁷⁷ of a proportion p based on a simple random sample of n cases is equal to:

$$\sqrt{p(1.0 - p) / n} \tag{1}$$

⁷⁷The standard error of an estimate is a measure of sampling error; it is defined as the standard deviation of the sampling distribution of the statistic. It is used to construct the confidence interval around an estimate.

With a large number of cases, a symmetrical *confidence interval* around p would be approximated by:

$$p \pm z\sqrt{p(1.0 - p)/n} \quad (2)$$

where z is the appropriate value from the z -distribution. For a 95% confidence interval, for example, $z = 1.96$.

Many of the proportions presented in this volume represent rare events, with values being close to zero. At those low values, a more appropriate confidence interval would be asymmetric. A more exact calculation for confidence intervals, which will usually produce asymmetric confidence limits, is⁷⁸:

$$\frac{n}{n+z^2} \left[p + \frac{z^2}{2n} \pm z\sqrt{\frac{p(1-p)}{n} + \frac{z^2}{4n^2}} \right] \quad (3)$$

Significance of Difference between Two Proportions

In addition to estimating the sampling error around a single proportion, we often wish to test the significance of a difference between two proportions, such as the difference between the proportion of marijuana users among male students as compared to among female students. The following formula produces a statistic that can be referred to a standard normal distribution, assuming reasonably large numbers of cases:

$$z = \frac{p_1 - p_2}{\sqrt{p_c(1 - p_c) \frac{n_1 + n_2}{n_1 n_2}}} \quad (4)$$

where

$$p_c = \frac{n_1 p_1 + n_2 p_2}{n_1 + n_2} \quad (5)$$

and p_c is the estimated population proportion, p_1 is the observed proportion (of users) in the first group, p_2 is the observed proportion in the second group, n_1 is the number of cases in the first group, and n_2 is the number of cases in the second group.

⁷⁸Formula 6.11.1, page 240 in Hays, W.L., "Statistics" (Fourth Edition). Holt, Rinehart, & Winston, 1988.

DESIGN EFFECTS IN COMPLEX SAMPLES

Formulas (1) - (5) are appropriate only for simple random samples.⁷⁹ In complex samples such as those used in the Monitoring the Future surveys, it is also necessary to take account of the effect that the sampling design has on the size of standard errors. (A complex sample is any sample that is not a simple random sample.)

The Monitoring the Future sample design incorporates stratification, clustering, and differential weighting to adjust for differential probabilities of selection. These design elements influence sampling error. While stratification tends to heighten the precision of a sample compared with a simple random sample of the same size (usually reducing the sampling error), the effects of clustering and weighting reduce precision (usually increasing the sampling error). The net result is that complex sample designs almost always result in increased sampling error (but they usually result in more efficient samples in all other respects). Therefore, it is not appropriate to apply the standard, simple random sampling formulas to such complex samples in order to obtain estimates of sampling errors.

Methods exist for correcting for this underestimation. Kish (1965, p. 258) defines a correction term called the *design effect* (DEFF), where

$$DEFF = \frac{\text{actual sampling variance}}{\text{variance expected from a random sample}} \quad (6)$$

Thus, if the actual sampling variance in a complex sample is four times as large as the expected sampling variance from a simple random sample with the same number of cases, the DEFF is 4.0. Because confidence intervals are proportionate to the square root of variance, the confidence intervals for such a sample would be twice as large (because the square root of 4 is 2) as the confidence interval for a simple random sample with the same number of cases. If an estimate of design effect is available, one of the simplest correction procedures to follow is to divide the actual numbers of cases by the design effect (thereby "depreciating" the actual number to its equivalent value in simple random sample terms) and then employ the standard statistical procedures that are available for application to simple random samples. Thus, for example, if the design effect (DEFF) for a sample of 16,000 were 4.0, then one could divide the 16,000 by 4.0 and the result, 4,000, could be entered as the value of "n" in statistical tables and formulas designed for use with simple random samples. In short, the strategy involves dividing the actual number of cases by the appropriate DEFF in order to get a "simple random sampling equivalent n" or, more simply, an "effective n" for use in statistical procedures designed for random samples.

⁷⁹A simple random sample is one in which each element is selected independently of, and with the same probability as, all other elements in the universe of elements from which the sample is drawn.

Estimating Design Effects

In principle, every different statistic resulting from a complex sample can have its own design effect and, in fact, different statistics in the same sample may have quite different design effects. However, it is not feasible to compute every design effect, nor would it be feasible to report every one. Moreover, "Sampling errors computed from survey samples are themselves usually subject to great sampling variability ... Sampling theory, and experience with many and repeated computations, teach us not to rely on the precision of individual results, even when these are based on samples with large numbers of elements." (Kish, Groves, & Krotki, 1976, p. 19)⁸⁰ Thus, in practice, design effects are averaged across a number of statistics and these average values are used to estimate the design effects for other statistics based on the same sample. Sometimes, a single design effect is applied to all the estimates in a given study. This is usually an oversimplification. In the present study a rather extensive exploration of design effects revealed a number of systematic differences. These systematic differences have to do with the particular measures being examined, the subgroups involved, and the question of whether a trend over time is being considered. Thus, we provide here a more elaborated set of estimates of design effects that vary along these several dimensions.⁸¹

Factors Affecting Design Effects

Design effects are systematically related to two factors: the amount of "clustering" and the average cluster size. (Each school in the Monitoring the Future design can be considered a cluster of cases, or students.) Specifically,

$$DEFF = 1 + \rho(\bar{n} - 1) \quad (7)$$

(Kish, 1965, section 5, p. 162; Kalton, 1983, p. 31)

where \bar{n} is the average cluster size and ρ is the intraclass correlation coefficient measuring the degree of cluster homogeneity. Note that the equality is approximate

An important consequence of this relationship is that subgroups such as male or female that are typically represented within all clusters (that is, all schools) have a lower average cluster size. All (or virtually all) of the schools in the sample have both male and female students. Thus, each of these subgroups is spread more or less evenly across the full number of clusters (schools). Because each of these subgroups includes approximately half of the total sample, the average number of cases per cluster is about half as large as for the total sample, and this leads to a smaller design effect than is found for the total sample. (There is usually not much difference in ρ , the measure of cluster homogeneity.) Other subgroups involving college plans or parental education are also distributed across

⁸⁰Kish L. Groves R. M., & Krotki K. P. (1976) Sampling errors for fertility surveys (Occasional Paper Series No. 17). Voorburg, The Netherlands: International Statistical Institute.

⁸¹All design effects were estimated using the Taylor series expansion method.

all clusters (although not as evenly as gender) and thus are subject to the same phenomenon of smaller design effects because of the smaller number of cases per cluster. This is in contrast to the situation with subgroups such as region of the country, each of which will normally have the same average cluster size as the total sample from the whole country—but considerably fewer clusters. The former type of subgroup (*cross-class*) will usually have a lower design effect, while the latter type of subgroup (*segregated*) will usually have a design effect similar to the overall. In this study, cross-class subgroups include gender, college plans, and parental education. Segregated subgroups include region and population density. Race/ethnicity is a mixed case, in that there tends to be substantial clustering by school. Consequently, design effects for minority race/ethnic subgroups tend to be somewhat higher than average, though this tendency is not always evidenced. Because such a high proportion of respondents in most schools are White, the associated design effects for them tend to be similar to the overall design effects.

As an empirical generalization, we have observed that design effects tend to be related to the actual prevalence rates of substance use (or p value). Thus, rarely used substances such as heroin typically have low design effects, while more commonly used substances such as cigarettes, alcohol, and marijuana typically have high design effects. Similarly, the design effect associated with the estimate of lifetime prevalence of any given substance is usually greater than (or equal to) the design effect associated with annual prevalence of that substance, which is in turn greater than the design effect for monthly prevalence. This tendency would imply that eighth grade design effects would typically be lower than those for tenth grade, which would be lower than twelfth grade (because prevalence rates are usually greater in the upper grades). However, eighth grade schools tend to be more homogenous in socioeconomic terms than do high schools, because they tend to draw from smaller geographic areas; this tends to make eighth grade schools more homogenous with respect to drug use, which would lead to larger design effects. The combination of factors generally leads to slightly lower design effects for the lower grade levels (although not in all cases).

Design Effects for Differences between Two Proportions

Trends between two non-adjacent years. A trend over an interval greater than one year (for example, a comparison between 1994 and 1980) is basically a comparison between estimates from two independent samples. Therefore, the design effects for a single estimated proportion is appropriate.

Trends between adjacent years. One of the central purposes of the Monitoring the Future project is to monitor trends over time; indeed, the study procedures have been standardized across years insofar as possible in order to provide the opportunity for sensitive measurement of change. One of the factors designed to produce an added degree of consistency from one year to the next is the use of each school for two data collections, which means that for any two successive years half of the sample of schools is the same. This means that there is a good deal of consistency in the sampling and clustering of the sample from one year to the next. As a result, when one-year comparisons are made

between adjacent years, the design effects for the trend estimate are appreciably smaller than if completely independent samples of schools had been drawn each year. In other words, the samples in adjacent years are not independent; on the contrary, there is a considerable degree of covariance between them. This covariance, or partial "matching," reduces the design effect for differences observed between adjacent years, compared to what they would have been with totally independent samples.

In order to estimate the extent of "shrinkage," we calculated about ninety-five DEFFs for adjacent 1-year trend data where we had prevalence data for the same grade/drug combinations. The relationship between the two sets of DEFFs (prevalence versus 1-year trend) was found to be approximately linear, with a product-moment correlation of .88 for DEFFs (and .89 for DEFTs, the square root of DEFF). This seemed sufficiently high to justify simply estimating the linear relation, predicting the trend DEFF from the prevalence DEFF, and using that to estimate the 1-year trend DEFF for all measures.

Comparisons between subgroups within a single year. We examined a variety of design effects involving comparisons between subgroups based on gender, college plans, and parental education. A considerable simplification was achieved when we noted that generally the average DEFF values for subgroup comparisons were quite similar to the average DEFF values for 1-year trends.

With respect to segregated variables like region and population density, the subgroup samples are essentially independent, therefore, the prevalence design effects are appropriate for comparisons among these subgroups.

Thus, our exploration of design effects resulted in the following strategies and simplifications:

Design effects are provided for 7 different groupings of drugs, as follows:

- (a) An Index of Use of Any Illicit Drug Other Than Marijuana
- (b) An Index of Use of Any Illicit Drug, An Index of Use of Any Illicit Drug including Inhalants, and Marijuana
- (c) Hallucinogens, LSD, Cocaine, and Other Cocaine (i.e., not Crack)
- (d) Nitrites, PCP, MDMA (ecstasy), Crack Cocaine, Heroin, Methamphetamine, Ice, Methaqualone, Rohypnol, and Steroids
- (e) Hallucinogens Other Than LSD, Narcotics Other Than Heroin, Sedatives, Barbiturates, and Tranquilizers
- (f) Inhalants and Amphetamines
- (g) Alcohol (including Use of Alcohol and Getting Drunk), Cigarettes, and Smokeless Tobacco

Design effects were found to be generally similar for all the drugs contained within each grouping, but somewhat different across groupings.

In general, intervals of use (lifetime, annual, 30-day, daily) are distinguished. For some substances, though, the variation by interval was slight enough to ignore.

On both logical and empirical grounds, there seemed little reason to distinguish among the "segregated" groups: total sample, and groups defined by region and by population density. The average cluster size should be about the same, and there should not be much variation in the degree to which drug use clusters by school within these categories. Some variation was evident empirically, but it did not appear to be systematic. Thus, these groups are assigned equal design effects.

Separate design effect values are provided for estimates of use (prevalence) among the three grade levels (8, 10, 12), for subgroups defined by gender (males, females), college plans (planning to complete 4 years, not planning to complete 4 years), parental education (five levels), and race/ethnicity (African American, White, Hispanic). In some cases, particularly for the less prevalent drugs, where design effects are very low, the estimated design effects in fact do not vary by group.

Estimates of design effects are also provided for 1-year trends. For trends across nonadjacent years, the standard design effects for prevalence are appropriate. Estimates of design effects are also provided separately for comparisons of subgroups within a given year.

DETERMINING EFFECTIVE N'S

Tables C1 through C3 provide estimates of design effects that can be used to "shrink" the weighted numbers of cases given in each table in this volume to an "effective n," which is appropriate for use in standard formulas in calculating sampling errors, confidence intervals, and statistical significance of differences in proportions. The tables are in three sets: the first set (C1a-C1g) is appropriately used for a 1-year trend across adjacent years; the second set (C2a-C2g) is for a single prevalence or a comparison across non-adjacent years; and the third (C3a-C3g) for a comparison between subgroups in a single year. (Adjacent years differ from non-adjacent years in that half of the schools are part of both years' samples.)

To use the tables, the reader should determine whether the design effect is needed for a 1-year trend (Table C1), a single prevalence (Table C2), or a subgroup comparison within a year (Table C3), and which substance is involved (a-g), and then, the appropriate table can be accessed. Within the table, the reader needs to determine which subgroup (or Total sample) is involved, which grade level, and which interval of use. Then, the appropriate design effect can be looked up, and used to deflate the weighted number of cases, to arrive at an "effective n." This effective n would be used in formulas (1) to (5), given above.

As an example, suppose one wished to compare the 30-day prevalence of marijuana use for the total eighth-grade sample in 1996 with 1997. Table 2-1 through 2-3, provided

earlier in this volume, indicates that prevalence was 11.3% in 1996, based on 17,800 cases; and 10.2% in 1997, based on 18,600 cases. Table C1b shows that an appropriate design effect for eighth grade 30-day marijuana use is 3.2. Each year's n would be divided by 3.2, producing effective n 's of 5562 and 5812. These effective n 's should be used in formula (4) given earlier in this appendix, to test whether the difference in proportions between the two years is statistically significant.

A Special Note on Racial/Ethnic Subgroups

As noted earlier in this volume, the prevalence estimates for racial/ethnic subgroups are reported only for 2-year averages, instead of for single years, because of limited sample sizes and a higher degree of clustering. The design effects for prevalence rates for racial/ethnic subgroups provided in Tables C2a-C2g are appropriately applied to the number of cases provided for the 2 years combined. In calculating a 1-year trend between the two most recent prevalence figures, however, one is in effect taking a trend between a prevalence based on data from the most recent single year and a prevalence based on data from a single year 2 years prior to the most recent year. For example, comparing the estimate based on combined 1994 and 1995 data with the combined 1993 and 1994 data is equivalent to comparing 1993 and 1995 because the 1994 observed value is contained in both data points and therefore cancels itself out. The design effects for trends provided in Tables C1a-C1g are therefore appropriately applied to one-half of the number of cases provided in each table for the combined years.

A NOTE ON INTERPRETATION OF DIFFERENCES AND STATISTICAL SIGNIFICANCE

This appendix provides the reader with procedures to assess the statistical significance of differences over time or between groups. In the text of this report we frequently comment on particular differences over time or between groups in terms of drug use. In general, our conclusions are based to a considerable extent on *patterns* of cross-time changes rather than on the statistical significance of any single comparison. That is, we assess the overall pattern of evidence, rather than any single finding to assess the likely validity of the finding.

There are at least five types of patterns that we inspect:

- (1) replication across grades

Because the annual samples of eighth, tenth, and twelfth grade students are three *completely independent samples*, one pattern that we look for is the similarity or contrast in changes that occur in the three groups. Although there is no requirement that changes occur similarly in all three groups, to the extent that a change is similar (or at least not inconsistent), we are more confident in its validity.

- (2) replication across subgroups

To the extent that a change has occurred across a broad range of subgroups, we are more confident in its validity. For example, if an increase in use occurs among males and females, among noncollege bound and college bound, in different regions, etc., we would be more inclined to accept the change as reflecting an underlying reality.

(3) replication across half-samples

Because half of the schools remain the same from one year to the next, any changes across a one-year interval can be examined for the half-sample that has remained constant. In other words, the data are examined for only the schools that provide data for both years. This removes any differences that may have occurred due simply to different schools being included.

(4) consistency across several years

Although each year's report emphasizes the changes in the most recent year, we pay careful attention to trends across longer time intervals. For example, when we observe a third or fourth consecutive year of consistent change in one direction (up or down), then we are more inclined to accept the validity of the general trend, even if none of the changes in any of the 1-year intervals was statistically significant.

(5) replication across different variables

Another type of replication or validation involves examining trends in different variables that would be expected to covary. For example, we have observed that perceived risk of harm associated with use of a specific substance tends to covary (negatively) with actual use of the substance. Similarly, we would expect reports of friends' use of specific substances to covary (positively) with reports of the respondents' own use. To the extent that different variables covary in the expected manner, then we would be more confident in interpreting the results.

Although we do not always discuss all of these various contributions to our confidence, we do generally assess them, prior to making interpretations.

Tables of Design Effects to Use in Calculating "Effective Ns"

Table C-1, One-Year Trends in Prevalence

- (a) An Index of Use of Any Illicit Drug Other than Marijuana
- (b) An Index of Use of Any Illicit Drug, An Index of Use of Any Illicit Drug including Inhalants, and Marijuana
- (c) Hallucinogens, LSD, Cocaine, and Other Cocaine (i.e., not Crack)
- (d) Nitrites, PCP, MDMA (ecstasy), Crack Cocaine, Heroin, Methamphetamine, Ice, Methaqualone, Rohypnol, and Steroids
- (e) Hallucinogens Other than LSD, Narcotics Other than Heroin, Sedatives, Barbiturates, and Tranquilizers
- (f) Inhalants and Amphetamines
- (g) Alcohol (including Use of Alcohol and Getting Drunk), Cigarettes, and Smokeless Tobacco

Table C-2, Prevalence or Change in Prevalence across Non-adjacent Years

- (a) An Index of Use of Any Illicit Drug Other than Marijuana
- (b) An Index of Use of Any Illicit Drug, An Index of Use of Any Illicit Drug including Inhalants, and Marijuana
- (c) Hallucinogens, LSD, Cocaine, and Other Cocaine (i.e., not Crack)
- (d) Nitrites, PCP, MDMA (ecstasy), Crack Cocaine, Heroin, Methamphetamine, Ice, Methaqualone, Rohypnol, and Steroids
- (e) Hallucinogens Other than LSD, Narcotics Other than Heroin, Sedatives, Barbiturates, and Tranquilizers
- (f) Inhalants and Amphetamines
- (g) Alcohol (including Use of Alcohol and Getting Drunk), Cigarettes, and Smokeless Tobacco

Table C-3, Subgroups Comparisons within Any Single Year

- (a) An Index of Use of Any Illicit Drug Other than Marijuana
- (b) An Index of Use of Any Illicit Drug, An Index of Use of Any Illicit Drug including Inhalants, and Marijuana
- (c) Hallucinogens, LSD, Cocaine, and Other Cocaine (i.e., not Crack)
- (d) Nitrites, PCP, MDMA (ecstasy), Crack Cocaine, Heroin, Methamphetamine, Ice, Methaqualone, Rohypnol, and Steroids
- (e) Hallucinogens Other than LSD, Narcotics Other than Heroin, Sedatives, Barbiturates, and Tranquilizers
- (f) Inhalants and Amphetamines
- (g) Alcohol (including Use of Alcohol and Getting Drunk), Cigarettes, and Smokeless Tobacco

TABLE C-1a
Design Effects for 1-Year Trends in Prevalence of Use

		INDEX OF ANY ILLICIT DRUG OTHER THAN MARIJUANA			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	3.9	3.3	2.6	1.2
	10th Grade	4.3	3.6	2.7	1.2
	12th Grade	4.9	4.4	3.3	1.7
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	2.8	2.5	2.2	1.3
	10th Grade	3.1	2.7	2.4	1.2
	12th Grade	3.2	2.9	2.4	1.7
<i>Female</i>	8th Grade	3.1	2.8	2.1	1.2
	10th Grade	3.3	2.9	2.2	1.1
	12th Grade	3.5	3.3	2.8	1.6
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.0	1.9	1.6	1.2
	10th Grade	2.2	2.1	1.8	1.4
	12th Grade	2.1	1.9	1.6	1.5
<i>Complete 4 years</i>	8th Grade	3.5	2.8	2.3	1.2
	10th Grade	4.1	3.3	2.5	1.1
	12th Grade	4.4	3.8	3.0	1.7
Parental Education:					
<i>Any stratum</i>	8th Grade	2.1	2.0	1.6	1.1
	10th Grade	2.2	2.0	1.7	1.2
	12th Grade	2.4	2.2	1.7	1.4
Racial/Ethnic Group:					
<i>White</i>	8th Grade	4.0	3.8	2.9	1.4
	10th Grade	4.9	4.3	3.0	1.5
	12th Grade	4.2	4.0	2.9	2.0
<i>Black</i>	8th Grade	2.7	2.0	1.5	1.2
	10th Grade	3.0	2.6	1.9	1.3
	12th Grade	3.7	3.3	3.0	1.6
<i>Hispanic</i>	8th Grade	3.8	2.7	2.0	1.5
	10th Grade	4.5	2.9	1.8	1.3
	12th Grade	6.9	5.8	3.0	1.9

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-1b
Design Effects for 1-Year Trends in Prevalence of Use

		INDEX OF ANY ILLICIT DRUG, INDEX OF ANY ILLICIT DRUG INCLUDING INHALANTS, AND MARIJUANA			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	4.1	3.5	3.2	1.4
	10th Grade	5.0	4.3	3.4	1.5
	12th Grade	6.9	6.6	5.4	2.8
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	2.4	2.4	2.4	1.5
	10th Grade	3.4	3.0	3.0	1.5
	12th Grade	3.8	3.4	3.0	2.7
<i>Female</i>	8th Grade	3.4	3.0	2.4	1.3
	10th Grade	4.0	3.4	2.7	1.1
	12th Grade	4.6	4.6	4.5	2.6
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.3	2.3	2.0	1.3
	10th Grade	2.8	2.8	2.7	2.0
	12th Grade	2.4	2.4	2.1	2.1
<i>Complete 4 years</i>	8th Grade	3.3	2.4	2.4	1.5
	10th Grade	5.1	4.0	3.2	1.1
	12th Grade	6.1	5.3	4.5	3.0
Parental Education:					
<i>Any stratum</i>	8th Grade	2.1	2.1	1.9	1.1
	10th Grade	2.5	2.3	2.2	1.4
	12th Grade	3.0	2.8	2.3	1.9
Racial/Ethnic Group:					
<i>White</i>	8th Grade	4.5	4.4	4.1	1.9
	10th Grade	7.2	5.8	4.5	2.1
	12th Grade	5.0	5.0	4.2	3.7
<i>Black</i>	8th Grade	3.0	2.1	1.3	1.1
	10th Grade	4.0	4.0	2.6	1.5
	12th Grade	6.0	6.0	6.0	2.5
<i>Hispanic</i>	8th Grade	2.6	2.6	2.1	2.0
	10th Grade	4.9	3.0	1.6	1.5
	12th Grade	12.0	11.7	5.3	3.4

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-1c
Design Effects for 1-Year Trends in Prevalence of Use

		HALLUCINOGENS (UNADJUSTED AND ADJUSTED), LSD, COCAINE, AND OTHER COCAINE			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	4.3	3.5	2.5	1.1
	10th Grade	4.3	3.5	2.5	1.1
	12th Grade	4.3	3.5	2.5	1.1
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	3.2	2.8	2.4	1.1
	10th Grade	3.2	2.8	2.4	1.1
	12th Grade	3.2	2.8	2.4	1.1
<i>Female</i>	8th Grade	3.2	2.8	2.0	1.1
	10th Grade	3.2	2.8	2.0	1.1
	12th Grade	3.2	2.8	2.0	1.1
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.0	1.9	1.4	1.1
	10th Grade	2.0	1.9	1.4	1.1
	12th Grade	2.0	1.9	1.4	1.1
<i>Complete 4 years</i>	8th Grade	4.2	3.2	2.4	1.1
	10th Grade	4.2	3.2	2.4	1.1
	12th Grade	4.2	3.2	2.4	1.1
Parental Education:					
<i>Any stratum</i>	8th Grade	2.1	1.9	1.5	1.1
	10th Grade	2.1	1.9	1.5	1.1
	12th Grade	2.1	1.9	1.5	1.1
Racial/Ethnic Group:					
<i>White</i>	8th Grade	4.2	3.8	2.8	1.2
	10th Grade	4.2	3.8	2.8	1.2
	12th Grade	4.2	3.8	2.8	1.2
<i>Black</i>	8th Grade	1.4	1.4	1.3	1.2
	10th Grade	1.4	1.4	1.3	1.2
	12th Grade	1.4	1.4	1.3	1.2
<i>Hispanic</i>	8th Grade	6.1	3.3	2.3	1.2
	10th Grade	6.1	3.3	2.3	1.2
	12th Grade	6.1	3.3	2.3	1.2

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-1d
Design Effects for 1-Year Trends in Prevalence of Use

		NITRITES, PCP, MDMA (ECSTASY), CRACK COCAINE, HEROIN, METHAMPHETAMINE, ICE, METHAQUALONE, ROHYPNOL, AND STEROIDS			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (<i>Northeast, North Central, South, and West</i>); Any Population Density Stratum (<i>Large MSA, Other MSA, and Non-MSA</i>)					
	8th Grade	1.9	1.3	1.3	1.1
	10th Grade	1.9	1.3	1.3	1.1
	12th Grade	1.9	1.3	1.3	1.1
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	1.3	1.3	1.3	1.1
	10th Grade	1.3	1.3	1.3	1.1
	12th Grade	1.3	1.3	1.3	1.1
<i>Female</i>	8th Grade	1.9	1.5	1.3	1.1
	10th Grade	1.9	1.5	1.3	1.1
	12th Grade	1.9	1.5	1.3	1.1
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	1.4	1.4	1.4	1.1
	10th Grade	1.4	1.4	1.4	1.1
	12th Grade	1.4	1.4	1.4	1.1
<i>Complete 4 years</i>	8th Grade	1.5	1.3	1.1	1.1
	10th Grade	1.5	1.3	1.1	1.1
	12th Grade	1.5	1.3	1.1	1.1
Parental Education:					
<i>Any stratum</i>	8th Grade	1.3	1.3	1.3	1.1
	10th Grade	1.3	1.3	1.3	1.1
	12th Grade	1.3	1.3	1.3	1.1
Racial/Ethnic Group:					
<i>White</i>	8th Grade	1.6	1.5	1.4	1.2
	10th Grade	1.6	1.5	1.4	1.2
	12th Grade	1.6	1.5	1.4	1.2
<i>Black</i>	8th Grade	1.8	1.8	1.8	1.2
	10th Grade	1.8	1.8	1.8	1.2
	12th Grade	1.8	1.8	1.8	1.2
<i>Hispanic</i>	8th Grade	2.0	1.6	1.5	1.2
	10th Grade	2.0	1.6	1.5	1.2
	12th Grade	2.0	1.6	1.5	1.2

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-1e
Design Effects for 1-Year Trends in Prevalence of Use

		HALLUCINOGENS OTHER THAN LSD, NARCOTICS OTHER THAN HEROIN, SEDATIVES, BARBITURATES, AND TRANQUILIZERS			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	2.4	2.2	1.5	1.1
	10th Grade	2.4	2.2	1.5	1.1
	12th Grade	2.4	2.2	1.5	1.1
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	2.1	2.1	1.6	1.1
	10th Grade	2.1	2.1	1.6	1.1
	12th Grade	2.1	2.1	1.6	1.1
<i>Female</i>	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
<i>Complete 4 years</i>	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
Parental Education:					
<i>Any stratum</i>	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
Racial/Ethnic Group:					
<i>White</i>	8th Grade	2.5	2.5	1.9	1.2
	10th Grade	2.5	2.5	1.9	1.2
	12th Grade	2.5	2.5	1.9	1.2
<i>Black</i>	8th Grade	1.5	1.5	1.4	1.2
	10th Grade	1.5	1.5	1.4	1.2
	12th Grade	1.5	1.5	1.4	1.2
<i>Hispanic</i>	8th Grade	1.6	1.4	1.3	1.2
	10th Grade	1.6	1.4	1.3	1.2
	12th Grade	1.6	1.4	1.3	1.2

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-1f
Design Effects for 1-Year Trends in Prevalence of Use

		INHALANTS AND AMPHETAMINES (UNADJUSTED AND ADJUSTED)			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	3.5	3.0	2.1	1.1
	10th Grade	3.5	3.0	2.1	1.1
	12th Grade	3.5	3.0	2.1	1.1
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	2.7	2.4	1.9	1.1
	10th Grade	2.7	2.4	1.9	1.1
	12th Grade	2.7	2.4	1.9	1.1
<i>Female</i>	8th Grade	2.7	2.7	1.9	1.1
	10th Grade	2.7	2.7	1.9	1.1
	12th Grade	2.7	2.7	1.9	1.1
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	1.9	1.5	1.3	1.1
	10th Grade	1.9	1.5	1.3	1.1
	12th Grade	1.9	1.5	1.3	1.1
<i>Complete 4 years</i>	8th Grade	3.0	2.7	2.0	1.1
	10th Grade	3.0	2.7	2.0	1.1
	12th Grade	3.0	2.7	2.0	1.1
Parental Education:					
<i>Any stratum</i>	8th Grade	2.0	1.9	1.4	1.1
	10th Grade	2.0	1.9	1.4	1.1
	12th Grade	2.0	1.9	1.4	1.1
Racial/Ethnic Group:					
<i>White</i>	8th Grade	3.3	3.2	1.8	1.2
	10th Grade	3.3	3.2	1.8	1.2
	12th Grade	3.3	3.2	1.8	1.2
<i>Black</i>	8th Grade	3.6	2.4	1.8	1.2
	10th Grade	3.6	2.4	1.8	1.2
	12th Grade	3.6	2.4	1.8	1.2
<i>Hispanic</i>	8th Grade	2.6	2.3	1.5	1.2
	10th Grade	2.6	2.3	1.5	1.2
	12th Grade	2.6	2.3	1.5	1.2

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-1g
Design Effects for 1-Year Trends in Prevalence of Use

		<u>ALCOHOL AND BEEN DRUNK</u>		<u>CIGARETTES AND SMOKELESS TOBACCO</u>	
		Lifetime, Past 12 Months, Past 30 Days, 5+2 Weeks	<u>Daily</u>	Lifetime, Past 30 Days, Daily	Half-pack or More per Day
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	3.7	1.3	3.8	3.0
	10th Grade	3.7	1.3	3.8	3.0
	12th Grade	3.7	1.3	3.8	3.0
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	2.4	1.3	2.3	2.0
	10th Grade	2.4	1.3	2.3	2.0
	12th Grade	2.4	1.3	2.3	2.0
<i>Female</i>	8th Grade	3.1	1.3	3.6	2.6
	10th Grade	3.1	1.3	3.6	2.6
	12th Grade	3.1	1.3	3.6	2.6
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.1	1.3	2.0	2.0
	10th Grade	2.1	1.3	2.0	2.0
	12th Grade	2.1	1.3	2.0	2.0
<i>Complete 4 years</i>	8th Grade	3.2	1.3	3.2	2.3
	10th Grade	3.2	1.3	3.2	2.3
	12th Grade	3.2	1.3	3.2	2.3
Parental Education:					
<i>Any stratum</i>	8th Grade	2.0	1.3	2.1	1.9
	10th Grade	2.0	1.3	2.1	1.9
	12th Grade	2.0	1.3	2.1	1.9
Racial/Ethnic Group:					
<i>White</i>	8th Grade	3.6	1.4	3.7	2.6
	10th Grade	3.6	1.4	3.7	2.6
	12th Grade	3.6	1.4	3.7	2.6
<i>Black</i>	8th Grade	4.5	1.4	2.4	1.4
	10th Grade	4.5	1.4	2.4	1.4
	12th Grade	4.5	1.4	2.4	1.4
<i>Hispanic</i>	8th Grade	3.0	1.4	2.7	1.9
	10th Grade	3.0	1.4	2.7	1.9
	12th Grade	3.0	1.4	2.7	1.9

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-2a
Design Effects for (a) Prevalence of Use or (b) a Change in
Prevalence of Use Across Nonadjacent Years

		INDEX OF ANY ILLICIT DRUG OTHER THAN MARIJUANA			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	5.6	4.6	3.3	1.3
	10th Grade	6.2	5.0	3.4	1.4
	12th Grade	7.2	6.4	4.6	2.0
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	3.6	3.2	2.6	1.4
	10th Grade	4.1	3.5	3.0	1.4
	12th Grade	4.4	3.7	3.0	2.0
<i>Female</i>	8th Grade	4.2	3.7	2.4	1.3
	10th Grade	4.5	3.9	2.6	1.2
	12th Grade	4.9	4.6	3.6	1.9
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.3	2.2	1.8	1.3
	10th Grade	2.7	2.5	2.2	1.5
	12th Grade	2.4	2.3	1.9	1.6
<i>Complete 4 years</i>	8th Grade	4.8	3.6	2.8	1.4
	10th Grade	5.9	4.5	3.2	1.2
	12th Grade	6.4	5.3	4.0	2.1
Parental Education:					
<i>Any stratum</i>	8th Grade	2.4	2.2	1.8	1.2
	10th Grade	2.6	2.3	2.0	1.3
	12th Grade	2.9	2.6	2.0	1.5
Racial/Ethnic Group:					
<i>White</i>	8th Grade	5.0	4.8	3.6	1.8
	10th Grade	6.1	5.3	3.8	1.9
	12th Grade	5.2	5.0	3.7	2.5
<i>Black</i>	8th Grade	3.3	2.5	1.8	1.5
	10th Grade	3.8	3.3	2.4	1.6
	12th Grade	4.6	4.1	3.8	2.0
<i>Hispanic</i>	8th Grade	4.7	3.4	2.5	1.8
	10th Grade	5.7	3.6	2.3	1.6
	12th Grade	8.6	7.2	3.8	2.4

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-2b
Design Effects for (a) Prevalence of Use or (b) a Change in
Prevalence of Use Across Nonadjacent Years

		INDEX OF ANY ILLICIT DRUG, INDEX OF ANY ILLICIT DRUG INCLUDING INHALANTS, AND MARIJUANA			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	5.8	4.8	4.3	1.6
	10th Grade	7.5	6.2	4.7	1.7
	12th Grade	10.7	10.2	8.1	3.6
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	3.0	3.0	3.0	1.8
	10th Grade	4.6	4.0	4.0	1.7
	12th Grade	5.4	4.6	4.0	3.5
<i>Female</i>	8th Grade	4.6	4.0	2.9	1.4
	10th Grade	5.7	4.6	3.5	1.1
	12th Grade	6.8	6.7	6.5	3.3
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.7	2.7	2.2	1.5
	10th Grade	3.7	3.7	3.4	2.2
	12th Grade	3.0	3.0	2.5	2.5
<i>Complete 4 years</i>	8th Grade	4.5	3.0	3.0	1.7
	10th Grade	7.6	5.7	4.3	1.1
	12th Grade	9.3	8.0	6.6	3.9
Parental Education:					
<i>Any stratum</i>	8th Grade	2.5	2.4	2.0	1.2
	10th Grade	3.1	2.8	2.6	1.6
	12th Grade	4.0	3.6	2.8	2.0
Racial/Ethnic Group:					
<i>White</i>	8th Grade	5.6	5.5	5.1	2.4
	10th Grade	9.0	7.3	5.6	2.6
	12th Grade	6.3	6.3	5.3	4.6
<i>Black</i>	8th Grade	3.8	2.6	1.6	1.4
	10th Grade	5.0	5.0	3.3	1.9
	12th Grade	7.5	7.5	7.5	3.1
<i>Hispanic</i>	8th Grade	3.3	3.3	2.6	2.5
	10th Grade	6.1	3.8	2.0	1.9
	12th Grade	15.0	14.6	6.6	4.3

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-2c
Design Effects for (a) Prevalence of Use or (b) a Change in
Prevalence of Use Across Nonadjacent Years

		HALLUCINOGENS (UNADJUSTED AND ADJUSTED), LSD, COCAINE, AND OTHER COCAINE			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	6.2	4.9	3.2	1.2
	10th Grade	6.2	4.9	3.2	1.2
	12th Grade	6.2	4.9	3.2	1.2
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	4.3	3.7	2.9	1.2
	10th Grade	4.3	3.7	2.9	1.2
	12th Grade	4.3	3.7	2.9	1.2
<i>Female</i>	8th Grade	4.4	3.6	2.2	1.2
	10th Grade	4.4	3.6	2.2	1.2
	12th Grade	4.4	3.6	2.2	1.2
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.2	2.0	1.6	1.2
	10th Grade	2.2	2.0	1.6	1.2
	12th Grade	2.2	2.0	1.6	1.2
<i>Complete 4 years</i>	8th Grade	6.0	4.4	3.0	1.2
	10th Grade	6.0	4.4	3.0	1.2
	12th Grade	6.0	4.4	3.0	1.2
Parental Education:					
<i>Any stratum</i>	8th Grade	2.4	2.1	1.7	1.2
	10th Grade	2.4	2.1	1.7	1.2
	12th Grade	2.4	2.1	1.7	1.2
Racial/Ethnic Group:					
<i>White</i>	8th Grade	5.3	4.8	3.5	1.5
	10th Grade	5.3	4.8	3.5	1.5
	12th Grade	5.3	4.8	3.5	1.5
<i>Black</i>	8th Grade	1.8	1.8	1.6	1.5
	10th Grade	1.8	1.8	1.6	1.5
	12th Grade	1.8	1.8	1.6	1.5
<i>Hispanic</i>	8th Grade	7.6	4.1	2.9	1.5
	10th Grade	7.6	4.1	2.9	1.5
	12th Grade	7.6	4.1	2.9	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-2d
Design Effects for (a) Prevalence of Use or (b) a Change in
Prevalence of Use Across Nonadjacent Years

		NITRITES, PCP, MDMA (ECSTASY) CRACK COCAINE, HEROIN, METHAMPHETAMINE, ICE, METHAQUALONE, ROHYPNOL, AND STEROIDS			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region (<i>Northeast, North Central, South, and West</i>); Any Population Density Stratum (<i>Large MSA, Other MSA, and Non-MSA</i>)					
	8th Grade	2.0	1.5	1.5	1.2
	10th Grade	2.0	1.5	1.5	1.2
	12th Grade	2.0	1.5	1.5	1.2
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	1.4	1.4	1.4	1.2
	10th Grade	1.4	1.4	1.4	1.2
	12th Grade	1.4	1.4	1.4	1.2
<i>Female</i>	8th Grade	2.1	1.7	1.5	1.2
	10th Grade	2.1	1.7	1.5	1.2
	12th Grade	2.1	1.7	1.5	1.2
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	1.6	1.6	1.6	1.2
	10th Grade	1.6	1.6	1.6	1.2
	12th Grade	1.6	1.6	1.6	1.2
<i>Complete 4 years</i>	8th Grade	1.7	1.4	1.2	1.2
	10th Grade	1.7	1.4	1.2	1.2
	12th Grade	1.7	1.4	1.2	1.2
Parental Education:					
<i>Any stratum</i>	8th Grade	1.4	1.4	1.4	1.2
	10th Grade	1.4	1.4	1.4	1.2
	12th Grade	1.4	1.4	1.4	1.2
Racial/Ethnic Group:					
<i>White</i>	8th Grade	2.0	1.9	1.8	1.5
	10th Grade	2.0	1.9	1.8	1.5
	12th Grade	2.0	1.9	1.8	1.5
<i>Black</i>	8th Grade	2.3	2.3	2.3	1.5
	10th Grade	2.3	2.3	2.3	1.5
	12th Grade	2.3	2.3	2.3	1.5
<i>Hispanic</i>	8th Grade	2.5	2.0	1.9	1.5
	10th Grade	2.5	2.0	1.9	1.5
	12th Grade	2.5	2.0	1.9	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-2e
Design Effects for (a) Prevalence of Use or (b) a Change in
Prevalence of Use Across Nonadjacent Years

		HALLUCINOGENS OTHER THAN LSD, NARCOTICS OTHER THAN HEROIN, SEDATIVES, BARBITURATES, AND TRANQUILIZERS			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (<i>Northeast, North Central, South, and West</i>); Any Population Density Stratum (<i>Large MSA, Other MSA, and Non-MSA</i>)					
	8th Grade	2.9	2.6	1.7	1.2
	10th Grade	2.9	2.6	1.7	1.2
	12th Grade	2.9	2.6	1.7	1.2
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	2.4	2.4	1.9	1.2
	10th Grade	2.4	2.4	1.9	1.2
	12th Grade	2.4	2.4	1.9	1.2
<i>Female</i>	8th Grade	2.2	1.9	1.4	1.2
	10th Grade	2.2	1.9	1.4	1.2
	12th Grade	2.2	1.9	1.4	1.2
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.2	1.9	1.4	1.2
	10th Grade	2.2	1.9	1.4	1.2
	12th Grade	2.2	1.9	1.4	1.2
<i>Complete 4 years</i>	8th Grade	2.2	1.9	1.4	1.2
	10th Grade	2.2	1.9	1.4	1.2
	12th Grade	2.2	1.9	1.4	1.2
Parental Education:					
<i>Any stratum</i>	8th Grade	2.2	1.9	1.4	1.2
	10th Grade	2.2	1.9	1.4	1.2
	12th Grade	2.2	1.9	1.4	1.2
Racial/Ethnic Group:					
<i>White</i>	8th Grade	3.1	3.1	2.4	1.5
	10th Grade	3.1	3.1	2.4	1.5
	12th Grade	3.1	3.1	2.4	1.5
<i>Black</i>	8th Grade	1.9	1.9	1.8	1.5
	10th Grade	1.9	1.9	1.8	1.5
	12th Grade	1.9	1.9	1.8	1.5
<i>Hispanic</i>	8th Grade	2.0	1.8	1.6	1.5
	10th Grade	2.0	1.8	1.6	1.5
	12th Grade	2.0	1.8	1.6	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-2f
Design Effects for (a) Prevalence of Use or (b) a Change in
Prevalence of Use Across Nonadjacent Years

