Monitoring the Future
National Survey Results on Drug Use, 1975-2002

Volume II:
College Students & Adults Ages 19-40

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MONITORING THE FUTURE

NATIONAL SURVEY RESULTS ON DRUG USE, 1975-2002

Volume II

College Students and Adults Ages 19-40

by

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Chapter 1

INTRODUCTION

This volume, the second in a two-volume set, reports results from the Monitoring the Future (MTF) surveys in 2002 (and earlier) of American college students, all young adult high school graduates through age 30 (including the college students), and older graduates ages 35 and 40.

Monitoring the Future is a long-term research program conducted at the University of Michigan's Institute for Social Research under a series of investigator-initiated research grants from the National Institute on Drug Abuse. It comprises, in part, ongoing series of annual nationally representative surveys of high school seniors (begun in 1975) and of eighth- and tenth-grade students (begun in 1991). The results from those surveys of secondary school students are reported in Volume I.

In addition, annual *follow-up surveys* have been conducted of representative samples of the previous participants from each high school senior class, beginning with the class of 1976. The present volume presents 1977 through 2002 follow-up survey results of the graduating high school classes of 1976 through 2001 as these respondents have progressed into adulthood—in fact, through age 40 for the oldest respondents.

In order for this volume to stand alone, some material from Volume I is repeated here. Specifically, chapter 2 in this volume is the same as chapter 2 in Volume I; it provides an integrated overview of the key findings presented in both volumes. Chapter 3, "Study Design and Procedures," is also the same as chapter 3, Volume I. Therefore, the reader already familiar with Volume I may wish to skip over these chapters. Otherwise, the content of the two volumes does not overlap.

SURVEYS OF COLLEGE STUDENTS

The follow-up samples in Monitoring the Future provide very good coverage of the national college student population since 1980. College students tend to be a difficult population to study. They generally are not well covered in normal household surveys, which typically exclude dormitories, fraternities, and sororities. Further, institution-based samples of college students must be quite large in order to attain accurate national representation because there is great heterogeneity in the types of student populations served in those institutions. Obtaining good samples and high response rates within many institutions may also pose difficulties. The current study, which in essence draws the college sample in senior year of high school, has considerable advantages for generating a broadly representative sample of college students that emerge from each graduating cohort, and it does so at very low cost. Further, its "before," "during," and "after" college measures permit the examination of change. It also has similar panel data on high school graduates not attending college, which is important for purposes of comparison.

As defined here, the college student population comprises all full-time students, one to four years post-high school, enrolled in a two- or four-year college in March during the year of the survey.

More is said about this sample definition in chapters 3 and 8. Results on the *prevalence* of drug use among college students in 2002 are reported in chapter 8, and results on the *trends* in substance use among college students over the past 23 national surveys are reported in chapter 9. Both chapters also report data on the portion of the follow-up samples who are in the same age band as the college students but who are not enrolled in college.

SURVEYS OF YOUNG ADULTS AND THOSE AGED 35 AND 40

The young adult sample, on which we report here, includes the college students and comprises representative samples from each graduating class from 1987 to 2001, all surveyed in 2002. Since 18 is the modal age of high school seniors, the young adults covered here correspond to modal ages 19 through 30. The study design calls for annual follow-up surveys of each class cohort (though not each individual) through age 30, after which surveys occur at five-year intervals beginning at age 35. Thus, because considerable panel data already exist on them, the graduating classes of 1976 through 1989 were not surveyed in 2002, except for the classes of 1980 and 1985, members of which were sent the special "age 40" and "age 35" questionnaires, respectively.

In this volume, we have reweighted respondent data to adjust for the effects of panel attrition on measures such as drug use. We are less able to adjust for the absence of high school dropouts who were not included in the original high school senior sample. However, because nearly all college students have completed high school, the omission of dropouts should have almost no effect on the college student estimates. This omission does have an effect on the estimates for entire age groups, though. Therefore, the reader is cautioned that the omission of the 15% to 20% of each cohort who drop out of high school will make the drug use estimates given here for the various young adult age bands somewhat low for the age group as a whole. The proportional effect may be greatest for some of the most dangerous drugs, such as heroin and crack, and also for cigarettes—the use of which is highly correlated with educational aspirations and attainment.

GENERAL PURPOSES OF THE RESEARCH

The research purposes of the Monitoring the Future study are extensive and can be sketched only briefly here.[1] One major purpose is to serve a social monitoring or social indicator function, intended to characterize accurately the levels and trends in certain behaviors, attitudes, beliefs, and conditions in the population. Social indicators can have important agenda-setting functions for society, and they are useful for gauging progress against national goals and providing an indication of the impacts of major historical events or social changes. Another purpose of the study is to develop knowledge that increases our understanding of how and why changes in these behaviors, attitudes, beliefs, and so on, are taking place. (In health-related disciplines, such work is usually labeled *epidemiology*.) These two broad purposes are addressed in the current series of volumes.

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[1]For a more complete listing and discussion of the study's many objectives, see Johnston, L. D., O'Malley, P. M., Schulenberg, J. E., & Bachman, J. G. (2001). *The aims and objectives of the Monitoring the Future study and progress toward fulfilling them as of 2001.* Monitoring the Future Occasional Paper No. 52. Ann Arbor, MI: Institute for Social Research.

There are a number of other purposes for the research, however, which are addressed through other types of publications and professional products. These include helping to determine what types of young people are at greatest risk for developing various patterns of drug abuse; gaining a better understanding of the lifestyles and value orientations associated with various patterns of drug use, and monitoring how those orientations are shifting over time; determining the immediate and more general aspects of the social environment that are associated with drug use and abuse; and determining how drug use is affected by major transitions into and out of social environments (such as military service, civilian employment, college, unemployment) or social roles (marriage, pregnancy, parenthood). We also seek to determine the life course of the various drug-using behaviors during this period of development; distinguish such "age effects" from cohort and period effects that are influencing drug use; determine the effects of social legislation on various types of substance use; and determine the changing connotations of drug use and changing patterns of multiple drug use among youth. 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; its cohort-sequential research design is especially well suited to allow such differentiation. In fact, a number of important cohort effects that have emerged in the 1990s in terms of both use and attitudes about use will be featured in this volume.

Readers interested in publications dealing with any of these other areas are invited to visit the study's Web site at www.monitoringthefuture.org. A complete listing of all publications from the study is available there, as well as abstracts and/or complete manuscripts for many of the publications. Complete text of recent press releases from the study is also provided. Additional information may be requested through the Web site or by writing the authors at the Institute for Social Research, the University of Michigan, Ann Arbor, Michigan, 48106-1248.

Chapter 2

KEY FINDINGS:

**AN OVERVIEW AND INTEGRATION
ACROSS FIVE POPULATIONS**

Monitoring the Future, which is now in its 28th year, has become one of the nation's most relied-upon sources of information on changes in licit and illicit psychoactive drug use among American adolescents, college students, and young adults. For nearly three decades the study has tracked and reported the use of an ever-growing array of such substances in these populations.

This annual series of monographs, written by the study's investigators and published by its sponsor—the National Institute on Drug Abuse—is one of the major vehicles by which the epidemiological findings from the study are reported. The present two-volume monograph reports findings through 2002. (A companion series of annual reports provides a much briefer, advanced synopsis of the key findings from the latest surveys of secondary school students.[2])

Over its 28-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 sub-samples of the respondents from each previously participating twelfth-grade class.

A number of important findings have been summarized and integrated in this chapter to provide the reader with an overview of the key results. Because so many populations, drugs, and prevalence intervals are discussed here, a single integrative set of tables (Tables 2-1 through 2-3) showing the 1991-2002 trends for all drugs on all five populations (eighth-grade students, tenth-grade students, twelfth-grade students, full-time college students ages 19-22, and all young adults through age 28 who are high school graduates) is included in this chapter. (Note that the young adult group includes the college student population.) Volume II contains additional data on older age-bands, specifically ages 35 and 40.

TRENDS IN ILLICIT DRUG USE

Early in the 1990s we noted an increase in use of several 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

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[2]Johnston, L. D., O'Malley P. M., & Bachman, J. G. (2003). *Monitoring the Future national results on adolescent drug use: Overview of key findings, 2002*. (NIH Publication No. 03-5374). Bethesda, MD: National Institute on Drug Abuse. (Also available on the Web at www.monitoringthefuture.org.)

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 suggested then, 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 six 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 several other drugs leveled off and relevant attitudes and beliefs also began to reverse in many cases. In 1998, illicit drug use continued a gradual decline among eighth graders and started to decline at tenth and twelfth grades. In 1999, 2000, and 2001 the decline continued for eighth graders while use held fairly level among tenth and twelfth graders. In 2002, use by eighth and tenth graders decreased significantly and use by twelfth graders dropped, but by less than a statistically significant amount. As we have noted previously, the fact that use continued to decline steadily, albeit slowly, among the eighth graders suggested there would be an eventual further decline at the upper grades. We are now beginning to see those declines.

- As subsequently illustrated 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, 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. In 2002 college students' use, which rose some, inched ahead of tenth graders' use, which declined some. For example, in 2002 the rank order for 30-day prevalence of using ***any illicit drug*** is: twelfth graders (25%), college students (22%), tenth graders (21%), 19- to 28-year-olds (19%), and eighth graders (10%). With respect to using ***any illicit drug other than marijuana*** in the past 30 days, the rank order is as follows: twelfth graders (11%); tenth graders, college students, and 19- to 28-year-olds (all at 8%); and finally eighth graders (5%). As can be seen, usage rates among tenth and twelfth graders tend to be higher than among young adults and, in some cases, even higher than the college-student segment of the young adult population.

- From the early 1990s until 1997, ***marijuana*** use rose sharply among secondary school students, and their use of a number of ***other illicit drugs*** also rose, though more gradually. An increase in marijuana use also occurred among American college students, largely reflecting "generational replacement," wherein earlier graduating high school class cohorts were replaced in the college population by more recent ones who were more drug-experienced before they left high school—in other words, as the result of a cohort effect. 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 radiated up the age spectrum.

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The increases in use of **marijuana** and **other illicit drugs** taken as a class were substantially larger, in both proportional and absolute terms, in the three secondary school grades than in either the college or young adult populations. In fact, at present there still is only a modest increase in illicit drug use in the young adult population of 19- to 28-year-olds. From 1991 through 1997, their annual prevalence of use of **any illicit drug** held remarkably stable at the same time that adolescent use rose appreciably. As we have said in the past, we believe that, as generational replacement continues to occur, we will likely see some increase in use of illicit drugs by the young adults. In fact, some of that appears to have happened among college students, whose annual prevalence of marijuana use peaked a year later than among twelfth graders and whose 30-day prevalence peaked two years later. Their use of **any illicit drug other than marijuana** continued to rise through 2002, whereas use by twelfth graders peaked in 1997 at 21% where it remains in 2002. Indeed, the rates among college students have yet to fall appreciably, and the rates among 19- to 28-year-olds are still rising, even though substantial declines are now occurring among the younger respondents on both the use of any illicit drug and the use of any illicit drug other than marijuana.

These diverging trends across the different age groups show that changes during the 1990s reflected some cohort effects—lasting differences between class cohorts—rather than broad secular trends, which would appear simultaneously in all of the age groups covered by the study. All during the previous 16 years of the study, the use of most drugs moved in parallel across most age groups, indicating secular change.

- A somewhat parallel finding occurred for **cigarette** smoking, 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 overall change in use observed at any given age. The increase in current smoking ended among eighth and tenth graders in 1996, among twelfth graders in 1997, but not among college students until 1999. The appreciable decline in the smoking rate that began among the eighth graders appears to be radiating up the age spectrum as they get older. (Their 30-day prevalence rate has fallen from 21% in 1996 to 11% in 2002.) In the early 1990s, smoking among eighth and tenth graders had risen by about 50%—a particularly sharp and concerning rise. Among the young adult stratum there has been little evidence yet of a decline in current smoking. The rate is almost exactly where it was in 1995 (29%); but with time we expect their current smoking also will drop as the cohort effect works its way up the age bands.

- **Marijuana** use, which had been rising sharply in all three grades of secondary school during the early to mid-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 2000, however. In 2001, use remained level in all three grades. In 2002, use dropped some in all three grades, but only the tenth graders' decline was statistically significant.

- In the 1990s, the annual prevalence of marijuana use (i.e., the percent reporting any use during the prior 12 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 three quarters among twelfth graders (from 22% in 1992 to 39% in 1997). Among college students, however, the increase in marijuana use, presumably largely due to a "generational replacement effect," was much more gradual. Annual prevalence rose by about one third from 27% in 1991 to 36% in 1998, before beginning to level. Among young adults there so far has been even less change, from 24% in 1991 to 29% in 2002, with no decline yet.

  Daily marijuana use rose substantially among secondary school and college students between 1992 and 2000 but somewhat less so among young adults (see Table 2-3). In 2001, the increase in daily use continued for the tenth graders and young adults but halted for the eighth graders, twelfth graders, and college students. The rates of daily use in 2002 are approximately where they stood in 2000 in all five populations. Among twelfth graders 6.0% are now current daily marijuana users, as are 4.1% of college students and 4.5% of all young adults. Daily use among eighth graders is considerably lower, at 1.2%. All of these rates are at or near their recent 2000 peaks. Still, the rate for seniors, for example, is far below the 10.7% peak figure reached in 1978, at the height of the illicit drug epidemic.

  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 twelfth grade, 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, as it has proven to be for a number of drugs.

  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 some increase in disapproval among eighth and tenth graders, but among twelfth graders there has been little net change on this dimension.

- Among seniors, the proportions using *any illicit drug other than marijuana* in the past year rose from a low of 15% in 1992 to 21% in 1997 (and is still at 21% in 2002). (This recent peak was substantially below the 34% peak rate in 1981.) In fact, all of the younger groups showed significant increases (though not as large in proportional terms as 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—again reflecting evidence of a cohort effect. Use peaked in 1996 among eighth and tenth graders and by 1997 among twelfth graders, but it has yet to peak

among the college students and young adults. The eighth graders have shown some gradual decline in their use of the other illicit drugs, taken as a class, since 1996; but the brief period of decline among tenth graders ended after 1998 and use did not decline further until 2002.

- Between 1989 and 1992 we noted an increase among high school seniors, college students, and young adults in their use of *LSD*, a drug most popular in the late 1960s and early 1970s. By 1992, the newly added populations (eighth and tenth graders) were also showing an increase in LSD use; and for several more years, modest increases persisted in all five populations. Use of LSD among college students and young adults was the first to peak, in 1995. Use in all three grades of secondary school peaked a year later. Since those peak years in the mid-1990s, there has been some decline in the relatively low rates of LSD use across the board, including a significant decline for all five groups this year.

  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. (Once again this belief proved a leading indicator of change in use.) The decline in perceived risk continued through 1997 and halted in 1998. The proportion of seniors disapproving of LSD use also began to decline in 1992 and continued through 1996.

  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 dropped until 1997 or 1998, after which perceived risk and disapproval leveled (or declined some). Because the decline in use in the last few years has *not* been accompanied by expected changes in these attitudes and beliefs, we are inclined to think that there may be some displacement by another drug taking place. The most logical candidate is *ecstasy*, which is also used for its hallucinogenic effects and which has been very much on the rise recently. It is also possible that the decline in availability has played a role in this case.

- Questions about the use of *ecstasy* (*MDMA*) have been included in the follow-up surveys of college students and young adults since 1989; however, because of our concern about stimulating interest in an attractive-sounding and little-known drug, these questions were not added to the secondary school surveys until 1996. From 1989 to 1994, the annual prevalence 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 generally).

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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 of secondary school between 1996 and 1998, though it did not fall in the older age groups. Between 1998 and 2001 use rose sharply in all five populations. In fact, annual prevalence more than doubled in that three-year period among twelfth graders, college students, and young adults and nearly doubled in the lower grades. In 2000 even the eighth graders showed a significant increase in use. Among young adults, the increase in use has occurred primarily among those under age 29. In 2002 use declined for all five groups, but only the tenth graders' change was significant. Once again, this decline in use was predicted by an increase in perceived risk a year earlier—an increase that continued in 2002. The rates of annual prevalence in 2002 for ecstasy were: 2.9%, 4.9%, and 7.4% among eighth, tenth, and twelfth graders, respectively, 6.8% among college students, and 6.2% among all young adults. Because all five populations have been moving synchronously since 1999, this appears to reflect a secular trend, suggesting that events in the social environment are reaching everyone. We believe that one such class of events is the increasing media coverage of people suffering adverse outcomes as a result of their ecstasy use, and another is the increasing dissemination of the scientific evidence on effects produced by the National Institute on Drug Abuse.

There was quite a dramatic increase in the reported availability of this drug in recent years, which seems to be substantiated by seizure data. Of the twelfth graders surveyed in 1991, only 22% thought they could get ecstasy fairly easily, but a decade later (in 2001) 62% thought that they could. This increase ended in 2002 finally.

As of 2000 there had been little increase in the perceived degree of risk seniors associate with ecstasy use. The mounting media attention to the drug and its consequences may be behind the dramatic increase in perceived risk of ecstasy use in 2001 and 2002, as we predicted might occur. As a related measure, disapproval gradually declined between 1999 and 2000 before increasing significantly for all three grades.