		INHALANTS AND AMPHETAMINES (UNADJUSTED AND ADJUSTED)			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	4.8	4.0	2.4	1.2
	10th Grade	4.8	4.0	2.4	1.2
	12th Grade	4.8	4.0	2.4	1.2
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	3.4	2.9	2.0	1.2
	10th Grade	3.4	2.9	2.0	1.2
	12th Grade	3.4	2.9	2.0	1.2
<i>Female</i>	8th Grade	3.5	3.4	2.1	1.2
	10th Grade	3.5	3.4	2.1	1.2
	12th Grade	3.5	3.4	2.1	1.2
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.1	1.8	1.5	1.2
	10th Grade	2.1	1.8	1.5	1.2
	12th Grade	2.1	1.8	1.5	1.2
<i>Complete 4 years</i>	8th Grade	4.0	3.5	2.3	1.2
	10th Grade	4.0	3.5	2.3	1.2
	12th Grade	4.0	3.5	2.3	1.2
Parental Education:					
<i>Any stratum</i>	8th Grade	2.3	2.1	1.6	1.2
	10th Grade	2.3	2.1	1.6	1.2
	12th Grade	2.3	2.1	1.6	1.2
Racial/Ethnic Group:					
<i>White</i>	8th Grade	4.1	4.0	2.3	1.5
	10th Grade	4.1	4.0	2.3	1.5
	12th Grade	4.1	4.0	2.3	1.5
<i>Black</i>	8th Grade	4.5	3.0	2.3	1.5
	10th Grade	4.5	3.0	2.3	1.5
	12th Grade	4.5	3.0	2.3	1.5
<i>Hispanic</i>	8th Grade	3.3	2.9	1.9	1.5
	10th Grade	3.3	2.9	1.9	1.5
	12th Grade	3.3	2.9	1.9	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-2g
Design Effects for (a) Prevalence of Use or (b) a Change in
Prevalence of Use Across Nonadjacent Years

		<u>ALCOHOL AND BEEN DRUNK</u>		<u>CIGARETTES AND SMOKELESS TOBACCO</u>	
		Lifetime, Past 12 Months, Past 30 Days, 5+2 Weeks	Daily	Lifetime, Past 30 Days, Daily	Half-pack or More per Day
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	5.2	1.4	5.4	3.9
	10th Grade	5.2	1.4	5.4	3.9
	12th Grade	5.2	1.4	5.4	3.9
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	2.9	1.4	2.8	2.2
	10th Grade	2.9	1.4	2.8	2.2
	12th Grade	2.9	1.4	2.8	2.2
<i>Female</i>	8th Grade	4.2	1.4	5.1	3.3
	10th Grade	4.2	1.4	5.1	3.3
	12th Grade	4.2	1.4	5.1	3.3
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.5	1.4	2.3	2.2
	10th Grade	2.5	1.4	2.3	2.2
	12th Grade	2.5	1.4	2.3	2.2
<i>Complete 4 years</i>	8th Grade	4.3	1.4	4.3	2.7
	10th Grade	4.3	1.4	4.3	2.7
	12th Grade	4.3	1.4	4.3	2.7
Parental Education:					
<i>Any stratum</i>	8th Grade	2.3	1.4	2.4	2.0
	10th Grade	2.3	1.4	2.4	2.0
	12th Grade	2.3	1.4	2.4	2.0
Racial/Ethnic Group:					
<i>White</i>	8th Grade	4.5	1.8	4.6	3.3
	10th Grade	4.5	1.8	4.6	3.3
	12th Grade	4.5	1.8	4.6	3.3
<i>Black</i>	8th Grade	5.6	1.8	3.0	1.8
	10th Grade	5.6	1.8	3.0	1.8
	12th Grade	5.6	1.8	3.0	1.8
<i>Hispanic</i>	8th Grade	3.8	1.8	3.4	2.4
	10th Grade	3.8	1.8	3.4	2.4
	12th Grade	3.8	1.8	3.4	2.4

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3a
Design Effects for Subgroup Comparisons within Any Single Year

		INDEX OF ANY ILLICIT DRUG OTHER THAN MARIJUANA			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	5.6	4.6	3.3	1.3
	10th Grade	6.2	5.0	3.4	1.4
	12th Grade	7.2	6.4	4.6	2.0
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	2.8	2.5	2.2	1.3
	10th Grade	3.1	2.7	2.4	1.2
	12th Grade	3.2	2.9	2.4	1.7
<i>Female</i>	8th Grade	3.1	2.8	2.1	1.2
	10th Grade	3.3	2.9	2.2	1.1
	12th Grade	3.5	3.3	2.8	1.6
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.0	1.9	1.6	1.2
	10th Grade	2.2	2.1	1.8	1.4
	12th Grade	2.1	1.9	1.6	1.5
<i>Complete 4 years</i>	8th Grade	3.5	2.8	2.3	1.2
	10th Grade	4.1	3.3	2.5	1.1
	12th Grade	4.4	3.8	3.0	1.7
Parental Education:					
<i>Any stratum</i>	8th Grade	2.1	2.0	1.6	1.1
	10th Grade	2.2	2.0	1.7	1.2
	12th Grade	2.4	2.2	1.7	1.4
Racial/Ethnic Group:					
<i>White</i>	8th Grade	3.6	3.4	2.8	1.8
	10th Grade	4.2	3.8	2.9	1.9
	12th Grade	3.7	3.6	2.8	2.2
<i>Black</i>	8th Grade	2.6	2.5	1.8	1.5
	10th Grade	2.9	2.6	2.4	1.6
	12th Grade	3.4	3.1	2.9	2.0
<i>Hispanic</i>	8th Grade	3.4	2.7	2.5	1.8
	10th Grade	4.0	2.8	2.3	1.6
	12th Grade	5.7	4.9	2.9	2.4

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3b
Design Effects for Subgroup Comparisons within Any Single Year

		INDEX OF ANY ILLICIT DRUG, INDEX OF ANY ILLICIT DRUG INCLUDING INHALANTS, AND MARIJUANA			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (<i>Northeast, North Central, South, and West</i>); Any Population Density Stratum (<i>Large MSA, Other MSA, and Non-MSA</i>)					
	8th Grade	5.8	4.8	4.3	1.6
	10th Grade	7.5	6.2	4.7	1.7
	12th Grade	10.7	10.2	8.1	3.6
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	2.4	2.4	2.4	1.5
	10th Grade	3.4	3.0	3.0	1.5
	12th Grade	3.8	3.4	3.0	2.7
<i>Female</i>	8th Grade	3.4	3.0	2.4	1.3
	10th Grade	4.0	3.4	2.7	1.1
	12th Grade	4.6	4.6	4.5	2.6
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.3	2.3	2.0	1.3
	10th Grade	2.8	2.8	2.7	2.0
	12th Grade	2.4	2.4	2.1	2.1
<i>Complete 4 years</i>	8th Grade	3.3	2.4	2.4	1.5
	10th Grade	5.1	4.0	3.2	1.1
	12th Grade	6.1	5.3	4.5	3.0
Parental Education:					
<i>Any stratum</i>	8th Grade	2.1	2.1	1.9	1.1
	10th Grade	2.5	2.3	2.2	1.4
	12th Grade	3.0	2.8	2.3	1.9
Racial/Ethnic Group:					
<i>White</i>	8th Grade	4.0	3.9	3.7	2.1
	10th Grade	5.9	4.9	4.0	2.2
	12th Grade	4.3	4.3	3.7	3.4
<i>Black</i>	8th Grade	2.9	2.2	1.6	1.4
	10th Grade	3.6	3.6	2.6	1.9
	12th Grade	5.0	5.0	5.0	2.5
<i>Hispanic</i>	8th Grade	2.6	2.6	2.2	2.1
	10th Grade	4.2	2.9	2.0	1.9
	12th Grade	9.4	9.2	4.5	3.2

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3c
Design Effects for Subgroup Comparisons within Any Single Year

		HALLUCINOGENS (UNADJUSTED AND ADJUSTED), LSD, COCAINE, AND OTHER COCAINE			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	6.2	4.9	3.2	1.2
	10th Grade	6.2	4.9	3.2	1.2
	12th Grade	6.2	4.9	3.2	1.2
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	3.2	2.8	2.4	1.1
	10th Grade	3.2	2.8	2.4	1.1
	12th Grade	3.2	2.8	2.4	1.1
<i>Female</i>	8th Grade	3.2	2.8	2.0	1.1
	10th Grade	3.2	2.8	2.0	1.1
	12th Grade	3.2	2.8	2.0	1.1
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.0	1.9	1.4	1.1
	10th Grade	2.0	1.9	1.4	1.1
	12th Grade	2.0	1.9	1.4	1.1
<i>Complete 4 years</i>	8th Grade	4.2	3.2	2.4	1.1
	10th Grade	4.2	3.2	2.4	1.1
	12th Grade	4.2	3.2	2.4	1.1
Parental Education:					
<i>Any stratum</i>	8th Grade	2.1	1.9	1.5	1.1
	10th Grade	2.1	1.9	1.5	1.1
	12th Grade	2.1	1.9	1.5	1.1
Racial/Ethnic Group:					
<i>White</i>	8th Grade	3.7	3.4	2.7	1.5
	10th Grade	3.7	3.4	2.7	1.5
	12th Grade	3.7	3.4	2.7	1.5
<i>Black</i>	8th Grade	1.8	1.8	1.6	1.5
	10th Grade	1.8	1.8	1.6	1.5
	12th Grade	1.8	1.8	1.6	1.5
<i>Hispanic</i>	8th Grade	5.1	3.1	2.4	1.5
	10th Grade	5.1	3.1	2.4	1.5
	12th Grade	5.1	3.1	2.4	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3d
Design Effects for Subgroup Comparisons within Any Single Year

		NITRITES, PCP, MDMA (ECSTASY), CRACK COCAINE, HEROIN, METHAMPHETAMINE, ICE, METHAQUALONE, ROHYPNOL, AND STEROIDS			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	2.0	1.5	1.5	1.2
	10th Grade	2.0	1.5	1.5	1.2
	12th Grade	2.0	1.5	1.5	1.2
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	1.3	1.3	1.3	1.1
	10th Grade	1.3	1.3	1.3	1.1
	12th Grade	1.3	1.3	1.3	1.1
<i>Female</i>	8th Grade	1.9	1.5	1.3	1.1
	10th Grade	1.9	1.5	1.3	1.1
	12th Grade	1.9	1.5	1.3	1.1
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	1.4	1.4	1.4	1.1
	10th Grade	1.4	1.4	1.4	1.1
	12th Grade	1.4	1.4	1.4	1.1
<i>Complete 4 years</i>	8th Grade	1.5	1.3	1.1	1.1
	10th Grade	1.5	1.3	1.1	1.1
	12th Grade	1.5	1.3	1.1	1.1
Parental Education:					
<i>Any stratum</i>	8th Grade	1.3	1.3	1.3	1.1
	10th Grade	1.3	1.3	1.3	1.1
	12th Grade	1.3	1.3	1.3	1.1
Racial/Ethnic Group:					
<i>White</i>	8th Grade	2.0	1.9	1.8	1.5
	10th Grade	2.0	1.9	1.8	1.5
	12th Grade	2.0	1.9	1.8	1.5
<i>Black</i>	8th Grade	2.0	2.0	2.0	1.5
	10th Grade	2.0	2.0	2.0	1.5
	12th Grade	2.0	2.0	2.0	1.5
<i>Hispanic</i>	8th Grade	2.1	2.0	1.9	1.5
	10th Grade	2.1	2.0	1.9	1.5
	12th Grade	2.1	2.0	1.9	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3e
Design Effects for Subgroup Comparisons within Any Single Year

		HALLUCINOGENS OTHER THAN LSD, NARCOTICS OTHER THAN HEROIN, SEDATIVES, BARBITURATES, AND TRANQUILIZERS			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	2.9	2.6	1.7	1.2
	10th Grade	2.9	2.6	1.7	1.2
	12th Grade	2.9	2.6	1.7	1.2
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	2.1	2.1	1.6	1.1
	10th Grade	2.1	2.1	1.6	1.1
	12th Grade	2.1	2.1	1.6	1.1
<i>Female</i>	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
<i>Complete 4 years</i>	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
Parental Education:					
<i>Any stratum</i>	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
Racial/Ethnic Group:					
<i>White</i>	8th Grade	2.5	2.5	2.1	1.5
	10th Grade	2.5	2.5	2.1	1.5
	12th Grade	2.5	2.5	2.1	1.5
<i>Black</i>	8th Grade	1.9	1.9	1.8	1.5
	10th Grade	1.9	1.9	1.8	1.5
	12th Grade	1.9	1.9	1.8	1.5
<i>Hispanic</i>	8th Grade	2.0	1.8	1.6	1.5
	10th Grade	2.0	1.8	1.6	1.5
	12th Grade	2.0	1.8	1.6	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3f
Design Effects for Subgroup Comparisons within Any Single Year

		INHALANTS AND AMPHETAMINES (UNADJUSTED AND ADJUSTED)			
		<u>Lifetime</u>	<u>Past 12 Months</u>	<u>Past 30 Days</u>	<u>Daily</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	4.8	4.0	2.4	1.2
	10th Grade	4.8	4.0	2.4	1.2
	12th Grade	4.8	4.0	2.4	1.2
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	2.7	2.4	1.9	1.1
	10th Grade	2.7	2.4	1.9	1.1
	12th Grade	2.7	2.4	1.9	1.1
<i>Female</i>	8th Grade	2.7	2.7	1.9	1.1
	10th Grade	2.7	2.7	1.9	1.1
	12th Grade	2.7	2.7	1.9	1.1
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	1.9	1.5	1.3	1.1
	10th Grade	1.9	1.5	1.3	1.1
	12th Grade	1.9	1.5	1.3	1.1
<i>Complete 4 years</i>	8th Grade	3.0	2.7	2.0	1.1
	10th Grade	3.0	2.7	2.0	1.1
	12th Grade	3.0	2.7	2.0	1.1
Parental Education:					
<i>Any stratum</i>	8th Grade	2.0	1.9	1.4	1.1
	10th Grade	2.0	1.9	1.4	1.1
	12th Grade	2.0	1.9	1.4	1.1
Racial/Ethnic Group:					
<i>White</i>	8th Grade	3.1	3.0	2.0	1.5
	10th Grade	3.1	3.0	2.0	1.5
	12th Grade	3.1	3.0	2.0	1.5
<i>Black</i>	8th Grade	3.3	2.4	2.0	1.5
	10th Grade	3.3	2.4	2.0	1.5
	12th Grade	3.3	2.4	2.0	1.5
<i>Hispanic</i>	8th Grade	2.6	2.4	1.9	1.5
	10th Grade	2.6	2.4	1.9	1.5
	12th Grade	2.6	2.4	1.9	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3g
Design Effects for Subgroup Comparisons within Any Single Year

		<u>ALCOHOL AND BEEN DRUNK</u>		<u>CIGARETTES AND SMOKELESS TOBACCO</u>	
		<u>Lifetime, Past 12 Months, Past 30 Days, 5+2 Weeks</u>	<u>Daily</u>	<u>Lifetime, Past 30 Days, Daily</u>	<u>Half-pack or More per Day</u>
SEGREGATED GROUPS:					
Total Sample: Any Region (Northeast, North Central, South, and West); Any Population Density Stratum (Large MSA, Other MSA, and Non-MSA)					
	8th Grade	5.2	1.4	5.4	3.9
	10th Grade	5.2	1.4	5.4	3.9
	12th Grade	5.2	1.4	5.4	3.9
CROSS-CLASS GROUPS:					
Gender:					
<i>Male</i>	8th Grade	2.4	1.3	2.3	2.0
	10th Grade	2.4	1.3	2.3	2.0
	12th Grade	2.4	1.3	2.3	2.0
<i>Female</i>	8th Grade	3.1	1.3	3.6	2.6
	10th Grade	3.1	1.3	3.6	2.6
	12th Grade	3.1	1.3	3.6	2.6
College Plans:					
<i>None or under 4 yrs.</i>	8th Grade	2.1	1.3	2.0	2.0
	10th Grade	2.1	1.3	2.0	2.0
	12th Grade	2.1	1.3	2.0	2.0
<i>Complete 4 years</i>	8th Grade	3.2	1.3	3.2	2.3
	10th Grade	3.2	1.3	3.2	2.3
	12th Grade	3.2	1.3	3.2	2.3
Parental Education:					
<i>Any stratum</i>	8th Grade	2.0	1.3	2.1	1.9
	10th Grade	2.0	1.3	2.1	1.9
	12th Grade	2.0	1.3	2.1	1.9
Racial/Ethnic Group:					
<i>White</i>	8th Grade	3.3	1.8	3.4	2.6
	10th Grade	3.3	1.8	3.4	2.6
	12th Grade	3.3	1.8	3.4	2.6
<i>Black</i>	8th Grade	4.0	1.8	2.4	1.8
	10th Grade	4.0	1.8	2.4	1.8
	12th Grade	4.0	1.8	2.4	1.8
<i>Hispanic</i>	8th Grade	2.9	1.8	2.7	2.1
	10th Grade	2.9	1.8	2.7	2.1
	12th Grade	2.9	1.8	2.7	2.1

SOURCE: The Monitoring the Future Study, the University of Michigan.

Appendix D

**SUPPLEMENTAL TABLES FOR SECONDARY SCHOOL
STUDENTS: TRENDS BY SUBGROUP**

Trend data for the population subgroups discussed in this volume (defined by gender, college plans, region, community size, level of parental education, and racial/ethnic distinctions) are presented below for the major classes of licit and illicit drugs. Several drug classes have been added to these tables this year for the first time: *nitrite inhalants*, *PCP*, *MDMA (ecstasy)*, *Rohypnol*, *methamphetamine*, *methaqualone*, *hallucinogens other than LSD*, *heroin without using a needle*, and *heroin with a needle*. Due to the sheer quantity of information such trend tables generate, we have selected the prevalence periods which seem most useful for understanding differences by subgroup. For most drugs, the trends are given only for annual prevalence. Other prevalence rates are provided for alcohol, cigarettes, and smokeless tobacco.

The subgroups are the standard ones used throughout this volume and are operationally defined in Appendix B. The reader should note that *two-year moving averages* are given for the three racial/ethnic groups described, in order to damp down random fluctuations in the trends for the minority groups. A footnote in each table describes the procedure.

For nearly all drugs there is one table presenting the subgroup trends for eighth and tenth grade students and a second table giving the longer-term trends for twelfth grade students. However, for two of the drugs—barbiturates and narcotics other than heroin—the eighth and tenth grade data have been omitted, as they are throughout the volume, because we are less certain about the validity of the answers provided by the younger students. Specifically, we believe that they often fail to omit substances which should be omitted (i.e., non-prescription substances). A few other drugs are simply not asked of eighth and tenth graders, so only twelfth-grade tables are presented.

Sample sizes should be taken into account when interpreting the importance of any changes observed, of course. They are provided in the last two pages of the appendix. However, the reader should be aware that the numbers given assume that all respondents were asked about the drug. Some of the drugs were not contained in all questionnaire forms, meaning that the subgroup and total Ns must be adjusted accordingly. The "Notes" section of the bottom of each table will indicate if only a fraction of the sample received the question.

TABLE D-1
Any Illicit Drug:^a Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months										'98-'99 change	'99 change								
	8th Grade					10th Grade														
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999	1999	1998	1999	1999	change					
Approx. N =	17500	18600	18300	17300	17500	17800	18600	18100	16700	14800	14800	15300	15800	17000	15500	15000	13600			
Total	11.3	12.9	15.1	18.5	21.4	23.6	22.1	21.0	20.5	-0.5	21.4	20.4	24.7	30.0	33.3	37.5	35.0	35.9	+0.9	
Sex:																				
Male	11.7	11.9	15.2	19.4	22.3	23.6	22.6	21.3	21.3	0.0	21.6	20.4	25.1	31.8	33.7	38.8	40.1	35.3	37.0	+1.7
Female	11.0	13.6	14.9	17.6	20.2	23.3	21.3	20.4	19.7	-0.7	21.1	20.1	24.0	28.0	32.5	36.3	36.8	34.7	34.6	-0.1
College Plans:																				
None or under 4 yrs.	22.8	25.6	30.7	34.6	38.4	40.3	39.6	41.3	39.9	-1.4	32.7	32.0	37.7	43.2	47.3	52.4	55.2	50.5	51.8	+1.3
Complete 4 yrs.	9.5	10.9	12.8	16.3	19.1	21.0	19.9	18.4	18.0	-0.4	18.9	17.8	21.9	27.0	30.8	35.0	35.7	32.2	33.2	+1.0
Region:																				
Northeast	9.3	10.6	11.5	16.6	17.9	20.3	20.2	16.0	18.2	+2.2	21.8	19.0	26.9	29.6	32.4	37.7	37.8	39.0	38.2	-0.8
North Central	11.2	13.0	13.9	17.2	23.3	24.7	22.3	21.9	22.6	+0.7	21.7	20.7	22.4	28.5	32.1	37.6	37.7	32.0	35.2	+3.2
South	11.5	12.9	15.1	17.6	20.8	22.5	21.6	22.3	21.0	-1.3	19.2	17.9	23.3	29.2	33.2	37.9	38.7	35.1	34.8	-0.3
West	13.3	15.0	21.1	23.7	23.3	27.1	24.4	22.0	19.2	-2.8	23.7	25.5	28.9	34.4	36.1	36.8	40.2	34.5	36.0	+1.5
Population Density:																				
Large MSA	10.5	12.0	13.1	16.2	15.2	23.4	20.5	19.8	19.1	-0.7	21.4	19.9	24.0	29.4	28.7	35.5	37.2	32.6	35.0	+2.4
Other MSA	12.1	14.4	17.3	21.5	23.7	24.9	22.6	21.4	19.5	-1.9	22.0	20.8	25.1	32.7	35.5	40.0	40.0	36.9	37.3	+0.4
Non-MSA	10.8	11.2	12.9	14.0	20.3	21.4	22.9	21.6	24.3	+2.7	20.4	20.1	24.4	24.7	30.7	35.1	37.2	34.5	33.9	-0.6
Parental Education: ^b																				
1.0-2.0 (Low)	19.5	18.5	20.8	26.1	29.8	26.7	29.5	30.4	30.2	-0.2	25.5	24.8	29.2	32.6	38.2	39.5	38.3	36.6	42.2	+5.6
2.5-3.0	11.7	14.1	17.1	20.2	24.3	25.7	25.5	24.2	24.9	+0.7	23.0	21.3	25.4	31.1	37.1	39.1	40.8	39.1	39.4	+0.3
3.5-4.0	11.6	13.6	15.4	19.7	23.4	26.2	23.8	21.8	21.0	-0.8	21.2	20.6	24.9	30.5	34.7	40.1	41.6	35.6	35.4	-0.2
4.5-5.0	8.7	10.2	12.8	15.7	17.4	21.3	19.3	17.8	15.6	-2.2	19.4	18.7	22.5	28.1	30.9	35.5	36.3	31.9	32.8	+0.9
5.5-6.0 (High)	10.2	10.1	11.8	14.9	17.7	19.8	16.8	17.1	15.8	-1.3	21.1	18.5	23.6	27.2	26.6	33.6	33.7	31.5	34.6	+3.1
Race (2-year average): ^c																				
White	—	11.8	13.6	15.7	19.2	22.4	23.0	21.5	19.9	-1.7	—	22.4	23.7	27.9	32.6	36.5	39.3	38.2	36.4	-1.8
Black	—	7.9	9.3	13.0	16.8	17.5	18.1	18.1	18.6	+0.5	—	10.8	11.9	18.5	23.6	27.3	30.2	28.9	28.4	-0.5
Hispanic	—	18.1	20.6	24.6	26.7	26.9	26.5	26.7	27.4	+0.7	—	23.6	26.3	30.3	34.3	40.0	41.3	38.1	38.4	+0.3

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. — indicates data not available.

See Table D-58 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aUse of "any illicit drug" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use of amphetamines or tranquilizers not under a doctor's orders. The use of other narcotics and barbiturates has been excluded, because 8th and 10th graders appear to overreport their use (perhaps because they include the use of nonprescription drugs in their answers).

^bParental education is an average score of mother's education and father's education. See Appendix B for details.

^cTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-2
Any Illicit Drug:^{a,b} Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months																				'98-'99 of 1999 change						
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994		Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999	
Approx. N = 9400	15400	17100	17800	17800	16500	15900	17500	16300	16900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	14300	15400	14300	15400	15200	13600		
Total	45.0	48.1	51.1	53.8	54.2	53.1	52.1	49.4	47.4	45.8	46.3	44.3	41.7	38.5	35.4	32.5	29.4	27.1	31.0	35.8	39.0	40.2	42.4	41.4	42.1	+0.7	
Sex:																											
Male	52.6	55.4	58.6	58.1	56.0	53.6	51.8	49.7	48.0	48.3	45.7	43.2	40.6	37.7	34.3	32.1	29.0	33.5	38.6	41.5	43.4	44.1	45.2	45.0	45.0	-0.2	
Female	41.4	43.0	46.7	48.7	50.1	49.8	50.8	46.3	44.4	42.8	43.8	42.3	39.7	36.1	32.8	30.1	26.2	24.7	27.9	32.7	35.8	36.2	40.0	37.2	38.9	+1.7	
College Plans:																											
None or under	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4 yrs.	50.6	54.3	55.5	56.8	56.8	55.8	55.8	53.4	50.8	50.3	50.1	48.6	46.7	42.0	40.9	37.8	33.9	33.5	34.9	40.8	44.1	46.2	48.8	47.3	47.9	+0.6	
Complete 4 yrs.	44.3	46.8	50.5	50.5	49.7	48.6	45.5	43.7	41.4	43.1	41.2	39.0	36.5	32.6	29.6	27.1	24.4	29.2	33.6	36.7	37.8	40.1	39.1	40.3	+1.2		
Region:																											
Northeast	51.5	55.3	56.8	61.6	62.9	58.9	58.8	55.1	53.8	54.7	53.2	49.7	45.8	41.2	36.0	36.4	31.9	28.7	36.1	39.4	41.7	44.6	47.7	46.2	42.5	-3.7	
North Central	45.5	47.6	51.9	54.6	55.0	53.1	53.4	50.3	46.9	42.4	45.7	45.0	42.7	39.7	38.7	34.0	31.3	27.8	30.8	36.5	40.9	40.9	40.6	38.1	42.1	+4.0	
South	38.1	42.3	46.2	47.5	45.4	47.0	43.7	42.2	41.3	41.4	37.2	37.4	35.9	34.2	30.7	27.6	24.5	23.7	28.2	34.1	36.4	37.6	38.8	40.5	40.8	+0.3	
West	48.3	49.7	50.0	53.2	56.4	55.8	55.5	51.7	50.7	49.1	53.3	47.8	45.7	41.8	39.5	34.4	32.6	31.1	31.8	34.7	38.2	39.1	45.9	43.1	44.2	+1.1	
Population																											
Density:																											
Large MSA	54.5	54.6	56.3	60.3	61.3	59.9	57.8	54.8	52.0	49.7	49.9	48.0	43.9	39.1	32.9	32.6	28.6	26.8	32.9	36.4	41.7	41.3	42.1	42.0	42.4	+0.4	
Other MSA	45.0	47.8	52.4	54.5	55.2	53.8	52.1	49.8	49.6	46.7	46.5	45.1	42.7	40.5	36.3	33.5	27.3	23.0	31.7	37.8	39.0	42.3	44.2	42.1	43.3	+1.2	
Non-MSA	38.8	43.7	45.2	47.4	47.6	47.0	47.6	44.0	41.1	41.4	43.0	40.0	37.6	34.3	36.0	30.1	23.8	27.0	28.4	31.6	35.9	35.4	39.2	39.3	39.9	+0.6	
Parental																											
Education: ^c																											
1.0-2.0 (Low)	—	43.4	45.3	47.7	50.2	49.5	48.1	44.3	45.1	42.7	42.8	38.1	35.4	35.8	28.4	26.6	28.7	27.7	29.5	32.9	37.7	36.6	40.3	38.9	40.9	+2.0	
2.5-3.0	—	49.2	51.8	53.3	53.2	53.0	51.2	48.8	46.3	45.7	46.0	44.8	41.8	37.2	35.3	32.7	28.7	26.4	29.2	35.4	38.3	39.9	40.8	40.5	43.7	+3.2	
3.5-4.0	—	48.9	53.1	56.1	56.1	54.2	52.8	50.8	46.5	47.6	47.2	45.6	42.2	38.6	37.7	33.8	29.6	28.1	31.6	36.4	38.8	40.4	42.0	42.9	42.9	0.0	
4.5-5.0	—	50.8	51.7	56.3	57.1	54.0	53.4	49.7	48.9	44.9	48.4	44.7	43.1	40.0	35.5	33.1	28.7	26.2	31.5	36.5	39.0	40.5	43.6	40.9	40.0	-0.9	
5.5-6.0 (High)	—	51.3	51.8	59.1	54.3	55.0	54.8	48.5	46.1	45.5	44.5	44.5	43.5	40.6	36.3	33.3	31.9	26.8	33.4	35.7	40.7	40.6	44.0	41.8	42.3	+0.5	
Race (2-year average): ^d																											
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. — indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aUse of "any illicit drug" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use of other narcotics, amphetamines, barbiturates, methaqualone (excluded since 1990), or tranquilizers not under a doctor's orders.

^bBeginning in 1982 the question about amphetamine use was revised to get respondents to exclude the inappropriate reporting of nonprescription amphetamines. The prevalence of use rate dropped slightly as a result of this methodological change.

^cParental education is an average score of mother's education and father's education. See Appendix B for details.

^dTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-3
Any Illicit Drug Other Than Marijuana:^a Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months										'98-'99 change									
	8th Grade					10th Grade														
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change
Total	8.4	9.3	10.4	11.3	12.6	13.1	11.8	11.0	10.5	-0.5	14.800	14.800	15.300	15.800	17.000	15.600	15.500	15.000	13.600	+0.1
Approx. N = 17500 18600 18300 17300 17500 17800 18600 18100 16700																				
Sex:																				
Male	8.0	8.0	9.2	10.1	11.5	11.0	10.8	9.6	9.7	+0.1	11.2	11.1	13.4	14.1	15.8	17.2	17.2	15.6	15.9	+0.3
Female	8.8	10.4	11.5	12.3	13.5	14.7	12.6	12.1	11.2	-0.9	13.1	13.2	14.3	16.0	18.9	19.6	19.1	17.5	17.3	-0.2
College Plans:																				
None or under 4 yrs.	16.3	18.5	21.3	21.2	25.3	23.0	22.1	23.8	23.4	-0.4	19.6	20.2	23.1	24.0	27.5	29.5	29.6	27.8	27.3	-0.5
Complete 4 yrs.	7.2	8.0	8.9	9.9	10.9	11.6	10.6	9.4	9.0	-0.4	10.7	10.5	12.0	13.3	15.7	16.5	16.3	14.6	15.0	+0.4
Region:																				
Northeast	6.8	6.6	8.2	10.3	10.7	11.3	9.5	8.5	8.5	0.0	10.6	9.6	12.8	13.7	14.1	17.2	16.0	17.2	18.2	+1.0
North Central	8.6	10.4	9.4	10.2	14.0	14.3	12.5	10.5	11.9	+1.4	13.2	12.9	12.8	14.8	19.0	20.0	16.2	14.4	16.1	+1.7
South	8.6	9.7	11.0	11.7	12.5	12.6	11.8	12.5	11.2	-1.3	11.9	12.2	14.7	15.3	18.4	18.6	20.8	18.3	16.8	-1.5
West	9.3	9.8	13.4	12.7	12.7	14.0	13.0	11.1	9.3	-1.8	12.7	14.1	15.6	17.2	17.2	17.4	18.7	15.8	15.7	-0.1
Population Density:																				
Large MSA	8.0	8.1	8.8	9.8	8.7	12.3	9.9	8.9	8.4	-0.5	11.8	11.4	12.2	13.1	13.5	16.8	16.3	14.6	15.0	+0.4
Other MSA	8.6	10.4	11.8	12.5	13.5	14.1	12.2	11.2	10.7	-0.5	12.3	12.3	14.1	16.1	18.5	19.5	18.0	16.6	17.3	+0.7
Non-MSA	8.6	8.9	9.8	9.8	13.2	12.1	13.0	12.8	12.8	0.0	12.4	13.1	15.0	14.6	17.6	18.3	20.8	18.9	17.5	-1.4
Parental Education:^b																				
1.0-2.0 (Low)	12.9	12.9	14.4	15.6	18.0	15.5	14.8	17.3	16.0	-1.3	14.4	16.6	18.1	17.1	20.8	22.7	19.1	21.5	19.2	-2.3
2.5-3.0	8.5	10.1	11.8	12.4	14.2	13.9	12.9	12.2	12.1	-0.1	13.7	12.5	14.6	16.3	19.7	19.4	19.9	19.1	19.1	0.0
3.5-4.0	8.7	10.1	10.6	11.8	14.2	14.5	12.5	11.2	11.3	+0.1	12.1	12.7	14.8	15.9	18.3	19.9	19.8	16.4	16.5	+0.1
4.5-5.0	7.1	7.5	9.1	9.5	9.7	12.0	10.6	9.4	8.5	-0.9	11.0	10.9	11.7	13.3	15.9	16.6	16.5	14.1	15.4	+1.3
5.5-6.0 (High)	7.8	8.0	8.2	9.4	10.1	11.7	10.3	9.5	8.3	-1.2	11.6	10.7	12.2	12.8	13.4	15.4	15.4	14.4	15.6	+1.2
Race (2-year average):^c																				
White	—	9.0	10.0	10.8	12.6	13.9	13.5	12.5	11.5	-1.0	—	13.7	14.4	15.4	17.7	20.0	20.5	19.7	18.7	-1.0
Black	—	4.9	5.0	5.9	5.7	5.3	4.7	4.0	4.1	+0.1	—	4.3	4.6	5.4	5.4	4.5	4.8	4.7	4.5	-0.2
Hispanic	—	12.2	13.7	15.2	15.3	14.7	13.6	13.5	14.5	+1.0	—	11.8	13.7	16.1	16.9	18.8	19.1	17.5	17.9	+0.4

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. See Table D-58 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aUse of "any illicit drug" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use of amphetamines or tranquilizers not under a doctor's orders. The use of other narcotics and barbiturates has been excluded, because 8th and 10th graders appear to overreport their use (perhaps because they include the use of nonprescription drugs in their answers).

^bParental education is an average score of mother's education and father's education. See Appendix B for details.

^cTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

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**TABLE D-4
Any Illicit Drug Other Than Marijuana:^{a,b} Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders**

Percent who used in last twelve months

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change '98-'99		
Approx. N = 9400 15400 17100 17800 15500 15900 17500 17700 16300 15900 16000 16200 16300 16300 16700 15200 15000 15800 16300 15400 14300 15400 14300 15400 15200 13600																											
Total	26.2	25.4	26.0	27.1	28.2	30.4	34.0	30.1	28.4	28.0	27.4	25.9	24.1	21.1	20.0	17.9	16.2	14.9	17.1	18.0	19.4	19.8	20.7	20.2	20.7	+0.5	
Sex:																											
Male	25.9	25.7	26.3	27.9	29.4	30.2	32.8	31.0	28.9	28.2	27.9	26.2	24.3	22.2	21.0	19.2	17.0	15.5	17.8	18.5	20.7	21.7	21.7	21.7	21.7	22.5	+0.8
Female	26.2	24.4	25.3	25.7	26.3	30.0	34.3	28.3	27.3	26.9	26.2	24.8	23.3	19.3	18.5	16.0	14.8	13.8	15.8	16.9	17.3	16.8	18.8	18.0	18.5	+0.5	
College Plans:																											
None or under 4 yrs.	—	—	28.7	30.1	30.0	31.8	35.5	38.3	34.0	32.3	32.9	31.6	31.3	28.8	24.5	23.1	20.1	19.5	19.8	22.9	23.9	24.2	25.8	26.5	24.4	-2.1	
Complete 4 yrs.	—	—	20.9	20.8	22.7	23.5	25.5	30.1	26.0	24.7	23.3	24.1	22.2	21.3	19.0	17.2	15.2	14.3	13.0	15.9	16.0	17.5	17.9	18.4	17.8	+1.6	
Region:																											
Northeast	26.0	26.1	27.8	30.7	32.0	32.1	38.0	33.5	31.2	33.8	32.9	29.5	25.5	20.2	19.2	17.1	15.6	14.7	18.6	17.2	20.2	22.9	24.1	20.7	19.5	-1.2	
North Central	29.2	26.1	27.7	26.8	27.6	30.9	36.1	31.1	28.6	26.1	25.9	25.1	22.7	20.3	21.5	18.0	17.4	15.5	16.4	20.1	19.1	19.2	18.9	19.8	20.9	+1.1	
South	22.5	23.4	22.9	24.0	23.2	25.8	26.1	24.7	23.8	24.2	21.0	20.6	21.1	20.0	18.1	16.9	14.4	14.0	16.0	17.3	19.0	18.6	19.8	20.3	21.2	+0.9	
West	28.2	26.6	26.0	28.8	33.3	35.2	38.7	32.7	33.0	31.3	33.0	31.6	29.5	24.8	22.3	20.4	17.9	15.8	18.5	17.3	19.9	19.2	20.9	20.0	20.8	+0.8	
Population Density:																											
Large MSA	30.3	27.5	27.1	30.2	32.1	34.6	38.3	33.8	31.5	30.5	30.4	28.3	24.5	20.7	16.9	16.0	14.2	13.5	15.1	16.7	20.2	18.9	18.6	19.0	17.6	-1.4	
Other MSA	26.3	25.8	26.8	27.3	28.7	30.1	33.3	30.0	29.7	27.8	26.9	26.4	24.5	22.7	20.9	18.5	17.9	14.9	18.2	19.2	20.2	21.5	20.4	21.6	+1.2		
Non-MSA	23.4	23.3	24.2	24.2	24.7	27.5	31.4	27.0	24.4	26.2	25.5	23.1	23.0	18.4	21.1	18.4	14.9	16.1	16.8	17.2	18.7	19.8	21.2	21.3	22.4	+1.1	
Parental Education: ^c																											
1.0-2.0 (Low)	—	23.2	23.2	24.7	25.2	28.2	29.2	25.7	25.6	27.3	25.8	23.2	21.5	19.7	18.2	15.2	17.4	14.9	15.6	17.8	19.4	16.9	19.9	20.0	22.2	+2.2	
2.5-3.0	—	25.6	27.0	26.4	27.6	30.7	33.5	30.4	28.1	28.2	27.4	27.0	24.2	20.5	20.0	17.9	16.8	15.0	16.1	18.5	19.4	19.7	19.4	20.1	21.0	+0.9	
3.5-4.0	—	26.1	26.2	27.8	29.2	30.7	34.7	30.9	28.6	29.3	28.9	26.6	24.7	20.5	21.4	19.1	16.3	15.0	17.8	17.6	19.2	19.8	20.4	21.0	21.9	+0.9	
4.5-5.0	—	27.2	26.9	27.3	28.7	29.9	34.8	29.4	30.0	26.2	27.1	24.9	23.8	21.7	19.3	17.5	14.6	14.3	17.5	18.4	19.4	19.3	21.0	19.1	19.3	+0.2	
5.5-6.0 (High)	—	25.6	24.8	28.6	30.4	30.8	36.7	31.3	29.0	26.2	23.8	24.9	22.0	19.6	17.2	14.9	14.3	17.6	16.5	18.3	20.2	21.7	18.9	19.4	+0.5		
Race (2-year average): ^d																											
White	—	—	26.6	27.7	28.8	30.6	34.5	32.1	31.2	30.2	29.6	28.2	26.6	24.4	22.5	21.0	18.7	17.1	17.9	19.4	20.3	21.2	22.3	23.1	22.9	-0.2	
Black	—	—	14.2	13.4	13.0	13.8	13.2	14.5	15.2	12.9	12.0	12.1	11.1	10.3	8.6	6.5	5.7	4.8	6.1	6.9	6.0	6.4	7.1	6.8	-0.3		
Hispanic	—	—	23.8	23.5	23.3	24.7	27.6	25.5	25.2	26.2	27.2	26.2	23.0	20.5	17.7	15.6	15.8	15.1	15.6	16.5	17.9	19.7	18.9	17.5	18.5	+1.0	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '—' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aUse of 'any illicit drug' includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use of other narcotics, amphetamines, barbiturates, methaqualone (excluded since 1990), or tranquilizers not under a doctor's orders.

^bBeginning in 1982 the question about amphetamine use was revised to get respondents to exclude the inappropriate reporting of nonprescription amphetamines. The prevalence of use rate dropped slightly as a result of this methodological change.

^cParental education is an average score of mother's education and father's education. See Appendix B for details.

^dTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

**TABLE D-5
Marijuana: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders**

	Percent who used in last twelve months										'98-'99 change	'99 change									
	8th Grade					10th Grade															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999	1996	1997	1998	1999	1999	change					
Approx. N =	17500	18600	18300	17300	17500	17800	18600	18100	16700	14800	14800	15300	15800	15600	15000	13600					
Total	6.2	7.2	9.2	13.0	15.8	18.3	17.7	16.9	16.5	-0.4	16.5	15.2	19.2	25.2	28.7	33.6	34.8	31.1	32.1	+1.0	
Sex:																					
Male	7.3	7.4	10.5	15.1	17.7	19.6	19.2	18.0	18.1	+0.1	17.7	16.3	21.2	28.2	30.6	36.0	37.3	32.2	34.3	+2.1	
Female	5.1	6.9	8.0	10.9	13.7	16.9	16.1	15.3	14.9	-0.4	15.1	13.9	16.9	21.9	26.5	31.4	32.3	30.1	29.7	-0.4	
College Plans:																					
None or under 4 yrs.	15.8	17.5	22.4	27.7	30.3	34.6	34.5	35.0	34.9	-0.1	26.9	25.1	31.5	37.3	41.8	48.9	51.5	46.8	48.3	+1.5	
Complete 4 yrs.	4.6	5.5	7.3	11.0	13.8	15.8	15.5	14.5	14.0	-0.5	14.2	13.0	16.5	22.4	26.4	31.0	32.0	28.2	29.3	+1.1	
Region:																					
Northeast	5.0	5.8	6.2	12.1	13.0	15.3	16.2	11.7	14.4	+2.7	17.1	14.9	22.4	25.6	28.8	34.8	34.6	35.4	34.4	-1.0	
North Central	5.9	6.0	8.0	12.0	17.5	18.6	17.0	18.1	18.5	+0.4	15.8	14.8	17.4	23.4	26.6	33.1	34.4	28.5	31.6	+3.1	
South	6.1	7.3	9.0	11.4	14.7	17.1	17.2	17.9	16.7	-1.2	14.5	12.5	16.4	23.8	28.4	33.9	34.4	30.7	30.9	+0.2	
West	7.8	10.3	14.8	18.1	18.4	22.5	20.6	18.2	15.6	-2.6	19.4	20.4	24.0	30.0	32.2	32.4	36.5	30.7	32.0	+1.3	
Population Density:																					
Large MSA	5.2	6.7	8.0	13.1	15.6	18.3	16.4	16.0	15.6	-0.4	16.5	15.1	19.0	26.3	27.8	31.5	34.1	28.7	31.2	+2.5	
Other MSA	7.2	8.3	10.9	15.7	17.2	19.5	18.2	17.4	15.4	-2.0	17.3	15.9	19.8	28.2	31.2	36.2	36.6	33.1	33.6	+0.5	
Non-MSA	5.3	5.7	7.2	8.0	13.7	15.8	18.0	16.9	19.7	+2.8	14.9	13.9	18.2	18.5	24.8	30.9	32.5	30.2	30.0	-0.2	
Parental Education: ^a																					
1.0-2.0 (Low)	13.2	12.7	13.6	18.7	23.0	20.2	24.8	25.0	25.8	+0.8	20.3	18.9	22.4	25.8	32.0	32.9	34.5	31.7	38.1	+6.4s	
2.5-3.0	7.0	7.7	10.7	14.5	17.9	20.6	20.3	20.0	20.8	+0.8	17.8	16.0	19.7	26.3	31.8	35.6	36.8	35.3	35.4	+0.1	
3.5-4.0	6.2	7.0	9.7	13.2	17.2	20.2	19.5	17.7	16.3	-1.4	16.2	15.1	19.3	25.6	30.0	36.4	37.8	31.6	31.9	+0.3	
4.5-5.0	3.7	5.4	7.4	10.9	12.7	16.2	15.7	13.7	11.7	-2.0	14.9	14.1	17.6	23.8	27.0	31.7	33.1	28.3	28.8	+0.5	
5.5-6.0 (High)	4.6	5.2	6.4	11.0	13.0	14.7	12.1	12.7	12.4	-0.3	15.9	13.7	18.5	23.3	23.4	30.3	30.5	27.7	30.6	+2.9	
Race (2-year average): ^b																					
White	—	6.4	7.8	10.0	13.5	16.7	17.8	16.7	15.4	-1.3	—	17.0	18.0	22.6	27.7	32.0	35.3	34.2	32.5	-1.7	
Black	—	4.1	5.7	8.9	11.9	14.0	15.3	16.0	16.3	+0.3	—	7.6	8.7	15.3	20.9	25.7	28.4	26.9	26.3	-0.6	
Hispanic	—	11.9	13.9	18.1	20.4	20.8	21.8	22.7	22.8	+0.1	—	18.9	21.3	25.1	29.2	34.6	36.8	34.4	34.0	-0.4	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. — indicates data not available.

See Table D-58 for the number of subgroup cases.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-6
Marijuana: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

Percent who used in last twelve months

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
Approx. N = 9400 15400 17100 17800 15500 15900 17500 16300 15900 16000 15200 16300 16700 15200 15000 15800 16300 15400 14300 15400 15200 13600																											
Total	40.0	44.5	47.6	50.2	50.8	48.8	46.1	44.3	42.3	40.0	40.6	38.8	36.3	33.1	29.6	27.0	23.9	21.9	26.0	30.7	34.7	35.8	38.5	37.5	37.8	+0.3	
Sex:																											
Male	45.8	50.6	53.2	55.9	55.8	53.4	49.2	47.2	45.7	43.2	43.1	41.2	38.6	35.8	32.8	29.4	27.2	24.4	29.0	35.1	38.1	39.4	40.9	41.7	41.4	-0.3	
Female	34.9	37.8	42.0	44.3	45.7	44.1	42.5	40.8	38.4	36.0	37.8	36.0	33.8	30.3	26.3	24.2	20.1	18.9	22.4	26.4	30.6	31.6	35.5	33.0	34.1	+1.1	
College Plans:																											
None or under 4 yrs.	—	46.8	50.7	51.6	53.1	51.7	49.7	48.2	46.0	44.2	44.0	42.7	40.6	36.2	34.4	31.1	27.6	27.5	29.1	34.4	39.0	41.7	44.6	43.0	43.2	+0.2	
Complete 4 yrs.	—	40.7	43.4	47.1	47.3	45.9	42.6	40.6	38.3	35.9	37.5	36.1	34.0	31.3	27.3	24.7	22.0	19.4	24.4	29.1	32.6	33.4	36.4	35.2	35.9	+0.7	
Region:																											
Northeast	47.4	52.7	53.5	59.2	60.6	55.5	53.2	50.9	49.3	49.6	48.2	44.6	41.2	36.7	31.3	32.2	28.2	23.9	31.2	36.0	37.7	40.0	43.5	43.0	39.0	-4.0	
North Central	40.1	44.0	48.1	51.6	52.2	48.9	46.8	45.6	42.0	36.4	40.8	40.2	37.4	34.3	33.0	28.7	26.1	22.7	26.0	30.5	36.9	36.9	36.5	33.8	38.0	+4.2	
South	32.4	37.9	42.5	42.7	41.2	42.0	38.0	36.7	36.1	35.6	31.0	31.7	30.2	28.7	26.0	21.4	18.1	18.1	23.2	28.7	31.8	32.8	35.0	36.5	36.0	-0.5	
West	44.1	45.8	46.8	49.1	51.9	51.7	49.6	45.5	44.8	43.2	46.2	41.2	39.6	35.6	32.3	28.3	26.8	26.1	26.4	30.0	33.8	35.6	42.6	39.0	39.8	+0.8	
Population Density:																											
Large MSA	50.4	51.3	53.2	57.2	56.7	56.3	51.4	50.4	47.0	44.2	44.4	42.6	39.3	34.3	27.8	27.7	24.3	22.6	29.1	32.0	37.5	37.2	38.3	38.4	38.7	+0.3	
Other MSA	40.3	44.2	48.9	50.8	51.9	49.8	46.4	44.8	44.0	41.0	40.7	39.4	36.9	34.7	30.3	28.3	27.5	22.1	26.2	32.7	34.9	38.6	40.5	38.8	39.1	+0.3	
Non-MSA	32.9	39.8	41.2	43.3	43.3	41.9	41.6	38.5	36.5	35.3	37.3	34.7	32.2	29.0	30.0	23.5	17.5	21.0	23.1	25.8	31.0	29.6	34.9	33.5	34.7	+1.2	
Parental Education: ^a																											
1.0-2.0 (Low)	35.2	38.9	41.0	42.5	46.0	43.7	41.8	38.9	39.7	35.7	37.1	33.4	30.7	30.7	23.3	21.0	22.4	21.2	23.0	26.3	30.9	31.3	34.8	34.2	35.5	+1.3	
2.5-3.0	39.2	46.1	48.2	50.3	50.0	49.0	45.3	44.5	42.2	40.1	40.6	38.8	36.3	31.1	29.6	26.9	22.5	21.1	24.1	29.7	33.8	35.1	37.4	36.1	38.6	+2.5	
3.5-4.0	38.5	44.9	49.5	51.4	52.7	49.8	47.0	46.5	42.2	41.4	41.0	40.1	36.8	33.4	31.4	27.6	24.0	22.7	26.6	31.5	34.2	36.1	38.1	39.0	38.6	-0.4	
4.5-5.0	40.6	46.8	49.3	53.2	53.7	50.5	47.6	45.9	43.5	39.6	43.2	39.9	37.5	35.1	29.7	28.5	23.8	20.8	27.2	32.0	35.0	36.6	40.1	37.4	35.9	-1.5	
5.5-6.0 (High)	38.7	47.5	48.6	55.2	51.2	52.0	48.5	45.7	43.7	39.9	37.9	38.9	38.6	35.9	30.7	29.4	28.2	22.6	28.0	32.3	37.5	36.7	39.7	38.3	39.2	+0.9	
Race (2-year average): ^b																											
White	—	—	—	46.8	50.1	51.8	49.1	47.1	44.6	42.0	41.6	41.4	39.7	37.6	34.5	31.6	28.2	24.9	25.9	30.2	34.2	36.4	38.7	39.9	39.1	-0.8	
Black	—	—	—	37.9	39.6	38.4	37.5	36.1	35.5	37.4	36.4	33.4	30.6	25.7	21.2	17.8	13.7	11.4	11.5	14.2	20.7	26.8	30.2	30.4	30.0	+0.4	
Hispanic	—	—	—	45.8	43.4	42.1	44.1	41.2	38.8	38.3	38.8	37.8	36.7	33.3	29.6	25.0	21.6	23.6	24.7	23.5	25.7	29.7	32.3	36.4	37.2	+0.6	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '—' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-7
Inhalants: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months										'98-'99 change									
	8th Grade					10th Grade														
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change
Total	9.0	9.5	11.0	11.7	12.8	12.2	11.8	11.1	10.3	-0.8	7.1	7.5	8.4	9.1	9.6	9.5	8.7	8.0	7.2	-0.8
Sex:																				
Male	9.0	9.2	10.4	11.2	11.5	10.3	10.5	10.6	9.5	-1.1	7.4	7.6	9.1	9.7	10.3	10.1	9.1	8.4	7.6	-0.8
Female	9.0	9.8	11.9	12.2	14.0	14.1	12.9	11.6	11.1	-0.5	6.6	7.5	7.7	8.6	8.9	8.9	8.2	7.6	6.9	-0.7
College Plans:																				
None or under 4 yrs.	15.0	15.6	17.7	18.3	19.6	18.2	18.1	20.9	17.9	-3.0	12.0	12.4	14.0	15.1	14.6	14.3	14.4	13.5	11.6	-1.9
Complete 4 yrs.	8.1	8.8	10.2	10.9	11.9	11.4	11.2	10.2	9.5	-0.7	5.9	6.4	7.3	7.8	8.7	8.7	7.7	7.0	6.5	-0.5
Region:																				
Northeast	8.0	8.6	11.3	12.0	13.1	11.7	12.1	9.1	9.8	+0.7	7.2	7.8	10.6	9.8	10.4	11.5	8.9	9.3	8.3	-1.0
North Central	9.8	10.5	9.9	10.3	13.8	13.3	11.3	11.3	10.6	-0.7	7.5	8.0	8.3	8.4	10.4	9.8	8.3	6.7	8.4	+1.7
South	8.9	9.1	10.0	11.3	12.1	11.3	11.6	11.3	9.9	-1.4	7.2	6.6	7.3	9.0	9.4	9.1	8.8	8.3	6.5	-1.8
West	8.8	9.8	14.2	14.0	12.4	12.9	12.6	12.4	10.9	-1.5	6.2	8.0	8.4	9.9	8.1	8.0	8.5	7.8	6.1	-1.7
Population Density:																				
Large MSA	9.9	9.1	10.8	11.6	11.7	11.4	10.4	8.6	8.8	+0.2	7.7	7.8	8.5	7.9	8.7	8.1	8.1	6.7	6.9	+0.2
Other MSA	8.5	10.3	12.3	13.1	13.7	13.4	11.5	11.1	10.1	-1.0	7.1	7.4	8.4	9.8	9.7	9.6	8.4	7.7	7.0	-0.7
Non-MSA	9.1	8.6	8.5	9.3	12.3	11.0	13.9	14.0	12.3	-1.7	6.5	7.5	8.6	9.1	10.5	11.0	9.8	10.1	8.3	-1.8
Parental Education: ^a																				
1.0-2.0 (Low)	12.0	11.4	11.5	12.4	13.0	11.3	12.1	14.4	12.9	-1.5	7.0	8.2	10.2	8.7	9.4	10.8	9.3	9.7	8.7	-1.0
2.5-3.0	9.5	9.9	10.9	12.1	13.9	12.6	12.6	12.0	11.8	-0.2	8.0	7.9	9.1	9.5	11.0	9.9	8.5	9.1	8.0	-1.1
3.5-4.0	8.9	10.0	11.5	12.3	14.7	13.4	13.5	12.8	10.8	-2.0	7.5	8.3	8.3	9.6	10.2	10.1	9.4	8.1	6.9	-1.2
4.5-5.0	8.0	8.4	10.6	11.0	12.3	13.2	11.4	9.7	9.2	-0.5	6.4	6.5	7.2	8.7	9.4	8.4	8.3	7.1	6.7	-0.4
5.5-6.0 (High)	8.4	10.3	12.6	12.2	11.6	11.7	10.8	10.6	9.1	-1.5	6.6	6.7	8.2	8.2	7.0	10.1	8.2	6.7	7.2	+0.5
Race (2-year average): ^b																				
White	—	10.1	11.3	12.4	13.8	14.6	14.1	13.3	12.1	-1.2	—	8.3	8.8	9.6	10.6	11.0	10.4	9.6	8.9	-0.7
Black	—	4.4	4.6	5.3	5.0	4.2	3.8	4.2	4.2	0.0	—	3.6	3.7	3.3	2.8	2.3	2.3	2.4	2.0	-0.4
Hispanic	—	10.4	11.5	12.5	13.3	12.7	11.4	11.5	12.7	+1.2	—	6.4	8.3	9.0	8.5	8.2	7.9	7.6	7.3	-0.3

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. — indicates data not available. See Table D-58 for the number of subgroup cases.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details. ^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

**TABLE D-9
Hallucinogens: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders**

	Percent who used in last twelve months															'98-'99 change					
	8th Grade					10th Grade					1991	1992	1993	1994	1995		1996	1997	1998	1999	
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999						14800					14800
Total	1.9	2.5	2.6	2.7	3.6	4.1	3.7	3.4	2.9	-0.5	4.0	4.3	4.7	5.8	7.2	7.8	7.6	6.9	6.9	0.0	
Sex:																					
Male	2.2	2.6	2.8	3.0	4.0	4.3	4.0	3.7	3.3	-0.4	4.4	4.7	5.7	6.6	8.1	8.5	8.7	7.4	8.1	+0.7	
Female	1.6	2.3	2.3	2.4	3.3	3.7	3.2	2.9	2.4	-0.5	3.6	3.8	3.6	4.8	6.1	7.0	6.4	6.3	5.7	-0.6	
College Plans:																					
None or under 4 yrs.	5.1	7.2	7.1	6.7	9.6	9.6	10.1	9.2	9.4	+0.2	7.5	7.5	9.1	10.4	12.5	14.5	13.6	14.2	14.3	+0.1	
Complete 4 yrs.	1.4	1.8	1.9	2.2	2.9	3.2	2.9	2.7	2.1	-0.6	3.3	3.6	3.7	4.8	6.2	6.6	6.5	5.6	5.7	+0.1	
Region:																					
Northeast	1.5	1.6	1.9	2.9	3.4	3.7	2.8	2.4	2.6	+0.2	4.0	2.7	4.7	5.8	5.6	7.7	6.2	8.1	8.6	+0.5	
North Central	1.6	2.4	1.7	2.2	3.8	3.9	3.8	3.5	3.4	-0.1	3.4	4.3	4.6	5.7	7.8	9.0	7.0	5.6	6.7	+1.1	
South	1.9	2.7	2.8	2.4	3.3	3.9	3.4	3.7	2.9	-0.8	3.6	3.9	3.6	5.1	7.3	7.5	8.3	7.6	6.5	-1.1	
West	2.8	3.2	4.2	3.9	4.2	5.1	4.8	3.5	2.4	-1.1	5.2	6.5	6.7	7.1	7.6	6.6	8.5	6.1	6.1	0.0	
Population Density:																					
Large MSA	2.1	2.2	2.2	3.1	4.0	3.8	3.3	2.9	2.5	-0.4	4.1	4.6	4.9	6.0	7.1	8.6	7.8	6.3	5.8	-0.5	
Other MSA	2.0	3.0	3.1	3.1	3.8	4.8	4.0	3.4	3.1	-0.3	4.8	4.4	4.9	6.4	8.0	8.2	7.9	7.6	7.8	+0.2	
Non-MSA	1.5	2.0	1.8	1.6	3.0	3.2	3.5	3.8	2.8	-1.0	2.5	3.7	4.1	4.4	5.5	6.0	6.7	6.3	6.5	+0.2	
Parental Education: ^a																					
1.0-2.0 (Low)	3.9	3.7	3.5	3.1	5.1	4.8	5.0	5.0	4.8	-0.2	3.7	4.9	6.0	6.1	7.7	8.0	6.5	8.3	7.0	-1.3	
2.5-3.0	2.2	2.3	2.7	2.8	3.8	4.7	3.9	3.4	3.5	+0.1	4.3	4.2	4.5	5.5	7.6	8.5	7.3	8.2	8.1	-0.1	
3.5-4.0	1.6	2.5	2.8	2.8	4.1	4.1	3.8	3.7	2.8	-0.9	3.7	4.6	4.8	5.9	7.6	8.6	8.2	6.6	6.6	0.0	
4.5-5.0	1.6	2.0	2.3	2.8	3.2	4.0	3.4	3.0	2.1	-0.9	4.1	3.8	4.5	5.5	6.6	6.9	8.2	6.1	6.6	+0.5	
5.5-6.0 (High)	1.4	2.4	2.0	2.5	3.2	3.5	3.5	3.1	2.5	-0.6	4.6	4.2	4.6	6.2	6.5	7.2	6.8	6.0	6.5	+0.5	
Race (2-year average): ^b																					
White	—	2.2	2.6	2.8	3.6	4.5	4.5	3.9	3.2	-0.7	—	4.9	5.1	5.6	7.1	8.6	8.9	8.4	8.2	-0.2	
Black	—	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.6	-0.1	—	0.2	0.6	1.1	1.2	0.9	1.0	1.1	1.0	-0.1	
Hispanic	—	3.8	4.1	4.0	4.0	4.1	4.2	4.6	4.5	-0.1	—	3.6	4.5	5.7	6.3	6.6	7.3	7.3	6.4	-0.9	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '—' indicates data not available.

See Table D-58 for the number of subgroup cases.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.
^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-10
Hallucinogens:^a Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

Percent who used in last twelve months

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	'99-'99 change	
Approx. N = 9400 15400 17100 17800 15500 15900 17500 17700 16300 15200 16300 16300 16700 16200 15800 16300 15400 14300 15400 16200 13600																											
Total	11.2	9.4	8.8	9.6	9.9	9.3	9.0	8.1	7.3	6.5	6.3	6.0	6.4	5.5	5.6	5.9	5.8	5.9	7.4	7.6	9.3	10.1	9.8	9.0	9.4	+0.4	
Adjusted ^b	—	—	—	—	11.8	10.4	10.1	9.0	8.3	7.3	7.6	6.7	5.8	6.2	6.0	6.1	6.2	7.8	7.8	7.8	9.7	10.7	10.0	9.2	9.8	+0.6	
Sex:																											
Male	13.7	11.6	10.8	11.6	11.8	11.7	10.9	9.6	8.6	7.9	8.1	7.2	7.5	7.2	7.4	7.7	7.5	7.1	8.9	9.2	11.9	12.4	12.0	11.0	11.4	+0.4	
Female	9.0	6.9	6.5	7.3	7.6	6.7	6.8	6.1	5.5	4.7	4.4	4.7	5.2	3.7	3.6	3.8	3.9	4.7	5.6	5.8	6.3	7.3	7.4	6.8	7.4	+0.6	
College Plans:																											
None or under 4 yrs.	—	11.2	10.6	11.0	11.3	11.2	10.7	9.5	8.9	8.3	7.7	7.4	7.9	6.4	7.1	6.6	7.0	7.8	8.1	8.4	11.9	12.1	11.3	12.0	10.5	-1.5	
Complete 4 yrs.	—	6.9	6.4	7.3	7.5	7.1	7.4	6.2	5.4	4.7	5.0	4.7	5.4	4.7	4.8	5.3	5.3	5.1	6.9	7.0	8.2	9.0	9.0	7.8	8.7	+0.9	
Region:																											
Northeast	13.2	10.9	10.6	13.0	12.9	12.2	12.9	11.4	8.7	11.3	9.9	7.9	7.5	5.8	5.6	6.6	7.0	7.1	9.0	9.0	10.1	13.3	13.9	10.7	9.8	-0.9	
North Central	13.0	10.3	9.7	10.7	11.1	11.3	10.3	9.1	8.9	6.0	6.8	6.6	6.9	5.3	6.6	5.7	6.5	5.9	6.8	8.1	9.2	8.8	7.6	8.4	9.8	+1.4	
South	8.5	7.4	6.8	6.3	5.7	5.4	4.1	4.6	5.2	3.9	3.2	3.3	4.8	5.2	4.9	5.0	3.7	4.7	5.9	6.7	8.8	8.9	9.2	8.5	8.6	+0.1	
West	10.2	9.3	8.2	9.6	11.0	9.2	10.4	7.8	6.3	7.0	6.3	7.2	7.4	6.0	5.5	6.9	7.3	7.3	9.2	7.1	9.6	10.5	9.5	9.1	10.0	+0.9	
Population Density:																											
Large MSA	13.9	11.1	9.9	11.9	12.3	11.6	12.0	10.9	9.2	8.8	8.3	7.6	7.9	6.5	5.4	5.7	5.1	6.2	7.3	8.1	11.0	10.5	8.8	8.7	8.4	-0.3	
Other MSA	12.1	9.8	9.1	9.3	10.5	9.8	9.0	7.6	7.5	6.3	6.1	5.9	6.3	6.0	5.9	6.6	7.7	6.0	8.1	8.6	9.5	11.4	11.2	9.9	10.4	+0.5	
Non-MSA	8.5	7.7	7.5	8.3	7.1	7.1	6.8	6.5	5.3	5.0	5.0	4.9	5.3	3.5	5.0	4.5	3.3	5.5	6.3	5.1	7.0	7.4	8.3	7.4	8.8	+1.4	
Parental Education: ^c																											
1.0-2.0 (Low)	8.9	7.4	6.8	7.7	7.1	8.0	6.7	6.5	6.5	5.4	4.8	5.4	5.8	4.9	4.2	3.8	4.9	3.6	4.9	5.0	7.2	7.4	7.3	7.9	9.0	+1.1	
2.5-3.0	10.2	10.0	9.1	9.6	9.6	9.5	8.9	8.0	6.8	6.7	6.4	6.0	6.2	4.2	4.9	4.6	4.9	5.6	5.9	7.0	8.7	8.8	8.5	8.8	8.6	-0.2	
3.5-4.0	10.9	9.8	9.2	9.7	9.7	9.2	9.2	8.6	7.7	6.3	7.2	6.3	6.0	4.8	5.6	6.5	6.2	6.0	7.5	8.0	9.5	10.3	9.9	9.5	10.6	+1.1	
4.5-5.0	11.1	10.1	8.8	10.2	10.9	9.1	9.4	7.8	7.0	5.9	6.2	5.5	6.8	6.7	6.6	6.8	6.1	6.2	8.9	7.7	9.6	10.5	10.4	8.6	9.3	+0.7	
5.5-6.0 (High)	8.9	9.4	9.5	10.2	11.7	9.9	10.6	9.0	7.0	7.6	4.3	5.9	7.2	7.2	7.0	8.2	7.3	7.4	8.9	9.0	9.5	11.4	11.6	9.4	8.4	-1.0	
Race (2-year average): ^d																											
White	—	—	9.8	9.9	10.5	10.3	10.0	9.3	8.3	7.5	7.0	6.7	6.8	6.8	6.4	6.7	6.8	6.9	7.9	8.6	9.5	10.8	11.6	11.3	10.7	-0.6	
Black	—	—	2.4	2.3	2.0	1.9	1.9	1.8	2.2	1.7	1.2	1.6	1.5	1.0	0.9	0.8	0.6	0.7	0.8	1.2	1.2	1.7	1.9	1.4	1.2	-0.2	
Hispanic	—	—	7.9	7.2	7.0	7.1	7.0	7.7	6.6	5.2	5.7	5.7	5.0	4.0	3.2	3.3	4.4	4.6	5.3	5.8	7.1	8.3	7.3	6.8	7.9	+1.1	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '—' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aAll data are unadjusted for underreporting of PCP, unless otherwise indicated.

^bAdjusted for underreporting of PCP. See text for details.

^cParental education is an average score of mother's education and father's education. See Appendix B for details.

^dTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.



TABLE D-11
LSD: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months										'98-'99 change	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965	1964	1963	1962	1961	1960	1959	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939	1938	1937	1936	1935	1934	1933	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917	1916	1915	1914	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	1888	1887	1886	1885	1884	1883	1882	1881	1880	1879	1878	1877	1876	1875	1874	1873	1872	1871	1870	1869	1868	1867	1866	1865	1864	1863	1862	1861	1860	1859	1858	1857	1856	1855	1854	1853	1852	1851	1850	1849	1848	1847	1846	1845	1844	1843	1842	1841	1840	1839	1838	1837	1836	1835	1834	1833	1832	1831	1830	1829	1828	1827	1826	1825	1824	1823	1822	1821	1820	1819	1818	1817	1816	1815	1814	1813	1812	1811	1810	1809	1808	1807	1806	1805	1804	1803	1802	1801	1800	1799	1798	1797	1796	1795	1794	1793	1792	1791	1790	1789	1788	1787	1786	1785	1784	1783	1782	1781	1780	1779	1778	1777	1776	1775	1774	1773	1772	1771	1770	1769	1768	1767	1766	1765	1764	1763	1762	1761	1760	1759	1758	1757	1756	1755	1754	1753	1752	1751	1750	1749	1748	1747	1746	1745	1744	1743	1742	1741	1740	1739	1738	1737	1736	1735	1734	1733	1732	1731	1730	1729	1728	1727	1726	1725	1724	1723	1722	1721	1720	1719	1718	1717	1716	1715	1714	1713	1712	1711	1710	1709	1708	1707	1706	1705	1704	1703	1702	1701	1700	1699	1698	1697	1696	1695	1694	1693	1692	1691	1690	1689	1688	1687	1686	1685	1684	1683	1682	1681	1680	1679	1678	1677	1676	1675	1674	1673	1672	1671	1670	1669	1668	1667	1666	1665	1664	1663	1662	1661	1660	1659	1658	1657	1656	1655	1654	1653	1652	1651	1650	1649	1648	1647	1646	1645	1644	1643	1642	1641	1640	1639	1638	1637	1636	1635	1634	1633	1632	1631	1630	1629	1628	1627	1626	1625	1624	1623	1622	1621	1620	1619	1618	1617	1616	1615	1614	1613	1612	1611	1610	1609	1608	1607	1606	1605	1604	1603	1602	1601	1600	1599	1598	1597	1596	1595	1594	1593	1592	1591	1590	1589	1588	1587	1586	1585	1584	1583	1582	1581	1580	1579	1578	1577	1576	1575	1574	1573	1572	1571	1570	1569	1568	1567	1566	1565	1564	1563	1562	1561	1560	1559	1558	1557	1556	1555	1554	1553	1552	1551	1550	1549	1548	1547	1546	1545	1544	1543	1542	1541	1540	1539	1538	1537	1536	1535	1534	1533	1532	1531	1530	1529	1528	1527	1526	1525	1524	1523	1522	1521	1520	1519	1518	1517	1516	1515	1514	1513	1512	1511	1510	1509	1508	1507	1506	1505	1504	1503	1502	1501	1500	1499	1498	1497	1496	1495	1494	1493	1492	1491	1490	1489	1488	1487	1486	1485	1484	1483	1482	1481	1480	1479	1478	1477	1476	1475	1474	1473	1472	1471	1470	1469	1468	1467	1466	1465	1464	1463	1462	1461	1460	1459	1458	1457	1456	1455	1454	1453	1452	1451	1450	1449	1448	1447	1446	1445	1444	1443	1442	1441	1440	1439	1438	1437	1436	1435	1434	1433	1432	1431	1430	1429	1428	1427	1426	1425	1424	1423	1422	1421	1420	1419	1418	1417	1416	1415	1414	1413	1412	1411	1410	1409	1408	1407	1406	1405	1404	1403	1402	1401	1400	1399	1398	1397	1396	1395	1394	1393	1392	1391	1390	1389	1388	1387	1386	1385	1384	1383	1382	1381	1380	1379	1378	1377	1376	1375	1374	1373	1372	1371	1370	1369	1368	1367	1366	1365	1364	1363	1362	1361	1360	1359	1358	1357	1356	1355	1354	1353	1352	1351	1350	1349	1348	1347	1346	1345	1344	1343	1342	1341	1340	1339	1338	1337	1336	1335	1334	1333	1332	1331	1330	1329	1328	1327	1326	1325	1324	1323	1322	1321	1320	1319	1318	1317	1316	1315	1314	1313	1312	1311	1310	1309	1308	1307	1306	1305	1304	1303	1302	1301	1300	1299	1298	1297	1296	1295	1294	1293	1292	1291	1290	1289	1288	1287	1286	1285	1284	1283	1282	1281	1280	1279	1278	1277	1276	1275	1274	1273	1272	1271	1270	1269	1268	1267	1266	1265	1264	1263	1262	1261	1260	1259	1258	1257	1256	1255	1254	1253	1252	1251	1250	1249	1248	1247	1246	1245	1244	1243	1242	1241	1240	1239	1238	1237	1236	1235	1234	1233	1232	1231	1230	1229	1228	1227	1226	1225	1224	1223	1222	1221	1220	1219	1218	1217	1216	1215	1214	1213	1212	1211	1210	1209	1208	1207	1206	1205	1204	1203	1202	1201	1200	1199	1198	1197	1196	1195	1194	1193	1192	1191	1190	1189	1188	1187	1186	1185	1184	1183	1182	1181	1180	1179	1178	1177	1176	1175	1174	1173	1172	1171	1170	1169	1168	1167	1166	1165	1164	1163	1162	1161	1160	1159	1158	1157	1156	1155	1154	1153	1152	1151	1150	1149	1148	1147	1146	1145	1144	1143	1142	1141	1140	1139	1138	1137	1136	1135	1134	1133	1132	1131	1130	1129	1128	1127	1126	1125	1124	1123	1122	1121	1120	1119	1118	1117	1116	1115	1114	1113	1112	1111	1110	1109	1108	1107	1106	1105	1104	1103	1102	1101	1100	1099	1098	1097	1096	1095	1094	1093	1092	1091	1090	1089	1088	1087	1086	1085	1084	1083	1082	1081	1080	1079	1078	1077	1076	1075	1074	1073	1072	1071	1070	1069	1068	1067	1066	1065	1064	1063
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TABLE D-12
LSD: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months																										
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change	
Total	7.2	6.4	5.5	6.3	6.6	6.5	6.1	5.4	4.7	4.4	4.5	5.2	4.8	4.9	5.4	5.2	5.6	6.8	6.9	8.4	8.8	8.4	7.6	8.1	8.1	+0.5	
Sex:																											
Male	9.6	7.9	7.1	7.8	8.0	8.1	8.0	7.4	6.7	5.8	5.5	6.4	6.5	6.5	7.1	6.8	6.7	8.4	8.4	10.7	10.9	10.3	9.3	10.0	10.0	+0.7	
Female	5.6	4.6	3.9	4.5	4.8	4.8	4.7	4.3	3.8	3.1	2.8	3.4	3.9	3.0	3.2	3.6	4.4	5.1	5.3	5.8	6.5	6.2	5.7	6.1	6.1	+0.4	
College Plans:																											
None or under 4 yrs.	—	7.5	6.7	7.2	8.0	8.2	8.0	7.5	6.9	6.1	5.6	5.9	6.6	5.7	6.5	6.2	6.4	7.6	7.5	7.7	11.2	11.4	10.3	10.9	9.4	-1.5	
Complete 4 yrs.	—	4.7	4.0	4.6	4.5	4.7	5.0	4.3	3.8	3.1	3.4	3.3	4.3	4.1	4.2	4.8	4.7	4.8	6.4	6.3	7.3	7.7	7.4	6.3	7.3	+1.0	
Region:																											
Northeast	8.5	8.0	7.2	8.0	7.9	6.8	9.0	8.0	5.6	7.0	5.4	5.1	5.3	4.7	5.1	5.9	6.1	6.6	8.6	8.2	8.8	11.9	11.8	8.2	7.8	-0.4	
North Central	8.7	7.0	6.5	7.9	7.9	8.5	7.8	7.3	7.0	4.4	5.3	5.3	5.7	4.7	6.0	5.3	5.9	5.5	6.3	7.3	8.3	7.7	7.0	7.6	9.1	+1.5	
South	5.4	4.7	3.7	3.7	3.4	4.3	3.4	3.9	4.4	3.5	2.8	2.6	4.2	4.7	4.2	4.7	3.4	4.4	5.5	6.3	8.1	7.9	8.1	7.4	7.7	+0.3	
West	7.6	5.9	5.0	5.8	8.3	6.5	6.3	4.8	4.2	4.5	4.6	5.9	6.2	5.2	4.4	6.4	6.5	7.0	8.5	6.2	8.5	8.8	6.9	7.1	7.7	+0.6	
Population Density:																											
Large MSA	9.4	7.9	6.4	7.2	7.6	7.3	8.0	7.3	5.7	4.7	4.1	4.4	5.6	5.2	4.6	5.2	4.3	5.7	6.7	7.3	9.7	9.0	7.7	7.2	6.8	-0.4	
Other MSA	7.4	6.8	5.6	6.1	7.3	6.8	6.9	6.3	6.0	4.9	4.8	4.9	5.4	5.6	5.3	6.1	7.0	5.8	7.6	7.9	8.7	10.0	9.3	8.4	9.2	+0.8	
Non-MSA	5.7	4.8	4.8	5.8	4.9	5.6	4.9	4.8	4.4	4.2	4.1	4.0	4.4	3.1	4.3	4.2	3.0	5.1	5.6	4.6	6.5	6.5	7.3	6.1	7.4	+1.3	
Parental Education: ^a																											
1.0-2.0 (Low)	6.1	4.8	4.5	5.0	4.5	5.2	4.8	5.0	4.9	4.1	3.0	3.9	4.4	4.1	3.6	3.4	4.3	3.3	4.6	4.4	6.6	6.7	6.8	6.8	8.6	+1.8	
2.5-3.0	6.5	6.8	5.8	6.1	6.3	6.8	6.5	6.1	5.1	4.8	4.5	4.6	4.9	3.8	4.3	4.4	4.4	5.2	5.6	6.5	8.1	8.2	7.3	7.8	7.6	-0.2	
3.5-4.0	6.4	6.7	5.6	6.1	6.7	6.7	6.4	5.7	4.3	4.7	4.6	4.9	4.2	5.1	6.0	5.5	5.7	7.0	7.4	8.6	9.3	8.5	8.2	9.0	+0.8		
4.5-5.0	7.0	6.4	5.3	6.7	7.5	5.7	6.4	5.7	5.2	4.3	4.8	4.1	5.8	6.2	5.9	6.2	5.3	5.8	8.3	6.9	8.6	8.7	8.6	8.6	8.0	+1.5	
5.5-6.0 (High)	6.5	6.4	6.1	7.0	7.4	7.2	7.7	6.0	4.8	5.0	3.8	4.7	6.1	6.2	5.5	7.4	7.1	7.0	8.2	7.9	8.3	9.2	9.5	7.3	6.4	-0.9	
Race (2-year average): ^b																											
White	—	—	6.3	6.3	6.8	7.0	7.2	6.9	6.2	5.5	5.0	4.9	5.4	5.8	5.7	6.1	6.3	6.4	7.4	8.0	8.6	9.7	10.1	9.5	9.1	-0.4	
Black	—	—	1.3	1.3	1.2	1.1	1.0	0.9	0.9	0.7	0.7	1.0	0.8	0.6	0.7	0.6	0.6	0.6	0.6	0.9	1.0	1.3	1.6	1.1	0.8	-0.3	
Hispanic	—	—	6.1	5.0	4.9	5.2	4.5	5.2	5.0	4.1	3.9	3.9	4.0	3.1	2.3	2.7	3.6	4.1	5.1	5.4	6.4	7.4	6.3	5.9	7.0	+1.1	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '—' indicates data not available.