- In the decade between 1982 and 1992, annual prevalence rates for ***amphetamines*** use among seniors fell by nearly two thirds, from 20% to 7.1%. Rates among college students fell even more over the same interval, from 21% to 3.6%. Annual use increased by about half among eighth and tenth graders between 1991 and 1996, and there were increases among twelfth graders and college students between 1992 and 1996. 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, before leveling in 2000, and remained fairly level at twelfth grade. In 2002, use decreased significantly among eighth graders, decreased some among tenth graders, and held level among twelfth graders. In sum, since 1996 there has been a fair decline in amphetamine use among eighth graders, a small decline among tenth graders, and no change among twelfth graders. Use continued to increase among college students through 2001 and young adults through 2002, however, quite likely reflecting generational replacement.

The increase in use of illicit amphetamines (and a decrease in disapproval) that began among seniors in 1993 followed 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 bump up in perceived risk, but some correction back the next year. 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 rather little.

- ***Ritalin*** has been among the most widely reported specific amphetamines in recent years; its use increased among high school seniors from an annual prevalence of 0.1% in 1992 to 2.8% in 1997, before leveling. (See Appendix E, Table E-2.)[3] Use of ***ice*** (***crystal methamphetamine***) increased in the late 1990s through 2002 among seniors and young adults, although it dipped shortly in 1999. ***Methamphetamine*** questions were introduced in 1999, with a modest decline observed in use among all five populations through 2002. The annual prevalence rates observed in 2002 for methamphetamine are 2.2%, 3.9%, 3.6%, 1.2%, and 2.5% among eighth graders, tenth graders, twelfth graders, college students, and all young adults, respectively.

- ***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. The reversal came 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 1.1% in 2002.

When the nitrites are removed from consideration, it appears that all other 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 continued declining through 1999 in all grades, 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) 1997 as well. The gradual decline in inhalant use continued into 2002 in all five populations.

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[3]As is discussed in Appendix E, the absolute prevalence for Ritalin is probably higher than these statistics indicate, but the trend story likely is quite accurate.

Some 7.7% of the 2002 eighth graders and 5.8% 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, which, tragically, 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 (7.7% annual prevalence in 2002) and lowest among the young adult population (annual prevalence of only 1.6% in 2002).

- *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 had continued to spread to new communities. Clearly it had quickly attained a reputation as a dangerous drug, and by the time of our first measurement of perceived risk in 1987, it was seen as the most dangerous of all of the drugs. Annual prevalence dropped sharply in the next few years, reaching 1.5% by 1991, where it remained through 1993. Perceived risk began what turned out to be a long and substantial decline after 1990. Use began to rise gradually after 1993, when it was 1.5%, to 2.7% by 1999, before finally declining in 2000 and then leveling.

   Among eighth and tenth graders, crack use had 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 1 to 10 years past high school, annual prevalence was only 1.0% in 2002, virtually unchanged since 1992. Nor was there much change in the low rates of crack use among college students during the 1990s and through 2002. Except for the recent modest 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 and then inched up through 2002 for twelfth graders and leveled for eighth and tenth graders. This pattern of an increase among younger students but none among older age groups would be consistent with the notion that perceived risk eroded as generational replacement has taken place. Because the crack epidemic of the mid-1980s is not that long ago, the older age groups may still remember the lessons learned during that historical period.

   Among seniors in high school, annual crack prevalence among the college-bound is considerably lower than among those not bound for college (1.7% for college-bound versus 4.5% for noncollege-bound, in 2002).

   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. As has been mentioned, when we first measured crack use in 1987, it had the highest level of perceived risk of any illicit drug. Also, it did not turn out to be "instantly addicting" upon first-time use, as had

been reported widely. While 3.8% of seniors in 2002 reported ever having tried crack, only 1.2% reported use in the past month, indicating that 68% of those who tried crack did not establish a pattern of continued use.

In 1993, the levels of perceived risk and disapproval associated with crack dropped in all three grade levels, foretelling the rise in use that occurred in all three grades between 1994 and 1998. Because more than a decade had passed since the media frenzy about crack use peaked in 1986, it is quite possible that "generational forgetting" of the risks of that drug was occurring. Indeed, perceived risk of crack use had been eroding steadily at all grade levels since 1991 (or 1992 in the case of the twelfth graders) through 2000; however, in 2001 the decline halted in all three grades.

- ***Cocaine*[4]** in general began to decline a year earlier than crack, probably because crack was still in the process of diffusing to new parts of the country, being still quite new. Between 1986 and 1987 the annual prevalence rate for cocaine dropped dramatically, by roughly one fifth in all three populations then being 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).

During the 1990s, however, cocaine use in all five populations increased some, both beginning and ending in a staggered pattern by age. Use rose among eighth graders from 1991 to 1998, among tenth and twelfth graders from 1992 to 1999, among college students from 1994 to 2000, and among young adults from 1996 through 2001. (Note that a turnaround has yet to occur in the two older groups.)

Again, the story regarding attitudes and beliefs is informative. Having risen substantially after 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 disapproval began to decline in all grades, though not as sharply as perceived risk. The decline in perceived risk had virtually ended by 1995 among eighth graders, by 1998 among tenth graders, and by 2000 among twelfth graders. Disapproval declined between 1991 and 1996 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.

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[4]Unless otherwise specified, all references to "cocaine" refer to the use of cocaine in any form, including crack.

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. From 1992 through 1998 or 1999, there was rather little change in reports of availability of powder cocaine in the three grades, but in the past couple of years there has been some falloff.

As with all the illicit drugs, lifetime cocaine prevalence climbs with age, reaching 39% by age 40 (among the 2002 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. (See Figure 4-5 in Volume II.) Nearly all of the other illicit drugs show a decline in active use with age.

- **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, and declined to 1.1% by 2002. For the young adults, the annual prevalence rate rose very slightly from 0.2% in 1996 to 0.6% in 2001 before declining to 0.3% in 2002.

- 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 15 years, through 1994. Heroin use was also stable in the early 1990s among the other four populations covered here. Then, in 1994 in the case of the eighth graders, and in 1995 in the case of all other groups, there was a sudden uptick in use, with rates jumping in one or two years to two or three times what they had been. The new higher levels of heroin use remained among all five populations for the rest of the decade. In 2000, however, there was a significant decrease in use among eighth graders (from 1.4% in 1999 to 1.1% in 2000) and a significant increase in use among seniors (from 1.1% in 1999 to 1.5% in 2000). The increase among seniors was due entirely to an increase in non-injection use. Use of heroin declined significantly among tenth and twelfth graders in 2001, as did their use of heroin without a needle. In 2002 little change took place among the secondary school students, but young adults showed a significant decline in their reported heroin use.

Two factors very likely contributed to the upturn in heroin use in the 1990s. One is a long-term decline in the perceived risk of harm, probably due to "generational forgetting," because it had been a long time since the country had experienced a heroin epidemic. The second factor, not unrelated to the first, is that in recent years the increased purity of heroin has 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 avoiding injection reduces the likelihood of transmission of HIV, hepatitis, or other serious diseases. By introducing some new questions on heroin use in 1995, we were

able to show that significant proportions of past-year users in all five populations were indeed taking heroin by means other than injection. (See Table 2-2 and chapter 4 of Volume I 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. (The decline may be an example of generational forgetting, as the heroin epidemic of the early 1970s faded into the distant past.) 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, rose sharply by 1997, and continued to rise in 1998—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. The perceived risk of trying heroin began to decrease among seniors in 1999, however, foretelling a significant increase in their use of the drug in 2000. In 2001, as the perceived risk of trying heroin increased slightly, their use finally declined significantly.

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 and only 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* is reported only for the oldest three populations because we believe younger students are not accurately discriminating among the drugs that should be included or excluded from this general class. Use had been declining gradually over most of the life of the study in the age groups under study. Seniors had an annual prevalence rate of 6.4% in 1977, which fell to 3.3% by 1992. But from about 1992 through 2001, all of the older age groups showed a continuing increase, reaching peak levels of use in 2001, with young adults showing a significant one-year increase that year. (A closer look at the age breakdowns suggests that most of this increase among young adults is concentrated among 19- to 24- year-olds.) The specific drugs in this class are listed in Table E-4 in Appendix E of Volume I, which shows that *codeine* and *opium* are among the ones most commonly mentioned by high school seniors in recent years. They also account for much of the increase in the general class, though there have also been increases in the reported use of *morphine* and *Demerol*.

- In 2002 data were gathered for the first time on two other drugs in this class—*Vicodin* and *OxyContin*—and it is very likely that they help to account for the upturn in the use of the general class of narcotics other than heroin. We find that Vicodin has attained surprisingly high prevalence rates in the five populations under study here—an annual

prevalence of 2.5% in eighth grade, 6.9% in tenth grade, 9.6% in twelfth grade, 6.9% among college students, and 8.2% among young adults. Considerably lower rates were found for OxyContin, but considering that it is a highly addictive narcotic drug, the rates are not inconsequential—1.3%, 3.0%, 4.0%, 1.5%, and 1.9% in the same five populations, respectively. Because OxyContin has received considerable adverse publicity in the last year or so, it is possible that perceived risk (which we do not measure) will increase. But, because its use appears to have originated in several fairly delimited geographic areas, it is also likely that it will be diffusing to new communities for some time to come.