See Table D-59 for the number of subgroup cases.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-13
Hallucinogens Other Than LSD: Trends in Annual Prevalence of Use
by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months										'98-'99 change	1999	1998	1997	1996	1995	1994	1993	1992	1991	14800	14800	15300	15800	17000	15600	15500	15000	13600	1999 change
	1991	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change																				
Total	0.7	1.1	1.0	1.3	1.7	2.0	1.8	1.6	1.5	1.5	-0.1	1.3	1.4	1.9	2.4	2.8	3.3	3.3	3.4	3.2	3.2	3.4	3.2	3.2	3.4	3.2	3.2	3.2	-0.2	
Sex:																														
Male	0.8	1.1	1.2	1.6	1.9	2.1	2.1	1.8	1.8	1.8	0.0	1.5	1.6	2.5	3.0	3.4	3.8	4.1	3.9	4.1	3.9	4.1	3.9	4.1	3.9	4.1	3.9	4.1	+0.2	
Female	0.6	1.0	0.9	0.9	1.4	1.7	1.4	1.4	1.1	1.1	-0.3	1.1	1.1	1.2	1.7	2.1	2.7	2.5	2.8	2.8	2.8	2.3	2.3	2.8	2.3	2.8	2.3	2.3	-0.5	
College Plans:																														
None or under 4 yrs.	1.7	3.6	2.9	3.6	4.8	5.2	4.7	5.1	5.3	+0.2	2.5	2.7	3.7	4.8	5.3	6.2	4.8	7.3	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	-0.6	
Complete 4 yrs.	0.5	0.7	0.7	1.0	1.3	1.4	1.4	1.2	1.0	-0.2	1.1	1.1	1.5	1.9	2.3	2.7	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	
Region:																														
Northeast	0.4	0.6	0.7	1.4	1.8	2.1	1.7	1.2	1.4	+0.2	1.4	0.7	2.3	3.2	3.0	3.9	3.2	4.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	-0.2
North Central	0.6	1.3	0.6	1.1	1.6	1.8	1.8	1.9	1.7	-0.2	1.0	1.2	1.7	1.9	2.2	3.2	3.4	3.2	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-0.4
South	0.7	1.0	1.0	1.0	1.5	1.7	1.4	1.8	1.6	-0.2	1.3	1.2	1.5	2.1	2.7	3.1	3.1	3.2	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-0.5
West	1.4	1.3	1.9	1.9	1.9	2.6	2.7	1.3	1.1	-0.2	1.6	2.6	2.5	3.0	3.5	3.0	3.6	2.5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	+0.8	
Population Density:																														
Large MSA	0.7	0.8	0.7	1.6	1.6	1.8	1.4	1.3	1.1	-0.2	1.4	1.5	1.9	2.4	2.7	3.4	3.3	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	0.0
Other MSA	0.7	1.3	1.3	1.4	1.8	2.2	1.9	1.6	1.5	-0.1	1.4	1.4	1.9	2.5	3.0	3.5	3.2	3.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	+0.1	
Non-MSA	0.7	1.0	0.9	0.8	1.5	1.7	1.9	2.0	1.9	-0.1	1.0	1.2	2.0	2.3	2.5	2.7	3.5	3.5	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-0.8	
Parental Education: ^a																														
1.0-2.0 (Low)	1.5	1.8	1.4	1.6	2.4	2.2	2.6	2.7	2.6	-0.1	1.5	1.5	2.0	2.6	3.3	3.4	2.4	2.9	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	+0.5	
2.5-3.0	0.8	0.7	1.1	1.1	1.7	2.1	2.0	1.3	1.9	+0.6	1.2	1.0	1.4	1.8	2.7	3.4	2.7	4.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-1.2s	
3.5-4.0	0.4	1.2	1.2	1.2	1.8	2.0	1.6	1.8	1.3	-0.5	1.3	1.7	2.3	2.3	3.0	3.2	3.6	3.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-0.2	
4.5-5.0	0.8	0.9	0.7	1.5	1.6	2.0	1.6	1.5	0.9	-0.6	1.2	1.5	1.9	2.6	2.5	3.3	3.7	3.0	3.7	3.0	3.7	3.0	3.7	3.0	3.7	3.0	3.7	+0.7		
5.5-6.0 (High)	0.8	1.3	0.9	1.5	1.7	1.4	1.9	1.9	1.5	-0.4	1.8	1.1	2.1	2.8	2.5	3.5	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	0.0	
Race (2-year average): ^b																														
White	—	0.9	1.0	1.2	1.7	2.1	2.1	1.8	1.6	-0.2	—	1.5	1.8	2.3	2.8	3.4	3.9	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
Black	—	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.0	—	0.1	0.4	0.7	0.7	0.4	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	+0.1	
Hispanic	—	1.5	1.5	1.5	1.8	2.1	2.0	2.2	2.2	0.0	—	1.3	1.5	1.9	2.0	2.1	2.4	2.8	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-0.2	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '—' indicates data not available. See Table D-58 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details. ^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-14
Hallucinogens Other Than LSD: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months																				'98-'99 change						
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994		Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999	
Approx. N =	9400	15400	17100	17800	15500	15900	17500	16300	15900	16000	15200	16300	16300	16300	16700	15200	15000	15800	16300	15400	15400	14300	15400	15200	13600		
Total	9.4	7.0	6.9	7.3	6.8	6.2	5.6	4.7	4.1	3.8	3.6	3.0	3.2	2.1	2.2	2.1	2.0	1.7	2.2	3.1	3.8	4.4	4.6	4.6	4.3	-0.3	
Sex:																											
Male	12.1	8.8	8.9	8.8	8.0	8.0	6.9	5.7	4.9	4.8	4.6	3.4	3.7	2.7	3.1	3.0	2.7	2.3	3.0	4.3	5.3	5.7	5.9	6.0	5.4	-0.6	
Female	7.5	5.0	4.9	5.5	5.3	4.2	4.0	3.6	3.1	2.7	2.5	2.5	2.6	1.4	1.1	1.1	1.3	1.2	1.3	1.9	2.1	2.8	3.2	3.0	3.1	+0.1	
College Plans:																											
None or under 4 yrs.	—	8.3	8.6	8.1	7.6	6.7	6.0	5.1	4.8	4.5	4.1	3.3	3.5	2.5	2.7	2.1	2.4	2.2	2.5	3.2	4.4	5.1	4.7	6.1	4.4	-1.7s	
Complete 4 yrs.	—	5.2	4.9	5.7	5.3	5.1	5.0	4.1	3.1	3.0	2.9	2.5	2.8	1.8	1.9	1.9	1.9	1.5	2.0	2.9	3.4	4.0	4.4	3.9	4.0	+0.1	
Region:																											
Northeast	12.0	7.8	8.2	10.3	10.2	10.0	9.0	8.1	6.1	8.4	7.1	5.1	4.8	2.6	2.5	2.9	3.5	2.5	2.6	5.1	5.3	6.1	6.6	6.3	5.5	-0.8	
North Central	11.3	7.9	7.6	7.6	6.8	6.7	5.7	4.8	4.4	2.9	3.1	2.7	3.5	1.6	2.3	1.7	1.9	1.8	2.0	3.1	3.2	3.5	2.8	4.1	3.7	-0.4	
South	7.1	5.7	5.4	4.8	4.1	3.1	2.0	1.8	2.4	1.5	1.5	1.4	1.7	2.0	1.9	1.7	1.0	1.3	1.8	1.9	3.1	3.6	4.0	3.5	3.3	-0.2	
West	7.7	6.7	6.3	7.2	6.6	5.9	6.9	4.9	4.1	4.5	3.6	3.3	3.3	2.5	2.3	2.6	2.6	1.8	2.9	3.6	4.5	5.4	6.1	5.5	5.7	+0.2	
Population Density:																											
Large MSA	11.1	7.8	7.5	9.3	8.8	8.5	8.1	7.3	6.6	6.9	6.1	5.1	4.8	3.3	2.6	2.3	1.8	2.1	2.5	3.6	4.9	5.2	4.0	4.4	4.5	+0.1	
Other MSA	10.7	7.3	7.2	6.9	7.2	6.5	5.0	3.7	4.0	3.1	3.0	2.4	2.5	1.7	2.0	2.4	2.6	1.7	2.2	3.6	3.7	4.7	5.4	5.1	4.2	-0.9	
Non-MSA	6.8	6.1	6.1	6.1	4.7	4.1	4.4	4.0	2.4	2.4	2.4	2.1	2.9	1.6	2.1	1.5	1.2	1.4	2.0	1.8	2.7	3.1	3.6	3.7	4.2	+0.5	
Parental Education: ^a																											
1.0-2.0 (Low)	7.5	5.1	5.4	5.7	4.7	5.8	3.9	3.7	3.6	2.8	2.7	2.3	3.4	2.7	2.0	1.5	1.9	1.3	1.7	2.2	2.7	3.5	2.7	3.7	2.2	-1.5	
2.5-3.0	8.7	7.6	6.9	7.2	6.5	5.9	5.1	4.7	3.6	3.8	3.5	3.1	2.9	1.5	1.8	1.2	1.6	1.6	1.5	2.4	3.4	3.0	3.5	3.9	3.3	-0.6	
3.5-4.0	9.1	7.5	7.4	7.3	6.6	5.8	4.8	4.5	3.6	4.1	3.2	3.0	3.0	1.8	1.8	2.2	2.0	1.8	2.4	2.9	3.6	4.0	4.8	4.6	5.1	+0.5	
4.5-5.0	9.7	8.4	7.0	7.8	7.5	6.4	6.0	4.7	3.9	3.8	3.6	2.7	3.3	2.2	2.6	2.8	2.4	1.7	2.7	3.7	4.2	5.2	5.3	5.0	4.4	-0.6	
5.5-6.0 (High)	7.4	7.2	7.8	7.9	9.2	7.2	7.0	6.7	4.6	5.3	2.6	2.8	3.5	3.1	3.3	3.6	2.4	2.1	3.0	4.4	4.1	5.9	5.9	5.4	4.7	-0.7	
Race (2-year average): ^b																											
White	—	—	7.6	7.6	7.5	7.0	6.3	5.6	4.7	4.3	4.0	3.5	3.4	3.0	2.4	2.4	2.4	2.2	2.2	3.0	3.8	4.4	5.2	5.6	5.2	-0.4	
Black	—	—	1.6	1.6	1.3	1.4	1.3	1.2	1.6	1.3	0.8	0.9	0.9	0.6	0.5	0.4	0.3	0.3	0.5	0.7	0.8	0.8	0.7	0.6	0.6	0.0	
Hispanic	—	—	5.1	5.2	4.8	4.4	4.5	4.8	4.2	3.4	3.7	3.3	2.1	1.7	1.6	1.5	1.7	1.4	1.4	1.6	2.6	3.5	3.1	2.7	3.0	+0.3	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

^aSee Table D-59 for the number of subgroup cases.
^bSee Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-15
MDMA (Ecstasy): Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months										'98-'99 change										
	8th Grade					10th Grade															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
Approx. N =	17500	18600	18300	17300	17500	17800	18600	18100	16700		14800	14800	15300	15800	17000	15600	15500	15000	13600		
Total	--	--	--	--	2.3	2.3	1.8	1.7	1.7	-0.1	--	--	--	--	4.6	3.9	3.3	4.4	+1.1s		
Sex:																					
Male	--	--	--	--	2.2	2.7	2.3	1.7	-0.6		--	--	--	--	4.9	4.7	3.5	4.7	+1.2		
Female	--	--	--	--	2.3	2.0	1.3	1.7	+0.4		--	--	--	--	4.2	3.1	2.9	4.2	+1.3s		
College Plans:																					
None or under 4 yrs.	--	--	--	--	4.8	6.1	4.8	5.3	+0.5		--	--	--	--	7.7	7.5	5.4	8.5	+3.1		
Complete 4 yrs.	--	--	--	--	1.9	2.0	1.5	1.2	-0.3		--	--	--	--	4.0	3.3	2.9	3.7	+0.8		
Region:																					
Northeast	--	--	--	--	2.1	1.5	1.6	1.8	+0.2		--	--	--	--	4.4	3.0	3.8	7.0	+3.2ss		
North Central	--	--	--	--	1.7	1.7	1.4	-0.3			--	--	--	--	3.6	3.2	2.2	2.3	+0.1		
South	--	--	--	--	2.8	2.3	2.7	1.8	-0.9		--	--	--	--	5.6	5.0	4.1	4.1	0.0		
West	--	--	--	--	2.3	3.8	0.8	1.7	+0.9		--	--	--	--	4.1	3.7	2.7	4.4	+1.7		
Population Density:																					
Large MSA	--	--	--	--	2.9	1.8	1.8	1.6	-0.2		--	--	--	--	5.6	4.0	2.5	5.2	+2.7sss		
Other MSA	--	--	--	--	2.5	3.1	2.1	1.8	-0.3		--	--	--	--	4.6	3.6	4.1	4.7	+0.6		
Non-MSA	--	--	--	--	1.2	1.5	1.5	1.6	+0.1		--	--	--	--	3.3	4.2	2.7	2.8	+0.1		
Parental Education: ^a																					
1.0-2.0 (Low)	--	--	--	--	2.9	2.2	2.1	2.5	+0.4		--	--	--	--	4.8	3.0	1.9	3.7	+1.8		
2.5-3.0	--	--	--	--	2.2	2.4	1.4	2.0	+0.6		--	--	--	--	4.7	3.9	3.1	4.4	+1.3		
3.5-4.0	--	--	--	--	2.2	2.9	2.6	1.5	-1.1		--	--	--	--	4.7	5.2	4.3	4.0	-0.3		
4.5-5.0	--	--	--	--	2.6	2.0	1.4	1.2	-0.2		--	--	--	--	4.2	2.5	2.9	4.3	+1.4		
5.5-6.0 (High)	--	--	--	--	2.4	2.7	2.5	2.3	-0.2		--	--	--	--	5.3	4.0	4.4	5.6	+1.2		
Race (2-year average): ^b																					
White	--	--	--	--	2.7	2.4	1.9	-0.5			--	--	--	--	--	--	--	4.8	4.0	4.4	+0.4
Black	--	--	--	--	0.3	0.4	0.5	+0.1			--	--	--	--	--	--	--	0.8	1.2	1.3	+0.1
Hispanic	--	--	--	--	2.5	1.7	1.9	+0.2			--	--	--	--	--	--	--	3.6	2.3	2.4	+0.1

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '-' indicates data not available. See Table D-58 for the number of subgroup cases. See Appendix B for definition of variables in table.

Data based on one of four forms; N is one-third of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-16
MDMA (Ecstasy): Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months																										
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999	Class of 198-99 change	
Approx. N = 9400	15400	17100	17800	17800	15900	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	14300	15400	15200	13600		
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6	4.0	3.6	5.6	+2.0ss	
Sex:																											
Male	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8	5.6	4.8	5.6	+0.8	
Female	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.2	2.5	2.7	5.6	+2.9ss	
College Plans:																											
None or under 4 yrs.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9	3.8	4.7	4.2	-0.5	
Complete 4 yrs.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0	3.9	3.3	6.2	+2.9ss	
Region:																											
Northeast	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	6.9	3.7	9.4	+5.7ss	
North Central	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.7	1.3	2.7	3.3	+0.6	
South	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6	4.3	4.0	5.7	+1.7	
West	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9	4.1	4.0	5.0	+1.0	
Population Density:																											
Large MSA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6	3.6	3.2	6.1	+2.9s	
Other MSA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	4.6	4.3	6.1	+1.8	
Non-MSA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5	3.4	2.7	4.2	+1.5	
Parental Education: ^a																											
1.0-2.0 (Low)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.5	3.5	4.2	6.8	+2.6	
2.5-3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0	3.1	3.2	5.1	+1.9	
3.5-4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.9	3.8	3.2	5.7	+2.5s	
4.5-5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0	2.9	4.3	6.2	+1.9	
5.5-6.0 (High)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	8.7	3.5	4.7	+1.2	
Race (2-year average): ^b																											
White	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	4.7	5.1	5.1	+0.4	
Black	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	0.4	0.5	0.5	+0.1	
Hispanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	2.7	6.0	6.0	+3.3	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '-' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table.

Data based on one of six forms; N is one-sixth of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

CAUTION: Limited sample sizes (see "Notes" above). Use caution in interpreting subgroup trends.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-17
Cocaine: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months										'98-'99 change										
	8th Grade					10th Grade															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999	1998	1999	1999	change							
Approx. N =	17500	18600	18300	17300	17500	17800	18600	18100	16700	14800	14800	15300	15800	15000	13600						
Total	1.1	1.5	1.7	2.1	2.6	3.0	2.8	3.1	2.7	-0.4	2.2	1.9	2.1	2.8	3.5	4.2	4.7	4.7	4.9	+0.2	
Sex:																					
Male	1.4	1.5	1.9	2.1	2.5	2.7	3.1	2.9	2.8	-0.1	2.2	2.0	2.5	3.1	3.5	4.5	4.7	4.9	5.2	+0.3	
Female	0.9	1.5	1.5	2.1	2.6	3.1	2.5	3.1	2.7	-0.4	2.2	1.7	1.6	2.5	3.3	4.0	4.6	4.4	4.6	+0.2	
College Plans:																					
None or under 4 yrs.	3.2	4.8	5.4	6.6	7.0	7.9	7.5	9.4	8.1	-1.3	4.7	4.0	5.1	6.6	7.2	10.0	10.4	10.7	11.6	+0.9	
Complete 4 yrs.	0.8	1.0	1.1	1.5	2.0	2.2	2.2	2.3	2.0	-0.3	1.7	1.4	1.4	2.0	2.8	3.2	3.7	3.6	3.8	+0.2	
Region:																					
Northeast	1.3	0.8	1.0	2.2	2.2	2.6	2.4	1.9	2.2	+0.3	1.5	1.0	2.0	2.4	2.5	3.0	3.0	4.9	4.6	-0.3	
North Central	0.9	1.4	1.0	1.2	2.6	2.9	2.6	2.8	2.6	-0.1	1.7	1.7	1.4	2.2	2.9	4.1	4.0	3.7	4.4	+0.7	
South	1.1	1.7	2.1	2.5	2.4	2.7	2.6	3.8	3.1	-0.7	2.0	1.8	1.9	2.6	3.5	4.2	5.4	4.3	5.2	+0.9	
West	1.5	2.0	2.7	2.3	3.3	3.7	3.7	3.3	2.7	-0.6	3.6	3.2	3.7	4.7	5.3	5.9	6.4	6.4	5.3	-1.1	
Population Density:																					
Large MSA	1.1	1.4	1.3	1.9	2.4	2.8	2.4	2.3	2.1	-0.2	1.9	1.6	1.6	2.3	3.4	3.8	4.5	4.3	4.1	-0.2	
Other MSA	1.1	1.7	2.2	2.5	2.8	3.2	2.9	3.3	2.8	-0.5	2.7	2.1	2.3	3.1	3.5	4.7	4.3	4.7	5.1	+0.4	
Non-MSA	1.2	1.3	1.2	1.4	2.4	2.7	3.0	3.4	3.2	-0.2	1.6	1.7	2.1	2.7	3.6	3.7	5.7	5.2	5.4	+0.2	
Parental Education: ^a																					
1.0-2.0 (Low)	2.4	3.2	2.9	3.5	4.9	3.9	4.7	6.3	5.6	-0.7	3.3	3.5	3.2	3.8	5.3	7.4	6.3	8.1	8.2	+0.1	
2.5-3.0	1.4	1.6	2.0	2.3	2.4	3.3	3.0	3.3	3.1	-0.2	2.4	1.7	2.2	2.9	4.3	4.5	5.0	5.5	5.9	+0.4	
3.5-4.0	0.7	1.2	1.8	2.1	2.8	3.3	2.8	3.1	2.8	-0.3	2.4	2.1	2.5	3.2	3.7	4.3	5.4	4.4	4.7	+0.3	
4.5-5.0	0.7	1.0	1.0	1.6	1.9	2.7	2.6	2.2	1.7	-0.5	1.6	1.4	1.6	2.1	2.6	3.4	3.7	3.5	3.9	+0.4	
5.5-6.0 (High)	1.2	1.5	1.1	1.9	2.5	2.5	2.3	2.5	2.5	0.0	1.9	1.5	1.1	1.9	1.9	3.4	3.3	3.2	3.9	+0.7	
Race (2-year average): ^b																					
White	—	1.2	1.3	1.6	2.3	2.8	3.0	2.8	2.6	-0.2	—	2.1	2.0	2.2	3.0	3.8	4.4	4.7	4.9	+0.2	
Black	—	0.7	0.7	0.7	0.6	0.6	0.5	0.7	0.8	+0.1	—	0.6	0.6	1.0	0.9	0.7	0.8	1.0	0.9	-0.1	
Hispanic	—	3.1	4.0	4.5	4.7	4.8	4.3	5.2	5.9	+0.7	—	3.7	3.7	4.9	5.5	7.0	8.5	8.3	8.2	-0.1	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. See Table D-58 for the number of subgroup cases.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.
^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-18
Cocaine: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

Class of of 1975	Percent who used in last twelve months																										
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change		
Approx. N = 9400	15400	17100	17800	15600	15900	17500	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	14300	15400	14300	15400	15200	13600			
Total	5.6	6.0	7.2	9.0	12.0	12.3	12.4	11.5	11.4	11.6	13.1	12.7	10.3	7.9	6.5	5.3	3.5	3.1	3.3	3.6	4.0	4.9	5.5	5.7	6.2	+0.5	
Sex:																											
Male	7.5	7.5	9.3	11.4	14.6	14.8	13.8	13.1	13.2	13.8	14.8	14.3	11.3	9.1	8.1	6.6	4.1	3.7	4.0	4.5	4.8	6.0	6.6	6.8	7.3	+0.5	
Female	3.9	4.4	4.9	6.5	9.3	9.8	10.4	9.6	9.3	9.1	11.2	10.9	9.2	6.5	4.9	3.8	2.6	2.4	2.3	2.8	3.1	3.5	4.2	4.5	5.0	+0.5	
College Plans:																											
None or under 4 yrs.	—	6.6	8.1	9.5	13.7	13.2	12.4	12.5	12.2	13.2	14.7	15.7	12.4	9.7	9.3	7.8	4.9	5.1	4.5	5.3	5.6	7.5	8.1	9.7	9.1	-0.6	
Complete 4 yrs.	—	5.0	5.5	7.7	9.5	10.8	11.5	9.9	9.9	9.7	11.4	10.4	9.0	6.7	5.3	4.1	2.8	2.4	2.8	3.0	3.4	4.0	4.4	4.5	5.4	+0.9	
Region:																											
Northeast	5.3	6.6	7.9	11.8	13.8	14.2	16.8	16.9	15.2	19.5	20.8	17.9	13.3	9.1	7.3	6.5	3.8	2.8	3.1	3.8	5.5	6.6	6.6	5.9	4.3	-1.6	
North Central	5.1	5.5	6.3	8.5	10.5	10.9	9.4	9.0	8.0	5.8	8.2	10.1	7.5	6.1	5.3	4.1	3.2	2.5	2.4	3.7	3.4	3.8	4.7	5.8	6.2	+0.4	
South	5.4	5.1	6.0	6.8	8.5	7.8	6.8	6.3	7.7	7.7	7.5	7.1	7.0	6.2	6.0	4.8	3.0	3.2	3.1	3.4	3.6	4.6	4.8	5.8	6.9	+1.1	
West	7.8	7.9	10.2	10.7	18.6	20.6	22.1	17.9	19.2	19.3	19.7	20.0	16.4	12.1	8.5	6.6	4.4	4.3	4.9	4.5	5.8	6.1	6.8	5.4	6.9	+1.5	
Population																											
Density:																											
Large MSA	7.3	8.6	8.6	12.3	16.6	18.7	17.5	17.2	16.9	16.8	18.8	18.8	12.9	9.3	6.4	5.6	4.1	3.6	2.7	3.3	4.4	4.8	4.7	5.4	5.0	-0.4	
Other MSA	5.9	5.8	7.3	8.9	11.7	11.3	11.5	10.1	11.2	11.0	12.4	12.0	10.1	8.5	7.1	5.4	3.7	3.3	3.9	4.1	3.9	4.9	5.6	5.8	6.6	+0.8	
Non-MSA	4.3	4.3	5.8	6.4	8.9	8.9	9.4	8.5	7.3	8.3	9.2	9.0	8.1	5.3	5.4	4.8	2.5	2.4	2.7	3.2	3.9	4.9	6.0	6.0	6.9	+0.9	
Parental Education: ^a																											
1.0-2.0 (Low)	4.5	5.3	5.5	6.3	8.4	9.0	8.3	7.6	9.0	9.4	12.0	10.5	8.7	7.6	6.7	4.7	3.5	3.9	3.5	4.1	4.8	5.3	6.5	6.9	9.0	+2.1	
2.5-3.0	4.6	6.1	6.8	8.7	11.1	11.2	10.5	11.0	9.8	10.9	12.7	12.9	9.9	7.4	6.4	5.6	3.8	3.3	3.0	4.0	3.9	5.0	5.5	6.3	6.0	-0.3	
3.5-4.0	4.5	5.9	7.2	9.0	13.2	13.3	13.3	12.5	11.7	12.2	14.0	13.6	11.2	7.2	6.4	5.6	3.7	3.0	3.8	3.8	4.2	5.0	5.6	6.0	6.8	+0.8	
4.5-5.0	6.3	7.6	8.1	10.4	14.0	13.6	14.9	13.6	13.1	12.2	13.7	12.2	10.0	8.7	7.1	4.4	3.1	2.9	3.0	3.1	3.7	4.8	5.2	5.0	5.4	+0.4	
5.5-6.0 (High)	5.2	7.1	9.5	11.6	15.2	16.3	16.2	13.8	15.1	13.4	11.9	12.5	10.8	8.1	5.8	5.5	2.4	2.6	2.4	3.3	3.4	4.3	4.4	4.4	5.2	+0.8	
Race (2-year average): ^b																											
White	—	—	—	6.5	8.3	10.9	12.8	13.0	12.6	11.8	11.9	13.0	13.5	12.0	9.6	6.3	4.6	3.3	3.1	3.5	4.0	4.5	5.5	6.3	6.7	+0.4	
Black	—	—	—	4.8	4.6	4.6	5.2	4.8	5.2	7.2	6.3	5.3	5.8	4.8	3.8	2.9	1.7	1.5	1.2	0.8	0.9	1.0	0.8	0.9	0.9	0.0	
Hispanic	—	—	—	7.2	7.5	8.9	11.2	12.4	12.1	11.4	13.3	16.3	16.7	14.0	9.9	7.8	7.4	6.1	5.2	5.8	5.4	5.5	7.3	7.6	6.7	7.5	+0.8

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. — indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-19
Crack: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months										'98-'99 change		
	8th Grade					10th Grade							
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999	1998	1999	change
Total	0.7	0.9	1.0	1.3	1.6	1.8	1.7	2.1	1.8	-0.4s	14800	14800	15000
Sex:													
Male	0.8	0.9	1.1	1.3	1.5	1.7	1.8	2.1	1.8	-0.3	0.9	0.9	1.3
Female	0.5	0.9	0.9	1.2	1.6	1.9	1.5	2.1	1.8	-0.3	0.8	0.9	0.7
College Plans:													
None or under 4 yrs.	2.0	2.9	3.4	4.6	4.2	4.9	4.7	7.5	5.3	-2.1s	2.4	2.1	2.7
Complete 4 yrs.	0.4	0.6	0.6	0.8	1.3	1.3	1.3	1.5	1.4	-0.1	0.6	0.6	0.7
Region:													
Northeast	0.5	0.4	0.4	1.4	1.4	1.7	1.6	1.2	1.5	+0.3	0.5	0.4	1.1
North Central	0.6	1.0	0.8	0.9	1.4	1.9	1.6	1.9	1.9	0.0	0.9	0.9	0.8
South	0.7	1.0	1.2	1.6	1.4	1.7	1.4	2.5	1.9	-0.6s	1.0	0.8	0.9
West	0.8	1.3	1.4	1.3	2.3	2.1	2.3	2.6	1.8	-0.8s	1.1	1.4	1.7
Population Density:													
Large MSA	0.5	0.8	0.7	1.3	1.5	1.8	1.5	1.6	1.2	-0.4	0.9	0.8	0.7
Other MSA	0.7	1.1	1.2	1.5	1.7	2.0	1.8	2.2	2.0	-0.2	0.9	0.9	1.1
Non-MSA	0.8	0.8	0.9	1.0	1.4	1.7	1.7	2.6	2.1	-0.5	0.9	0.9	1.2
Parental Education: ^a													
1.0-2.0 (Low)	1.7	2.2	1.8	2.8	3.0	2.7	3.0	5.0	3.6	-1.4	1.3	1.7	1.8
2.5-3.0	0.7	0.8	1.0	1.4	1.2	2.1	2.0	2.2	2.0	-0.2	1.0	0.8	1.0
3.5-4.0	0.4	0.7	1.2	0.9	1.7	2.0	1.4	2.1	2.0	-0.1	0.9	1.0	1.4
4.5-5.0	0.4	0.6	0.5	1.1	1.3	1.5	1.5	1.6	1.0	-0.6s	0.7	0.6	0.7
5.5-6.0 (High)	0.8	1.0	0.6	1.4	1.6	1.5	1.5	1.6	1.9	+0.3	0.7	0.9	0.5
Race (2-year average): ^b													
White	—	0.7	0.8	1.0	1.4	1.7	1.7	1.7	1.8	+0.1	—	0.9	0.9
Black	—	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.5	0.0	—	0.3	0.4
Hispanic	—	1.9	2.0	2.1	2.7	3.0	2.8	3.6	3.9	+0.3	—	1.5	1.7

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. — indicates data not available.
^aSee Table D-58 for the number of subgroup cases.
^bSee Appendix B for definition of variables in table.
 SOURCE: The Monitoring the Future Study, the University of Michigan.

*Parental education is an average score of mother's education and father's education. See Appendix B for details.
^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-20
Crack: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

Percent who used in last twelve months

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	of '98-'99 change	
Approx. N = 9400	15400	17100	17800	17800	15500	15900	17500	17700	16300	16900	16000	15200	16300	16300	16700	16200	15000	16800	16300	15400	16400	14300	15400	16200	13600		
Total	—	—	—	—	—	—	—	—	—	—	—	4.1	3.9	3.1	3.1	1.9	1.5	1.5	1.5	1.9	2.1	2.1	2.4	2.5	2.7	+0.2	
Sex:																											
Male	—	—	—	—	—	—	—	—	—	—	—	4.2	4.6	4.0	4.3	2.3	1.8	1.7	1.9	2.4	2.5	2.6	3.0	3.1	2.9	-0.2	
Female	—	—	—	—	—	—	—	—	—	—	—	3.6	3.0	2.0	1.8	1.4	1.0	1.1	1.3	1.5	1.5	1.6	1.8	2.0	2.2	+0.2	
College Plans:																											
None or under 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Complete 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	5.2	5.1	4.1	3.8	3.5	2.3	2.6	2.7	3.3	3.0	4.0	4.3	4.6	5.0	+0.4	
Region:																											
Northwest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
North Central	—	—	—	—	—	—	—	—	—	—	—	6.0	4.0	2.3	3.3	2.0	1.3	1.3	1.2	1.5	1.6	2.1	2.6	3.0	2.4	-0.6	
South	—	—	—	—	—	—	—	—	—	—	—	3.1	3.5	2.4	2.2	1.6	1.5	1.4	1.3	2.2	2.0	2.3	2.2	2.6	2.8	+0.2	
West	—	—	—	—	—	—	—	—	—	—	—	1.6	2.8	2.6	3.3	1.8	1.2	1.5	1.6	1.7	1.7	1.8	2.0	2.3	+0.3		
Population Density:																											
Large MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Non-MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parental Education:																											
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2.5-3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3.5-4.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4.5-5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Race (2-year average): ^b																											
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. — indicates data not available. See Table D-69 for the number of subgroup cases. See Appendix B for definition of variables in table.

Data based on one of five forms in 1986; N is one-fifth of N indicated. Data based on two forms in 1987-89; N is two-fifths of N indicated in 1987-88 and two-sixths of N indicated in 1989. Data based on six questionnaire forms in 1990-99.

SOURCE: The Monitoring the Future Study, the University of Michigan. *Parental education is an average score of mother's education and father's education. See Appendix B for details. ^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-21
Other Cocaine: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months										'98-'99 change	1999 15000	1998 15000	1997 15500	1996 15600	1995 17000	1994 15900	1993 15300	1992 14800	1991 14800	1999 16700	'98-'99 change
	8th Grade					10th Grade																
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999 change	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999 change		
Approx. N =	17500	18600	18300	17300	17500	17800	18600	18100	16700		14800	14800	15300	15900	17000	15600	15500	15000	13600			
Total	1.0	1.2	1.3	1.7	2.1	2.5	2.2	2.4	2.3	-0.1	2.1	1.7	1.8	2.4	3.0	3.5	4.1	4.0	4.4	+0.4		
Sex:																						
Male	1.1	1.2	1.5	1.7	2.0	2.2	2.5	2.3	2.3	0.0	2.0	1.9	2.2	2.7	3.1	3.7	4.1	4.1	4.6	+0.5		
Female	0.8	1.2	1.2	1.8	2.2	2.6	1.9	2.4	2.2	-0.2	2.1	1.5	1.4	2.1	2.9	3.3	4.0	3.8	4.1	+0.3		
College Plans:																						
None or under 4 yrs.	2.7	4.2	4.1	5.6	5.9	6.6	6.0	7.7	7.1	-0.6	4.4	3.3	4.5	5.9	6.3	8.4	9.0	9.3	10.5	+1.2		
Complete 4 yrs.	0.6	0.7	0.9	1.2	1.6	1.8	1.7	1.8	1.7	-0.1	1.6	1.3	1.3	1.7	2.5	2.7	3.2	3.0	3.4	+0.4		
Region:																						
Northeast	1.2	0.7	0.9	1.9	1.8	2.1	1.6	1.4	1.7	+0.3	1.3	1.0	1.8	2.0	2.2	2.2	2.5	4.3	4.1	-0.2		
North Central	0.6	1.0	0.7	0.9	2.0	2.4	2.0	1.9	2.2	+0.3	1.6	1.3	1.3	1.8	2.5	3.4	3.4	3.1	3.9	+0.8		
South	1.0	1.5	1.6	2.0	2.0	2.3	2.1	3.1	2.6	-0.5	1.9	1.6	1.7	2.2	2.9	3.5	4.8	3.7	4.7	+1.0		
West	1.3	1.5	2.1	2.0	2.7	3.1	2.9	2.5	2.2	-0.3	3.4	3.1	3.2	4.3	4.8	5.2	5.3	5.2	4.6	-0.6		
Population Density:																						
Large MSA	0.9	1.1	1.0	1.6	2.0	2.5	1.7	1.8	1.8	0.0	1.6	1.5	1.4	1.9	2.8	3.3	3.9	3.8	3.7	-0.1		
Other MSA	0.9	1.4	1.8	2.1	2.1	2.6	2.2	2.5	2.3	-0.2	2.6	2.0	2.0	2.7	3.1	3.9	3.8	4.0	4.5	+0.5		
Non-MSA	1.1	0.9	0.7	1.2	2.2	2.2	2.5	2.8	2.8	0.0	1.4	1.4	1.9	2.5	3.1	3.2	4.9	4.2	4.8	+0.6		
Parental Education: ^a																						
1.0-2.0 (Low)	2.1	2.7	2.2	3.1	4.3	3.2	3.5	4.7	5.1	+0.4	3.1	2.7	2.7	3.1	5.0	6.1	5.5	6.7	7.6	+0.9		
2.5-3.0	1.2	1.1	1.5	2.0	2.0	2.6	2.4	2.5	2.8	+0.3	2.2	1.6	2.0	2.6	3.6	3.6	4.3	4.5	5.1	+0.6		
3.5-4.0	0.6	1.0	1.5	1.9	2.2	2.8	2.1	2.4	2.3	-0.1	2.2	2.0	2.2	2.7	3.3	3.8	4.6	4.0	4.2	+0.2		
4.5-5.0	0.6	0.8	0.8	1.1	1.6	2.4	1.9	1.8	1.3	-0.5	1.6	1.3	1.4	1.8	2.2	3.0	3.3	3.0	3.5	+0.5		
5.5-6.0 (High)	1.0	1.2	0.8	1.2	2.0	1.9	1.7	1.8	1.8	0.0	1.8	1.3	0.9	1.6	1.7	2.8	2.9	2.5	3.5	+1.0		
Race (2-year average): ^b																						
White	—	0.9	1.0	1.2	1.8	2.4	2.5	2.2	2.1	-0.1	—	1.9	1.8	1.9	2.6	3.2	3.7	4.1	4.3	+0.2		
Black	—	0.6	0.5	0.6	0.5	0.4	0.3	0.5	0.7	+0.2	—	0.5	0.5	0.9	0.8	0.6	0.6	0.9	0.8	-0.1		
Hispanic	—	2.6	3.3	4.0	4.3	4.1	3.3	4.0	4.9	+0.9	—	3.4	3.4	4.6	5.2	6.1	7.5	7.0	6.8	-0.2		

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. — indicates data not available. See Table D-58 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.
^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-22
Other Cocaine: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months																										
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
Approx. N =	9400	15400	17100	17800	15500	15900	17500	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	14300	15400	15200	15200	13600		
Total	—	—	—	—	—	—	—	—	—	—	9.8	7.4	5.2	4.6	3.2	2.6	2.9	3.0	3.4	4.2	5.0	4.9	5.8	5.8	+0.9		
Sex:																											
Male	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Female	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
College Plans:																											
None or under 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Complete 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Region:																											
Northeast	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
North Central	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
South	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
West	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Population Density:																											
Large MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Non-MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parental Education: ^a																											
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2.5-3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3.5-4.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4.5-5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Race (2-year average): ^b																											
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. — indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table. Data based on one form in 1987-89; N is one-fifth of N indicated in 1987-88 and one-sixth of N indicated in 1989. Data based on four of six forms in 1990-99, N is four-sixths of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-23
Heroin: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months												'98-'99 1999* change							
	8th Grade						10th Grade													
	1991	1992	1993	1994	1995*	1996*	1997*	1998*	1999*	1999* change	1991	1992	1993	1994	1995*	1996*	1997*	1998*	1999*	1999* change
Total	0.7	0.7	0.7	1.2	1.4	1.6	1.3	1.3	1.4	+0.1	0.5	0.6	0.7	0.9	1.1	1.2	1.4	1.4	1.4	0.0
Sex:	Approx. N = 17500 18600 18300 17300 17500 17800 18600 18100 16700																			
Male	0.9	0.8	0.8	1.3	1.6	1.5	1.4	1.5	1.4	-0.1	0.7	0.8	0.9	1.0	1.3	1.5	1.6	1.7	1.7	0.0
Female	0.5	0.7	0.5	0.9	1.2	1.5	1.1	1.1	1.3	+0.2	0.4	0.4	0.4	0.8	0.8	0.9	1.3	1.1	1.2	+0.1
College Plans:																				
None or under 4 yrs.	2.1	2.7	2.0	3.9	4.4	4.1	3.4	5.0	3.7	-1.3	1.4	1.4	1.9	2.0	2.2	2.4	2.9	2.7	3.4	+0.7
Complete 4 yrs.	0.4	0.4	0.5	0.7	1.0	1.1	1.1	0.9	1.1	+0.2	0.3	0.4	0.4	0.7	0.9	1.0	1.2	1.2	1.1	-0.1
Region:																				
Northeast	0.5	0.6	0.7	1.3	1.4	1.8	1.1	1.1	1.3	+0.2	0.4	0.6	0.6	0.6	0.9	0.9	1.3	1.8	1.9	+0.1
North Central	0.4	0.8	0.5	1.1	1.4	1.6	1.4	1.3	1.6	+0.3	0.6	0.6	0.8	0.9	1.0	1.5	1.5	1.4	1.3	-0.1
South	0.8	0.7	0.7	1.1	1.5	1.4	1.2	1.4	1.4	0.0	0.6	0.5	0.6	1.0	1.3	1.4	1.5	1.3	1.4	+0.1
West	1.0	0.7	1.1	1.1	1.2	1.6	1.4	1.3	1.2	-0.1	0.4	0.8	0.5	1.2	1.0	1.0	1.3	1.1	1.1	0.0
Population Density:																				
Large MSA	0.5	0.7	0.7	1.2	1.2	1.4	1.0	1.0	1.3	+0.3	0.6	0.6	0.7	0.8	1.0	1.1	1.6	1.2	1.2	0.0
Other MSA	0.7	0.8	0.9	1.2	1.5	1.7	1.3	1.3	1.4	+0.1	0.5	0.6	0.6	0.9	1.0	1.3	1.3	1.5	1.4	-0.1
Non-MSA	0.8	0.7	0.4	1.0	1.5	1.5	1.5	1.6	1.5	-0.1	0.4	0.6	0.7	1.0	1.3	1.2	1.6	1.5	1.6	+0.1
Parental Education: ^b																				
1.0-2.0 (Low)	1.5	1.4	0.8	2.0	2.6	2.0	2.3	3.5	2.8	-0.7	0.4	0.5	1.2	1.3	1.8	1.0	1.3	1.7	2.4	+0.7
2.5-3.0	0.9	0.7	0.6	1.1	1.0	1.7	1.4	1.2	1.4	+0.2	0.8	0.7	0.7	0.8	1.0	1.2	1.3	1.2	1.5	+0.3
3.5-4.0	0.6	0.6	0.7	1.3	1.6	1.7	1.0	1.1	1.2	+0.1	0.5	0.6	0.8	0.9	1.2	1.3	1.6	1.6	1.2	-0.4
4.5-5.0	0.4	0.5	0.8	0.8	1.2	1.4	1.1	1.1	1.1	0.0	0.4	0.5	0.3	0.9	0.9	1.1	1.5	1.3	1.4	+0.1
5.5-6.0 (High)	0.5	0.8	0.6	1.3	1.6	1.0	1.5	1.4	1.8	+0.4	0.4	0.5	0.8	0.9	0.9	1.5	1.1	1.3	1.2	-0.1
Race (2-year average): ^c																				
White	—	0.6	0.6	0.8	1.2	1.6	1.6	1.3	1.2	-0.1	—	0.6	0.7	0.8	1.0	1.2	1.4	1.4	1.5	+0.1
Black	—	0.4	0.3	0.6	0.7	0.5	0.4	0.5	0.7	+0.2	—	0.3	0.4	0.6	0.6	0.2	0.2	0.4	0.5	+0.1
Hispanic	—	1.4	1.4	1.5	1.8	2.1	1.7	1.7	2.2	+0.5	—	0.7	0.7	0.7	1.0	1.0	1.3	1.6	1.7	+0.1

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. — indicates data not available.

See Table D-58 for the number of subgroup cases.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aIn 1995, the heroin question was changed in half of the forms. Separate questions were asked for use with injection and without injection. In 1996, the remaining form was also changed. Data presented here represent the combined data from all forms.

^bParental education is an average score of mother's education and father's education. See Appendix B for details.

^cTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-24
Heroin: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

Percent who used in last twelve months

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995 ^a	1996 ^a	1997 ^a	1998 ^a	1999 ^a	change	
Approx. N = 9400	15400	17100	17800	15500	15900	17500	17700	16300	16300	1630	16700	15200	16300	1630	16700	15200	15000	15800	16300	15400	15400	14300	15400	15200	13600		
Total	1.0	0.8	0.8	0.8	0.5	0.5	0.6	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.4	0.6	0.5	0.6	1.1	1.0	1.0	1.2	1.0	1.1	+0.1
Sex:																											
Male	1.2	1.0	1.2	1.1	0.6	0.6	0.6	0.8	0.7	0.7	0.8	0.7	0.7	0.7	0.9	0.6	0.6	0.8	0.7	0.8	1.4	1.3	1.5	1.4	1.4	1.4	0.0
Female	0.8	0.5	0.4	0.6	0.3	0.4	0.3	0.4	0.4	0.3	0.3	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.8	0.7	0.9	0.7	0.8	+0.1
College Plans:																											
None or under 4 yrs.	—	0.9	1.1	1.0	0.7	0.6	0.5	0.7	0.9	0.6	0.7	0.8	0.7	0.8	0.9	0.6	0.5	0.9	1.0	1.1	1.5	1.8	1.8	1.7	1.3	-0.4	
Complete 4 yrs.	—	0.6	0.5	0.6	0.3	0.3	0.5	0.4	0.3	0.4	0.5	0.4	0.4	0.3	0.5	0.4	0.4	0.5	0.4	0.5	0.9	0.8	1.0	0.8	1.0	+0.2	
Region:																											
Northeast	1.1	0.7	0.7	0.6	0.6	0.5	0.5	0.9	0.6	0.6	0.8	0.7	0.6	0.5	0.9	0.8	0.2	0.5	0.9	0.7	1.0	1.6	1.7	1.3	1.2	-0.1	
North Central	1.3	1.0	1.0	0.8	0.5	0.7	0.6	0.5	0.4	0.6	0.6	0.4	0.6	0.3	0.6	0.3	0.8	0.6	0.5	0.9	0.7	0.7	0.9	1.0	0.9	-0.1	
South	0.9	0.7	0.9	1.1	0.6	0.3	0.5	0.5	0.7	0.5	0.6	0.5	0.4	0.5	0.6	0.5	0.4	0.6	0.4	0.6	1.4	1.0	1.1	1.1	1.1	1.3	+0.2
West	0.7	0.6	0.5	0.8	0.2	0.4	0.5	0.3	0.5	0.4	0.3	0.5	0.5	0.7	0.7	0.3	0.3	0.8	0.5	0.4	1.0	0.9	1.2	0.6	0.9	+0.3	
Population																											
Density:																											
Large MSA	1.3	1.0	0.5	0.7	0.4	0.3	0.3	0.7	0.6	0.6	0.7	0.7	0.3	0.4	0.5	0.4	0.4	0.4	0.6	0.4	1.4	1.1	1.1	0.9	0.8	-0.1	
Other MSA	0.9	1.0	0.8	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.7	0.4	0.6	0.5	0.7	0.5	0.4	0.7	0.5	0.8	0.9	1.1	1.3	1.3	1.3	0.0	
Non-MSA	1.0	0.4	1.1	1.0	0.5	0.6	0.7	0.6	0.7	0.7	0.4	0.5	0.5	0.5	0.8	0.5	0.6	0.7	0.5	0.5	1.0	0.9	1.0	0.6	1.0	+0.4	
Parental Education: ^b																											
1.0-2.0 (Low)	1.2	0.8	0.8	0.8	0.6	0.6	0.4	0.4	0.5	0.6	0.8	0.9	0.5	0.5	0.9	0.8	0.5	0.7	0.3	0.9	1.8	1.1	2.1	1.2	2.3	+1.1	
2.5-3.0	0.8	0.9	0.8	0.9	0.5	0.6	0.6	0.7	0.6	0.5	0.5	0.4	0.4	0.7	0.7	0.4	0.4	0.6	0.4	0.8	1.1	0.9	1.0	1.0	0.9	-0.1	
3.5-4.0	0.6	0.8	0.9	0.7	0.4	0.4	0.5	0.3	0.5	0.5	0.5	0.5	0.6	0.4	0.6	0.4	0.4	0.6	0.6	0.4	0.9	1.1	1.2	1.2	1.0	-0.2	
4.5-5.0	1.2	1.4	0.6	0.9	0.6	0.4	0.3	0.6	0.4	0.4	0.7	0.3	0.3	0.3	0.6	0.4	0.6	0.7	0.7	0.3	1.1	1.0	1.1	1.0	1.1	+0.1	
5.5-6.0 (High)	1.2	0.6	1.1	1.0	0.8	0.4	0.7	1.1	0.8	0.5	0.6	0.5	0.7	0.4	0.4	0.5	0.5	0.3	0.4	0.9	1.0	0.8	1.1	0.7	1.1	+0.4	
Race (2-year average): ^c																											
White	—	—	0.8	0.8	0.6	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.6	0.5	0.5	0.5	0.5	0.8	1.0	1.2	1.2	1.1	-0.1	
Black	—	—	0.6	0.6	0.5	0.5	0.6	0.7	0.6	0.4	0.5	0.5	0.5	0.7	0.6	0.3	0.2	0.5	0.4	0.3	0.4	0.5	0.5	0.4	0.3	-0.1	
Hispanic	—	—	1.2	2.0	1.7	0.4	0.3	0.4	0.6	1.1	1.0	0.9	0.9	0.5	0.5	0.6	0.6	0.9	0.7	0.5	1.2	1.5	1.1	0.8	1.0	+0.2	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '—' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aIn 1995, the heroin question was changed in half of the forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.

^bParental education is an average score of mother's education and father's education. See Appendix B for details.

^cTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-25
Heroin with a Needle: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months										'98-'99 change								
	8th Grade					10th Grade													
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999	1999	1999							
	17500	18600	18300	17300	17500	17800	18600	18100	16700	14800	14800	15300	15800	15600	15500	15000	13600		
Total	—	—	—	—	0.9	1.0	0.8	0.8	0.9	+0.1	—	—	—	0.6	0.7	0.8	0.6	-0.2	
Sex:																			
Male	—	—	—	—	1.2	1.0	0.8	1.0	1.0	0.0	—	—	—	0.8	0.8	0.9	1.0	0.8	-0.2
Female	—	—	—	—	0.5	1.0	0.7	0.7	0.8	+0.1	—	—	—	0.4	0.4	0.5	0.5	0.5	0.0
College Plans:																			
None or under 4 yrs.	—	—	—	—	3.2	3.1	2.0	3.1	2.2	-0.9	—	—	—	1.6	1.4	1.5	1.6	1.7	+0.1
Complete 4 yrs.	—	—	—	—	0.6	0.7	0.6	0.6	0.7	+0.1	—	—	—	0.4	0.5	0.6	0.6	0.5	-0.1
Region:																			
Northeast	—	—	—	—	0.8	1.3	0.5	0.6	1.0	+0.4	—	—	—	0.5	0.3	0.6	0.8	0.7	-0.1
North Central	—	—	—	—	0.9	1.1	0.7	0.9	1.2	+0.3	—	—	—	0.6	1.0	0.8	0.9	0.7	-0.2
South	—	—	—	—	0.8	0.9	0.8	1.0	0.9	-0.1	—	—	—	0.6	0.7	0.8	0.8	0.6	-0.2
West	—	—	—	—	1.0	1.0	1.0	0.8	0.7	-0.1	—	—	—	0.5	0.5	0.6	0.6	0.6	0.0
Population Density:																			
Large MSA	—	—	—	—	0.9	0.7	0.6	0.8	0.8	0.0	—	—	—	0.5	0.5	0.6	0.7	0.6	-0.1
Other MSA	—	—	—	—	0.9	1.2	0.8	0.8	0.9	+0.1	—	—	—	0.5	0.7	0.6	0.7	0.5	-0.2
Non-MSA	—	—	—	—	0.9	1.1	0.9	1.1	1.1	0.0	—	—	—	0.8	0.8	1.1	1.0	1.0	0.0
Parental Education: ^a																			
1.0-2.0 (Low)	—	—	—	—	1.3	0.9	1.5	2.3	2.0	-0.3	—	—	—	1.6	0.6	0.7	1.3	1.2	-0.1
2.5-3.0	—	—	—	—	0.5	1.2	0.8	0.8	0.9	+0.1	—	—	—	0.5	0.8	0.6	0.6	0.7	+0.1
3.5-4.0	—	—	—	—	0.8	1.2	0.6	0.6	0.9	+0.3	—	—	—	0.7	0.7	0.9	0.9	0.6	-0.3
4.5-5.0	—	—	—	—	1.0	0.8	0.7	0.7	0.5	-0.2	—	—	—	0.4	0.5	0.7	0.6	0.6	0.0
5.5-6.0 (High)	—	—	—	—	1.0	0.6	0.9	0.9	1.2	+0.3	—	—	—	0.3	0.6	0.7	0.8	0.6	-0.2
Race (2-year average): ^b																			
White	—	—	—	—	—	1.1	1.0	0.7	0.8	+0.1	—	—	—	—	0.6	0.7	0.7	0.6	-0.1
Black	—	—	—	—	—	0.3	0.2	0.3	0.4	+0.1	—	—	—	—	0.1	0.1	0.3	0.3	0.0
Hispanic	—	—	—	—	—	1.1	1.0	1.1	1.5	+0.4	—	—	—	—	0.6	0.6	0.8	1.0	+0.2

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. — indicates data not available.

See Table D-58 for the number of subgroups between the two most recent classes.

See Appendix B for definition of variables in table.

Data based on one of two forms in 1995; N is one-half of N indicated.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-26
Heroin with a Needle: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

Percent who used in last twelve months

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999 change	
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	1630	16700	15200	15000	15800	16300	15400	15400	14300	15400	15200	13600		
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	0.5	0.5	0.4	0.4	0.0	
Sex:																											
Male	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.7	0.9	0.9	0.6	0.6	0.0	
Female	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.3	0.1	0.2	0.3	0.2	-0.1	
College Plans:																											
None or under 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.9	1.2	0.9	0.8	0.5	-0.3	
Complete 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4	0.4	0.4	0.3	0.4	+0.1	
Region:																											
Northeast	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4	0.6	0.6	0.7	0.3	-0.4	
North Central	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	0.4	0.8	0.4	0.5	+0.1	
South	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4	0.6	0.3	0.5	0.4	-0.1	
West	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	0.5	0.5	0.1	0.3	+0.2	
Population Density:																											
Large MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	0.7	0.3	0.3	0.4	+0.1	
Other MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4	0.5	0.6	0.5	0.3	-0.2	
Non-MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	0.3	0.7	0.5	0.6	+0.1	
Parental Education: ^a																											
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.7	0.9	1.8	0.8	1.5	+0.7	
2.5-3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	0.5	0.4	0.5	0.1	-0.4	
3.5-4.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.3	0.3	0.4	0.5	+0.1	
4.5-5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	0.7	0.6	0.4	0.3	-0.1	
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	0.5	0.5	0.2	0.4	+0.2	
Race (2-year average): ^b																											
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-0.1	
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-0.2	
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+0.1	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '—' indicates data not available.

See Table D-59 for the number of subgroup cases.

See Appendix B for definition of variables in table.

Data based on three of six forms; N is one-half of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-27
Heroin without a Needle: Trends in Annual Prevalence of Use
by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months																				
	8th Grade								10th Grade												
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999 change	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999 change	
Approx. N =	17500	18600	18300	17300	17500	17800	18600	18100	16700		14800	14800	15300	15800	17000	15600	15500	15000	13600		
Total	—	—	—	—	0.8	1.0	0.8	0.8	0.9	+0.1	—	—	—	—	0.8	0.9	1.1	1.0	1.1	+0.1	
Sex:																					
Male	—	—	—	—	1.0	0.9	0.9	0.9	0.8	-0.1	—	—	—	—	0.9	1.1	1.2	1.2	1.3	+0.1	
Female	—	—	—	—	0.6	0.9	0.7	0.8	0.8	0.0	—	—	—	—	0.7	0.7	1.0	0.8	1.0	+0.2	
College Plans:																					
None or under 4 yrs.	—	—	—	—	3.2	2.1	2.2	3.4	2.7	-0.7	—	—	—	—	1.7	1.8	2.1	1.8	2.5	+0.7	
Complete 4 yrs.	—	—	—	—	0.5	0.7	0.7	0.6	0.6	0.0	—	—	—	—	0.6	0.7	1.0	0.9	0.8	-0.1	
Region:																					
Northeast	—	—	—	—	0.9	1.1	0.8	0.7	0.7	0.0	—	—	—	—	0.5	0.7	1.0	1.4	1.6	+0.2	
North Central	—	—	—	—	1.0	1.0	0.9	0.9	1.0	+0.1	—	—	—	—	0.5	0.8	1.2	0.7	1.0	+0.3	
South	—	—	—	—	0.8	0.8	0.7	0.9	0.9	0.0	—	—	—	—	1.1	1.1	1.2	1.0	1.0	0.0	
West	—	—	—	—	0.7	1.1	1.1	0.9	0.9	0.0	—	—	—	—	0.9	0.9	1.0	0.8	0.8	0.0	
Population Density:																					
Large MSA	—	—	—	—	0.9	1.0	0.6	0.5	0.8	+0.3	—	—	—	—	0.9	0.9	1.3	0.8	0.9	+0.1	
Other MSA	—	—	—	—	0.8	1.0	0.9	1.0	0.8	-0.2	—	—	—	—	0.7	1.0	1.0	1.1	1.2	+0.1	
Non-MSA	—	—	—	—	0.9	0.9	1.0	1.0	1.1	+0.1	—	—	—	—	0.9	0.7	1.1	1.0	1.2	+0.2	
Parental Education: ^a																					
1.0-2.0 (Low)	—	—	—	—	1.9	1.5	1.3	2.4	1.7	-0.7	—	—	—	—	1.7	0.8	0.9	1.2	1.8	+0.6	
2.5-3.0	—	—	—	—	0.7	0.9	1.1	0.7	1.0	+0.3	—	—	—	—	0.6	0.7	1.0	1.0	1.1	+0.1	
3.5-4.0	—	—	—	—	0.5	1.2	0.5	0.8	0.6	-0.2	—	—	—	—	0.9	1.0	1.3	1.2	0.9	-0.3	
4.5-5.0	—	—	—	—	0.8	0.8	0.8	0.6	0.8	+0.2	—	—	—	—	0.5	0.8	1.1	1.0	1.0	0.0	
5.5-6.0 (High)	—	—	—	—	0.7	0.8	1.0	1.1	1.1	0.0	—	—	—	—	0.9	1.1	1.0	0.7	1.1	+0.4	
Race (2-year average): ^b																					
White	—	—	—	—	—	1.0	1.0	0.8	0.8	0.0	—	—	—	—	—	0.9	1.0	1.1	1.1	0.0	
Black	—	—	—	—	—	0.2	0.2	0.4	0.5	+0.1	—	—	—	—	—	0.1	0.1	0.2	0.3	+0.1	
Hispanic	—	—	—	—	—	1.5	1.2	1.1	1.4	+0.3	—	—	—	—	—	0.8	1.1	1.4	1.3	-0.1	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. See Table D-58 for the number of subgroup cases.

See Appendix B for definition of variables in table.

Data based on one of two forms in 1995; N is one-half of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-28
Heroin without a Needle: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

Percent who used in last twelve months

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Class of '98-'99 change		
	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	15400	
Total	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	+0.2	
Sex:																												
Male	1.4	1.3	1.4	1.0	1.3	1.4	1.0	1.3	1.4	1.0	1.3	1.4	1.0	1.3	1.4	1.0	1.3	1.4	1.0	1.3	1.4	1.0	1.3	1.4	1.0	1.3	1.4	+0.3
Female	0.7	0.7	0.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	+0.1
College Plans:																												
None or under 4 yrs.	1.4	1.7	1.6	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	+0.2
Complete 4 yrs.	0.9	0.8	1.0	0.6	1.0	0.6	1.0	0.6	1.0	0.6	1.0	0.6	1.0	0.6	1.0	0.6	1.0	0.6	1.0	0.6	1.0	0.6	1.0	0.6	1.0	0.6	1.0	+0.4
Region:																												
Northeast	0.9	1.9	1.9	1.1	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	+0.2
North Central	0.7	0.5	1.0	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	+0.1
South	1.4	0.9	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	+0.1
West	0.8	0.7	0.6	0.3	1.0	0.3	1.0	0.3	1.0	0.3	1.0	0.3	1.0	0.3	1.0	0.3	1.0	0.3	1.0	0.3	1.0	0.3	1.0	0.3	1.0	0.3	1.0	+0.7s
Population Density:																												
Large MSA	1.3	1.1	1.2	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0
Other MSA	0.8	1.2	1.1	0.9	1.2	1.1	0.9	1.2	1.1	0.9	1.2	1.1	0.9	1.2	1.1	0.9	1.2	1.1	0.9	1.2	1.1	0.9	1.2	1.1	0.9	1.2	1.1	+0.3
Non-MSA	1.0	0.4	1.2	0.4	0.8	0.4	1.2	0.4	0.8	0.4	1.2	0.4	0.8	0.4	1.2	0.4	0.8	0.4	1.2	0.4	0.8	0.4	1.2	0.4	0.8	0.4	0.8	+0.4
Parental Education:^a																												
1.0-2.0 (Low)	1.0	0.8	1.7	0.5	2.0	1.5s	2.0	1.5s	2.0	1.5s	2.0	1.5s	2.0	1.5s	2.0	1.5s	2.0	1.5s	2.0	1.5s	2.0	1.5s	2.0	1.5s	2.0	1.5s	2.0	+1.5s
2.5-3.0	1.1	0.6	0.8	1.1	1.1	0.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0
3.5-4.0	0.9	1.1	1.3	0.9	0.8	-0.1	0.9	0.8	-0.1	0.9	0.8	-0.1	0.9	0.8	-0.1	0.9	0.8	-0.1	0.9	0.8	-0.1	0.9	0.8	-0.1	0.9	0.8	-0.1	-0.1
4.5-5.0	1.2	1.2	1.2	0.8	1.1	+0.3	1.2	1.2	0.8	1.1	+0.3	1.2	1.2	0.8	1.1	+0.3	1.2	1.2	0.8	1.1	+0.3	1.2	1.2	0.8	1.1	+0.3	1.1	+0.3
5.5-6.0 (High)	0.6	1.0	1.0	0.5	1.0	+0.5	0.6	1.0	0.5	1.0	+0.5	0.6	1.0	0.5	1.0	+0.5	0.6	1.0	0.5	1.0	+0.5	0.6	1.0	0.5	1.0	+0.5	1.0	+0.5
Race (2-year average):^b																												
White	1.1	1.3	1.2	1.1	1.1	-0.1	1.1	1.3	1.2	1.1	-0.1	1.1	1.3	1.2	1.1	-0.1	1.1	1.3	1.2	1.1	-0.1	1.1	1.3	1.2	1.1	-0.1	1.1	-0.1
Black	0.2	0.3	0.3	0.1	-0.2	-0.2	0.2	0.3	0.3	0.1	-0.2	0.2	0.3	0.3	0.1	-0.2	0.2	0.3	0.3	0.1	-0.2	0.2	0.3	0.3	0.1	-0.2	0.2	-0.2
Hispanic	0.9	0.6	0.4	0.6	0.6	0.2	0.9	0.6	0.4	0.6	0.2	0.9	0.6	0.4	0.6	0.2	0.9	0.6	0.4	0.6	0.2	0.9	0.6	0.4	0.6	0.2	0.6	+0.2

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '-' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table. Data based on three of six forms; N is one-half of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-29
Other Narcotics: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months ^a																										
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	1998-99 change	
Approx. N = 9400	15400	17100	17800	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	14300	15400	15400	14300	15400	15200	13600	
Total	5.7	5.7	6.4	6.0	6.2	6.3	5.9	5.3	5.1	5.2	5.9	5.2	5.3	4.6	4.4	4.5	3.5	3.3	3.6	3.8	4.7	5.4	6.2	6.3	6.7	+0.4	
Sex:																											
Male	6.6	6.8	7.3	6.9	7.3	7.1	6.5	6.0	6.0	6.2	6.8	5.9	5.6	5.1	4.9	5.0	3.9	3.3	3.6	4.3	5.6	6.4	7.1	7.4	8.2	+0.8	
Female	4.8	4.7	5.4	5.1	5.1	5.4	5.3	4.6	4.2	4.2	5.1	4.6	4.9	4.1	3.8	3.9	3.1	3.3	3.3	3.4	3.8	4.4	5.4	5.1	5.2	+0.1	
College Plans:																											
None or under 4 yrs.	—	6.8	8.0	6.8	7.3	7.4	7.2	6.1	6.1	6.1	6.6	6.7	6.1	4.8	5.3	5.7	3.8	4.3	4.2	4.9	5.6	7.0	8.2	8.4	7.0	-1.4	
Complete 4 yrs.	—	4.6	4.7	4.9	5.0	5.1	4.8	4.6	4.3	4.3	5.4	4.3	4.8	4.6	3.9	4.0	3.5	3.0	3.3	3.5	4.4	4.9	5.7	5.5	6.6	+1.1ss	
Region:																											
Northeast	6.1	6.5	6.6	6.8	7.0	5.7	7.2	5.6	5.6	6.7	7.3	5.7	6.0	3.7	4.7	4.1	3.2	3.7	4.6	3.5	4.3	6.1	7.8	6.5	6.2	-0.3	
North Central	6.2	6.2	7.5	6.7	6.1	7.6	6.2	5.5	5.3	4.8	6.3	5.8	5.2	4.4	5.7	4.6	4.2	3.6	3.2	4.7	5.2	6.0	6.1	6.5	7.5	+1.0	
South	4.9	5.0	5.2	4.5	5.2	5.0	4.1	4.5	4.4	4.5	3.8	4.2	4.3	4.7	3.2	4.1	2.7	2.7	3.2	3.8	4.5	5.1	6.1	6.5	7.5	+1.0	
West	5.4	5.0	6.0	6.7	7.1	6.8	7.2	6.2	5.2	5.3	7.1	5.4	6.1	5.7	4.9	5.3	4.4	3.5	4.0	3.1	4.7	4.1	4.7	5.2	4.7	-0.5	
Population Density:																											
Large MSA	7.3	6.7	6.7	6.9	7.3	6.9	6.9	5.2	6.0	5.2	6.0	4.8	5.2	4.0	4.1	3.8	3.3	3.5	3.1	4.1	4.8	4.6	4.6	5.2	5.4	+0.2	
Other MSA	5.5	6.1	6.3	5.9	6.3	7.0	6.3	5.7	5.3	5.1	6.4	5.6	5.3	5.2	4.9	4.6	3.9	3.1	3.7	3.7	4.7	5.4	7.2	6.8	7.4	+0.6	
Non-MSA	4.8	4.6	6.2	5.4	5.3	4.8	4.8	4.9	4.1	5.2	5.2	5.0	5.2	4.4	3.8	4.8	3.1	3.6	3.7	3.6	4.7	6.0	6.0	6.5	6.8	+0.3	
Parental Education: ^b																											
1.0-2.0 (Low)	5.4	5.0	5.1	5.0	5.2	5.2	4.8	4.8	4.8	4.7	4.5	4.7	4.1	3.9	3.6	3.8	3.8	3.5	3.8	3.0	4.0	4.5	4.7	4.7	4.6	-0.1	
2.5-3.0	5.1	5.9	6.4	6.2	5.9	5.8	5.6	4.9	5.0	5.2	5.5	5.0	4.4	4.3	4.0	4.1	3.2	3.5	2.9	3.8	4.2	5.6	5.3	5.9	5.9	0.0	
3.5-4.0	4.2	6.3	6.7	6.0	6.3	6.9	6.6	5.2	4.5	5.1	6.5	6.0	5.6	4.3	4.6	4.6	3.7	3.2	3.7	3.4	4.4	5.5	6.5	6.8	7.2	+0.4	
4.5-5.0	6.4	6.3	6.6	6.4	6.7	7.0	6.3	6.4	6.0	5.6	6.4	4.8	5.4	4.2	4.7	3.6	3.4	3.7	4.3	3.7	4.3	5.5	5.4	6.8	6.2	7.4	+1.2
5.5-6.0 (High)	6.5	6.5	7.9	6.1	7.8	6.8	6.8	7.1	5.3	4.9	6.8	5.4	7.8	5.6	6.4	5.7	4.1	3.2	4.5	4.8	5.5	5.6	7.6	6.6	7.4	+0.8	
Race (2-year average): ^c																											
White	—	—	—	6.6	6.7	6.6	6.8	6.7	6.2	5.8	5.7	6.3	6.0	5.8	5.3	5.2	4.7	4.1	4.1	4.3	5.0	5.9	7.1	7.6	7.7	+0.1	
Black	—	—	—	2.2	2.0	1.8	1.7	1.9	1.8	1.7	1.6	1.7	1.6	1.5	1.5	1.4	1.1	0.9	1.0	1.5	1.4	1.2	1.8	2.4	2.0	-0.4	
Hispanic	—	—	—	3.8	3.5	3.5	3.7	4.3	4.1	4.0	4.2	3.6	3.0	2.4	2.2	2.5	2.4	2.3	2.1	2.3	2.2	2.5	3.1	2.8	3.6	+0.8	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. See Table D-59 for the number of subgroup cases.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aOnly drug use which was not under a doctor's orders is included here.

^bParental education is an average score of mother's education and father's education. See Appendix B for details.

^cTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-30
Amphetamines: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months ^a										'98-'99 change	1999 change									
	8th Grade					10th Grade															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999	1996	1997	1998	1999	1999	change					
Approx. N =	17500	18600	18300	17300	17500	17800	18600	18100	16700	14800	14800	15300	15800	17000	15600	15000	13600				
Total	6.2	6.5	7.2	7.9	8.7	9.1	8.1	7.2	6.9	-0.3	8.2	8.2	9.6	10.2	11.9	12.4	12.1	10.7	10.4	-0.3	
Sex:																					
Male	5.5	5.2	5.6	6.5	7.0	6.7	6.6	5.6	5.6	0.0	7.0	7.0	8.2	8.6	9.6	10.5	10.3	9.0	9.2	9.2	+0.2
Female	6.9	7.9	8.8	9.3	10.3	11.3	9.6	8.7	8.2	-0.5	9.3	9.3	10.9	11.7	14.1	14.2	13.9	12.3	11.5	11.5	-0.8
College Plans:																					
None or under 4 yrs.	11.6	12.9	14.6	14.5	17.1	15.5	14.1	15.4	14.0	-1.4	13.4	14.4	15.5	16.6	19.9	20.3	19.3	17.9	16.3	16.3	-1.6
Complete 4 yrs.	5.4	5.7	6.3	7.0	7.6	8.3	7.5	6.3	6.2	-0.1	7.1	6.9	8.4	8.9	10.6	11.1	10.9	9.5	9.5	9.5	0.0
Region:																					
Northeast	5.1	4.3	5.9	6.9	7.3	7.6	6.5	5.5	5.6	+0.1	6.1	5.4	7.8	8.7	9.8	11.5	10.7	11.0	12.1	12.1	+1.1
North Central	7.1	8.0	7.3	7.8	10.6	10.8	9.3	7.2	8.3	+1.1	10.3	9.4	9.5	10.5	13.3	14.0	11.0	9.8	10.3	10.3	+0.5
South	6.1	6.6	7.3	8.3	8.6	8.7	8.1	8.4	7.5	-0.9	8.1	8.7	10.9	11.2	12.8	12.6	14.2	12.6	10.8	10.8	-1.8
West	6.0	6.6	8.6	8.4	7.9	9.1	8.3	6.7	5.4	-1.3	7.7	8.4	9.5	9.4	10.6	10.6	11.1	8.5	8.2	8.2	-0.3
Population Density:																					
Large MSA	5.8	4.8	5.6	6.6	7.2	7.9	6.4	5.4	5.2	-0.2	7.5	6.7	7.6	8.0	9.2	10.5	9.9	8.9	9.3	9.3	+0.4
Other MSA	6.2	7.5	8.2	8.8	8.9	10.0	8.1	7.4	6.8	-0.6	7.9	8.0	9.5	10.8	12.8	12.8	11.5	10.3	10.6	10.6	+0.3
Non-MSA	6.7	7.0	7.5	7.5	10.1	8.9	9.9	8.8	9.3	+0.5	9.3	10.0	11.6	11.2	13.3	13.7	15.5	13.8	11.5	11.5	-2.3
Parental Education: ^b																					
1.0-2.0 (Low)	8.3	8.4	10.2	11.2	11.8	10.1	9.6	11.2	8.9	-2.3	10.0	11.9	12.3	10.8	14.3	15.1	12.2	12.6	10.7	10.7	-1.9
2.5-3.0	6.6	7.3	8.2	9.0	10.6	9.9	9.2	8.1	7.8	-0.3	9.7	8.9	10.5	11.6	14.2	13.0	14.1	12.8	11.3	11.3	-1.5
3.5-4.0	6.7	7.4	7.8	8.5	10.1	10.3	8.9	7.7	8.2	+0.5	7.9	8.4	10.5	11.1	12.4	14.1	13.5	11.1	11.2	11.2	+0.1
4.5-5.0	5.3	5.5	6.4	6.6	6.8	8.6	7.5	6.2	5.6	-0.6	7.4	6.6	7.5	8.9	10.7	10.7	10.6	9.0	9.8	9.8	+0.8
5.5-6.0 (High)	5.7	5.4	5.3	5.7	6.4	8.7	7.3	6.4	5.8	-0.6	6.9	6.9	8.3	7.3	8.8	10.1	9.2	9.4	9.8	9.8	+0.4
Race (2-year average): ^c																					
White	—	6.8	7.4	8.1	9.3	10.2	9.9	9.0	8.4	-0.6	—	9.4	10.1	11.0	12.4	13.9	14.2	13.6	12.6	12.6	-1.0
Black	—	3.3	3.4	3.9	3.9	3.4	3.0	2.8	2.7	-0.1	—	2.8	3.0	4.0	4.0	3.4	3.1	2.9	2.8	2.8	-0.1
Hispanic	—	7.2	7.7	8.6	8.7	8.6	8.1	7.2	7.0	-0.2	—	6.2	7.0	7.7	8.9	10.3	9.8	8.9	8.8	8.8	-0.1

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. — indicates data not available.

^aSee Table D-58 for the number of subgroup cases.

^bSee Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^cOnly drug use not under a doctor's orders is included here.

^dParental education is an average score of mother's education and father's education. See Appendix B for details.

^eTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-31
Amphetamines, Adjusted: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

Percent who used in last twelve months^a

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
Approx. N = 9400 15400 17100 17800 15500 15900 17500 17700 16300 15900 16000 15200 16300 16300 16300 16700 15200 15000 15800 16300 15400 15400 14300 15400 15200 13600																											
Total	16.2	15.8	16.3	17.1	18.3	20.8	26.0	20.3	17.9	17.7	15.8	13.4	12.2	10.9	10.8	9.1	8.2	7.1	8.4	9.4	9.3	9.5	10.2	10.1	10.2	+0.1	
Sex:																											
Male	15.6	15.8	16.0	16.9	18.4	19.7	24.8	19.6	17.2	16.8	14.9	12.7	11.8	10.8	11.1	9.4	8.3	7.2	8.2	9.2	9.5	9.6	10.1	10.3	10.6	+0.3	
Female	16.5	15.4	16.4	17.1	17.8	21.8	26.9	20.3	17.9	18.2	16.4	13.8	12.4	10.9	10.5	8.6	7.9	6.9	8.5	9.4	8.9	8.8	10.2	9.8	9.6	-0.2	
College Plans:																											
None or under 4 yrs.	—	19.3	20.5	20.0	21.8	25.8	30.9	23.7	20.9	22.2	19.7	17.7	16.0	13.9	15.1	12.6	11.0	9.7	11.0	13.4	12.3	12.8	14.1	13.6	12.7	-0.9	
Complete 4 yrs.	—	11.9	11.5	13.7	14.5	16.5	22.3	16.8	14.5	14.2	13.3	10.9	10.2	9.5	9.1	7.4	7.0	6.1	7.6	8.0	8.3	8.4	8.9	9.0	9.5	+0.5	
Region:																											
Northeast	16.5	14.7	16.8	19.6	22.0	22.0	28.8	21.5	17.9	19.0	16.8	12.6	10.4	8.4	9.0	6.3	6.5	6.2	8.1	7.4	9.6	10.4	11.1	9.0	9.9	+0.9	
North Central	18.7	17.8	19.0	18.2	18.3	22.2	30.1	24.1	20.4	20.3	17.3	15.2	13.5	12.2	13.3	10.7	10.1	8.4	8.9	12.0	9.5	10.0	10.8	11.0	10.5	-0.5	
South	12.6	13.7	13.2	14.0	14.0	17.7	19.6	16.4	15.4	15.1	12.8	11.5	10.8	9.9	8.9	7.9	7.9	6.7	8.3	9.0	9.2	9.1	9.8	10.4	10.8	+0.4	
West	18.5	17.2	16.0	17.8	20.7	22.1	26.6	18.7	18.2	16.9	17.3	15.0	13.4	11.8	11.1	10.2	7.8	6.9	8.3	8.4	8.9	8.3	9.1	9.6	8.8	-0.8	
Population Density:																											
Large MSA	19.6	15.4	15.3	17.7	19.5	21.9	28.0	21.6	18.1	17.7	15.0	11.2	10.9	8.8	7.1	6.5	6.2	6.0	6.5	7.8	9.1	7.9	8.9	9.0	7.0	-2.0	
Other MSA	15.5	16.3	17.1	17.5	18.9	20.8	25.5	20.7	19.6	17.1	15.7	14.2	11.9	11.9	11.4	9.6	8.4	6.7	8.5	9.4	8.5	8.9	9.5	9.9	10.8	+0.9	
Non-MSA	14.8	15.4	15.9	16.0	16.6	19.9	25.1	18.8	15.6	18.5	16.6	14.1	14.0	11.3	13.3	10.6	9.5	9.0	9.8	10.9	10.8	11.9	13.0	12.2	12.4	+0.2	
Parental Education: ^b																											
1.0-2.0 (Low)	15.7	13.4	14.5	14.9	16.0	19.1	22.3	18.7	15.7	17.1	14.5	11.9	11.9	9.8	10.4	7.6	9.5	7.0	9.0	10.4	9.9	8.1	9.8	9.7	9.9	+0.2	
2.5-3.0	16.7	16.9	17.4	17.3	18.4	22.2	26.7	21.9	19.6	19.2	17.0	16.2	13.3	11.1	11.7	9.7	9.1	7.7	8.6	10.3	9.9	10.5	10.3	10.6	11.3	+0.7	
3.5-4.0	14.9	16.6	16.1	18.2	19.6	21.5	26.9	21.7	19.4	18.5	17.2	14.3	12.6	11.8	12.3	10.6	8.9	7.7	9.1	9.4	9.1	9.3	10.8	11.4	10.8	-0.6	
4.5-5.0	14.5	16.8	15.9	16.9	17.1	20.0	26.2	19.1	18.9	15.9	15.1	12.0	11.7	10.3	9.4	8.1	6.5	6.3	8.0	9.5	9.2	8.9	9.4	9.4	9.7	+0.3	
5.5-6.0 (High)	12.0	14.6	16.0	17.2	20.4	17.9	26.8	20.5	16.1	14.0	10.9	10.1	10.4	10.0	9.1	7.3	5.7	5.8	7.6	7.1	8.1	9.1	10.2	8.7	8.4	-0.3	
Race (2-year average): ^c																											
White	—	—	17.3	18.2	19.2	21.3	26.4	23.6	22.3	20.5	18.9	16.4	14.3	13.0	12.4	11.4	9.8	8.8	9.0	10.4	10.7	10.5	11.4	12.1	11.9	-0.2	
Black	—	—	5.3	4.7	4.2	5.3	5.8	6.0	5.7	4.7	4.3	4.0	3.8	3.9	3.6	3.1	2.7	2.2	2.3	3.4	3.4	2.9	2.8	2.8	2.5	-0.3	
Hispanic	—	—	12.3	12.2	12.8	14.5	17.5	12.3	11.5	13.2	14.6	10.8	8.7	9.6	9.0	7.0	6.1	6.0	6.2	6.4	7.1	7.8	7.3	7.0	7.6	+0.6	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '—' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aBeginning in 1982, the question about amphetamine use was revised to get respondents to exclude the inappropriate reporting of nonprescription amphetamines. The prevalence of use rate dropped slightly as a result of this methodological change. (In 1982 and 1983, these data were based on three of the five questionnaire forms.) Only drug use which was not under a doctor's orders is included here.

^bParental education is an average score of mother's education and father's education. See Appendix B for details.

^cTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-32
Methamphetamine: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months												'98-'99 change	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989
	8th Grade						10th Grade																	
	1991	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change	1991	1992	1993	1994	1995	1996	1997	1998	1999	1998	1999	change		
Total	17500	18600	18300	17300	17500	17800	18600	18100	16700	3.2	14800	14800	15300	15800	17000	15600	15500	15000	15000	13600	4.6	—		
Sex:																								
Male	—	—	—	—	—	—	—	—	—	3.1	—	—	—	—	—	—	—	—	—	—	4.5	—		
Female	—	—	—	—	—	—	—	—	—	3.2	—	—	—	—	—	—	—	—	—	—	4.7	—		
College Plans:																								
None or under 4 yrs.	—	—	—	—	—	—	—	—	—	7.4	—	—	—	—	—	—	—	—	—	—	9.1	—		
Complete 4 yrs.	—	—	—	—	—	—	—	—	—	2.7	—	—	—	—	—	—	—	—	—	—	3.9	—		
Region:																								
Northeast	—	—	—	—	—	—	—	—	—	1.6	—	—	—	—	—	—	—	—	—	—	5.1	—		
North Central	—	—	—	—	—	—	—	—	—	4.4	—	—	—	—	—	—	—	—	—	—	4.6	—		
South	—	—	—	—	—	—	—	—	—	3.4	—	—	—	—	—	—	—	—	—	—	4.0	—		
West	—	—	—	—	—	—	—	—	—	2.8	—	—	—	—	—	—	—	—	—	—	5.1	—		
Population Density:																								
Large MSA	—	—	—	—	—	—	—	—	—	2.2	—	—	—	—	—	—	—	—	—	—	3.8	—		
Other MSA	—	—	—	—	—	—	—	—	—	3.6	—	—	—	—	—	—	—	—	—	—	4.8	—		
Non-MSA	—	—	—	—	—	—	—	—	—	3.5	—	—	—	—	—	—	—	—	—	—	5.2	—		
Parental Education: ^a																								
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	6.3	—	—	—	—	—	—	—	—	—	—	7.2	—		
2.5-3.0	—	—	—	—	—	—	—	—	—	4.3	—	—	—	—	—	—	—	—	—	—	4.2	—		
3.5-4.0	—	—	—	—	—	—	—	—	—	3.3	—	—	—	—	—	—	—	—	—	—	4.8	—		
4.5-5.0	—	—	—	—	—	—	—	—	—	1.9	—	—	—	—	—	—	—	—	—	—	4.8	—		
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	3.2	—	—	—	—	—	—	—	—	—	—	3.3	—		
Race (2-year average): ^b																								
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

NOTES: '—' indicates data not available.

See Table D-58 for the number of subgroup cases.

See Appendix B for definition of variables in table.

Data based on one of four forms; N is one-third of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-33
Methamphetamine: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months												Class of '98-'99														
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change
Approx. N = 9400	15400	17100	17800	15900	15900	17500	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	14300	15400	14300	15400	15200	13600		
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.7
Sex:																											
Male	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0
Female	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5
College Plans:																											
None or under 4 yrs.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Complete 4 yrs.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Region:																											
Northeast	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1
North Central	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1
South	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9
West	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.1
Population																											
Density:																											
Large MSA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.2
Other MSA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0
Non-MSA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4
Parental Education: ^a																											
1.0-2.0 (Low)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.0
2.5-3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8
3.5-4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2
4.5-5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.7
5.5-6.0 (High)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.2
Race (2-year average): ^b																											
White	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Black	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hispanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTES: - indicates data not available.

See Table D-59 for the number of subgroup cases.

See Appendix B for definition of variables in table.

Data based on two of six forms; N is two-sixths of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-34
Ice (Crystal Methamphetamine): Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

Percent who used in last twelve months

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999			
Approx. N =	9400	15400	17100	17800	15500	15900	17500	16300	16300	16300	16200	16300	16300	16300	16700	16200	15000	15800	16300	15400	15400	14300	15400	15200	13600			
Total	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.3	1.7	1.8	2.4	2.4	2.8	2.8	2.3	3.0	1.9	1.1ss										
Sex:																												
Male	1.5	1.9	1.5	1.9	1.5	1.9	1.5	1.9	1.5	1.9	1.5	1.9	1.5	1.9	1.5	1.9	1.5	1.9	1.5	1.9	2.2	2.6	3.9	2.6	3.9	2.2	1.7ss	
Female	1.0	0.9	1.0	1.2	1.3	2.1	1.7	2.1	1.7	2.1	1.7	2.1	1.7	2.1	1.7	2.1	1.7	2.1	1.7	2.1	1.7	2.1	1.7	2.1	1.6	1.6	-0.5	
College Plans:																												
None or under	1.4	1.9	2.2	2.6	2.4	4.3	5.1	1.8	2.1	1.9	2.4	1.8	2.1	1.9	2.4	1.8	2.1	1.9	2.4	1.8	2.1	1.9	2.4	1.8	2.1	1.9	2.4	1.8
Complete 4 yrs.	1.2	1.2	1.0	1.4	1.5	1.8	2.1	1.8	2.1	1.9	2.4	1.8	2.1	1.9	2.4	1.8	2.1	1.9	2.4	1.8	2.1	1.9	2.4	1.8	2.1	1.9	2.4	1.8
Region:																												
Northeast	1.6	1.1	0.9	1.1	0.9	1.1	0.9	1.1	0.9	1.1	0.9	1.1	0.9	1.1	0.9	1.1	0.9	1.1	0.9	1.1	0.9	1.1	0.9	1.1	0.9	1.1	0.9	1.1
North Central	1.1	1.4	1.1	1.5	2.3	2.2	2.1	1.9	1.7	1.0	1.2	1.8	2.0	1.6	3.1	2.3	0.8	1.1	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9
South	0.5	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
West	2.5	2.2	2.6	3.2	2.8	4.7	4.9	3.7	3.4	2.5	0.9																	
Population																												
Density:																												
Large MSA	1.2	1.3	1.5	2.2	2.0	3.0	4.6	2.9	2.5	1.6	0.9																	
Other MSA	1.3	1.7	1.3	1.7	1.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Non-MSA	1.2	0.8	1.2	1.2	1.6	2.3	2.6	2.1	2.8	2.0	0.8																	
Parental																												
Education: ^a																												
1.0-2.0 (Low)	1.1	1.0	0.9	1.6	1.0	3.2	3.4	2.2	2.8	3.6	0.8																	
2.5-3.0	1.4	1.1	1.1	1.2	3.0	2.6	3.0	2.5	3.2	1.3	1.9ss																	
3.5-4.0	1.4	1.2	1.5	2.3	1.6	1.9	2.6	2.2	3.6	2.5	-1.1																	
4.5-5.0	1.2	1.8	1.4	1.8	1.3	2.5	2.9	2.9	2.6	1.3	-1.3																	
5.5-6.0 (High)	1.1	1.0	1.4	1.3	1.0	2.2	2.5	1.4	1.9	2.1	+0.2																	
Race (2-year																												
average): ^b																												
White	1.3	1.3	1.5	1.7	2.0	2.5	2.6	2.9	2.8	3.6	0.1																	
Black	0.8	1.0	0.8	0.5	0.5	0.3	0.5	1.0	0.7	0.3	-0.3																	
Hispanic	1.3	1.8	2.3	2.1	2.7	4.0	2.8	1.7	1.7	0.0																		

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '-' indicates data not available.

See Table D-59 for the number of subgroup cases.

See Appendix B for definition of variables in table.