- 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 and 7.7% in 2002. Reported tranquilizer use also exhibited some modest increase among eighth graders, from 1.8% in 1991 to 3.3% in 1996, before declining a bit to 2.6% in 1998. (Use stood at 2.6% in 2002.) Among tenth graders, annual prevalence remained stable between 1991 and 1994, at around 3.3%, and increased significantly to 4.6% by 1996 and to 6.3% by 2002. After a period of stability, college student use also showed an increase between 1994 and 2002, more than tripling. For the young adult sample, after a long period of decline, annual prevalence increased appreciably between 1997 and 2002, more than doubling. Most of the reported tranquilizer use in recent years has involved *Valium* and *Xanax*. (See Table E-3 in Appendix E of Volume I.)

- The long-term gradual decline in *sedative* (*barbiturate*) use, which began at least as early as 1975, when the study began, halted in 1992. Use among twelfth graders then rose to 6.7% in 2002—still well below the peak rate of 10.7% in 1975. The 2002 annual prevalence of this class of drugs is lower among young adults (3.9%) and college students (3.7%) than among seniors (6.7%). 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. (Data are not included here for eighth and tenth grades, again because we believe that the younger students have more problems with proper classification of the relevant drugs.)

- *Methaqualone*, another sedative drug, has shown a trend pattern quite different from barbiturates. Methaqualone use rose among seniors from 1975 to 1981, when annual prevalence reached 7.6%. 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. Use then leveled before decreasing significantly to 0.3% in 2000, but it is now up a bit to 0.9% in 2002. 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 twelfth graders are now asked about use of this drug.

- It should be noted that we are seeing in recent years a virtually uninterrupted increase among high school seniors, college students, and young adults generally in the use of nearly all illicit drugs that are **central nervous system depressants**. These include **sedatives** (**barbiturates**), **tranquilizers**, and **narcotics other than heroin**. All of these drugs tended to fall from favor from the mid-1970s through the early 1990s, but many made a comeback in the mid- to late 1990s and into the early 2000s.

- To summarize, for some years five classes of illicitly used drugs—**marijuana**, **amphetamines**, **cocaine**, **LSD**, and **inhalants**—have had an impact on appreciable proportions of young Americans in their late teens and 20s. In 2002 high school seniors showed annual prevalence rates of 36%, 11%, 5.0%, 3.5%, and 4.5%, respectively. Among college students in 2002, the comparable annual prevalence rates are 35%, 7.0%, 4.8%, 2.1%, and 2.0%; and for all young adults the rates are 29%, 5.9%, 5.8%, 1.8%, and 1.6%.

- Joining this set of long-established, more prevalent drugs is **MDMA** (**ecstasy**), which has annual prevalence rates in 2002 of 7.4% among twelfth graders, 6.8% among college students, and 6.2% among young adults. The **narcotics other than heroin** are now also reaching appreciable numbers at 7.0%, 6.5%, and 6.1%, respectively, as are **tranquilizers** at 7.7%, 6.7%, and 7.0%, respectively.

- In eighth grade, **inhalants** are second only to marijuana as the most widely used of the illicitly used drugs. Because of their importance among the younger adolescents, a new index of illicit drug use including inhalants was introduced in Tables 2-1 through 2-2 in recent years. 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 2002 the proportion of eighth graders reporting any illicit drug use in their lifetime, exclusive of inhalants, was 25%, whereas including inhalants raised the figure to 32%.

- Several additional classes of drugs have been added to the study's coverage in the several years, and they are all discussed in chapter 4 of Volume I. These include **ketamine**, **GHB**, and **Rohypnol**, so-called "club drugs" (in addition to LSD and ecstasy). In general these drugs have not attained high prevalence rates among eighth, tenth, or twelfth graders: the 2002 annual prevalence rates for **ketamine** are 1.3%, 2.2%, and 2.6%, respectively; for **GHB**, 0.8%, 1.4%, and 1.5%; and for **Rohypnol**, 0.3% and 0.7% for eighth and tenth grade (the Rohypnol question for twelfth graders was changed in 2002). There was little change in the use of any of them this year; Rohypnol, which has been in the study since 1996, has had little change since then. The two narcotic drugs added to our coverage in 2002—**OxyContin** and **Vicodin**—show higher prevalence rates, as stated earlier.

- Two new substances used primarily by males to develop their physique and physical strength were added to the question set in 2001. One is **androstenedione**, which is a precursor to anabolic steroid and can be purchased over the counter. Among males,

where use is heavily concentrated, the 2002 annual prevalence rate is quite high, at 1.7%, 2.2%, and 4.7% in grades 8, 10, and 12. (Among females, the rates are 0.8%, 1.6%, and 0.4%.)

- Another physique-enhancing substance that is not a drug, but rather a type of protein supplement, is ***creatine***. Because we thought its use often was combined with the use of steroids and androstenedione, we included a question on it in 2001 and found prevalence of use to be very high. Among boys, who again are the primary users, the 2002 annual prevalence for creatine is 3.9%, 13.1%, and 16.8%, in grades 8, 10, and 12. (For girls, the rates are 0.9%, 2.1%, and 1.5%.)

- The study has contained a set of questions about the use of non-prescription stimulants for some years, including stay-awake pills, diet pills, and the so-called "look-alikes." 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, reaching 15% by 2002. Earlier decreases also occurred among the college-aged young adult population (ages 19 to 22), in which annual prevalence was 26% in 1989 and declined to 14% in 2002—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, increased to 7.1% in 2001, and then leveled in 2002; among young adults aged 19 to 22, use also declined from 6.0% in 1995 to 4.6% in 2002. Over-the-counter ***diet pills*** have not shown a recent decline. Among high schools seniors, annual prevalence did decline from 1986 to 1995, from 15% to 10%; increased to 12% in 2001, and then increased significantly in 2002 to 15%. (Among twelfth-grade girls in 2002, some 29% had tried diet pills by the end of senior year, 20% used them in the past year, and 12% 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 moving from 16.9% to 6.9%. Use then rose to 16.7% in 2002. The use of these over-the-counter drugs is covered in chapter 10 of Volume I.

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 that are about average for all high school graduates their age; these categories include ***any illicit drug***, ***marijuana***, ***ketamine***, and ***inhalants***. For most 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, ***ecstasy, cocaine***, ***crack cocaine*** specifically, ***heroin***, ***narcotics other than heroin***, ***amphetamines***, ***methamphetamine***, ***ice***, ***sedatives*** (***barbiturates***), and ***tranquilizers***. Only for ***Ritalin*** and ***Rohypnol*** do they show higher than average rates of use.

- Although college-bound seniors have below-average rates of use on *all* of the illicit drugs while they are in high school, these students' eventual use of some illicit drugs attain parity with those who do not attend college. As results from the study published in recent

books 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.[5]

- 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 were emerging for illicit drug use, as we discussed earlier. In fact, as those heavier-using cohorts of high school seniors entered the college years, we saw 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*, *sedatives* (*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 the three older populations (high school 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 2002, for example, is reported by 8.7% of males versus 3.1% of females; among all adults (aged 19 to 30 years) by 5.9% of males versus 3.0% of females; and among college students, specifically, by 5.7% of males versus 3.0% of females.

- In the eighth- and tenth-grade samples there are fewer and smaller 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. While the rate of using *marijuana* in the past year is slightly higher for males, the rate for the use of *any illicit drug other than marijuana* is slightly higher for females. There is little male-female difference in eighth and tenth grades in the use of *LSD*, *cocaine*, *crack*, *heroin*,

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[5]Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities*. Mahwah, NJ: Lawrence Erlbaum Associates. See also Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Bryant, A. L., & Merline, A. C. (2002). *The decline of substance use in young adulthood: Changes in social activities, roles, and beliefs*. Mahwah, NJ: Lawrence Erlbaum Associates.

methamphetamine, *Ritalin*, *Rohypnol*, and *GHB*.   *Inhalant*, *amphetamine*, and *tranquilizer* use are 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 47% of eighth graders, 67% of tenth graders, 78% of twelfth graders, and 86% 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 12%, among tenth graders at 22%, among twelfth graders at 29%, and among college students at 40%. After people pass their early 20s, this behavior recedes somewhat with age, reflected by the 36% rate found in the entire young adult sample and the 26% rate found among 29- to 30-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 1992. *Daily alcohol use* declined from a peak of 6.9% in 1979 to 3.4% in 1992; 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. Indeed, the drop in alcohol use in 2002 among secondary school students (but not among college students and young adults) is noteworthy.

Male-Female Differences in Alcohol Use

- There is a substantial gender difference among high school seniors in the prevalence of *occasions of heavy drinking* (23% for females versus 34% for males in 2002); 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 11-point difference in 2002.)

- 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, 51% of college males report having *five or more drinks in a row* over the previous two

weeks versus 33% 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 9-14 in Volume II.) From 1980 to 1993, college students showed considerably less drop-off in monthly prevalence of *alcohol* use (82% to 70%) than did high school seniors (72% to 49%). **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 age-mates, the decline was from 41% to 34%. Thus, because both their noncollege age-mates and high school students were showing greater declines, the college students stood out as having maintained a high rate of binge or party drinking. Since 1993, the college students changed little (40% in 2002—the same rate observed in 1993), while their noncollege age-mates increased by 1 percentage point, to 35%; high school seniors increased to 32% in 1998, but then decreased to 29% by 2002. 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 (7.0% versus 3.7% in 2002). This gender difference tends to be even larger in the noncollege group (5.3% versus 3.5%, respectively, in 2002).

- The rate of daily drinking fell considerably among the noncollege group, from 8.3% in 1980 to 3.2% in 1994, but by 2000 had risen to 5.8% with some decline thereafter. Daily drinking by the college group moved from 6.5% in 1980 to 3.0% in 1995 and increased to 5.0% in 2002.

- Comparisons between the college and noncollege group in terms of binge drinking have typically shown that college students are more likely to engage in this activity.

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, young people continued to establish regular cigarette habits during late adolescence in sizeable and, during the first half of the

1990s, growing proportions. In fact, since the study began in 1975, cigarettes have consistently remained the class of abusable substances 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 and 1997. This study played an important role in bringing these disturbing increases in adolescent smoking to public attention during those years.

  Fortunately, there have been some important declines in current smoking since 1996 in the case of eighth and tenth graders and since 1997 in the case of twelfth graders. In fact, the declines have more than offset the increases observed earlier in the 1990s. In 2002, 11% of eighth graders (versus 14% in 1991) reported smoking one or more cigarettes in the prior 30 days, as well as 18% of tenth graders (versus 21% in 1991) and 27% of twelfth graders (versus 28% in 1991). Despite these very important recent improvements, at present more than one quarter 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. All three grades have been continuing to decline in use through 2002, including declines among all three grades in 2002. Among college students there was a nearly 50% increase in smoking from 1994 (13%) through 1999 (19%)—reflecting the cohort replacement effect of the heavier smoking senior classes—before a turnaround began in 2000, decreasing the levels of use to 16% by 2002. For high school seniors, during a much earlier period (from 1977 to 1981), there had been a substantial decline in daily smoking, a leveling for nearly a decade (through 1990), and a slight decline in 1991 and 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, nearly three quarters of the seniors (74%) report that pack-a-day smokers run a great risk of harming themselves physically or in other ways: more importantly, only 58% 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 2000, presaging the subsequent downturn in smoking. After 2000 perceived risk leveled in the lower grades but continued to rise in grade 12, likely reflecting a cohort effect.

- 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. 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 and beliefs. However, that coverage diminished considerably in 1998, raising the question of whether these changes in youth attitudes would 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 and recent increases in cigarette prices, have served to sustain these changes.

Age and Cohort-Related Differences in Cigarette Smoking

- Initiation of smoking occurs most often in grades six through nine (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 evidences 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 were still 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. About two thirds (64%) of eighth graders and five sixths (83%) 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 six 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 2002 smoking a half-pack or more per day is 25 times as prevalent among the noncollege-bound seniors (17.5% versus 6.7%). Among respondents of college age (one to four years past high school), those not in college show the same dramatically higher rate of smoking than those who are in college, with half-pack-a-day smoking standing at 21.9% and 7.9%, respectively. Clearly the differences precede college attendance.

- 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 by college students rose from 23% to 31%, or by about one third, and daily smoking rose from 14% to 19%—or by about 40%. The year 2000 showed, for the first time in several years, a decline in college student smoking, with this decline continuing in 2001 but not in 2002 (27% current prevalence).

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 then a 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 from 1995 through 2002—no doubt an echo of the crossover among seniors in 1991.

RACIAL/ETHNIC COMPARISONS

The three largest ethnic groupings—Whites, African Americans, and Hispanics taken as a group—are examined here, for eighth, tenth, and twelfth graders. (Sample size limitations simply do not allow finer subgroup breakdowns unless many years are combined. Separate publications from the study have done just that.) A number of interesting findings emerge from

the comparison of these three groups, and the reader is referred to chapters 4 and 5 of Volume I for a full discussion of them.[6]

- African American seniors have consistently shown lower usage rates of most drugs, licit and illicit, than White seniors; this also is true at the lower grade levels where few have yet dropped out of school. The differences are quite large for some drugs, including *inhalants*, *LSD*, and *other cocaine*, at all three grade levels.

- African American students have a much lower 30-day prevalence rate of *cigarette smoking* than White students (12% versus 33% in senior year, in 2002) 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 and African American seniors after 1992, but by 1998 there was a leveling, and since then a reversal, in both groups in all grades.) The White eighth, tenth, and twelfth graders' cigarette use declined significantly in 2002. All three ethnic groups showed a decline in 2002 for all three grades.

- In twelfth grade, *occasions of heavy drinking* are much less likely to be reported by African American students (12%) than by White students (34%) or Hispanic students (26%).

- In twelfth grade, of the three racial/ethnic groups, Whites tend to have the highest rates of use on a number of drugs, including *inhalants*, *hallucinogens*, *LSD* specifically, *hallucinogens other than LSD*, *ecstasy, heroin without a needle*, *amphetamines*, *sedatives* (*barbiturates*), *tranquilizers*, *narcotics other than heroin*, *alcohol*, *getting drunk, cigarettes*, and *smokeless tobacco*.

- However, Hispanics have the highest usage rate in senior year for a number of the most dangerous drugs, for example, *heroin with a needle*, *crack*, and *crystal meth* (*ice*). Further, in eighth grade, Hispanics have the highest rates not only for these drugs, but for many of the others, as well. For example, in eighth grade, the annual prevalence of *marijuana* for Hispanics is 21%, versus 15% for Whites and 13% for African Americans; for *binge drinking*, 18% for Hispanics, 13% for Whites, and 9% for African Americans. 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.

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[6]Periodically we publish comparisons that contain a number of the smaller racial/ethnic groups in the population, based on data combined for a number of contiguous years in order to attain adequate sample sizes. The first was 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. More recent articles are: Wallace, J. M., Jr., Bachman J. G., O'Malley, P. M., Johnston, L. D., Schulenberg, J. E., & Cooper, S. M. (2002). Tobacco, alcohol and illicit drug use: Racial and ethnic differences among U.S. high school seniors, 1976-2000. *Public Health Reports, 117(Supplement 1),* S67-S75; and Wallace, J. M., Jr., Bachman J. G., O'Malley, P. M., Schulenberg, J. E., Cooper, S. M., & Johnston, L. D. (2003). Gender and ethnic differences in smoking, drinking, and illicit drug use among American 8th, 10th, and 12th grade students, 1976-2000. *Addictions, 98*, 225-234.

- With regard to trends, seniors in all three racial/ethnic groups exhibited a 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**, **sedatives** (**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 high school seniors have emerged during the life of the study. The three groups were fairly similar in their smoking rates during the mid-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.

- By eighth grade, 47% of youngsters report having tried **alcohol** (more than just a few sips), and about one fifth (21%) say they have already been **drunk** at least once.

- Nearly a third of the eighth graders (31%) have tried **cigarettes**, and one in nine (11%) say they have smoked in the prior month. Shocking to most adults is the fact that only 58% of eighth graders recognize that there is great risk associated with being a pack-a-day smoker. While an increasing proportion will recognize the risk by twelfth grade, for many this is too late, since they already will have become smokers.

- **Smokeless tobacco** has been tried by 17% of male eighth graders, is used currently by 5.4% of them, and is used daily by 1.5%. (Rates are much higher among males than among females.)

- Among eighth graders, 1 in 7 (15%) have used **inhalants**, and 1 in 26 (3.8%) say 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 nearly one in every five eighth graders (19%) and has been used in the prior month by almost one in every twelve (8.3%).

- A surprisingly large number of eighth-grade students (8.7%) say they have tried prescription-type *amphetamines*; 2.8% 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 concerning the grades in which they first used the various drugs.) But the proportions having at least some experience with them is not inconsequential because a 3.3% prevalence rate, for example, on average represents 1 child in every 30-student classroom. The 2002 eighth-grade proportions reporting experience with the other illicit drugs are *ecstasy* (4.3%), *tranquilizers* (4.3%), *methamphetamine* (3.5%), *hallucinogens other than LSD* (3.3%), *cocaine other than crack* (2.8%), *crack* (2.5%), *LSD* (2.5%), *steroids* (2.5% overall, and 3.2% among males), *heroin* (1.6%), and *Rohypnol* (0.8%).