Data based on two of six forms; N is two-sixths of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-35
Barbiturates: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months ^a																										
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999	Class of 1998-99	
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	14300	15400	15400	15200	13600	
Total	10.7	9.6	9.3	8.1	7.5	6.8	6.6	5.5	5.2	4.9	4.6	4.2	3.6	3.2	3.3	3.4	3.4	2.8	3.4	4.1	4.7	4.9	5.1	5.5	5.8	5.8	+0.3
Sex:																											
Male	12.3	9.9	10.2	8.4	7.6	7.3	7.2	5.9	5.9	5.5	5.2	4.7	4.0	3.4	3.5	3.8	3.4	2.9	3.4	4.3	5.1	5.2	5.3	6.3	6.3	6.3	0.0
Female	9.9	9.2	8.4	7.7	7.0	6.0	5.8	5.0	4.2	4.0	3.9	3.8	3.2	3.0	3.0	3.0	3.2	2.6	3.3	3.8	4.2	4.4	4.8	4.8	5.3	5.3	+0.5
College Plans:																											
None or under 4 yrs.	—	11.6	11.4	9.1	9.3	9.0	8.1	7.4	6.7	6.2	6.2	6.1	4.7	4.1	4.8	4.7	4.3	3.9	3.8	5.4	5.9	6.7	6.6	6.9	7.0	7.0	+0.1
Complete 4 yrs.	—	7.3	6.8	6.8	5.2	4.8	5.1	3.8	3.8	3.7	3.6	3.0	3.0	2.7	2.5	2.8	2.9	2.3	3.2	3.7	4.4	4.3	4.6	5.1	5.5	5.5	+0.4
Region:																											
Northeast	11.5	10.4	9.2	9.6	9.6	6.9	6.8	5.6	4.7	5.1	5.3	5.2	4.2	2.5	3.2	2.9	2.8	2.7	3.5	4.0	4.1	5.6	5.7	5.5	4.7	4.7	-0.8
North Central	12.8	10.4	10.7	7.9	6.9	7.3	7.5	5.4	6.1	4.9	4.9	4.2	3.3	2.5	3.2	3.5	3.5	2.7	3.5	4.1	4.5	4.9	4.4	4.8	6.0	6.0	+1.2
South	9.9	9.7	9.3	7.8	7.3	7.0	5.5	6.3	5.2	4.2	4.1	3.7	4.1	3.7	4.0	3.6	3.0	3.0	3.6	4.8	5.3	5.4	5.8	6.8	6.8	0.0	
West	10.0	6.7	6.6	6.6	5.7	5.2	6.5	3.9	4.0	4.2	4.1	3.3	3.2	3.2	2.7	2.9	3.3	2.5	2.7	2.8	4.3	3.3	4.2	4.2	4.9	4.9	+0.7
Population																											
Density:																											
Large MSA	11.1	10.2	8.1	8.1	8.3	6.6	6.9	5.3	5.2	4.4	4.4	3.7	3.3	2.8	2.6	2.6	2.4	2.4	2.6	3.6	4.1	3.6	4.2	4.6	3.7	3.7	-0.9
Other MSA	11.3	9.8	9.9	8.2	7.3	6.5	6.4	5.7	5.3	4.9	4.2	4.4	3.6	3.4	3.1	3.6	3.9	2.6	3.1	4.3	4.9	5.4	5.0	5.6	6.2	6.2	+0.6
Non-MSA	9.8	9.0	9.5	8.1	7.0	7.2	6.6	5.5	5.0	5.5	5.4	4.5	3.9	3.2	4.4	3.9	3.3	3.4	4.3	4.1	5.0	5.4	6.4	6.8	7.4	7.4	+0.6
Parental																											
Education: ^b																											
1.0-2.0 (Low)	10.3	9.1	8.0	7.5	7.8	8.0	6.5	5.8	6.1	4.7	5.0	4.8	3.8	4.3	4.1	3.1	3.6	3.9	3.8	4.5	4.9	4.8	4.3	6.4	7.5	7.5	+1.1
2.5-3.0	10.3	10.2	10.3	8.2	7.3	7.2	6.5	5.7	5.7	5.2	5.3	4.6	3.6	3.1	3.4	3.7	3.7	2.4	3.6	4.5	5.2	4.9	4.9	6.3	6.2	6.2	-0.1
3.5-4.0	9.5	9.6	9.0	8.3	7.4	6.3	6.5	5.1	4.6	5.0	4.4	4.4	3.2	2.9	3.2	3.9	3.0	2.8	2.8	4.0	4.6	4.9	6.0	5.6	6.4	6.4	+0.8
4.5-5.0	10.7	10.1	9.1	7.8	6.6	5.9	6.4	5.0	4.4	4.3	4.1	3.3	3.9	3.3	2.8	3.1	3.3	2.9	3.4	4.0	4.4	5.0	5.1	5.0	5.0	5.0	0.0
5.5-6.0 (High)	9.0	10.3	8.3	8.0	7.2	5.4	6.8	5.8	3.7	4.0	3.1	3.4	3.6	3.1	3.4	2.9	3.6	2.4	3.8	3.6	4.1	4.6	4.6	5.0	5.1	5.1	+0.1
Race (2-year average): ^c																											
White	—	—	—	10.2	9.3	8.2	7.5	7.2	6.5	5.8	5.5	4.7	4.2	3.7	3.5	3.7	3.8	3.5	3.6	4.3	4.9	5.4	5.9	6.5	6.7	6.7	+0.2
Black	—	—	—	3.3	3.2	2.6	2.5	2.4	2.0	1.7	1.6	1.6	1.7	1.5	1.1	1.1	1.2	1.1	1.0	1.5	1.6	1.1	1.0	1.4	1.4	1.4	0.0
Hispanic	—	—	—	7.4	5.8	5.8	5.7	5.1	4.1	4.4	4.6	3.6	2.8	2.8	3.2	2.8	2.4	2.2	1.9	2.6	3.5	4.0	3.7	3.3	4.0	4.0	+0.7

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. — indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan. ^aOnly drug use which was not under a doctor's orders is included here. ^bParental education is an average score of mother's education and father's education. See Appendix B for details. ^cTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

**TABLE D-36
Tranquilizers: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders**

	Percent who used in last twelve months ^a																				
	8th Grade						10th Grade														
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
Total	1.8	2.0	2.1	2.4	2.7	3.3	2.9	2.6	2.5	-0.1	3.2	3.5	3.3	3.3	4.0	4.6	4.9	5.1	5.4	+0.3	
Sex:																					
Male	1.5	1.6	1.8	1.9	2.0	2.3	2.6	2.3	2.1	-0.2	2.5	2.7	3.2	3.0	4.0	4.3	4.7	4.7	5.2	+0.5	
Female	2.1	2.3	2.4	2.8	3.3	4.0	3.2	3.0	2.9	-0.1	3.8	4.3	3.2	3.6	4.0	4.9	5.2	5.4	5.4	0.0	
College Plans:																					
None or under 4 yrs.	3.9	4.9	3.6	5.1	5.9	6.4	5.8	6.4	5.8	-0.6	5.0	6.0	5.8	6.0	7.4	9.4	8.6	8.3	8.6	+0.3	
Complete 4 yrs.	1.5	1.5	1.9	2.0	2.3	2.8	2.6	2.2	2.0	-0.2	2.8	3.1	2.7	2.8	3.4	3.8	4.3	4.5	4.8	+0.3	
Region:																					
Northeast	1.0	1.6	1.7	2.5	2.3	2.7	2.5	2.0	2.3	+0.3	2.7	2.8	3.4	2.8	2.6	3.9	3.6	5.7	5.5	-0.2	
North Central	1.4	1.9	1.3	1.7	2.6	3.5	2.4	2.6	2.6	+0.0	2.4	3.0	2.5	2.6	3.2	4.4	3.7	3.4	4.6	+1.2	
South	2.6	2.5	2.4	2.6	3.0	3.7	3.3	3.2	2.8	-0.4	4.2	4.5	3.9	4.2	5.1	5.7	7.3	6.6	6.0	-0.6	
West	1.8	1.6	3.0	2.7	2.4	2.9	3.0	2.3	1.9	-0.4	2.9	3.2	3.2	3.6	4.3	3.6	3.7	4.1	4.9	+0.8	
Population Density:																					
Large MSA	1.8	2.1	1.7	2.5	1.8	3.2	2.1	1.9	1.8	-0.1	3.2	3.3	2.7	2.6	3.2	4.2	3.9	4.1	5.0	+0.9	
Other MSA	1.7	1.8	2.5	2.6	3.2	3.4	3.2	2.6	2.4	-0.2	3.0	3.8	3.3	3.9	4.1	4.6	4.4	5.2	5.5	+0.3	
Non-MSA	2.2	2.2	1.6	1.9	2.6	3.1	3.2	3.6	3.4	-0.2	3.5	3.3	3.6	3.0	4.7	5.2	7.0	6.0	5.6	-0.4	
Parental Education: ^b																					
1.0-2.0 (Low)	3.6	3.8	2.5	3.2	3.9	4.9	4.3	5.5	5.0	-0.5	3.3	5.3	4.8	4.2	5.0	5.9	4.7	6.5	5.0	-1.5	
2.5-3.0	1.6	2.1	2.5	2.6	2.7	3.5	3.1	2.8	3.3	+0.5	3.6	3.5	3.1	3.3	4.5	5.2	5.3	6.3	5.9	-0.4	
3.5-4.0	2.0	2.2	2.1	2.6	3.2	3.9	3.2	2.7	2.1	-0.6	3.2	3.4	3.5	3.4	4.3	5.0	5.5	4.9	5.2	+0.3	
4.5-5.0	1.4	0.9	1.8	2.0	2.2	2.8	2.4	2.4	1.7	-0.7	2.5	3.9	2.9	2.9	3.5	4.1	4.2	4.5	5.7	+1.2	
5.5-6.0 (High)	1.8	1.9	1.7	2.1	1.6	2.7	2.7	2.1	1.9	-0.2	3.5	2.3	3.1	3.4	3.2	3.6	4.4	4.0	5.3	+1.3	
Race (2-year average): ^c																					
White	—	2.0	2.0	2.2	2.7	3.2	3.4	3.1	2.9	-0.2	—	4.0	3.8	3.6	4.1	4.9	5.6	6.0	6.1	+0.1	
Black	—	0.9	1.1	1.2	1.2	1.3	1.2	0.9	0.7	-0.2	—	0.9	0.9	0.9	0.8	0.7	0.9	1.0	1.2	+0.2	
Hispanic	—	2.7	3.1	3.4	3.3	3.5	3.5	3.4	3.5	+0.1	—	2.9	3.3	3.1	3.1	3.4	3.5	3.5	3.7	+0.2	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

See Table D-58 for the number of subgroup cases.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aOnly drug use not under a doctor's orders is included here.

^bParental education is an average score of mother's education and father's education. See Appendix B for details.

To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.



TABLE D-37
Tranquilizers: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months ^a																											
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999	Class of 198-99		
Approx. N = 9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16700	16300	15200	15000	15800	16300	15400	15400	14300	15400	15200	13600				
Total	10.6	10.3	10.8	9.9	9.6	8.7	8.0	7.0	6.9	6.1	6.1	5.8	5.5	4.8	3.8	3.5	3.6	2.8	3.5	3.7	4.4	4.6	4.7	5.5	5.8	5.8	+0.3	
Sex:																												
Male	10.0	9.4	10.2	9.7	9.9	9.0	8.0	6.9	7.0	6.3	6.4	5.9	5.2	4.7	4.0	3.5	3.5	2.7	3.5	4.0	4.7	5.0	5.4	6.3	6.9	6.9	+0.6	
Female	11.1	11.0	11.4	10.1	9.3	8.5	7.7	7.1	6.7	5.8	5.7	5.8	5.8	4.8	3.5	3.5	3.6	3.0	3.3	3.5	4.1	4.0	3.9	4.7	4.8	4.8	+0.1	
College Plans:																												
None or under 4 yrs.	—	11.5	12.3	11.1	11.0	10.7	9.4	8.0	8.0	7.4	6.8	7.2	6.7	5.1	4.8	4.3	4.2	3.9	3.9	4.5	5.6	5.6	6.2	6.8	6.4	6.4	-0.4	
Complete 4 yrs.	—	8.9	9.0	8.6	8.1	7.2	6.9	6.3	5.8	5.2	5.5	5.1	4.9	4.6	3.3	3.2	3.4	2.5	3.3	3.5	4.1	4.2	4.0	5.1	5.6	6.4	+0.5	
Region:																												
Northeast	9.2	9.7	10.4	10.9	11.5	8.6	8.3	7.8	6.8	6.8	7.1	6.4	6.9	4.5	3.7	2.9	3.0	3.0	3.7	3.5	3.9	4.8	5.3	4.9	5.6	5.6	+0.7	
North Central	10.6	10.1	11.0	8.8	7.5	8.2	7.8	6.2	6.8	5.6	6.0	5.5	4.5	3.7	3.1	2.9	3.0	2.3	2.8	3.1	4.0	4.4	3.5	3.7	5.1	5.1	+1.4	
South	11.3	11.7	11.4	10.5	10.4	9.5	7.8	7.4	7.4	6.9	5.9	6.3	5.7	6.0	4.4	4.3	4.0	3.5	4.2	4.8	5.0	5.3	5.4	7.5	7.6	7.6	+0.1	
West	11.7	8.5	9.6	8.9	9.4	8.6	8.0	6.4	6.2	4.9	5.3	4.8	5.2	4.4	3.4	3.9	4.4	2.3	3.0	2.8	4.3	3.0	4.3	4.4	3.9	3.9	-0.5	
Population																												
Density:																												
Large MSA	11.2	9.6	9.6	10.3	9.9	8.7	8.3	7.0	7.0	5.4	5.8	5.3	5.8	4.7	3.1	3.6	2.5	2.9	2.9	3.9	4.0	3.7	4.2	4.8	4.0	4.0	-0.8	
Other MSA	11.0	11.3	11.4	10.1	10.2	9.3	8.1	7.2	7.2	6.1	6.0	5.7	5.6	5.0	3.5	3.7	4.1	2.7	3.6	3.7	4.5	4.9	4.8	5.7	6.6	6.6	+0.9	
Non-MSA	9.9	9.5	11.0	9.2	8.7	8.0	7.5	6.8	6.5	6.8	6.5	6.4	5.2	4.5	4.9	3.3	3.7	3.1	3.7	3.5	4.8	4.7	5.1	5.9	6.5	6.5	+0.6	
Parental																												
Education: ^b																												
1.0-2.0 (Low)	11.2	10.1	9.4	9.4	9.1	7.8	7.1	6.1	6.0	6.5	5.3	6.7	5.7	3.9	3.6	3.4	4.0	3.9	3.3	4.2	3.9	4.2	3.9	4.2	3.9	6.4	5.2	-1.2
2.5-3.0	9.8	10.3	11.5	10.1	8.8	9.1	8.0	7.3	7.2	6.5	6.2	5.8	5.4	4.6	3.9	3.2	3.6	2.8	3.3	3.5	4.7	4.0	4.3	5.2	6.2	6.2	+1.0	
3.5-4.0	9.8	11.2	11.1	9.5	10.4	8.9	8.3	6.7	6.9	5.8	6.4	6.5	5.3	4.5	3.4	4.4	3.1	2.7	3.5	3.6	4.3	4.7	4.6	6.0	6.4	6.4	+0.4	
4.5-5.0	11.3	11.7	11.4	10.5	10.0	8.1	7.4	7.6	6.6	5.8	6.3	4.7	5.9	5.5	3.8	3.1	3.9	3.0	3.4	3.7	4.5	4.6	5.4	4.9	5.4	5.4	+0.5	
5.5-6.0 (High)	9.3	12.0	10.1	11.0	11.4	10.3	9.1	7.6	7.1	6.3	5.5	5.4	5.4	5.6	4.9	4.0	4.0	2.2	4.2	4.2	4.1	5.3	5.1	5.5	5.6	5.6	+0.1	
Race (2-year average): ^c																												
White	—	—	11.4	11.1	10.5	9.9	9.1	8.3	7.8	7.3	6.8	6.6	6.3	5.9	5.0	4.2	4.1	3.7	3.7	4.2	4.6	5.1	5.5	6.2	6.8	6.8	+0.6	
Black	—	—	4.3	4.2	3.6	3.1	3.0	2.5	2.3	2.1	1.7	1.7	2.0	2.0	1.2	0.7	0.9	1.3	1.0	1.1	1.2	0.9	0.8	1.0	1.0	1.0	0.0	
Hispanic	—	—	8.4	8.2	7.4	6.4	5.7	5.8	5.1	5.3	5.0	4.4	3.7	2.5	1.6	1.9	2.7	2.4	2.0	2.4	3.5	4.3	3.8	3.3	3.5	3.5	+0.2	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '—' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aOnly drug use which was not under a doctor's orders is included here.

^bParental education is an average score of mother's education and father's education. See Appendix B for details.

^cTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-38
Rohypnol: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months										'98-'99 change										
	8th Grade					10th Grade															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
Total	17500	18600	18300	17300	17500	17800	18600	18100	16700		14800	14800	15300	15800	17000	15600	15500	15000	15000	13600	
Sex:																					
Male					1.1	0.7	0.8	0.6	-0.2							1.1	1.4	1.4	1.2	-0.2	
Female					1.0	0.9	0.9	0.2	-0.7ss							1.1	1.1	1.1	0.9	-0.2	
College Plans:																					
None or under 4 yrs.					2.5	1.5	3.0	0.9	-2.1s							2.9	2.7	2.9	2.8	-0.1	
Complete 4 yrs.					0.8	0.7	0.6	0.4	-0.2							0.8	1.1	0.9	0.8	-0.1	
Region:																					
Northeast					0.9	0.3	0.9	0.3	-0.6							0.6	0.7	0.9	0.4	-0.5	
North Central					0.9	0.8	0.8	0.3	-0.5							0.5	0.8	1.0	0.9	-0.1	
South					1.3	1.1	0.9	0.7	-0.2							1.1	2.4	2.0	1.8	-0.2	
West					1.0	0.7	0.8	0.5	-0.3							1.1	0.6	0.5	0.6	+0.1	
Population Density:																					
Large MSA					1.2	0.8	0.7	0.4	-0.3							1.1	1.3	1.3	0.9	-0.4	
Other MSA					1.1	0.9	1.0	0.6	-0.4							1.4	1.3	1.3	1.3	0.0	
Non-MSA					0.8	0.7	0.8	0.3	-0.5							0.6	1.3	1.0	0.7	-0.3	
Parental Education: ^a																					
1.0-2.0 (Low)					2.0	2.1	2.2	0.2	-2.0s							1.7	1.3	1.7	1.2	-0.5	
2.5-3.0					1.1	1.1	0.8	0.3	-0.5							1.0	1.1	1.6	1.6	0.0	
3.5-4.0					1.2	0.7	0.9	0.6	-0.3							1.5	1.6	1.0	0.8	-0.2	
4.5-5.0					0.8	0.6	0.6	0.5	-0.1							0.7	1.5	0.9	0.6	-0.3	
5.5-6.0 (High)					0.8	0.5	0.9	0.7	-0.2							1.1	0.8	1.3	1.1	-0.2	
Race (2-year average): ^b																					
White							0.9	0.8	-0.1									1.4	1.5	1.5	0.0
Black							0.4	0.4	0.0									0.1	0.1	0.1	0.0
Hispanic							1.4	1.5	0.0									1.0	1.2	1.1	-0.1

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '-' indicates data not available.

See Table D-58 for the number of subgroup cases.

See Appendix B for definition of variables in table.

Data based on one of two forms in 1996-97; N is one-half of N indicated. Data based on three of four forms in 1998; N is two-thirds of N indicated. Data based on two of four forms beginning in 1999; N is one-third of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-39
Robynpol: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months																										
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999	Class of 198-99 change	
Approx. N = 9400	15400	17100	17800	15500	15900	17500	16300	15900	16000	16300	16300	16300	16300	16300	16700	15200	15000	15800	16300	15400	14300	15400	15400	15200	13600		
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sex:																											
Male	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Female	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
College Plans:																											
None or under 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Complete 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Region:																											
Northeast	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
North Central	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
South	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
West	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Population																											
Density:																											
Large MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Non-MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parental																											
Education: ^a																											
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2.5-3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3.5-4.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4.5-5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Race (2-year average): ^b																											
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table. Data based on one of six forms; N is one-sixth of N indicated. The Monitoring the Future Study, the University of Michigan.

SOURCE: The Monitoring the Future Study, the University of Michigan.
CAUTION: Limited sample sizes (see "Notes" above). Use caution in interpreting subgroup trends.
^aParental education is an average score of mother's education and father's education. See Appendix B for details.
^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-40
Alcohol: Trends in Thirty-Day Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last thirty days																				
	8th Grade					10th Grade															
	1991	1992	1993 ¹	1994	1995	1996	1997	1998	1999	1998-99 change	1991	1992	1993 ¹	1994	1995	1996	1997	1998	1999	1998-99 change	
Total	25.1	26.1	26.2	26.2	25.5	24.6	26.2	24.5	23.0	24.0	+1.0	42.8	39.9	41.5	39.2	38.8	40.4	40.1	38.8	40.0	+1.2
Sex:																					
Male	26.3	26.3	26.7	26.5	25.0	26.6	25.2	24.0	24.8	+0.8	45.5	41.6	43.4	40.6	39.7	42.6	42.5	40.0	42.3	+2.3	
Female	23.8	25.9	26.1	24.7	24.0	25.8	23.9	21.9	23.3	+1.4	40.2	38.3	39.4	35.6	34.8	37.8	38.3	37.9	37.7	38.1	+0.4
College Plans:																					
None or under 4 yrs.	37.2	39.6	39.2	41.4	40.0	41.7	40.2	41.2	41.6	+0.4	53.6	49.5	53.5	52.0	52.2	53.3	51.6	52.4	53.7	+1.3	
Complete 4 yrs.	23.1	24.2	24.8	22.2	23.6	22.6	24.0	22.8	21.0	+1.0	40.6	37.9	39.1	36.4	36.4	38.3	38.1	36.5	37.9	+1.4	
Region:																					
Northeast	24.3	23.8	24.8	25.4	24.1	26.9	24.8	21.2	25.7	+4.56	48.0	42.3	43.5	37.4	38.3	41.4	41.1	41.6	44.8	+3.2	
North Central	26.6	28.3	25.8	24.7	24.2	24.7	26.9	22.8	23.9	+1.8	43.5	40.3	42.5	37.4	39.6	38.9	39.1	38.5	37.6	40.9	+3.3
South	25.1	26.8	26.4	25.6	25.5	26.3	26.4	23.8	24.4	+0.6	41.7	38.2	40.4	40.5	39.4	41.7	40.8	39.9	38.8	-1.1	
West	23.1	23.5	27.9	25.6	27.2	23.1	24.8	22.7	22.2	-2.4	39.8	39.8	39.7	35.6	36.2	38.0	38.9	39.9	35.5	36.1	+0.6
Population Density:																					
Large MSA	25.4	27.4	24.7	21.2	23.8	22.3	24.9	23.1	21.4	+0.3	43.6	40.4	40.9	36.3	34.6	37.9	37.8	34.2	39.7	+5.565	
Other MSA	24.3	26.1	27.6	26.0	27.4	25.3	27.4	24.9	22.4	+1.0	41.4	36.6	38.8	36.2	40.1	39.9	41.0	40.2	39.0	39.7	+0.7
Non-MSA	26.2	24.2	25.1	24.9	23.8	26.0	25.7	25.4	26.0	+2.1	44.8	41.9	47.0	41.3	40.6	41.3	42.1	42.6	43.7	41.0	-2.7
Parental Education: ²																					
1.0-2.0 (Low)	30.7	32.8	32.5	28.0	33.5	30.8	28.1	29.7	28.9	+1.8	42.1	40.4	41.3	37.5	38.6	43.5	43.2	39.2	39.9	40.6	+0.7
2.5-3.0	27.0	27.2	26.0	28.0	27.4	27.8	30.1	26.2	26.5	+1.4	43.9	40.9	44.9	40.6	41.5	42.3	42.6	41.1	41.2	42.3	+1.1
3.5-4.0	25.1	26.3	28.2	25.9	26.7	26.8	27.6	27.8	24.5	+0.7	44.2	40.0	41.8	38.0	40.6	38.8	42.2	41.6	40.1	40.2	+0.1
4.5-5.0	22.8	24.6	23.1	20.6	22.6	21.0	25.0	22.6	20.2	+0.2	40.7	39.4	38.3	36.2	37.7	37.9	37.8	39.3	36.9	38.7	+1.8
5.5-6.0 (High)	24.0	25.2	26.2	22.3	23.6	20.5	21.5	20.5	21.3	+0.8	44.9	41.7	39.9	39.3	35.4	34.3	39.6	38.9	37.0	40.9	+3.9
Race (2-year average): ³																					
White	—	26.6	27.1	25.3	25.4	26.6	26.7	24.8	24.7	-0.1	—	44.1	43.1	40.4	41.0	42.2	43.0	42.7	43.0	42.7	+0.3
Black	—	18.6	19.7	19.4	18.7	18.1	17.9	16.1	16.1	0.0	—	30.2	29.3	29.7	28.0	23.9	24.6	25.1	24.4	-0.7	
Hispanic	—	31.0	32.3	33.5	32.4	29.7	29.8	29.5	29.0	-0.5	—	41.0	39.9	37.7	40.5	44.0	42.8	39.4	39.6	+0.2	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. "—" indicates data not available. See Table D-58 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan. In 1998, the question text was changed slightly in one form to indicate that a "drink" meant "more than a few sips." The data in the upper line for each subgroup came from the form using the original wording, while the data in the lower line came from the form using the revised wording. N is one-half of N indicated for each line. Beginning in 1994, data based on both forms.

¹Parental education is an average score of mother's education and father's education. See Appendix B for details. ²To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-41
Alcohol: Trends in Thirty-Day Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last thirty days																											
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	chance		
Approx. N	8400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16700	15200	15000	15800	16300	15400	14300	15400	14300	15400	15200	13600			
Total	58.2	68.3	71.2	72.1	71.8	72.0	70.7	69.7	69.4	67.2	65.9	65.3	66.4	63.9	60.0	57.1	54.0	51.3	48.6	50.1	51.3	50.8	52.7	52.0	51.0	-1.0		
Sex:																												
Male	75.0	74.5	77.8	77.5	76.7	77.4	75.7	74.1	74.4	71.4	69.8	69.0	68.9	68.0	65.1	61.3	58.4	55.3	54.9	54.2	55.5	55.7	54.8	56.2	57.3	55.3	-2.0	
Female	62.2	61.8	65.0	67.1	67.0	66.8	65.7	65.4	64.3	62.8	62.1	61.9	63.1	59.9	54.9	52.3	49.0	46.8	46.7	43.4	45.2	47.0	46.9	48.9	46.9	46.8	-0.1	
College Plans:																												
None or under 4 yrs.	89.9	72.8	72.7	72.2	73.5	72.1	71.6	70.5	69.0	67.9	66.6	68.6	65.0	61.6	56.7	57.1	54.9	53.6	52.4	53.6	55.9	54.8	56.1	56.0	55.2	-0.8		
Complete 4 yrs.	66.5	69.4	71.6	71.4	70.8	70.0	68.6	68.1	65.7	64.5	64.8	65.7	63.6	59.1	56.4	52.7	50.0	49.6	47.4	48.9	49.6	49.3	51.4	50.9	49.8	-1.1		
Region:																												
Northeast	76.9	75.7	76.6	78.0	81.1	79.4	80.4	76.7	74.4	73.6	72.3	67.6	69.1	66.7	61.7	65.3	59.6	51.5	55.2	56.1	53.1	55.0	56.5	56.7	56.2	57.2	+1.0	
North Central	71.1	73.2	76.4	77.2	73.9	75.1	73.6	75.0	74.4	70.6	66.8	71.3	70.7	67.9	65.9	61.5	59.7	58.0	54.6	51.6	53.8	55.3	51.5	51.5	51.9	51.1	-0.8	
South	62.8	60.2	64.7	67.0	65.7	65.5	62.9	61.3	64.3	62.1	60.0	58.2	60.7	58.6	55.1	51.0	49.1	48.1	50.1	47.7	48.2	50.6	51.1	51.1	51.4	49.5	-1.9	
West	60.0	62.2	64.4	63.1	65.5	67.6	65.3	63.8	62.9	63.6	65.2	64.5	66.7	65.0	59.3	51.6	49.7	46.7	43.8	39.8	44.2	43.2	42.1	52.7	49.2	47.8	-1.4	
Population Density:																												
Large MSA	75.3	72.6	74.0	75.5	77.3	78.0	75.5	72.9	69.2	66.6	67.4	66.2	66.3	63.8	56.9	59.2	52.9	49.0	52.3	50.6	49.5	50.6	51.6	51.1	49.1	48.9	-0.2	
Other MSA	68.5	67.0	72.0	72.7	72.0	70.8	69.1	69.3	69.3	66.2	65.1	64.8	66.9	64.1	60.7	57.4	55.7	50.8	49.8	47.1	48.2	50.6	50.1	53.4	53.9	52.8	-1.1	
Non-MSA	63.2	66.5	67.8	68.4	67.3	69.0	68.9	67.6	69.0	69.0	65.9	65.2	65.5	63.8	61.7	54.4	52.0	54.1	51.9	49.8	52.5	53.4	51.4	52.9	51.6	50.1	-1.5	
Parental Education: [†]																												
1.0-2.0 (Low)	58.7	62.5	62.0	62.7	64.6	65.9	62.1	61.3	61.2	58.1	58.7	56.1	56.3	54.5	47.8	47.2	49.9	45.6	43.3	36.6	43.5	45.9	41.2	43.8	43.8	46.8	+3.0	
2.5-3.0	70.0	71.4	72.5	71.9	71.1	72.0	70.7	69.4	69.2	67.4	65.9	65.3	67.0	64.6	59.7	57.2	53.3	52.3	50.5	49.0	49.9	52.0	48.2	51.0	50.1	50.5	+0.4	
3.5-4.0	69.2	67.9	73.5	75.0	74.6	73.3	71.5	72.7	70.4	69.6	66.9	66.7	67.2	64.3	62.9	57.7	54.3	51.2	53.5	51.2	50.1	50.6	51.4	52.1	55.6	51.1	-4.6ss	
4.5-5.0	69.6	71.3	74.5	77.0	76.0	74.4	73.1	74.5	73.1	69.3	68.9	68.0	68.8	66.0	62.1	60.8	54.8	51.0	50.7	49.8	52.6	51.8	53.6	55.3	52.4	50.2	-2.2	
5.5-6.0 (High)	67.3	72.5	77.1	79.2	75.9	77.2	77.4	74.1	75.0	70.3	67.9	69.9	70.5	67.3	62.2	60.8	58.0	55.7	53.3	53.2	52.2	55.1	54.2	57.4	54.7	56.0	+1.3	
Race (2-year average): [†]																												
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTES: Level of significance of differences between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. "—" indicates data not available.
See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table.
SOURCE: The Monitoring the Future Study, the University of Michigan.
*In 1993, the question text was changed slightly in three of six forms to indicate that a "drink" meant "more than a few sips." The data in the upper line for each subgroup came from forms using the original wording, while the data in the lower line came from forms using the revised wording. Beginning in 1994, data based on all six forms.
[†]Parental education is an average score of mother's education and father's education. See Appendix B for details.
[‡]To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-42
Been Drunk: Trends in Thirty-Day Prevalence by Subgroups for Eighth and Tenth Graders

	Percent who had been drunk in last thirty days										'98-'99 change									
	8th Grade					10th Grade														
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change
Total	7.6	7.5	7.8	8.7	8.3	9.6	8.2	8.4	9.4	+1.0	14800	14800	15300	15800	17000	15600	15500	15000	13600	+1.4
Sex:																				
Male	8.4	7.4	7.8	9.0	8.2	9.7	8.4	8.5	10.2	+1.7s										+3.2ss
Female	7.0	7.6	7.8	8.3	8.2	9.5	7.9	8.2	8.6	+0.4										-0.1
College Plans:																				
None or under 4 yrs.	15.8	17.2	18.4	20.0	17.2	19.3	18.7	21.4	22.4	+1.0										+1.1
Complete 4 yrs.	6.4	6.1	6.4	7.3	7.3	8.2	7.1	6.9	8.0	+1.1s										+1.6
Region:																				
Northeast	5.7	6.4	6.2	8.2	8.2	9.7	7.9	6.9	9.4	+2.5										+2.7
North Central	7.7	7.6	7.3	8.3	8.3	10.2	8.2	10.4	11.6	+1.2										+4.2s
South	8.8	8.2	8.3	8.8	8.4	9.1	8.3	7.8	9.5	+1.7										-1.6
West	7.3	6.9	9.4	9.6	8.2	9.8	8.3	8.3	6.6	-1.7										+2.0
Population Density:																				
Large MSA	7.4	7.0	6.0	7.6	7.2	8.9	6.7	6.9	7.8	+0.9										+4.4ss
Other MSA	7.3	7.4	8.4	9.7	8.9	9.9	8.6	7.5	8.4	+0.9										+1.5
Non-MSA	8.4	8.2	8.8	7.9	8.6	10.0	9.2	11.7	13.3	+1.6										-2.0
Parental Education: ^a																				
1.0-2.0 (Low)	13.4	11.0	10.4	12.5	13.1	11.1	11.5	13.1	14.5	+1.4										+1.7
2.5-3.0	9.2	8.8	9.2	9.3	9.6	11.9	9.3	9.5	11.7	+2.2s										+0.1
3.5-4.0	6.9	7.6	8.5	9.3	9.4	10.4	10.2	9.1	9.9	+0.8										+2.0
4.5-5.0	6.1	6.5	5.9	7.5	6.4	8.7	6.7	7.0	6.9	-0.1										+1.5
5.5-6.0 (High)	6.8	4.9	6.7	7.6	6.0	7.1	5.8	6.9	8.7	+1.8										+3.6
Race (2-year average): ^b																				
White	—	7.7	7.8	8.4	8.9	9.7	9.7	9.1	9.8	+0.7										+0.2
Black	—	5.4	5.1	5.6	5.6	5.5	4.6	3.9	4.9	+1.0										-1.2
Hispanic	—	9.9	9.9	10.8	10.8	10.8	10.4	9.8	9.9	+0.1										-0.2

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. — indicates data not available.

See Table D-58 for the number of subgroup cases.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-43
Been Drunk: Trends in Thirty-Day Prevalence by Subgroups for Twelfth Graders

Percent who had been drunk in last thirty days

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	1998-'99 change			
Approx. N = 9400	15400	17100	17800	15900	16500	15900	17500	16300	17700	16300	15900	16200	16300	16300	16700	15200	15000	15800	16300	15400	15400	14300	15400	15400	15200	13600			
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31.6	29.9	28.9	30.8	33.2	31.3	34.2	32.9	32.9	0.0			
Sex:																													
Male	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37.1	35.2	34.5	34.5	37.8	35.4	39.2	39.0	37.9	-1.1			
Female	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.4	24.5	23.5	26.8	28.8	27.3	29.1	26.6	27.7	+1.1			
College Plans:																													
None or under 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Complete 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.2	31.4	32.6	32.2	37.6	31.4	38.1	33.7	36.1	+2.4			
Region:																													
Northeast	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.4	30.0	35.0	35.2	35.5	37.2	35.9	35.6	37.5	+1.9			
North Central	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37.2	38.2	32.5	34.1	38.2	31.5	33.7	34.8	33.4	-1.4			
South	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.5	25.2	26.4	29.1	31.2	31.0	34.5	30.1	30.8	+0.7			
West	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.5	26.6	23.2	25.4	27.1	24.7	32.7	33.5	32.2	-1.3			
Population Density:																													
Large MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.4	26.1	29.4	28.7	32.0	31.5	31.5	32.2	29.2	-3.0			
Other MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.5	29.8	26.9	29.9	31.7	33.0	33.7	34.0	35.4	+1.4			
Non-MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29.4	33.7	32.0	34.4	36.9	28.2	38.2	31.4	32.5	+1.1			
Parental Education: ^a																													
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.4	20.5	23.6	25.7	25.4	18.8	23.7	24.6	20.8	-3.8			
2.5-3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.2	30.0	26.4	30.3	30.0	27.4	31.5	28.0	30.5	+2.5			
3.5-4.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31.0	31.3	29.2	29.9	34.4	31.1	32.7	34.1	34.0	-0.1			
4.5-5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.4	29.4	32.8	33.5	36.5	35.8	37.7	36.0	32.8	-3.2			
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40.5	34.3	30.4	30.7	34.9	34.6	39.8	39.9	40.6	+0.7			
Race (2-year average): ^b																													
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

See Table D-59 for the number of subgroup cases.

See Appendix B for definition of variables in table.

Data based on two of six forms; N is two-sixths of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-44
Alcohol: Trends in Two-Week Prevalence of Five or More Drinks in a Row
by Subgroups for Eighth and Tenth Graders

	Percent reporting 5+ drinks in a row on one or more occasions										'98-'99 change	1999 change									
	8th Grade					10th Grade															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999	1999	1999	1999	1999	1999	1999	1999				
Approx. N = 17500	18600	18300	17300	17300	17500	17800	18600	18100	16700	14800	14800	15300	15800	17000	15600	15500	15000	13600			
Total	12.9	13.4	13.5	14.5	14.5	15.6	14.5	13.7	15.2	+1.5s	22.9	21.1	23.0	23.6	24.0	24.8	25.1	24.3	25.6	+1.3	
Sex:																					
Male	14.3	13.9	14.8	16.0	15.1	16.5	15.3	14.4	16.4	+2.0s	26.4	23.7	26.5	28.5	26.3	27.2	28.6	26.7	29.7	+3.0s	
Female	11.4	12.8	12.3	13.0	13.9	14.5	13.5	12.7	13.9	+1.2	19.5	18.6	19.3	18.7	21.5	22.3	21.7	22.2	21.8	-0.4	
College Plans:																					
None or under 4 yrs.	24.4	26.4	29.3	29.3	29.2	29.9	30.3	30.5	33.9	+3.4	33.0	31.8	35.1	36.4	37.5	38.2	39.4	38.2	39.3	+1.1	
Complete 4 yrs.	11.1	11.5	11.3	12.5	12.7	13.3	12.5	11.6	13.0	+1.5s	20.8	18.9	20.5	20.8	21.5	22.5	22.7	22.0	23.4	+1.4	
Region:																					
Northeast	10.3	10.7	10.0	12.6	12.6	15.1	13.0	11.3	14.5	+3.2	25.1	19.9	23.2	21.3	22.1	23.8	23.4	25.6	28.1	+2.5	
North Central	13.4	14.2	12.8	13.7	14.2	16.0	14.2	14.4	17.4	+3.1s	23.7	21.3	23.5	24.8	25.3	25.3	24.0	24.2	27.1	+2.9	
South	14.1	14.8	15.5	14.9	15.7	15.8	15.3	14.2	15.7	+1.5	22.7	21.5	22.6	24.6	24.5	25.6	25.6	25.2	24.2	-1.0	
West	12.3	12.8	15.0	16.5	14.4	15.3	14.6	13.9	12.2	-1.7	20.7	21.7	22.5	22.5	23.1	23.6	27.9	21.8	23.8	+2.0	
Population Density:																					
Large MSA	12.4	12.5	10.6	12.3	12.3	14.5	13.7	12.2	13.1	+0.9	21.6	19.3	20.9	19.0	20.2	22.2	22.5	20.0	24.3	+4.3s	
Other MSA	12.4	14.0	14.5	15.7	14.2	15.7	14.0	13.0	14.2	+1.2	22.1	20.0	21.2	24.4	24.1	24.9	24.8	24.0	24.6	+0.6	
Non-MSA	14.4	13.5	15.5	14.4	17.8	16.9	16.4	16.6	19.7	+3.1	25.5	25.2	28.1	26.8	28.1	27.6	28.9	30.1	29.3	-0.8	
Parental Education: ^a																					
1.0-2.0 (Low)	21.8	21.8	19.7	20.4	23.2	20.1	22.5	20.0	23.7	+3.7	25.7	25.6	26.8	25.5	30.5	27.2	25.5	26.5	28.4	+1.9	
2.5-3.0	15.1	16.0	15.6	17.1	17.8	18.4	16.2	16.4	19.6	+3.1s	26.0	22.4	25.7	25.7	26.7	27.8	26.1	27.9	28.7	+0.8	
3.5-4.0	12.8	13.0	13.9	14.8	15.0	15.9	15.8	14.5	16.1	+1.6	21.7	21.3	22.8	24.7	24.6	25.4	26.5	24.8	25.6	+0.8	
4.5-5.0	10.2	10.3	10.3	11.8	11.0	13.1	11.7	10.9	11.0	+0.1	20.8	19.7	19.9	21.7	21.6	22.0	23.1	21.5	23.3	+1.8	
5.5-6.0 (High)	9.8	9.5	10.1	11.2	10.5	12.1	10.6	10.7	11.2	+0.5	22.4	19.5	20.4	19.3	19.0	24.0	24.0	21.5	24.9	+3.4	
Race (2-year average): ^b																					
White	—	12.7	12.6	12.9	13.9	15.1	15.1	14.1	14.3	+0.2	—	23.2	23.0	24.5	25.4	26.2	26.9	27.0	27.2	+0.2	
Black	—	9.6	10.7	11.8	10.8	10.4	9.8	9.0	9.9	+0.9	—	15.0	14.8	14.0	13.3	12.2	12.7	12.8	12.7	-0.1	
Hispanic	—	20.4	21.4	22.3	22.0	21.0	20.7	20.4	20.9	+0.5	—	22.9	23.8	24.2	26.8	29.6	27.5	26.3	27.5	+1.2	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. — indicates data not available.