- In total, 14% of all eighth graders in 2002—one in every seven—have tried *some illicit drug other than marijuana* (excluding inhalants). Put another way, in an average 30-student classroom of eighth graders, about 4 have used some drug other than marijuana and nearly 6 have used marijuana.

- The very large number of students 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.

DRUG USE BY AGE 40

Because we have now followed up graduating high school seniors into their 40s, we can characterize the drug-using history of today's 40-year-olds. This is important not only because it characterizes how use by these respondents has developed over more than two decades since they left high school, but also because many of them are now themselves the parents of adolescents. Their active use of substances may serve as role modeling for their children, and their own past experience may complicate their communications with their children regarding drugs. The level of use they have attained is truly impressive. (See chapter 4 of Volume II for greater detail and discussion.)

- Among 40-year-old high school graduates in 2002, we estimate that three quarters (76%) have tried *marijuana* and that over two thirds (68%) have tried an *illicit drug other than marijuana* (estimates are adjusted for panel attrition as described in Volume II).

  Their current behavior is far less extreme than those statistics would imply, however. "Only" 1 in 7 (15%) indicates using marijuana in the last 12 months, while 1 in 10 (10%) affirm use of any other illicit drug in that time period. (Their past-month prevalence rates

are lower still—8.1% and 3.9%, respectively.) At least 1 in 33 40-year-olds (3.0%) is a *current daily marijuana* user, though a great many more have been so at some time in the past.

- Quite high proportions have had some experience during their lifetime with several of the specific illicit drugs other than marijuana. These include *amphetamines* (49%), *cocaine* in any form (44%), *non-crack forms of cocaine* (38%), *tranquilizers* (33%), *hallucinogens* of any type (30%), *narcotics other than heroin* (28%), *sedatives* (*barbiturates*) (24%), *LSD* (20%), and *other hallucinogens* (19%). In sum, today's 40-year-olds are a very drug-experienced cohort of adults, as might be expected from the fact that they graduated from high school near the peak of the drug epidemic.

- Among the illicit drugs other than marijuana that have been used in just the past year by this age group (outside of medical regimen) are *cocaine* (3.7% annual prevalence), *tranquilizers* (4.2%), *sedatives* (*barbiturates*) (1.0%), *narcotics other than heroin* (3.4%), and *amphetamines* (1.4%). There is very little active use being reported by our respondents at this age of *LSD*, *other hallucinogens*, *crack,* or *heroin*. (Of course, we would not expect *heavy* heroin or crack users to have remained in the panel studies.)

- *Alcohol* consumption is relatively high at this age, with 65% indicating that they consumed at least one alcoholic drink in the prior 30 days, 6.6% indicating current *daily drinking* (defined as drinking on 20 or more occasions in the prior 30 days), and 25% indicating *occasional heavy drinking* (defined as five or more drinks on at least one occasion in the prior two weeks).

- Nearly one in five (19%) 40-year-old high school graduates currently smokes *cigarettes*. Almost all of those are current *daily smokers*.

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 a number of *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 marijuana availability, as reported by high school seniors, have 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, which occurred when the risks associated with that drug suddenly rose sharply.

However, improvements surely are not inevitable; and, when they occur, they should not be taken for granted. Relapse is always possible and, indeed, just such a "relapse" in the longer-term epidemic occurred during the early to mid-1990s, as the country let down its guard on many fronts. (See chapter 8 of Volume I for a more detailed discussion of this point.)

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 several 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. (During that period 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 double 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, a third (32%) of American young people have tried an ***illicit drug*** (if inhalants are included as an illicit drug), and by twelfth grade, more than half (55%) have done so.

- By their late 20s, 6 in every 10 (60%) of today's American young adults have tried an ***illicit drug***, and a third (32%) have tried some ***illicit drug other than marijuana*** (usually in addition to marijuana). (These figures do not include inhalants.)

- Today more than one in seven young Americans (15% in 2002) has tried ***cocaine*** by the age of 30, and 8% have tried it by their senior year of high school (i.e., by age 17 or 18). More than 1 in every 25 seniors (3.8%) has tried ***crack***. In the young adult sample, 1 in 20 (4.9%) has tried crack by age 29-30.

- Over 1 in every 16 high school seniors (6.0%) in 2002 currently smokes ***marijuana daily***. Among young adults aged 19 to 28, the percentage is slightly less (4.5%). Among those same seniors in 2002, one in every six (16%) had been daily marijuana smokers at some time for at least a month, and among young adults the comparable figure is nearly one in five (19%).

- Three in ten high school seniors (29%) 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 51%.

- More than one quarter (27%) of high school seniors in 2002 were current ***cigarette*** smokers, and 17% 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 in the 1980s and the early 1990s, 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.[7] Even by longer-term historical standards in

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[7]A published report from an international collaborative study, modeled largely after Monitoring the Future, suggests that in 2000 none of the 30 European countries in which national school surveys of 15- to 16-year-olds were conducted had rates of illicit drug use comparable to those observed in the United States. (Heroin was the one important exception.) See Hibell, B., Anderson, B., Ahlström, S., Balakireva, O., Bjarnasson, T., Kokkevi, A., & Morgan, M. (Eds.). (2000). *The 1999 ESPAD report* (*The European School Survey Project on Alcohol and Other Drugs): Alcohol and other drug use among students in 30 European countries.* Stockholm: The Swedish Council for Information on Alcohol and Other Drugs, and the Council of Europe.

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, though declining, proportion of young people to cigarette smoking remains 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 Robitussin, 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 *ecstasy* (*MDMA*). Other drugs like *Rohypnol*, *ketamine*, *GHB*, and *OxyContin* have appeared recently and now must be added to the list of drugs under study. The spread of such new drugs appears to be 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 documenting their emergence, establishing their adverse consequences, and quickly demystifying them will remain important means by which policymakers, researchers, and educators deal with the continuing threats posed by such drugs.

- 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 that requires an ongoing, dynamic response from our society—one that takes into account the continuing generational replacement of our children, the generational forgetting of the dangers of drugs that can occur with that replacement, and the perpetual additional tracking of new abusable substances that will come onto the scene and threaten to lure our young people into involvement with drugs.

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)

<u>Lifetime</u>

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01–'02 change
Any Illicit Drug[a]													
8th Grade	18.7	20.6	22.5	25.7	28.5	31.2	29.4	29.0	28.3	26.8	26.8	24.5	-2.3s
10th Grade	30.6	29.8	32.8	37.4	40.9	45.4	47.3	44.9	46.2	45.6	45.6	44.6	-1.1
12th Grade	44.1	40.7	42.9	45.6	48.4	50.8	54.3	54.1	54.7	54.0	53.9	53.0	-0.9
College Students	50.4	48.8	45.9	45.5	45.5	47.4	49.0	52.9	53.2	53.7	53.6	51.8	-1.8
Young Adults	62.2	60.2	59.6	57.5	57.4	56.4	56.7	57.0	57.4	58.2	58.1	59.0	+0.9
Any Illicit Drug Other Than Marijuana[a,b]													
8th Grade	14.3	15.6	16.8	17.5	18.8	19.2	17.7	16.9	16.3	15.8	‡17.0	13.7	-3.3sss
10th Grade	19.1	19.2	20.9	21.7	24.3	25.5	25.0	23.6	24.0	23.1	‡23.6	22.1	-1.5
12th Grade	26.9	25.1	26.7	27.6	28.1	28.5	30.0	29.4	29.4	29.0	‡30.7	29.5	-1.2
College Students	25.8	26.1	24.3	22.0	24.5	22.7	24.4	24.8	25.5	25.8	26.3	26.9	+0.6
Young Adults	37.8	37.0	34.6	33.4	32.8	31.0	30.5	29.9	30.2	31.3	31.6	32.8	+1.2
Any Illicit Drug Including Inhalants[a,c]													
8th Grade	28.5	29.6	32.3	35.1	38.1	39.4	38.1	37.8	37.2	35.1	34.5	31.6	-2.9ss
10th Grade	36.1	36.2	38.7	42.7	45.9	49.8	50.9	49.3	49.9	49.3	48.8	47.7	-1.1
12th Grade	47.6	44.4	46.6	49.1	51.5	53.5	56.3	56.1	56.3	57.0	56.0	54.6	-1.4
College Students	52.0	50.3	49.1	47.0	47.0	49.1	50.7	55.4	54.4	54.6	53.1	52.3	-0.9
Young Adults	63.4	61.2	61.2	58.5	59.0	58.2	58.4	58.5	58.5	59.5	59.0	59.6	+0.6
Marijuana/Hashish													
8th Grade	10.2	11.2	12.6	16.7	19.9	23.1	22.6	22.2	22.0	20.3	20.4	19.2	-1.2
10th Grade	23.4	21.4	24.4	30.4	34.1	39.8	42.3	39.6	40.9	40.3	40.1	38.7	-1.4
12th Grade	36.7	32.6	35.3	38.2	41.7	44.9	49.6	49.1	49.7	48.8	49.0	47.8	-1.1
College Students	46.3	44.1	42.0	42.2	41.7	45.1	46.1	49.9	50.8	51.2	51.0	49.5	-1.5
Young Adults	58.6	56.4	55.9	53.7	53.6	53.4	53.8	54.4	54.6	55.1	55.7	56.8	+1.1
Inhalants[c,d]													
8th Grade	17.6	17.4	19.4	19.9	21.6	21.2	21.0	20.5	19.7	17.9	17.1	15.2	-1.9s
10th Grade	15.7	16.6	17.5	18.0	19.0	19.3	18.3	18.3	17.0	16.6	15.2	13.5	-1.6s
12th Grade	17.6	16.6	17.4	17.7	17.4	16.6	16.1	15.2	15.4	14.2	13.0	11.7	-1.4
College Students	14.4	14.2	14.8	12.0	13.8	11.4	12.4	12.8	12.4	12.9	9.6	7.7	-1.9
Young Adults	13.4	13.5	14.1	13.2	14.5	14.1	14.1	14.2	14.2	14.3	12.8	12.4	-0.5
Nitrites[e]													
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.6	1.5	1.4	1.7	1.5	1.8	2.0	2.7	1.7	0.8	1.9	1.5	-0.4
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)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01–'02 change
Hallucinogens[b,f]													
8th Grade	3.2	3.8	3.9	4.3	5.2	5.9	5.4	4.9	4.8	4.6 ‡	5.2	4.1	-1.0
10th Grade	6.1	6.4	6.8	8.1	9.3	10.5	10.5	9.8	9.7	8.9 ‡	8.9	7.8	-1.0
12th Grade	9.6	9.2	10.9	11.4	12.7	14.0	15.1	14.1	13.7	13.0 ‡	14.7	12.0	-2.7s
College Students	11.3	12.0	11.8	10.0	13.0	12.6	13.8	15.2	14.8	14.4	14.8	13.6	-1.2
Young Adults	15.7	15.7	15.4	15.4	16.1	16.4	16.8	17.4	18.0	18.4	18.3	19.6	+1.3
LSD													
8th Grade	2.7	3.2	3.5	3.7	4.4	5.1	4.7	4.1	4.1	3.9	3.4	2.5	-1.0s
10th Grade	5.6	5.8	6.2	7.2	8.4	9.4	9.5	8.5	8.5	7.6	6.3	5.0	-1.4s
12th Grade	8.8	8.6	10.3	10.5	11.7	12.6	13.6	12.6	12.2	11.1	10.9	8.4	-2.5ss
College Students	9.6	10.6	10.6	9.2	11.5	10.8	11.7	13.1	12.7	11.8	12.2	8.6	-3.5ss
Young Adults	13.5	13.8	13.6	13.8	14.5	15.0	15.0	15.7	16.2	16.4	16.0	15.1	-0.9
Hallucinogens Other Than LSD[b]													
8th Grade	1.4	1.7	1.7	2.2	2.5	3.0	2.6	2.5	2.4	2.3 ‡	3.9	3.3	-0.6
10th Grade	2.2	2.5	2.8	3.8	3.9	4.7	4.8	5.0	4.7	4.8 ‡	6.6	6.3	-0.3
12th Grade	3.7	3.3	3.9	4.9	5.4	6.8	7.5	7.1	6.7	6.9 ‡	10.4	9.2	-1.2
College Students	6.0	5.7	5.4	4.4	6.5	6.5	7.5	8.7	8.8	8.2	10.7	11.0	+0.3
Young Adults	8.4	8.0	7.6	7.4	7.8	7.9	8.5	9.4	9.3	9.9	12.0	15.0	+3.0sss
PCP[g]													
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	2.9	2.4	2.9	2.8	2.7	4.0	3.9	3.9	3.4	3.4	3.5	3.1	-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	3.1	2.5	-0.6
MDMA (Ecstasy)[h]													
8th Grade	—	—	—	—	—	3.4	3.2	2.7	2.7	4.3	5.2	4.3	-0.9
10th Grade	—	—	—	—	—	5.6	5.7	5.1	6.0	7.3	8.0	6.6	-1.4
12th Grade	—	—	—	—	—	6.1	6.9	5.8	8.0	11.0	11.7	10.5	-1.2
College Students	2.0	2.9	2.3	2.1	3.1	4.3	4.7	6.8	8.4	13.1	14.7	12.7	-1.9
Young Adults	3.2	3.9	3.8	3.8	4.5	5.2	5.1	7.2	7.1	11.6	13.0	14.6	+1.6

(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							
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01–'02 change
Cocaine													
8th Grade	2.3	2.9	2.9	3.6	4.2	4.5	4.4	4.6	4.7	4.5	4.3	3.6	-0.7
10th Grade	4.1	3.3	3.6	4.3	5.0	6.5	7.1	7.2	7.7	6.9	5.7	6.1	+0.5
12th Grade	7.8	6.1	6.1	5.9	6.0	7.1	8.7	9.3	9.8	8.6	8.2	7.8	-0.4
College Students	9.4	7.9	6.3	5.0	5.5	5.0	5.6	8.1	8.4	9.1	8.6	8.2	-0.4
Young Adults	21.0	19.5	16.9	15.2	13.7	12.9	12.1	12.3	12.8	12.7	13.1	13.5	+0.4
Crack[i]													
8th Grade	1.3	1.6	1.7	2.4	2.7	2.9	2.7	3.2	3.1	3.1	3.0	2.5	-0.4
10th Grade	1.7	1.5	1.8	2.1	2.8	3.3	3.6	3.9	4.0	3.7	3.1	3.6	+0.5
12th Grade	3.1	2.6	2.6	3.0	3.0	3.3	3.9	4.4	4.6	3.9	3.7	3.8	+0.1
College Students	1.5	1.7	1.3	1.0	1.8	1.2	1.4	2.2	2.4	2.5	2.0	1.9	-0.2
Young Adults	4.8	5.1	4.3	4.4	3.8	3.9	3.6	3.8	4.3	4.6	4.7	4.3	-0.4
Other Cocaine[j]													
8th Grade	2.0	2.4	2.4	3.0	3.4	3.8	3.5	3.7	3.8	3.5	3.3	2.8	-0.5
10th Grade	3.8	3.0	3.3	3.8	4.4	5.5	6.1	6.4	6.8	6.0	5.0	5.2	+0.2
12th Grade	7.0	5.3	5.4	5.2	5.1	6.4	8.2	8.4	8.8	7.7	7.4	7.0	-0.4
College Students	9.0	7.6	6.3	4.6	5.2	4.6	5.0	7.4	7.8	8.1	8.3	8.6	+0.3
Young Adults	19.8	18.4	15.1	13.9	12.4	11.9	11.3	11.5	11.8	11.7	12.1	12.8	+0.7
Heroin[k]													
8th Grade	1.2	1.4	1.4	2.0	2.3	2.4	2.1	2.3	2.3	1.9	1.7	1.6	-0.1
10th Grade	1.2	1.2	1.3	1.5	1.7	2.1	2.1	2.3	2.3	2.2	1.7	1.8	+0.2
12th Grade	0.9	1.2	1.1	1.2	1.6	1.8	2.1	2.0	2.0	2.4	1.8	1.7	-0.1
College Students	0.5	0.5	0.6	0.1	0.6	0.7	0.9	1.7	0.9	1.7	1.2	1.0	-0.3
Young Adults	0.9	0.9	0.9	0.8	1.1	1.3	1.3	1.6	1.7	1.8	2.0	1.8	-0.2
With a needle[l]													
8th Grade	—	—	—	—	1.5	1.6	1.3	1.4	1.6	1.1	1.2	1.0	-0.1
10th Grade	—	—	—	—	1.0	1.1	1.1	1.2	1.3	1.0	0.8	1.0	+0.2
12th Grade	—	—	—	—	0.7	0.8	0.9	0.8	0.9	0.8	0.7	0.8	+0.1
College Students	—	—	—	—	0.4	0.1	0.2	0.5	0.8	0.7	0.2	0.3	+0.2
Young Adults	—	—	—	—	0.4	0.4	0.3	0.4	0.6	0.4	0.6	0.4	-0.1
Without a needle[l]													
8th Grade	—	—	—	—	1.5	1.6	1.4	1.5	1.4	1.3	1.1	1.0	-0.1
10th Grade	—	—	—	—	1.1	1.7	1.7	1.7	1.6	1.7	1.3	1.3	+0.1
12th Grade	—	—	—	—	1.4	1.7	2.1	1.6	1.8	2.4	1.5	1.6	+0.1
College Students	—	—	—	—	0.5	1.0	1.2	2.1	1.0	2.5	1.3	1.2	-0.2
Young Adults	—	—	—	—	0.9	1.3	1.5	1.7	1.9	2.1	2.1	1.8	-0.3
Other Narcotics[m,n]													
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.6	6.1	6.4	6.6	7.2	8.2	9.7	9.8	10.2	10.6	9.9	10.1	+0.2[n]
College Students	7.3	7.3	6.2	5.1	7.2	5.7	8.2	8.7	8.7	8.9	11.0	10.6	-0.4[n]
Young Adults	9.3	8.9	8.1	8.2	9.0	8.3	9.2	9.1	9.5	10.0	11.5	12.3	+0.8[n]