See Table D-58 for the number of subgroup cases.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-45
Alcohol: Trends in Two-Week Prevalence of Five or More Drinks in a Row by Subgroups for Twelfth Graders

Percent reporting 5+ drinks in a row on one or more occasions

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change	
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999	Change of 1998-1999	
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	14300	15400	15400	15200	13600	
Total	36.8	37.1	39.4	40.3	41.2	41.2	41.4	40.5	40.8	38.7	36.7	36.8	37.5	34.7	33.0	32.2	29.8	27.9	27.5	28.2	29.8	30.2	31.3	31.5	30.8	-0.7	
Sex:																											
Male	49.0	47.9	50.0	51.4	51.9	52.1	51.6	49.8	50.4	47.5	45.3	46.1	46.1	43.0	41.2	39.1	37.8	35.6	34.6	37.0	36.9	37.0	37.9	39.2	38.1	-1.1	
Female	26.4	25.9	29.3	29.6	30.9	30.5	30.8	31.1	31.0	29.6	28.2	28.1	29.2	26.5	24.9	24.4	21.2	20.3	20.7	20.2	23.0	23.5	24.4	24.0	23.6	-0.4	
College Plans:																											
None or under 4 yrs.	—	41.8	44.7	44.3	44.5	46.3	46.7	45.7	44.9	43.5	41.6	41.3	42.7	38.5	38.2	35.8	34.4	32.8	32.7	34.0	35.2	33.9	36.2	36.3	35.4	-0.9	
Complete 4 yrs.	—	31.5	33.9	35.9	37.7	36.9	37.4	36.5	37.2	34.6	33.0	34.1	35.0	32.8	30.5	30.3	27.9	26.0	25.8	26.3	27.8	28.8	29.5	30.0	29.5	-0.5	
Region:																											
Northeast	43.0	40.8	40.0	43.5	47.4	48.0	49.3	43.3	42.2	42.9	42.4	37.1	37.2	34.3	33.3	37.2	33.4	25.8	30.3	29.2	31.2	33.7	33.5	33.5	33.7	+0.2	
North Central	40.6	42.8	44.5	45.3	44.8	45.4	44.9	47.9	47.2	44.3	39.7	42.6	43.5	39.9	40.4	37.9	34.6	34.6	30.1	31.9	34.3	31.5	31.6	32.6	31.6	-1.0	
South	32.1	30.8	36.3	36.4	36.7	34.4	34.7	34.6	37.6	33.5	29.7	31.7	33.4	30.4	28.5	27.2	26.3	24.7	27.1	26.9	28.6	30.2	30.6	30.7	30.0	-0.7	
West	29.0	32.8	34.2	33.3	34.0	36.0	35.6	32.5	33.3	34.5	36.1	35.9	36.6	35.4	30.8	26.3	26.3	26.0	22.0	24.5	24.2	24.0	29.6	29.5	28.6	-0.9	
Population Density:																											
Large MSA	37.9	37.0	38.1	39.5	42.2	44.8	43.4	40.9	38.8	37.9	37.6	36.4	34.8	32.5	28.8	34.5	28.6	25.5	27.6	26.8	28.3	29.8	29.9	27.9	27.1	-0.8	
Other MSA	36.1	36.8	39.5	40.1	40.8	38.9	39.5	39.7	41.0	37.3	35.4	35.5	38.6	35.3	33.7	31.8	30.1	27.0	26.5	27.1	28.4	30.3	31.1	33.1	32.2	-0.9	
Non-MSA	36.9	38.0	40.5	41.3	40.9	41.4	42.2	41.3	42.0	41.2	37.6	39.1	38.3	35.9	35.8	30.6	30.4	31.9	29.2	31.5	34.0	30.5	33.2	32.4	32.4	0.0	
Parental Education: ^a																											
1.0-2.0 (Low)	31.6	34.1	35.6	36.3	36.0	37.0	35.3	37.2	34.8	31.8	31.7	33.9	30.7	25.4	25.3	25.3	26.8	23.4	21.9	24.0	26.6	24.8	22.6	26.3	27.4	+1.1	
2.5-3.0	37.5	41.1	41.8	40.9	42.3	43.3	43.2	41.4	41.2	39.8	38.2	37.9	38.9	35.7	34.0	32.7	29.9	28.1	27.6	28.5	31.2	28.6	30.4	30.3	30.8	+0.5	
3.5-4.0	35.1	36.4	39.5	41.3	41.4	42.1	42.4	40.9	39.3	36.9	37.9	38.3	34.7	34.3	32.0	30.4	27.9	28.4	28.4	29.5	29.8	31.0	33.2	30.5	30.5	-2.7	
4.5-5.0	34.4	36.9	37.2	42.4	43.8	40.8	41.9	41.9	38.6	37.1	37.1	37.2	35.1	34.2	34.5	29.9	28.1	28.4	29.3	29.9	32.4	32.4	32.4	32.3	30.6	-1.7	
5.5-6.0 (High)	29.9	34.5	41.1	37.2	41.9	38.5	39.3	40.9	42.1	38.2	34.9	36.7	37.2	34.7	31.8	34.1	30.6	30.4	29.0	29.0	30.7	33.1	34.9	32.4	34.2	+1.8	
Race (2-year average): ^b																											
White	—	—	40.5	42.4	43.5	44.3	44.9	44.9	44.5	43.6	41.5	40.3	40.9	40.0	37.9	36.6	34.6	32.1	31.3	31.5	32.3	33.4	35.1	36.4	35.7	-0.7	
Black	—	—	19.0	19.3	18.9	17.7	17.1	18.3	17.2	16.7	16.4	15.8	15.2	15.7	14.4	11.7	11.3	12.6	14.4	14.9	15.3	13.4	12.3	12.3	12.3	0.0	
Hispanic	—	—	36.4	37.2	33.6	33.1	34.8	32.9	32.5	33.0	31.7	30.8	33.0	33.7	28.8	25.6	27.9	31.1	27.2	24.3	26.6	27.1	27.6	28.1	29.3	+1.2	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. — indicates data not available.

See Table D-59 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-46
Cigarettes: Trends in Thirty-Day Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last thirty days										'98-'99 change										
	8th Grade					10th Grade															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
Total	14.3	15.5	16.7	18.6	19.1	21.0	19.4	19.1	17.5	-1.6s	20.8	21.5	24.7	25.4	27.9	30.4	29.8	27.6	25.7	-1.9	
Sex:	Approx. N = 17500 18600 18300 17300 17500 17800 18600 18100 16700																				
Male	15.5	14.9	17.2	19.3	18.8	20.6	19.1	18.0	16.7	-1.2	20.8	20.6	24.6	26.6	27.7	30.1	28.2	26.2	25.2	-1.0	
Female	13.1	15.9	16.3	17.9	19.0	21.1	19.5	19.8	17.7	-2.1	20.7	22.2	24.5	23.9	27.9	30.8	31.1	29.1	25.8	-3.3s	
College Plans:																					
None or under 4 yrs.	29.2	31.9	34.1	36.6	36.5	39.2	40.0	40.1	40.3	+0.2	36.5	35.0	41.9	42.2	46.3	46.2	47.2	45.2	44.0	-1.2	
Complete 4 yrs.	11.8	13.1	14.3	16.1	16.8	18.2	16.9	16.5	14.5	-2.0ss	17.3	18.6	21.0	21.7	24.7	27.8	26.8	24.5	22.7	-1.8	
Region:																					
Northeast	13.7	14.4	15.0	17.8	18.6	22.1	18.0	15.6	15.7	+0.1	22.4	21.9	27.1	24.5	27.8	31.7	29.3	30.1	28.0	-2.1	
North Central	15.5	16.5	16.3	18.5	20.9	23.2	20.0	22.3	21.3	-1.0	22.9	24.3	26.0	28.8	30.1	32.5	31.7	29.5	30.2	+0.8	
South	16.7	17.0	18.2	19.5	19.4	21.1	21.0	21.1	18.7	-2.4	21.2	19.8	24.0	25.7	30.8	33.4	32.2	29.8	26.3	-3.5s	
West	10.0	12.2	16.4	18.0	16.5	17.1	17.1	15.1	12.1	-3.0	16.7	20.2	21.2	20.1	19.6	20.8	23.2	19.6	17.5	-2.2	
Population Density:																					
Large MSA	12.8	15.0	14.1	15.5	16.5	19.4	15.8	16.4	12.7	-3.7ss	19.7	21.6	22.5	22.3	23.3	26.2	26.6	22.5	22.9	+0.4	
Other MSA	14.9	15.3	17.8	20.7	19.4	21.4	19.7	17.7	16.0	-1.8	20.3	20.3	23.8	26.3	28.9	31.1	28.9	26.6	25.0	-1.6	
Non-MSA	14.8	16.4	17.9	17.8	21.5	22.1	22.8	24.8	26.1	+1.3	22.7	23.7	28.2	26.7	31.3	33.9	34.9	35.7	30.4	-5.3s	
Parental Education: ^a																					
1.0-2.0 (Low)	26.2	24.1	23.3	26.1	25.3	26.5	26.9	26.7	26.6	-0.2	23.5	28.4	29.5	26.4	30.9	28.7	28.2	28.0	30.5	+2.5	
2.5-3.0	16.4	16.9	19.8	20.6	22.7	24.4	22.4	23.9	23.5	-0.4	24.1	23.3	28.0	29.1	33.2	33.8	33.2	33.0	29.6	-3.4s	
3.5-4.0	13.9	14.9	17.4	20.1	20.8	21.4	20.9	21.4	17.0	-4.4ss	20.4	20.6	24.8	26.0	27.8	31.6	30.9	27.3	26.0	-1.3	
4.5-5.0	10.1	13.3	12.5	14.9	14.9	18.4	16.2	14.2	12.3	-2.0	18.5	19.5	20.1	22.6	25.9	28.7	28.5	25.7	22.4	-3.3s	
5.5-6.0 (High)	11.3	11.5	13.3	15.1	14.5	17.3	15.3	13.8	12.2	-1.6	18.5	18.9	21.4	20.7	21.8	27.8	24.6	22.5	21.4	-1.1	
Race (2-year average): ^b																					
White	—	16.2	17.8	18.9	20.7	22.7	22.8	21.5	20.1	-1.5	—	24.1	26.0	27.8	29.7	32.9	34.4	33.2	30.8	-2.4	
Black	—	5.3	6.6	8.7	8.9	9.6	10.9	10.6	10.7	+0.1	—	6.6	7.5	9.8	11.5	12.2	12.8	13.7	12.5	-1.1	
Hispanic	—	16.7	18.3	21.3	21.6	19.6	19.1	20.1	20.5	+0.4	—	18.3	20.5	19.4	21.4	23.7	23.0	21.3	21.1	-0.2	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

See Table D-58 for the number of subgroup cases.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-47
Cigarettes: Trends in Thirty-Day Prevalence of Use by Subgroups for Twelfth Graders

Percent who used in last thirty days

Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999	Class of 198-99 change		
Approx. N = 9400 15400 17100 17800 15500 15900 17500 17700 16300 15900 16000 15200 16300 16700 15200 15000 15800 16300 15400 14300 15400 15200 13600																											
Total	36.7	38.8	38.4	36.7	34.4	30.5	29.4	30.0	30.3	29.3	30.1	29.6	29.4	28.7	28.6	29.4	28.3	27.8	29.9	31.2	33.5	34.0	36.5	35.1	34.6	-0.5	
Sex:																											
Male	37.2	37.7	36.6	34.5	31.2	26.8	26.5	26.8	28.0	25.9	28.2	27.9	27.0	28.0	27.7	29.1	29.0	29.2	30.7	32.9	34.5	34.9	37.3	36.3	35.4	-0.9	
Female	35.9	39.1	39.6	38.1	37.1	33.4	31.6	32.6	31.6	31.9	31.4	30.6	31.4	28.9	29.0	29.2	27.5	26.1	28.7	29.2	32.0	32.4	35.2	33.3	33.5	+0.2	
College Plans:																											
None or under 4 yrs.	—	46.3	46.2	44.6	43.0	39.6	38.1	38.7	38.0	37.9	40.5	38.5	39.7	37.5	38.0	37.5	38.1	38.6	37.3	40.9	43.5	45.0	45.7	46.7	44.9	-1.9	
Complete 4 yrs.	—	29.8	29.4	27.4	26.0	22.3	22.3	22.1	23.3	22.7	22.8	24.0	24.3	24.4	24.1	25.4	24.2	23.8	27.3	28.0	29.9	30.8	33.1	31.3	31.4	0.0	
Region:																											
Northeast	40.1	41.8	43.0	40.6	37.0	34.1	31.5	32.1	34.6	33.5	34.2	35.2	34.1	31.2	29.4	31.9	30.5	29.6	34.2	33.2	34.4	38.5	40.6	35.9	34.2	-1.7	
North Central	39.5	41.3	40.5	39.0	36.6	31.5	32.4	33.5	33.2	31.4	34.1	32.5	31.7	31.1	34.9	34.0	34.6	31.7	33.2	36.2	37.8	37.7	39.3	40.0	37.8	-2.2	
South	36.2	39.1	37.6	35.7	35.4	31.8	28.9	29.4	28.7	28.6	26.6	26.1	26.0	26.4	26.1	25.4	26.4	29.0	30.7	33.5	33.2	35.0	34.3	36.2	36.2	+1.9	
West	26.3	28.3	27.7	27.3	24.8	21.2	21.8	20.4	21.8	22.9	26.3	23.3	26.6	23.9	22.7	25.1	23.2	22.8	22.9	24.0	26.5	24.4	30.5	29.1	27.6	-1.6	
Population Density:																											
Large MSA	39.7	40.4	40.9	37.5	33.4	31.2	30.6	32.1	30.8	31.3	31.9	30.8	29.3	26.9	25.9	27.9	26.2	25.6	29.5	29.0	33.9	32.1	34.9	32.9	30.0	-2.9	
Other MSA	35.1	35.9	36.1	34.3	33.5	29.7	27.4	27.8	29.1	28.2	28.5	28.0	28.2	28.3	28.2	29.6	29.3	26.9	29.8	31.1	31.7	32.6	35.7	34.2	35.0	+0.8	
Non-MSA	36.7	40.9	39.2	39.4	36.4	30.9	30.9	31.2	31.5	29.3	30.8	31.0	31.8	31.4	32.2	30.4	28.6	31.5	30.3	33.8	36.2	38.2	40.0	39.7	38.7	-1.0	
Parental Education: ^a																											
1.0-2.0 (Low)	37.2	43.2	39.6	38.1	38.1	32.7	32.5	32.6	32.7	33.6	32.3	32.3	28.6	28.8	28.1	25.4	26.3	31.3	27.1	26.5	26.2	31.2	31.5	31.2	32.3	33.0	+0.7
2.5-3.0	37.0	41.2	40.8	39.3	35.9	34.2	31.7	32.0	32.2	31.8	32.3	32.3	31.4	29.9	30.8	30.8	28.7	30.3	30.4	32.8	35.0	35.5	36.5	36.0	37.3	+1.3	
3.5-4.0	31.9	35.3	37.3	34.0	33.3	28.0	28.2	29.0	28.0	28.1	29.7	29.7	28.8	27.8	29.4	29.3	28.4	27.8	29.9	31.4	33.2	33.2	35.6	36.7	35.0	-1.7	
4.5-5.0	32.3	35.0	33.0	32.6	30.1	25.7	26.0	25.5	27.8	25.2	27.7	26.4	27.6	28.6	27.0	29.1	28.9	25.8	30.1	32.0	32.6	34.5	37.5	34.2	32.4	-1.8	
5.5-6.0 (High)	26.8	30.8	32.8	31.9	29.6	24.0	22.5	25.1	25.5	23.7	22.6	26.7	29.3	27.8	26.3	28.6	27.1	25.5	30.5	30.4	34.0	32.9	38.5	33.1	34.4	+1.3	
Race (2-year average): ^b																											
White	—	—	38.3	37.6	36.0	33.0	30.5	30.7	31.3	31.2	31.3	31.9	32.1	32.2	32.2	32.3	32.2	31.8	33.2	35.2	36.6	38.1	40.7	41.7	40.1	-1.6	
Black	—	—	36.7	32.7	30.2	26.8	23.7	21.8	21.2	19.3	18.1	16.9	14.2	13.3	12.6	10.6	8.7	9.5	10.9	12.9	14.2	14.3	14.9	14.9	14.9	0.0	
Hispanic	—	—	35.7	32.8	26.8	22.6	23.2	24.7	24.7	25.3	25.5	23.7	22.7	21.9	20.6	21.7	24.0	25.0	24.2	23.6	25.1	25.4	25.9	26.6	27.3	+0.7	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

See Table D-59 for the number of subgroup cases.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-49
Cigarettes: Trends in Thirty-Day Prevalence of Daily Use by Subgroups for Twelfth Graders

	Percent who used daily in last thirty days																										
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change	
Approx. N = 9400	15400	17100	17800	15500	15900	17500	16300	16700	15200	15000	15800	16300	15400	15400	14300	15400	15400	14300	15400	15400	14300	15400	15400	15200	13600		
Total	26.9	28.8	28.8	27.5	25.4	21.3	20.3	21.1	21.2	18.7	19.5	18.7	18.7	18.1	18.9	19.1	18.5	17.2	19.0	19.4	21.6	22.2	24.6	22.4	23.1	+0.7	
Sex:																											
Male	26.9	28.0	27.1	26.0	22.3	18.5	18.1	18.2	19.2	16.0	17.8	16.9	16.4	17.4	17.9	18.6	18.8	17.2	19.4	20.4	21.7	22.2	24.8	22.7	23.6	+0.9	
Female	26.4	28.8	30.0	28.3	27.8	23.5	21.7	23.2	22.2	20.5	20.6	19.8	20.6	18.1	19.4	19.3	17.9	16.7	18.2	18.1	20.8	21.8	23.6	21.5	22.2	+0.7	
College Plans:																											
None or under 4 yrs.	—	36.5	37.2	35.2	33.8	29.7	29.3	29.5	29.3	27.2	29.6	28.2	29.0	27.4	27.9	28.3	28.4	28.1	27.8	29.8	33.7	33.2	35.6	34.6	34.2	-0.4	
Complete 4 yrs.	—	19.8	19.3	18.3	17.0	13.8	12.9	13.2	13.8	11.9	12.4	12.8	13.3	13.4	14.6	14.7	14.1	12.9	15.9	16.7	17.4	18.9	20.6	18.4	19.5	+1.1	
Region:																											
Northeast	31.4	32.3	33.8	32.5	28.6	24.1	23.3	23.4	26.1	23.6	24.9	24.9	24.8	21.4	21.3	22.8	20.9	19.4	23.5	21.3	22.5	27.0	29.4	23.4	23.2	-0.2	
North Central	28.6	30.2	29.4	28.6	27.0	22.0	23.0	24.0	23.4	20.4	22.4	19.9	20.3	19.0	23.0	22.2	23.0	19.0	21.3	23.8	25.7	26.1	28.0	27.8	25.9	-1.9	
South	26.2	29.1	28.7	26.4	25.8	22.6	19.1	20.2	19.4	17.7	16.0	15.8	15.7	17.7	17.1	16.5	16.4	16.7	18.5	19.3	21.7	20.5	22.6	21.8	24.2	+2.4	
West	17.3	19.4	19.2	19.1	17.0	14.0	13.1	12.7	13.0	12.4	14.2	13.4	14.9	14.0	13.8	14.8	13.9	13.3	13.0	12.4	14.5	13.8	17.5	15.5	17.3	+1.8	
Population Density:																											
Large MSA	30.8	30.4	30.9	29.2	24.5	21.6	21.9	23.5	22.1	21.5	21.9	20.6	20.3	18.0	16.7	19.0	16.7	16.6	17.3	17.7	21.3	20.7	23.7	20.6	18.6	-2.0	
Other MSA	25.6	27.1	27.2	25.7	25.0	21.3	19.0	19.3	20.2	17.4	17.7	17.0	17.6	17.7	19.0	19.0	19.0	16.9	19.7	19.2	19.9	21.9	23.9	21.2	22.8	+1.6	
Non-MSA	25.8	29.5	29.1	28.7	26.5	21.2	20.7	21.3	21.7	18.2	19.9	19.8	19.3	18.8	20.9	19.5	19.0	20.3	19.2	21.6	24.8	24.1	26.8	27.2	28.5	+1.3	
Parental Education: ^a																											
1.0-2.0 (Low)	27.2	32.7	29.6	28.6	29.1	23.7	24.1	24.6	24.0	23.2	22.7	20.4	19.7	19.2	17.1	16.7	21.2	16.5	17.6	16.9	21.3	21.1	21.9	21.7	23.8	+2.1	
2.5-3.0	27.2	31.3	31.5	30.3	26.5	24.7	22.5	23.1	23.2	21.5	21.8	21.4	21.1	19.6	21.5	21.0	19.8	20.4	20.2	22.4	24.6	24.4	26.0	24.7	26.9	+2.2	
3.5-4.0	22.1	25.8	28.1	24.8	24.5	19.4	19.0	19.7	18.8	16.4	19.3	19.4	17.8	17.5	19.0	19.3	18.5	16.9	18.9	18.9	21.6	21.2	23.8	23.8	23.6	-0.2	
4.5-5.0	22.9	24.5	23.7	23.2	21.2	16.6	16.1	16.8	17.5	14.1	16.0	13.9	16.5	16.5	17.2	18.3	16.2	15.0	18.9	18.7	19.7	22.4	24.9	20.6	20.6	0.0	
5.5-6.0 (High)	17.4	22.8	21.7	22.8	20.6	15.0	13.9	14.5	17.2	14.1	11.2	13.6	16.6	15.1	15.8	16.5	16.1	12.8	16.6	17.3	18.5	20.0	22.9	17.4	19.0	+1.6	
Race (2-year average): ^b																											
White	—	—	—	28.9	28.3	26.9	23.9	21.4	21.6	22.1	21.0	20.4	20.6	20.5	20.6	21.1	21.8	21.5	20.5	21.4	22.9	23.9	25.4	27.8	28.3	26.9	-1.4
Black	—	—	—	24.9	22.7	20.9	17.4	14.6	13.1	12.5	10.7	9.9	9.4	7.9	7.3	6.4	5.8	5.1	4.2	4.1	4.9	6.1	7.0	7.2	7.4	+0.3	
Hispanic	—	—	—	22.6	20.4	15.8	12.8	13.6	14.3	14.9	13.9	11.8	11.3	11.0	10.9	10.8	10.9	11.5	12.5	11.8	10.6	11.6	12.9	14.0	13.6	14.0	+0.4

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '—' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table. SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details. ^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-50
Cigarettes: Trends in Thirty-Day Prevalence of Use of Half-pack a Day or More
by Subgroups for Eighth and Tenth Graders

	Percent who used daily in last thirty days										'98-'99 change										
	8th Grade					10th Grade															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
Approx. N =	17500	18600	18300	17300	17500	17800	18600	18100	16700		14800	14800	15300	15800	17000	15600	15500	15000	13600		
Total	3.1	2.9	3.5	3.6	3.4	4.3	3.5	3.6	3.3	-0.3	6.5	6.0	7.0	7.6	8.3	9.4	8.6	7.9	7.6	-0.3	
Sex:																					
Male	3.7	3.1	4.3	4.2	3.7	4.7	3.7	3.5	3.1	-0.4	6.9	6.5	7.8	8.2	8.7	9.9	8.9	8.1	7.8	-0.3	
Female	2.4	2.7	2.7	2.9	3.2	3.7	3.1	3.3	3.3	0.0	6.0	5.1	6.2	6.7	7.7	9.0	8.2	7.8	7.3	-0.5	
College Plans:																					
None or under 4 yrs.	10.1	10.8	11.9	11.7	11.4	13.5	11.6	13.8	13.4	-0.4	15.9	15.3	18.5	18.5	20.9	22.4	22.0	20.6	18.9	-1.7	
Complete 4 yrs.	1.9	1.7	2.2	2.4	2.3	2.8	2.4	2.2	2.0	-0.2	4.4	4.0	4.6	5.2	6.1	7.1	6.3	5.6	5.7	+0.1	
Region:																					
Northeast	3.3	2.8	2.7	3.7	3.7	4.1	3.7	2.1	3.1	+1.0	7.8	5.9	8.5	7.8	7.7	9.1	8.8	10.0	9.1	-0.9	
North Central	3.3	3.2	3.5	3.9	4.4	5.3	4.1	4.6	5.7	+1.1	7.1	7.3	7.7	8.3	9.5	10.9	9.3	9.1	9.9	+0.8	
South	3.4	3.3	4.6	3.9	3.6	4.5	3.7	4.8	2.9	-1.9 ^{ss}	7.2	5.5	7.1	8.7	10.3	11.0	10.2	8.9	7.8	-1.1	
West	1.9	2.0	2.2	2.6	1.8	2.7	2.2	1.6	1.2	-0.4	4.0	5.0	4.3	4.2	3.4	5.0	4.4	3.0	3.0	0.0	
Population Density:																					
Large MSA	2.4	2.3	2.1	3.0	2.5	3.7	2.7	2.3	1.8	-0.5	6.9	5.2	5.9	5.8	6.0	7.6	6.6	5.8	6.0	+0.2	
Other MSA	3.3	3.2	3.7	3.9	3.6	3.8	3.2	3.2	2.8	-0.4	5.8	5.8	6.7	8.5	9.2	9.5	8.0	7.7	7.6	-0.1	
Non-MSA	3.4	3.3	5.0	3.7	4.3	5.8	4.8	5.6	5.9	+0.3	7.6	6.9	8.7	7.8	9.2	11.5	12.0	11.0	9.4	-1.6	
Parental Education: ^a																					
1.0-2.0 (Low)	7.9	6.5	6.4	5.1	8.2	6.5	6.4	6.2	6.2	0.0	9.9	10.7	10.8	8.1	12.0	12.1	10.8	9.0	11.3	+2.3	
2.5-3.0	3.7	3.4	3.9	4.9	4.1	6.4	4.8	5.2	4.8	-0.4	8.9	6.9	8.5	10.1	12.2	13.1	11.4	11.6	10.4	-1.2	
3.5-4.0	2.5	2.6	3.6	3.4	3.6	3.2	3.5	3.7	3.4	-0.3	5.8	5.4	7.3	8.0	8.6	10.2	8.8	7.4	7.4	0.0	
4.5-5.0	1.6	1.8	2.3	2.6	2.0	2.8	2.2	2.0	1.5	-0.5	4.7	4.7	4.3	5.4	5.0	6.2	6.5	5.9	5.5	-0.4	
5.5-6.0 (High)	1.8	1.5	2.2	2.2	1.5	2.7	1.8	2.1	1.8	-0.3	4.5	3.7	3.9	4.0	4.0	5.7	4.8	5.4	4.5	-0.9	
Race (2-year average): ^b																					
White	—	3.3	3.8	4.2	4.2	4.6	4.6	4.2	4.0	-0.2	—	7.4	7.7	8.6	9.3	10.5	11.0	10.4	9.9	-0.5	
Black	—	0.4	0.7	1.0	0.9	1.3	1.4	1.2	1.3	+0.1	—	0.8	0.6	1.2	1.8	1.6	1.7	1.8	1.5	-0.3	
Hispanic	—	2.7	2.5	3.1	3.3	2.7	2.4	2.8	3.0	+0.2	—	3.0	3.0	2.6	3.4	4.3	3.3	3.0	3.1	+0.1	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. See Table D-58 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-51
Cigarettes: Trends in Thirty-Day Prevalence of Use of Half-pack a Day or More by Subgroups for Twelfth Graders

Percent who used daily in last thirty days

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
Approx. N = 9400 15400 17100 17800 15500 15900 17500 17700 16300 15900 16000 15200 16300 16300 16700 15200 15000 15800 16300 15400 15400 14800 15400 15200 13600																											
Total	17.9	19.2	19.4	18.8	16.5	14.3	13.5	14.2	13.8	12.3	12.5	11.4	11.4	10.6	11.2	11.3	10.7	10.0	10.9	11.2	12.4	13.0	14.3	12.6	13.2	+0.6	
Sex:																											
Male	19.6	19.9	19.7	18.9	15.4	13.5	12.8	13.1	13.1	11.0	12.3	10.7	10.1	11.1	11.2	11.6	11.6	10.4	11.6	12.7	13.2	13.6	15.5	13.5	14.5	+1.0	
Female	16.1	18.0	18.9	18.0	17.1	14.7	13.8	14.7	13.6	12.8	12.0	11.6	12.5	9.7	10.7	10.8	9.5	9.2	9.9	9.5	11.1	12.0	12.6	11.1	11.5	+0.4	
College Plans:																											
None or under 4 yrs.	—	25.5	26.9	25.5	23.3	21.2	20.8	21.0	20.9	19.6	20.7	19.2	19.5	18.4	18.6	19.2	18.7	19.1	18.7	19.6	22.6	23.1	23.5	23.7	23.2	-0.5	
Complete 4 yrs.	—	11.9	11.2	11.1	9.8	8.2	7.5	7.8	7.6	6.5	6.5	6.4	7.2	6.8	7.5	7.5	7.1	6.5	8.1	8.2	8.9	10.0	11.0	8.9	10.1	+1.2	
Region:																											
Northeast	22.0	22.5	24.2	23.6	19.8	17.0	16.6	15.6	16.6	17.4	17.0	15.6	16.5	13.1	13.6	13.8	12.9	11.1	14.7	12.2	13.4	17.0	19.4	13.6	13.4	-0.2	
North Central	18.8	20.3	20.3	19.8	17.4	15.4	16.0	17.3	17.1	13.0	14.9	12.3	12.3	11.5	14.2	13.7	14.1	11.0	12.5	15.3	14.2	15.1	16.9	16.8	15.0	-1.8	
South	16.8	19.0	18.5	17.0	16.1	14.5	12.0	13.3	12.4	11.3	9.7	10.0	9.4	10.1	9.7	9.4	8.9	10.2	10.4	10.8	12.6	12.0	12.3	11.8	13.9	+2.1	
West	11.3	12.4	11.5	12.2	10.8	8.3	7.3	7.1	6.4	7.4	7.6	6.5	8.1	7.7	6.9	8.3	7.2	6.8	6.0	5.9	8.4	6.5	8.2	7.5	9.0	+1.5	
Population Density:																											
Large MSA	21.7	20.1	20.4	19.7	16.2	14.8	15.4	15.9	14.1	14.8	14.4	12.2	13.1	10.8	10.1	11.2	10.2	9.9	9.1	10.2	12.3	11.6	12.8	11.0	9.6	-1.4	
Other MSA	17.4	18.9	18.8	17.9	16.5	13.8	12.4	12.9	13.5	11.4	11.0	9.6	10.0	10.4	11.2	11.0	10.7	8.4	11.2	10.5	11.1	12.8	14.3	11.7	12.6	+0.9	
Non-MSA	15.9	19.0	19.5	19.3	16.7	14.7	13.6	14.2	14.0	11.5	12.9	13.3	12.5	10.7	12.1	12.1	11.1	13.1	11.7	13.7	14.7	14.4	16.0	16.5	18.0	+1.5	
Parental Education: ^a																											
1.0-2.0 (Low)	18.6	21.3	20.0	19.2	19.5	16.3	16.0	17.1	17.1	16.4	16.1	15.6	13.8	11.2	11.5	10.2	12.5	11.0	10.7	9.5	13.5	13.6	11.9	12.5	15.0	+2.5	
2.5-3.0	17.7	21.4	22.2	21.0	17.6	16.8	15.6	15.9	15.2	14.8	14.2	13.3	13.9	12.4	13.5	13.4	12.4	12.7	12.5	13.7	15.1	14.8	16.4	14.9	16.6	+1.7	
3.5-4.0	13.9	17.4	18.3	16.9	15.2	12.8	12.5	13.3	11.9	10.5	12.0	11.0	10.5	10.3	10.7	11.6	10.7	9.6	10.4	11.0	12.7	12.3	13.9	13.8	13.1	-0.7	
4.5-5.0	15.9	15.9	14.8	15.4	12.6	10.3	10.1	10.1	10.5	8.0	9.5	6.8	8.9	8.6	9.2	10.2	7.9	8.1	10.0	10.4	9.8	12.6	14.5	10.3	10.7	+0.4	
5.5-6.0 (High)	9.1	15.9	14.6	14.5	13.6	9.8	8.8	9.3	9.3	7.9	5.4	7.4	8.4	8.3	8.4	7.9	9.0	5.7	8.3	8.8	9.1	10.8	11.2	7.4	9.5	+2.1	
Race (2-year average): ^b																											
White	—	—	20.3	20.2	18.6	16.4	15.0	15.1	15.2	14.2	13.6	13.1	12.9	12.9	12.9	13.3	13.1	12.3	12.8	13.7	14.2	15.2	16.9	16.9	15.9	-1.0	
Black	—	—	10.7	9.7	9.1	7.1	5.8	5.4	4.9	4.1	3.9	3.6	2.9	2.3	1.9	1.8	1.8	1.5	1.7	2.2	2.5	2.8	2.5	2.4	-0.1		
Hispanic	—	—	11.3	9.0	6.4	5.6	6.1	5.6	5.9	6.1	5.3	5.0	4.1	3.5	4.2	4.2	4.0	4.6	4.5	4.0	4.1	5.3	5.8	5.2	5.8	+0.6	

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '—' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table. SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

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**TABLE D-52
Smokeless Tobacco: Trends in Thirty-Day Prevalence of Use by Subgroups for Eighth and Tenth Graders**

	Percent who used in last thirty days													'98-'99 change								
	8th Grade						10th Grade															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
Total	6.9	7.0	6.6	7.7	7.1	7.1	5.5	4.8	4.5	-0.3	14800	14800	15300	15800	17000	15600	15500	15000	13600	6.5	6.5	-1.0
Sex:																						
Male	12.7	12.5	10.9	12.8	11.8	11.4	9.9	8.1	6.9	-1.2	18.7	18.1	19.3	19.2	17.2	15.0	14.9	13.8	12.2	12.2	12.2	-1.6
Female	1.4	2.0	2.7	2.4	2.9	2.9	1.5	1.5	2.1	+0.6	1.3	1.8	2.0	2.1	2.1	2.3	2.7	1.7	1.7	1.3	1.3	-0.4
College Plans:																						
None or under 4 yrs.	12.7	17.1	15.5	16.7	15.4	16.4	12.6	13.9	13.2	-0.7	16.9	17.5	20.2	19.9	20.3	16.3	17.2	18.5	17.8	13.2	13.2	-4.6s
Complete 4 yrs.	6.1	5.5	5.3	6.5	6.0	5.6	4.6	3.8	3.5	-0.3	8.4	8.0	8.4	8.5	7.8	7.2	7.2	5.7	5.7	5.4	5.4	-0.3
Region:																						
Northeast	5.0	4.9	3.4	6.1	5.4	4.9	3.2	2.7	2.5	-0.2	8.6	5.3	8.0	9.0	7.6	6.8	9.3	6.5	6.5	5.2	5.2	-1.3
North Central	7.1	7.5	7.2	7.1	7.6	8.3	6.8	4.3	5.3	+1.0	11.0	9.6	10.0	10.0	11.0	9.5	7.1	7.9	8.1	8.1	8.1	+0.2
South	9.5	9.3	8.0	9.9	8.7	8.1	6.7	6.9	5.9	-1.0	11.6	11.4	11.8	11.7	10.9	10.2	10.2	9.5	7.9	7.9	7.9	-1.6
West	3.5	4.4	6.3	6.0	5.0	5.9	4.1	3.9	2.9	-1.0	7.8	10.9	11.1	10.9	7.7	6.0	8.2	4.6	4.6	4.0	4.0	-0.6
Population Density:																						
Large MSA	4.8	4.2	3.3	4.6	4.1	4.2	3.6	2.9	1.8	-1.1	5.9	6.4	6.5	6.2	5.9	5.5	4.2	3.7	4.6	4.6	4.6	+0.9
Other MSA	6.2	6.9	6.8	6.4	6.7	7.1	4.7	4.1	3.9	-0.2	9.2	9.3	10.1	10.9	9.2	8.4	8.3	5.7	5.3	5.3	5.3	-0.4
Non-MSA	10.4	10.3	9.9	13.0	11.2	10.6	9.0	8.5	8.9	+0.4	14.7	13.3	14.1	13.9	15.0	12.2	14.7	15.1	11.3	11.3	11.3	-3.8
Parental Education: ^a																						
1.0-2.0 (Low)	11.4	7.8	9.4	8.9	10.6	6.3	8.3	5.4	6.6	+1.2	6.6	10.1	10.9	9.4	9.6	8.1	9.0	6.8	7.2	6.8	7.2	+0.4
2.5-3.0	8.4	8.5	7.5	8.4	9.9	8.8	6.0	5.1	5.7	+0.6	12.1	11.0	12.2	12.5	10.4	9.7	9.4	8.2	7.0	8.2	7.0	-1.2
3.5-4.0	6.7	7.0	7.5	8.7	7.0	7.2	6.5	5.9	4.5	-1.4	10.6	10.5	10.9	10.2	10.9	8.3	10.3	8.6	7.3	8.6	7.3	-1.3
4.5-5.0	4.8	7.0	5.2	6.1	5.0	6.8	4.8	4.4	3.3	-1.1	9.3	7.6	9.9	9.8	9.8	8.5	7.2	6.9	6.1	6.9	6.1	-0.8
5.5-6.0 (High)	6.1	4.6	4.9	6.8	5.8	5.9	3.7	3.9	3.1	-0.8	8.6	8.1	7.0	8.9	6.0	7.7	8.3	5.2	4.8	5.2	4.8	-0.4
Race (2-year average): ^b																						
White	—	8.3	8.0	8.1	8.9	8.8	7.6	6.1	5.4	-0.7	—	11.4	12.0	12.5	12.0	11.0	10.4	10.0	8.7	10.0	8.7	-1.3
Black	—	1.8	2.7	3.2	2.6	2.2	2.6	2.3	2.3	0.0	—	2.9	2.3	2.3	2.5	2.5	2.8	2.3	1.6	2.3	1.6	-0.7
Hispanic	—	4.2	4.0	5.0	5.7	5.2	4.6	4.5	4.6	+0.1	—	6.2	6.1	4.3	3.6	4.0	4.6	4.8	4.8	4.8	4.8	0.0

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. See Table D-58 for the number of subgroup cases. See Appendix B for definition of variables in table. Data based on one of two forms in 1991-96 and on two of four forms beginning in 1997; N is one-half of N indicated. SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details. ^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-53
Smokeless Tobacco: Trends in Thirty-Day Prevalence of Use by Subgroups for Twelfth Graders

Percent who used in last thirty days

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990*	1991*	1992	1993	1994	1995	1996	1997	1998	1999	change of '98-'99	
Approx. N = 9400	15400	17100	17800	17800	15500	15900	17500	16300	15900	16000	16300	16300	16300	16300	16700	15200	15000	15800	16300	15400	15400	14300	15400	15200	13600		
Total	—	—	—	—	—	—	—	—	—	—	11.5	11.3	10.3	8.4	—	—	—	11.4	10.7	11.1	12.2	9.8	9.7	8.8	8.4	-0.4	
Sex:																											
Male	—	—	—	—	—	—	—	—	—	—	22.3	22.8	19.9	15.9	—	—	—	20.8	19.7	20.3	23.6	19.5	18.7	15.6	15.5	-0.1	
Female	—	—	—	—	—	—	—	—	—	—	1.6	0.7	1.7	1.2	—	—	—	2.0	2.3	2.6	1.8	1.1	1.2	1.5	1.3	-0.2	
College Plans:																											
None or under 4 yrs.	—	—	—	—	—	—	—	—	—	—	14.5	15.5	13.1	9.6	—	—	—	18.0	14.9	15.8	18.7	17.6	16.9	14.3	10.5	-3.8	
Complete 4 yrs.	—	—	—	—	—	—	—	—	—	—	9.8	9.0	8.8	7.7	—	—	—	9.4	9.4	9.3	9.9	7.6	7.4	7.1	7.6	+0.5	
Region:																											
Northeast	—	—	—	—	—	—	—	—	—	—	9.5	7.3	5.9	5.0	—	—	—	8.2	9.6	12.0	9.6	8.4	6.9	2.6	4.3	+1.7	
North Central	—	—	—	—	—	—	—	—	—	—	13.5	11.3	10.8	8.3	—	—	—	12.3	13.6	14.7	16.7	12.6	13.4	11.8	8.9	-2.9	
South	—	—	—	—	—	—	—	—	—	—	12.2	13.7	12.1	9.8	—	—	—	12.5	11.1	9.7	11.9	9.2	9.0	10.5	10.7	+0.2	
West	—	—	—	—	—	—	—	—	—	—	9.3	11.7	10.9	9.1	—	—	—	11.1	7.0	8.5	8.6	8.5	9.1	7.3	7.0	-0.3	
Population Density:																											
Large MSA	—	—	—	—	—	—	—	—	—	—	9.0	6.4	7.7	6.8	—	—	—	5.9	7.1	7.5	12.5	8.6	6.5	4.7	4.9	+0.2	
Other MSA	—	—	—	—	—	—	—	—	—	—	8.9	10.5	8.5	7.6	—	—	—	11.1	9.9	11.3	9.5	7.4	7.4	7.7	8.5	+0.8	
Non-MSA	—	—	—	—	—	—	—	—	—	—	17.1	17.5	16.1	11.7	—	—	—	16.9	15.0	14.7	16.7	15.3	17.9	16.1	11.7	-4.4	
Parental Education: ^b																											
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	—	8.6	11.7	10.7	5.3	—	—	—	14.9	7.0	12.3	9.8	6.3	5.8	6.1	5.4	-0.7	
2.5-3.0	—	—	—	—	—	—	—	—	—	—	14.4	11.5	10.7	7.0	—	—	—	12.4	11.6	12.9	11.5	10.4	10.7	9.0	9.1	+0.1	
3.5-4.0	—	—	—	—	—	—	—	—	—	—	11.5	12.1	10.6	9.0	—	—	—	12.4	10.8	9.8	12.8	9.1	10.4	9.8	8.8	-1.0	
4.5-5.0	—	—	—	—	—	—	—	—	—	—	10.4	11.7	11.8	10.2	—	—	—	8.0	13.3	11.1	12.8	11.4	9.1	9.6	8.5	-1.1	
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	—	7.7	8.1	7.2	8.4	—	—	—	10.6	7.8	10.2	11.6	8.1	9.9	7.4	7.9	+0.5	
Race (2-year average): ^c																											
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

^aSee Table D-59 for the number of subgroup cases.

^bSee Appendix B for definition of variables in table.

^cData based on one of six forms; N is one-sixth of N indicated.

^dThe Monitoring the Future Study, the University of Michigan.

SOURCE: Limited sample sizes (see "Notes" above). Use caution in interpreting subgroup trends.

*Prevalence of smokeless tobacco use was not asked of twelfth graders in 1990 and 1991. Prior to 1990 the prevalence of use question on smokeless tobacco was located near the end of one twelfth-grade questionnaire form, whereas after 1991 the question was placed earlier and in a different form. This shift could explain the discontinuities between the corresponding data.

^eParental education is an average score of mother's education and father's education. See Appendix B for details.

^fTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-54
Smokeless Tobacco: Trends in Thirty-Day Prevalence of Daily Use
by Subgroups for Eighth and Tenth Graders

	Percent who used daily in last thirty days										'98-'99 change										
	8th Grade					10th Grade															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	1991	1992	1993	1994	1995	1996	1997	1998	1999	change	
Total	1.6	1.8	1.5	1.9	1.2	1.5	1.0	1.0	0.9	-0.1	3.3	3.0	3.3	3.0	2.7	2.2	2.2	2.2	2.2	1.5	-0.7
Sex:																					
Male	3.1	3.4	2.9	3.2	2.2	2.9	1.7	1.8	1.6	-0.2	6.3	6.3	6.4	5.9	5.2	4.2	4.0	4.3	3.2	3.2	-1.1
Female	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.0	0.2	0.1	0.3	0.2	0.2	0.2	0.3	0.3	0.1	0.1	-0.2
College Plans:																					
None or under 4 yrs.	4.1	5.6	4.4	5.4	3.5	5.1	3.6	6.1	3.8	-2.3	7.6	8.5	8.8	6.5	7.8	5.4	6.3	6.4	3.6	3.6	-2.8s
Complete 4 yrs.	1.2	1.2	1.1	1.4	0.9	1.0	0.6	0.5	0.5	0.0	2.3	1.9	2.2	2.2	1.9	1.6	1.5	1.5	1.2	1.2	-0.3
Region:																					
Northeast	1.2	0.9	0.6	0.8	0.6	0.8	0.6	0.4	0.1	-0.3	1.8	1.0	1.7	3.0	2.0	1.3	1.5	1.2	1.2	1.2	0.0
North Central	1.5	1.6	1.6	1.4	1.1	2.0	1.2	1.3	0.9	-0.4	3.1	2.9	2.5	2.4	2.5	2.1	1.4	2.1	2.0	2.0	-0.1
South	2.4	3.0	2.2	3.3	1.8	2.0	1.5	1.3	1.6	+0.3	4.7	4.5	5.2	3.3	4.1	3.3	3.5	3.8	2.0	2.0	-1.8
West	0.6	0.8	1.0	0.9	0.8	0.8	0.2	0.7	0.3	-0.4	2.7	2.9	3.1	3.6	1.1	1.0	1.7	0.8	0.7	0.7	-0.1
Population Density:																					
Large MSA	0.5	0.6	0.7	0.7	0.4	0.4	0.5	0.4	0.3	-0.1	1.5	1.6	1.1	1.0	1.5	0.6	0.8	1.0	0.8	0.8	-0.2
Other MSA	1.2	1.9	1.5	1.0	0.9	1.2	0.8	0.6	0.8	+0.2	3.1	2.8	3.2	3.5	2.3	2.3	1.7	1.5	1.0	1.0	-0.5
Non-MSA	3.3	2.8	2.5	4.6	2.6	3.4	1.6	2.6	1.8	-0.8	5.0	4.9	5.3	4.2	4.9	3.6	4.6	5.0	3.5	3.5	-1.5
Parental Education: ^a																					
1.0-2.0 (Low)	2.8	3.5	2.0	3.0	2.2	1.5	3.2	2.6	0.9	-1.7	2.5	3.9	4.1	3.2	3.6	1.7	3.8	2.6	1.7	1.7	-0.9
2.5-3.0	2.2	2.6	1.9	2.7	1.7	3.1	1.1	1.5	1.6	+0.1	4.8	5.0	4.3	3.8	3.4	3.4	2.0	2.8	1.7	1.7	-1.1
3.5-4.0	1.4	1.2	1.8	1.9	1.2	1.7	0.9	1.3	0.8	-0.5	3.3	2.8	3.1	3.0	2.8	1.4	2.4	2.7	1.6	1.6	-1.1
4.5-5.0	0.8	1.3	1.1	1.1	0.9	0.3	0.8	0.5	0.5	0.0	2.5	1.7	2.5	2.7	2.9	2.3	1.7	1.8	1.6	1.6	-0.2
5.5-6.0 (High)	1.0	0.9	0.6	0.7	0.8	0.8	0.4	0.5	0.4	-0.1	2.5	1.6	2.7	1.7	1.0	1.4	1.9	0.7	0.8	0.8	+0.1
Race (2-year average): ^b																					
White	—	2.0	2.0	2.0	1.9	1.7	1.5	1.2	1.1	-0.1	—	3.8	3.9	3.8	3.3	2.9	2.5	2.7	2.4	2.4	-0.3
Black	—	0.3	0.4	0.7	0.6	0.4	0.5	0.4	0.4	0.0	—	0.5	0.4	0.6	0.5	0.4	0.4	0.4	0.4	0.3	-0.1
Hispanic	—	0.8	0.9	0.9	0.7	1.1	0.9	0.8	1.0	+0.2	—	1.1	1.0	0.8	1.2	1.2	1.3	1.3	0.8	0.8	-0.5

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

See Table D-58 for the number of subgroup cases.

See Appendix B for definition of variables in table.

Data based on one of two forms in 1991-96 and on two of four forms beginning in 1997; N is one-half of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

**TABLE D-55
Smokeless Tobacco: Trends in Thirty-Day Prevalence of Daily Use by Subgroups for Twelfth Graders**

	Percent who used daily in last thirty days																											
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990*	Class of 1991*	Class of 1992	Class of 1993	Class of 1994	Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999	Class of 198-99 change		
Approx. N =	9400	15400	17100	17800	15500	15900	17500	16300	15900	16000	15200	16300	16300	16700	15200	15000	15000	16300	15400	15400	14300	15400	14300	15400	15200	13600		
Total	—	—	—	—	—	—	—	4.7	5.1	4.3	3.3	—	—	—	—	—	—	4.3	3.3	3.9	3.6	3.3	4.4	3.2	2.9	-0.3		
Sex:																												
Male	—	—	—	—	—	—	—	10.0	10.7	8.6	6.8	—	—	—	—	—	—	7.8	6.4	7.2	7.2	7.1	8.6	6.0	5.7	-0.3		
Female	—	—	—	—	—	—	—	0.1	0.1	0.5	0.0	—	—	—	—	—	—	0.5	0.4	0.3	0.1	0.1	0.2	0.0	0.0	0.0		
College Plans:																												
None or under 4 yrs.	—	—	—	—	—	—	—	7.1	7.8	5.8	4.2	—	—	—	—	—	—	7.4	4.3	6.6	6.5	6.8	9.1	6.5	3.4	-3.1		
Complete 4 yrs.	—	—	—	—	—	—	—	3.3	3.7	3.5	2.7	—	—	—	—	—	—	3.3	3.1	2.8	2.7	2.6	2.7	2.3	2.6	+0.3		
Region:																												
Northeast	—	—	—	—	—	—	—	4.6	2.1	2.3	1.3	—	—	—	—	—	—	1.8	1.9	4.5	2.2	3.2	3.5	0.5	1.0	+0.5		
North Central	—	—	—	—	—	—	—	4.5	4.5	3.5	2.2	—	—	—	—	—	—	4.0	4.4	4.7	4.9	4.1	7.0	4.0	3.4	-0.6		
South	—	—	—	—	—	—	—	6.1	7.4	6.3	4.2	—	—	—	—	—	—	5.4	4.0	3.5	4.2	3.1	3.6	4.6	4.0	-0.6		
West	—	—	—	—	—	—	—	2.9	5.5	4.0	4.9	—	—	—	—	—	—	5.1	1.7	3.2	1.6	2.9	3.0	1.8	1.9	+0.1		
Population																												
Density:																												
Large MSA	—	—	—	—	—	—	—	3.4	3.3	3.0	3.0	—	—	—	—	—	—	2.0	1.7	2.0	2.1	2.6	3.3	0.9	0.5	-0.4		
Other MSA	—	—	—	—	—	—	—	3.3	4.3	2.5	2.8	—	—	—	—	—	—	4.2	3.0	3.6	3.2	1.9	3.3	2.4	3.1	+0.7		
Non-MSA	—	—	—	—	—	—	—	7.8	8.5	8.9	4.6	—	—	—	—	—	—	6.5	5.2	6.7	5.8	6.7	7.7	7.6	4.9	-2.7		
Parental Education: ^b																												
1.0-2.0 (Low)	—	—	—	—	—	—	—	1.9	5.6	5.3	1.8	—	—	—	—	—	—	6.7	3.9	6.6	2.7	2.2	1.3	2.2	2.1	-0.1		
2.5-3.0	—	—	—	—	—	—	—	7.6	6.9	3.2	3.9	—	—	—	—	—	—	4.8	3.5	3.8	4.7	3.6	5.8	5.2	3.7	-1.5		
3.5-4.0	—	—	—	—	—	—	—	3.5	4.7	5.4	3.1	—	—	—	—	—	—	5.2	3.3	3.3	2.9	3.6	3.7	2.6	3.5	+0.9		
4.5-5.0	—	—	—	—	—	—	—	3.9	5.0	4.7	4.6	—	—	—	—	—	—	2.4	3.7	3.9	3.5	4.6	3.9	3.0	1.9	-1.1		
5.5-6.0 (High)	—	—	—	—	—	—	—	3.3	2.1	3.5	1.2	—	—	—	—	—	—	2.6	1.8	2.7	2.7	1.1	5.0	2.5	2.1	-0.4		
Race (2-year average): ^c																												
White	—	—	—	—	—	—	—	—	5.8	5.4	4.5	—	—	—	—	—	—	—	4.8	4.7	4.6	4.1	5.0	5.2	4.3	-0.9		
Black	—	—	—	—	—	—	—	—	0.6	1.0	0.5	—	—	—	—	—	—	—	0.3	0.7	0.6	0.3	0.2	0.0	0.0	0.0		
Hispanic	—	—	—	—	—	—	—	—	0.8	2.1	2.1	—	—	—	—	—	—	—	1.6	0.7	1.2	2.2	1.9	0.8	0.4	-0.4		

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. '-' indicates data not available. See Table D-59 for the number of subgroup cases. See Appendix B for definition of variables in table. Data based on one of six forms; N is one-sixth of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan. CAUTION: Limited sample sizes (see "Notes" above). Use caution in interpreting subgroup trends. *Prevalence of smokeless tobacco use was not asked of twelfth graders in 1990 and 1991. Prior to 1990 the prevalence of use question on smokeless tobacco was located near the end of one twelfth-grade questionnaire form, whereas after 1991 the question was placed earlier and in a different form. This shift could explain the discontinuities between the corresponding data.

^bParental education is an average score of mother's education and father's education. See Appendix B for details. ^cTo derive percentages for each racial subgroup, data for the specified year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-56
Steroids: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months										'98-'99 change									
	8th Grade					10th Grade														
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999	1999	1999	change							
Total	1.0	1.1	0.9	1.2	1.0	0.9	1.0	1.2	1.7	+0.5ss	1.1	1.1	1.0	1.1	1.2	1.2	1.2	1.7	+0.5ss	
Sex:																				
Male	1.8	1.7	1.4	1.8	1.3	1.1	1.3	1.6	2.5	+0.9sss	1.9	1.9	1.7	1.9	2.0	1.7	1.8	1.9	2.8	+0.9ss
Female	0.3	0.5	0.3	0.6	0.8	0.7	0.7	0.7	0.9	+0.2	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.6	0.7	+0.1
College Plans:																				
None or under 4 yrs.	2.2	2.4	2.2	2.5	2.2	1.5	2.4	2.8	4.0	+1.2	1.7	1.3	1.9	2.1	2.1	2.1	2.4	1.9	2.6	+0.7
Complete 4 yrs.	0.8	0.9	0.7	1.0	0.9	0.8	0.8	1.0	1.4	+0.4ss	0.9	1.0	0.8	0.9	1.1	1.0	1.0	1.1	1.6	+0.5ss
Region:																				
Northeast	0.7	1.1	0.6	1.0	1.0	1.1	1.0	1.1	1.6	+0.5	1.2	0.9	1.0	1.0	1.1	1.0	0.9	1.4	2.0	+0.6
North Central	1.1	1.2	1.0	1.0	1.1	0.8	1.0	1.2	1.6	+0.4	1.0	1.1	1.2	1.1	1.2	1.4	1.2	1.1	1.8	+0.7s
South	1.2	1.1	1.0	1.6	1.1	0.9	0.9	1.4	1.9	+0.5s	1.0	1.2	1.0	1.3	1.3	1.4	1.4	1.4	1.7	+0.3
West	0.7	0.9	0.7	1.0	1.0	0.8	1.1	0.9	1.4	+0.5	1.0	1.2	0.8	1.1	1.3	0.6	1.3	0.9	1.4	+0.5
Population Density:																				
Large MSA	0.8	1.0	0.8	0.9	0.9	0.8	0.9	1.0	1.3	+0.3	1.5	0.9	0.8	0.8	0.8	0.8	1.0	0.8	1.2	+0.4
Other MSA	1.2	1.2	0.9	1.2	1.2	0.9	0.9	1.2	1.9	+0.7sss	1.0	1.0	0.9	1.1	1.4	1.2	1.2	1.3	1.9	+0.5s
Non-MSA	1.0	0.9	0.9	1.5	0.9	0.9	1.2	1.4	1.7	+0.3	0.8	1.4	1.4	1.5	1.4	1.5	1.5	1.5	2.0	+0.5
Parental Education: ^a																				
1.0-2.0 (Low)	1.8	1.2	1.2	1.6	1.3	0.9	1.4	1.7	2.2	+0.5	0.7	0.9	1.5	1.8	1.2	1.7	1.7	1.3	1.2	-0.1
2.5-3.0	1.1	1.2	0.8	1.6	1.3	0.7	0.9	1.1	1.9	+0.8s	1.3	1.1	1.0	0.9	1.1	0.7	1.1	1.1	1.7	+0.6
3.5-4.0	1.0	1.0	1.1	1.3	0.8	0.9	1.2	1.4	1.6	+0.2	1.0	1.2	1.1	0.8	1.6	1.2	1.4	1.7	2.0	+0.3
4.5-5.0	0.7	0.9	0.8	0.8	0.8	1.2	0.9	1.1	1.4	+0.3	0.9	1.0	0.8	1.4	1.1	1.2	1.0	0.9	1.5	+0.6s
5.5-6.0 (High)	1.0	1.3	0.6	0.9	1.5	0.9	1.2	1.1	2.0	+0.9s	1.2	1.4	1.1	1.1	1.0	1.1	1.1	1.1	2.4	+1.3ss
Race (2-year average): ^b																				
White	—	1.1	1.0	1.0	1.1	0.9	0.9	1.1	1.5	+0.4s	—	1.0	1.0	1.0	1.2	1.3	1.3	1.3	1.5	+0.2
Black	—	0.7	0.6	0.8	0.9	0.7	0.6	0.7	0.8	+0.1	—	0.7	0.8	0.8	0.7	0.7	0.5	0.5	0.7	+0.2
Hispanic	—	1.2	1.1	1.1	1.3	1.5	1.4	1.4	1.8	+0.4	—	1.2	1.4	1.3	0.9	1.1	1.2	1.2	1.5	+0.3

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. — indicates data not available.
See Table D-58 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.
^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-57
Steroids: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months																											
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	Class of 1996	Class of 1997	Class of 1998	Class of 1999	Class of 198-99		
Approx. N = 9400	15400	17100	17800	17800	15500	15900	17500	16300	17700	16300	15900	16000	15200	16300	16700	15200	15000	15800	16300	15400	15400	14300	15400	16400	15200	13600		
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	1.7	1.4	1.1	1.2	1.3	1.5	1.4	1.4	1.7	1.8	1.8	+0.1	
Sex:																												
Male	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.8	2.6	2.4	2.1	2.5	2.1	2.4	2.2	2.5	2.8	3.1	3.1	+0.3	
Female	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.9	0.3	0.2	0.1	0.1	0.5	0.6	0.4	0.5	0.3	0.6	0.6	+0.3	
College Plans:																												
None or under 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.3	2.2	2.1	2.1	2.0	1.9	2.0	2.3	2.3	2.1	3.6	3.6	+1.5	
Complete 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	1.3	1.2	0.8	0.9	1.1	1.2	1.1	1.2	1.4	1.3	1.3	-0.1	
Region:																												
Northeast	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0	1.3	1.2	0.6	1.5	1.5	1.6	1.3	2.1	0.9	1.3	1.3	+0.4	
North Central	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.5	1.3	1.4	1.4	0.8	2.2	1.5	2.1	2.1	2.3	1.6	-0.7		
South	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.1	2.2	1.7	0.6	1.6	1.0	1.7	1.3	0.5	1.6	2.6	+1.0		
West	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	1.7	1.0	2.3	1.1	0.8	1.0	0.3	1.6	1.7	1.2	-0.5		
Population Density:																												
Large MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	1.3	1.1	1.0	0.7	1.1	1.4	1.3	0.8	2.1	1.3	1.3	-0.8	
Other MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.3	1.5	1.4	1.4	0.9	1.5	1.3	1.3	1.7	1.5	2.0	+0.5		
Non-MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.1	2.4	1.6	0.8	2.2	1.3	2.1	1.5	1.6	1.6	1.9	+0.3		
Parental Education: ^a																												
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	1.1	2.0	2.1	1.1	2.8	1.1	1.5	3.4	3.0	1.5	-1.5		
2.5-3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.1	2.0	0.6	0.9	1.3	1.7	1.3	1.9	1.4	1.4	0.8	-0.6		
3.5-4.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.6	2.3	1.6	1.3	1.5	1.1	1.1	1.3	1.1	1.1	2.5	+1.3s		
4.5-5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.3	1.1	1.6	0.9	1.3	0.6	2.0	1.1	1.2	1.9	2.2	+0.3		
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.1	1.0	0.5	0.8	0.8	1.2	1.4	1.1	1.3	1.5	1.1	-0.4		
Race (2-year average): ^b																												
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	1.3	1.3	1.2	1.1	1.4	1.3	1.2	1.5	1.7	1.7	+0.2	
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.8	1.2	0.5	1.1	1.8	1.2	1.4	1.5	0.9	0.7	-0.2		
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.3	3.3	1.8	0.9	1.7	1.3	0.6	1.6	2.4	2.9	2.9	+0.5		

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. — indicates data not available.

See Table D-59 for the number of subgroup cases.

See Appendix B for definition of variables in table.

Data based on one of six forms in 1989-90; N is one-sixth of N indicated. Data based on two of six forms in 1991-99; N is two-sixths of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

^aParental education is an average score of mother's education and father's education. See Appendix B for details.

^bTo derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-58
Approximate Weighted Ns by Subgroups for Eighth and Tenth Graders

	8th Grade										10th Grade									
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total	17,500	18,600	18,300	17,300	17,500	17,800	18,600	18,100	16,700	14,800	14,800	14,800	15,300	15,800	17,000	15,600	15,500	15,000	13,600	13,600
Sex:																				
Male	8,600	8,800	8,600	8,300	8,100	8,400	8,600	8,600	7,800	7,200	7,200	7,000	7,300	7,700	8,300	7,500	7,400	7,100	6,300	6,300
Female	8,600	9,300	9,200	8,600	8,700	8,800	9,300	8,900	8,400	7,400	7,400	7,400	7,800	7,900	8,400	7,800	7,800	7,700	7,000	7,000
College Plans:																				
None or under 4 yrs.	2,300	2,400	2,100	2,000	1,900	2,200	1,900	1,800	1,700	2,600	2,600	2,400	2,500	2,700	2,500	2,300	2,200	2,200	1,900	1,900
Complete 4 yrs.	14,600	15,400	15,400	14,700	14,800	14,800	15,800	15,600	14,500	11,900	11,900	12,000	12,400	12,800	14,200	13,000	13,000	12,500	11,500	11,500
Region:																				
Northeast	3,000	3,700	3,900	3,400	3,100	3,200	3,400	3,300	3,000	2,700	2,700	3,000	2,900	3,100	3,300	3,100	3,300	3,100	3,000	3,000
North Central	5,300	5,300	4,700	4,200	4,300	4,600	4,100	4,300	4,200	3,700	3,700	3,800	4,800	4,700	4,400	3,900	3,900	3,600	3,100	3,100
South	6,300	6,200	6,400	6,300	6,600	6,300	7,200	6,600	6,100	4,900	4,900	5,000	4,900	5,200	6,100	5,600	5,500	5,200	4,700	4,700
West	2,900	3,400	3,300	3,400	3,500	3,700	3,900	3,900	3,400	3,500	3,500	3,000	2,700	2,800	3,200	3,000	2,800	3,100	2,800	2,800
Population Density:																				
Large MSA	4,500	5,700	5,500	4,400	5,200	5,200	5,000	4,800	4,800	3,400	3,400	3,700	3,500	4,100	4,700	4,300	4,300	4,300	3,700	3,700
Other MSA	8,400	8,300	8,800	8,300	7,800	8,400	9,000	8,800	7,900	7,400	7,400	7,300	7,600	7,500	8,200	7,500	7,300	7,000	6,700	6,700
Non-MSA	4,600	4,600	4,000	4,600	4,500	4,200	4,600	4,500	4,000	4,000	4,000	3,800	4,200	4,200	4,100	3,800	3,900	3,700	3,200	3,200
Parental Education:																				
1.0-2.0 (Low)	1,400	1,700	1,700	1,600	1,500	1,500	1,500	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,200	1,100	1,300	1,300	1,100	1,100
2.5-3.0	4,400	4,600	4,500	4,100	3,900	4,300	4,000	3,900	3,800	3,900	3,900	3,900	4,100	4,100	4,100	3,600	3,700	3,700	3,200	3,200
3.5-4.0	4,100	4,300	4,300	4,200	4,000	4,100	4,300	4,100	3,800	3,900	3,900	3,900	4,100	4,300	4,600	4,300	4,100	4,000	3,600	3,600
4.5-5.0	4,100	4,100	4,100	3,900	3,900	3,900	4,500	4,500	4,000	3,500	3,500	3,400	3,500	3,700	4,000	3,900	3,700	3,500	3,300	3,300
5.5-6.0 (High)	2,200	2,300	2,300	2,200	2,300	2,200	2,600	2,700	2,200	1,800	1,800	1,700	1,700	1,800	2,300	1,900	1,900	1,800	1,700	1,700
Race (2-year average):*																				
White	—	21,900	22,000	20,900	19,800	20,200	21,400	21,300	19,800	—	—	19,600	20,700	22,000	22,900	22,400	20,900	19,800	18,400	18,400
Black	—	4,200	4,800	5,500	5,600	5,300	4,700	4,900	5,000	—	—	3,900	3,600	3,300	3,300	3,100	3,200	3,600	3,600	3,600
Hispanic	—	3,400	3,600	4,000	4,000	4,000	4,200	4,100	4,100	—	—	2,600	2,700	2,800	2,900	3,000	3,200	3,500	3,200	3,200

NOTES: — indicates data not available.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

CAUTION: The Ns in this table are based on the entire sample at each grade level. Some drug-use questions are asked only in some of the questionnaire forms rather than in all, in which case these Ns need to be adjusted appropriately. Look under "Notes" in each table to see if only a fraction of the sample was asked about that drug. If there is no such indication, that means the entire sample received the question.

*Ns for each racial subgroup represent the combination of the specified year and the previous year. Data have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-59
Approximate Weighted Ns by Subgroups for Twelfth Graders

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
Total	9,400	15,400	17,100	17,800	15,500	15,900	17,500	17,700	16,300	15,900	16,000	15,200	16,300	16,300	16,700	15,200	15,000	15,800	16,300	15,400	15,400	14,300	15,400	15,200	13,600	
Sex:																										
Male	4,300	6,900	7,100	8,500	7,500	7,500	8,400	8,500	7,800	7,600	7,600	7,100	7,700	7,700	8,000	7,700	7,400	7,400	7,500	6,900	7,200	6,700	7,100	7,100	6,300	
Female	5,200	7,000	7,600	9,000	8,000	7,800	8,600	8,600	8,000	7,800	8,000	7,700	8,200	8,200	8,300	7,100	7,200	7,900	8,200	8,000	7,800	7,100	7,700	7,500	6,700	
College Plans:																										
None or < 4 yrs.	—	6,500	6,700	8,100	6,800	6,300	6,700	7,200	6,300	5,900	5,600	5,100	5,000	4,700	4,800	4,200	4,000	3,700	3,700	3,400	3,300	2,600	3,200	3,100	2,800	
Complete 4 yrs.	—	6,800	7,200	8,600	8,000	8,500	9,700	9,200	8,800	8,900	9,300	9,100	10,300	10,600	11,000	10,100	10,300	11,200	11,600	11,100	11,200	10,800	11,000	11,100	10,200	
Region:																										
Northeast	2,200	3,400	3,700	4,400	3,800	3,600	4,100	4,600	3,900	3,200	3,700	3,600	3,500	3,200	3,200	3,300	2,800	2,800	2,700	2,700	2,800	3,000	3,300	3,300	2,800	2,500
North	2,900	4,500	4,600	5,200	4,800	4,700	5,300	5,200	4,600	4,500	4,400	4,300	4,400	4,300	4,500	4,200	4,000	4,400	4,600	4,000	4,300	3,800	4,100	3,800	3,600	
South	3,000	4,300	4,600	6,000	4,800	4,800	5,300	5,300	5,200	5,300	4,900	4,700	5,200	5,600	6,100	5,000	5,100	5,600	5,800	5,700	5,400	5,100	5,300	5,700	4,900	
West	1,400	2,200	2,200	2,500	2,600	2,700	2,800	2,600	2,600	2,900	3,000	2,600	3,200	3,200	2,900	2,700	3,100	3,000	3,200	3,000	2,900	2,400	2,700	2,900	2,600	
Population Density:																										
Large MSA	2,100	3,700	4,000	4,600	4,000	3,900	4,500	4,800	4,200	4,100	4,200	3,700	4,200	4,400	4,000	3,800	3,600	3,600	3,700	4,300	4,400	3,400	4,100	4,300	3,800	
Other MSA	4,000	5,700	6,200	8,000	6,800	6,700	7,100	7,300	6,800	6,900	6,900	7,000	8,000	7,700	8,800	7,700	7,200	8,200	7,800	7,100	7,000	7,000	7,500	7,500	6,200	
Non-MSA	3,400	5,000	4,900	5,500	5,200	5,200	5,900	5,600	5,300	4,900	4,900	4,500	4,100	4,200	3,900	3,700	4,200	4,000	4,800	4,000	4,000	3,900	3,800	3,400	3,600	
Parental Education:																										
1.0-2.0 (Low)	1,700	2,200	2,600	3,100	2,500	2,300	2,400	2,700	2,200	1,900	1,800	1,800	1,700	1,600	1,700	1,600	1,500	1,400	1,600	1,400	1,200	1,100	1,300	1,200	960	
2.5-3.0	3,000	4,300	5,400	6,200	5,600	5,300	5,800	5,900	5,500	5,100	4,600	4,600	4,500	4,600	4,600	4,300	4,100	4,100	4,300	3,700	3,700	3,300	3,600	3,700	3,200	
3.5-4.0	1,600	2,500	3,200	4,000	3,600	3,600	4,200	4,200	3,900	4,000	4,000	3,800	4,300	4,400	4,500	4,100	4,200	4,600	4,500	4,300	4,400	3,800	4,100	4,300	3,900	
4.5-5.0	1,100	1,600	2,200	2,800	2,600	2,700	3,100	2,900	2,800	2,900	3,000	2,900	3,400	3,500	3,500	3,100	3,100	3,400	3,600	3,500	3,700	3,500	3,500	3,300	3,200	
5.5-6.0 (High)	440	710	1,100	1,200	1,200	1,300	1,500	1,300	1,200	1,400	1,500	1,500	1,800	1,900	1,700	1,600	1,500	1,700	1,700	1,800	1,800	2,100	2,100	2,000	1,800	
Race (2-year average):*																										
White	—	—	—	23,400	26,500	27,500	25,600	26,300	27,300	26,200	24,700	24,200	23,600	23,800	24,200	24,000	23,400	21,900	21,500	22,000	21,800	20,700	19,800	20,200	19,500	
Black	—	—	—	3,300	3,700	3,500	3,500	4,000	3,900	4,000	4,000	3,500	3,200	3,600	3,900	3,500	3,200	3,900	4,200	3,600	3,300	3,200	3,600	3,700	3,400	
Hispanic	—	—	—	890	1,000	940	740	930	1,300	1,300	1,200	1,500	1,900	2,100	2,400	2,500	2,400	2,600	2,900	3,100	2,700	2,600	2,800	3,000	2,500	

NOTES: — indicates data not available.

See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

CAUTION: The Ns in this table are based on the entire twelfth-grade sample. Some drug-use questions are asked only in some of the questionnaire forms rather than in all, in which case these Ns need to be adjusted appropriately. Look under "Notes" in each table to see if only a fraction of the sample was asked about that drug. If there is no such indication, that means the entire sample received the question.

*Ns for each racial subgroup represent the combination of the specified year and the previous year. Data have been combined to increase subgroup sample sizes and thus provide more stable estimates.

Appendix E

TRENDS IN SPECIFIC SUB-CLASSES OF HALLUCINOGENS, AMPHETAMINES, TRANQUILIZERS, AND NARCOTICS OTHER THAN HEROIN

In one of the six questionnaire forms administered to twelfth graders, respondents who answer that they used *amphetamines* in the prior 12 months are then asked a small set of additional questions about that use. One of those questions asks, "Which amphetamines have you taken in the last year without a doctor's orders? (Mark all that apply)" A pre-specified list of different types of amphetamines (e.g. Benzedrine, Dexadrine, Ritalin, etc.) is provided, along with a category labeled "Other" and one labeled, "Don't know the name of some amphetamines I have used." Parallel questions are included in the same twelfth-grade questionnaire form for *hallucinogens other than LSD, tranquilizers, and narcotics other than heroin*.

The answers to these four question sets are provided below, covering the twenty-three year interval from 1976 to 1999. Because these questions are contained in only one of the six twelfth-grade questionnaire forms (one of five in earlier years), the number of cases on which the estimates are based is lower than most of the prevalence estimates contained elsewhere in this volume. The relevant numbers of cases are provided in the bottom rows of each table.

We provide one other caution to the reader in interpreting these results. For some of these drug classes the absolute prevalence rates may be underestimates of the true rates, simply because some users of a particular sub-class may not realize that the substance (e.g., peyote) actually is a sub-class of the more general class (in this case, "psychedelics other than LSD"), even though peyote is listed as one of the "other psychedelic" drugs in the introduction to the question set. Such respondents, therefore, may not indicate use on the general question (about psychedelics other than LSD), which means they would never get asked the question about using the sub-class drug (peyote). As a result, they would not be counted among the users.

In the questionnaire we go to some length to state both the full list of common street names, as well as proper names for the drugs in the general class, *before* asking about use of the general class of drugs. However, because two of the drugs in the sub-class lists (PCP and crystal methamphetamine) also have been included in recent years as a general class (without branching) on a different questionnaire form, we have been able to determine that they show higher prevalence rates when not treated as a sub-class. For example, the 1999 annual prevalence rate for PCP generated by a general question about PCP use asked of all seniors was 1.8%, whereas the rate generated when the drug was treated as a sub-category of psychedelics other than LSD was only 1.1%. This is likely an

extreme case, however, because proper classification of PCP is quite ambiguous—it actually is an animal tranquilizer with hallucinogenic effects. (In fact, our suspicion that students were not categorizing PCP as a “psychedelic other than LSD”—even though it was given in the list of examples for that question—is what led us to ask separate questions about its use.)

Despite the fact that the questions about sub-classes of drugs may underestimate the *prevalence* of use to some degree, we think they still are helpful for discerning long-term trends. To stick with the PCP example, which may be a worst case, both the general questions about PCP use and the question that treats PCP as a sub-category of psychedelics other than LSD have shown very similar trends since 1979, when both were first available for comparison. Both measures showed a substantial decline in PCP use from 1979 through the mid 1980s, followed by a period of stability in use at low levels, followed by a modest increase in use in the 1990s until 1996, when use leveled. Thus if we had only the results from the sub-category question available, we would have obtained quite an accurate picture of the trend story, even though we would have been underestimating the absolute prevalence rate to some degree.

We conclude that the data for the other specific drug classes also should provide a fair approximation of the trend stories. Most such prevalence data probably underestimate the true rates, however.

TABLE E-1
Specific Hallucinogens Other Than LSD: Trends in Annual Prevalence of Use for All Seniors

What psychedelics other than LSD have you taken during the last year?	Percent of ALL SENIORS using drug indicated in past year																										
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change of '98-'99		
Mescaline	5.1	5.0	4.1	4.8	3.7	3.5	2.7	3.0	2.3	2.1	1.6	0.8	0.9	0.6	0.6	0.6	0.6	0.8	0.5	1.1	1.2	0.8	1.3	0.9	-0.4		
Peyote	1.8	1.4	1.5	1.1	0.9	0.6	0.6	0.6	0.5	0.4	0.5	0.3	0.4	0.9	0.1	0.5	0.6	0.6	0.6	0.7	0.9	0.8	0.6	0.8	+0.2		
Psilocybin	1.7	1.0	1.3	1.0	1.5	1.6	0.9	0.7	0.6	0.9	0.6	0.9	0.3	0.7	0.3	0.2	0.5	0.5	0.5	0.9	1.4	1.1	1.4	1.2	-0.2		
PCP	2.9	3.3	4.5	4.2	3.5	2.2	1.4	1.5	1.2	0.9	0.8	1.0	0.6	0.4	0.8	0.5	0.6	0.7	0.9	1.2	1.1	0.9	0.8	1.1	+0.3		
Concentrated THC	5.6	5.7	5.3	4.6	2.6	2.1	1.5	1.4	0.9	1.1	0.8	1.0	0.7	0.4	0.4	0.4	0.2	0.5	0.4	0.9	1.5	1.2	1.1	1.3	+0.2		
Other	3.3	3.7	3.4	3.9	2.9	2.7	1.9	1.5	1.5	1.3	0.9	0.9	0.7	0.9	0.9	0.6	1.0	0.8	0.7	1.3	1.8	1.9	2.2	1.9	-0.3		
Don't know the names of some I have used	1.2	1.3	1.5	1.6	1.2	1.2	1.1	1.2	0.9	1.0	0.7	0.7	0.5	0.3	0.5	0.4	0.3	0.4	0.6	0.8	0.8	1.2	1.2	1.0	-0.2		
<i>Approx. Wild. N = 2800 3000 3500 3100 3100 3400 3500 3200 3100 3100 3000 3200 3200 3200 2700 2500 2500 2600 2600 2500 2500 2300 2500 2500 2200</i>																											

NOTES: Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$.
Any apparent inconsistency between the change estimate and the prevalence of use estimates for the two most recent classes is due to rounding error.
SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE E-2
Specific Amphetamines: Trends in Annual Prevalence of Use for All Seniors

Percent of ALL SENIORS using drug indicated in past year

What amphetamines have you taken during the last year without a doctor's orders?	Percent of ALL SENIORS using drug indicated in past year																									
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	'98-'99 change	
Benzedrine	3.5	4.1	3.7	3.1	3.2	3.6	2.9	1.6	1.7	1.9	1.4	1.1	0.5	0.7	0.6	0.1	0.2	0.3	0.6	0.2	0.3	0.2	0.3	0.2	0.3	0.0
Dexedrine	2.9	3.5	3.7	4.0	4.0	5.1	2.8	1.4	1.6	1.2	0.9	0.6	0.4	0.6	0.5	0.3	0.2	0.2	0.5	0.4	0.3	0.9	0.6	0.6	0.0	
Methedrine	3.4	4.2	3.9	4.7	4.4	5.6	4.7	3.2	3.0	2.9	2.0	1.5	1.2	0.7	0.5	0.3	0.4	0.4	0.5	0.3	0.3	0.5	0.3	0.3	0.0	
Ritalin	0.5	0.7	0.6	0.4	0.6	0.7	0.5	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.5	0.1	0.1	0.4	1.0	0.8	1.2	2.8	2.8	2.4	-0.4	
Preludin	0.6	1.0	1.1	1.3	1.1	1.7	0.8	0.6	0.5	0.4	0.3	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.3	0.1	0.5	0.2	0.3	0.2	-0.1	
Dexamyl	1.3	1.5	1.1	1.3	1.3	1.1	1.2	0.6	0.9	0.6	0.8	0.5	0.4	0.3	0.2	0.1	0.2	0.3	0.5	0.2	0.4	0.3	0.4	0.2	-0.2	
Methamphetamine	1.9	2.3	2.3	2.4	2.7	3.7	2.8	1.8	2.1	2.0	1.5	1.3	1.2	0.6	0.6	0.8	0.4	0.6	0.6	0.7	0.7	1.1	1.3	0.9	-0.4	
Crystal meth	—	—	—	—	—	—	—	—	—	—	—	—	—	1.2	0.8	1.2	1.1	1.1	1.4	1.6	1.5	1.8	2.5	1.8	-0.7	
Other	4.6	5.9	6.5	6.4	6.4	7.6	4.6	4.2	4.3	3.3	3.7	2.6	1.5	2.1	1.6	1.2	1.5	2.0	2.3	2.0	2.3	2.5	3.1	2.6	-0.5	
Don't know the names of some amphetamines I have used	6.8	7.2	6.8	7.5	8.7	11.1	9.2	8.4	8.1	7.0	5.3	4.4	3.3	2.9	2.9	2.3	1.9	2.2	2.1	2.6	2.3	2.8	3.1	2.5	-0.6	

Approx. Wtd. N = 2700 2900 3400 3100 3000 3400 3400 3200 3100 3100 3100 3000 3200 3200 2700 2500 2500 2600 2600 2500 2500 2300 2500 2500 2200

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 of use estimates for the two most recent classes is due to rounding error.

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE E-3
Specific Tranquilizers: Trends in Annual Prevalence of Use for All Seniors

Percent of ALL SENIORS using drug indicated in past year

What tranquilizers have you taken during the last year without a doctor's orders?	Percent of ALL SENIORS using drug indicated in past year																										
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Class of '98-'99 change		
Librium	2.6	2.9	2.4	2.1	1.8	2.0	0.9	1.2	0.5	0.8	0.7	0.7	0.3	0.2	0.2	0.2	0.2	0.1	0.1	*	0.3	0.3	0.2	0.2	0.3	0.4	+0.1
Valium	5.3	6.9	6.0	5.9	5.3	5.5	3.5	3.2	2.9	3.5	2.8	2.9	2.2	1.7	1.6	1.2	1.6	1.6	1.6	1.6	1.3	1.5	2.0	2.0	2.7	+0.7	
Miltown	0.2	0.3	0.1	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	*	0.0	0.0	0.0	0.1	*	*	*	*	0.2	+0.2
Equanil	0.4	0.4	0.7	0.4	0.4	0.4	0.2	0.1	0.2	0.1	0.3	0.1	0.1	0.1	0.0	0.1	0.1	*	0.1	*	*	0.2	0.2	0.1	0.1	0.0	0.0
Meproamate	0.6	0.2	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	*	0.1	0.2	*	0.1	0.0	0.1	0.2	0.1	0.3	0.1	0.1	0.0	0.0
Serax	0.2	0.2	0.1	0.2	0.1	0.2	*	0.1	0.2	0.1	0.2	0.1	0.0	0.1	0.2	0.0	0.2	*	*	*	*	0.2	0.2	0.1	0.2	+0.1	+0.1
Atarax	0.2	0.1	0.1	0.2	0.1	0.3	0.1	0.1	0.1	0.1	0.2	0.2	*	*	0.1	0.1	0.1	0.1	0.1	0.0	*	*	0.1	0.0	0.1	+0.1	+0.1
Tranxene	0.2	0.3	0.3	0.5	0.3	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	*	*	*	0.1	0.1	0.1	0.1	0.1	0.3	+0.2
Vistaril	0.1	0.2	0.4	0.3	0.3	0.3	0.1	0.1	0.2	0.4	0.2	0.1	0.0	*	0.3	0.0	*	*	*	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0
Don't know the names of some tranquilizers I have used	3.0	2.7	2.7	1.9	2.3	1.6	1.3	1.7	1.4	1.7	2.0	1.3	0.9	1.0	1.5	1.1	0.7	1.3	0.9	1.1	1.3	1.5	1.5	1.4	1.4	-0.1	

Approx. Wtd. N = 2700 2900 3400 3100 3000 3300 3400 3200 3100 3100 3100 3000 3100 3200 2700 2500 2400 2600 2600 2500 2500 2300 2500 2500 2200

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ** indicates less than .05 percent. Any apparent inconsistency between the change estimate and the prevalence of use estimates for the two most recent classes is due to rounding error.

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE E-4
Specific Narcotics Other than Heroin: Trends in Annual Prevalence of Use for All Seniors

Percent of ALL SENIORS using drug indicated in past year

What narcotics other than heroin have you taken during the last year without a doctor's orders?	Percent of ALL SENIORS using drug indicated in past year																								
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	change
Methadone	0.6	0.4	0.9	0.9	0.8	0.7	0.4	0.6	0.5	0.5	0.3	0.1	*	0.5	*	0.3	0.2	0.1	0.1	*	0.4	0.3	0.8	+0.5	
Opium	2.7	2.4	2.6	3.0	2.8	2.4	1.6	1.2	1.5	1.4	1.5	1.3	0.9	0.9	0.7	0.8	0.5	0.4	0.6	1.0	1.1	1.8	2.0	1.7	-0.3
Morphine	0.6	0.8	0.7	0.8	1.0	1.1	0.7	0.8	0.8	0.9	0.7	0.4	0.6	0.2	0.7	0.4	0.4	0.2	0.3	0.3	0.6	1.0	1.0	1.2	+0.2
Codeine	2.5	2.3	3.0	3.4	3.8	4.2	2.6	2.5	3.3	3.3	3.0	2.5	2.2	1.7	2.2	1.8	2.5	1.7	1.6	1.0	2.6	2.5	3.0	3.1	+0.1
Demerol	0.7	0.6	1.1	0.9	1.2	1.4	0.9	0.9	0.7	0.9	1.0	0.8	0.7	0.4	0.7	0.5	0.9	0.8	0.6	0.4	1.0	1.2	1.1	1.5	+0.4
Paregoric	0.4	0.3	0.3	0.2	0.4	0.2	0.1	0.3	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	0.2	0.0	*	0.1	*	0.0	0.0	*	0.0
Talwin	0.1	0.1	0.1	0.2	0.3	0.1	0.3	0.2	0.3	0.1	0.1	0.1	*	*	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	*	-0.1
Laudanum	0.1	0.0	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	*	*	0.1	0.0	*	*	*	*	0.1	*	0.1	0.0	+0.1
Other	0.5	0.5	1.4	0.8	0.7	0.6	0.5	0.6	0.4	0.6	0.5	0.4	0.4	0.5	0.5	0.2	0.5	0.3	0.6	0.3	0.7	0.6	1.2	1.6	+0.4
Don't know the names of some I have used	1.1	1.0	0.6	0.9	0.8	0.6	0.7	0.3	0.6	0.6	0.4	0.3	0.5	0.2	0.5	0.3	0.1	0.5	0.4	0.3	0.4	0.5	0.8	0.6	-0.2

Approx. Wtd. N = 2700 2800 3400 3000 3000 3300 3400 3100 3000 3100 2900 3100 3100 3100 2600 2500 2400 2500 2600 2500 2400 2300 2400 2400 2200

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ** indicates less than .05 percent.
Any apparent inconsistency between the change estimate and the prevalence of use estimates for the two most recent classes is due to rounding error.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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