(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

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01–'02 change
Amphetamines[m]													
8th Grade	10.5	10.8	11.8	12.3	13.1	13.5	12.3	11.3	10.7	9.9	10.2	8.7	-1.5s
10th Grade	13.2	13.1	14.9	15.1	17.4	17.7	17.0	16.0	15.7	15.7	16.0	14.9	-1.1
12th Grade	15.4	13.9	15.1	15.7	15.3	15.3	16.5	16.4	16.3	15.6	16.2	16.8	+0.5
College Students	13.0	10.5	10.1	9.2	10.7	9.5	10.6	10.6	11.9	12.3	12.4	11.9	-0.5
Young Adults	22.4	20.2	18.7	17.1	16.6	15.3	14.6	14.3	14.1	15.0	15.0	14.8	-0.2
Methamphetamine[o,p]													
8th Grade	—	—	—	—	—	—	—	—	4.5	4.2	4.4	3.5	-0.9
10th Grade	—	—	—	—	—	—	—	—	7.3	6.9	6.4	6.1	-0.3
12th Grade	—	—	—	—	—	—	—	—	8.2	7.9	6.9	6.7	-0.2
College Students	—	—	—	—	—	—	—	—	7.1	5.1	5.3	5.0	-0.3
Young Adults	—	—	—	—	—	—	—	—	8.8	9.3	9.0	9.1	+0.1
Ice[p]													
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.3	2.9	3.1	3.4	3.9	4.4	4.4	5.3	4.8	4.0	4.1	4.7	+0.6
College Students	1.3	0.6	1.6	1.3	1.0	0.8	1.6	2.2	2.8	1.3	2.3	2.0	-0.2
Young Adults	2.9	2.2	2.7	2.5	2.1	3.1	2.5	3.4	3.3	3.9	4.0	4.1	+0.1
Sedatives													
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.2	5.5	6.3	7.0	7.4	7.6	8.1	8.7	8.9	9.2	8.7	9.5	+0.9
College Students	3.5	3.8	3.5	3.2	4.0	4.6	5.2	5.7	6.7	6.9	6.0	5.9	-0.1
Young Adults	8.2	7.4	6.5	6.4	6.7	6.6	6.5	6.9	7.4	8.1	7.8	8.0	+0.2
Methaqualone[m,q]													
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.3	1.6	0.8	1.4	1.2	2.0	1.7	1.6	1.8	0.8	1.1	1.5	+0.4
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers[b,m]													
8th Grade	3.8	4.1	4.4	4.6	4.5	5.3	4.8	4.6	4.4	4.4 ‡	5.0	4.3	-0.7
10th Grade	5.8	5.9	5.7	5.4	6.0	7.1	7.3	7.8	7.9	8.0 ‡	9.2	8.8	-0.3
12th Grade	7.2	6.0	6.4	6.6	7.1	7.2	7.8	8.5	9.3	8.9 ‡	10.3	11.4	+1.2
College Students	6.8	6.9	6.3	4.4	5.4	5.3	6.9	7.7	8.2	8.8	9.7	10.7	+1.0
Young Adults	11.8	11.3	10.5	9.9	9.7	9.3	8.6	9.6	9.6	10.5	11.9	13.4	+1.5s
Rohypnol[r]													
8th Grade	—	—	—	—	—	1.5	1.1	1.4	1.3	1.0	1.1	0.8	-0.3
10th Grade	—	—	—	—	—	1.5	1.7	2.0	1.8	1.3	1.5	1.3	-0.2
12th Grade	—	—	—	—	—	1.2	1.8	3.0	2.0	1.5	1.7	—	—
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

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01–'02 change
Alcohol[s]													
Any use													
8th Grade	70.1	69.3	‡55.7	55.8	54.5	55.3	53.8	52.5	52.1	51.7	50.5	47.0	-3.5ss
10th Grade	83.8	82.3	‡71.6	71.1	70.5	71.8	72.0	69.8	70.6	71.4	70.1	66.9	-3.2ss
12th Grade	88.0	87.5	‡80.0	80.4	80.7	79.2	81.7	81.4	80.0	80.3	79.7	78.4	-1.3
College Students	93.6	91.8	89.3	88.2	88.5	88.4	87.3	88.5	88.0	86.6	86.1	86.0	-0.1
Young Adults	94.1	93.4	92.1	91.2	91.6	91.2	90.7	90.6	90.2	90.7	89.9	90.2	+0.3
Been Drunk[p]													
8th Grade	26.7	26.8	26.4	25.9	25.3	26.8	25.2	24.8	24.8	25.1	23.4	21.3	-2.1s
10th Grade	50.0	47.7	47.9	47.2	46.9	48.5	49.4	46.7	48.9	49.3	48.2	44.0	-4.2sss
12th Grade	65.4	63.4	62.5	62.9	63.2	61.8	64.2	62.4	62.3	62.3	63.9	61.6	-2.3
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes													
Any use													
8th Grade	44.0	45.2	45.3	46.1	46.4	49.2	47.3	45.7	44.1	40.5	36.6	31.4	-5.1sss
10th Grade	55.1	53.5	56.3	56.9	57.6	61.2	60.2	57.7	57.6	55.1	52.8	47.4	-5.4sss
12th Grade	63.1	61.8	61.9	62.0	64.2	63.5	65.4	65.3	64.6	62.5	61.0	57.2	-3.9ss
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—
Smokeless Tobacco[t]													
8th Grade	22.2	20.7	18.7	19.9	20.0	20.4	16.8	15.0	14.4	12.8	11.7	11.2	-0.5
10th Grade	28.2	26.6	28.1	29.2	27.6	27.4	26.3	22.7	20.4	19.1	19.5	16.9	-2.6s
12th Grade	—	32.4	31.0	30.7	30.9	29.8	25.3	26.2	23.4	23.1	19.7	18.3	-1.4
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[p]													
8th Grade	1.9	1.7	1.6	2.0	2.0	1.8	1.8	2.3	2.7	3.0	2.8	2.5	-0.3
10th Grade	1.8	1.7	1.7	1.8	2.0	1.8	2.0	2.0	2.7	3.5	3.5	3.5	0.0
12th Grade	2.1	2.1	2.0	2.4	2.3	1.9	2.4	2.7	2.9	2.5	3.7	4.0	+0.3
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	1.7	1.9	1.5	1.3	1.5	1.5	1.4	1.4	1.9	1.4	1.4	1.6	+0.1

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
' __' indicates data not available.
'‡' indicates some change in the question. See relevant footnote for that drug. See relevant figure to assess the impact of the wording changes.
Any apparent inconsistency between the change estimate and the prevalence of use estimates for the two most recent classes is due to rounding error.
SOURCE: The Monitoring the Future Study, the University of Michigan.

Footnotes for Table 2-1 to Table 2-3

Approximate Weighted Ns	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
8th Graders	17,500	18,600	18,300	17,300	17,500	17,800	18,600	18,100	16,700	16,700	16,200	15,100
10th Graders	14,800	14,800	15,300	15,800	17,000	15,600	15,500	15,000	13,600	14,300	14,000	14,300
12th Graders	15,000	15,800	16,300	15,400	15,400	14,300	15,400	15,200	13,600	12,800	12,800	12,900
College Students	1,410	1,490	1,490	1,410	1,450	1,450	1,480	1,440	1,440	1,350	1,340	1,260
Young Adults	6,600	6,800	6,700	6,500	6,400	6,300	6,400	6,200	6,000	5,700	5,800	5,300

'‡' indicates some change in the question. See relevant footnote for that drug. See relevant figure to assess the impact of the wording changes.

[a]For 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, sedatives (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).

[b]In 2001 the question text was changed on half of the questionnaire forms for each grade. "Other psychedelics" was changed to "other hallucinogens" and "shrooms" was added to the list of examples. For the tranquilizer list of examples, Miltown was replaced with Xanax. The 2000 data presented here are based on all forms. For 8th, 10th, and 12th graders only: The 2001 data presented here are based on the changed forms only; N is one-half of N indicated. In 2002 the remaining forms were changed to the new wording. The 2002 data are based on all forms. Data for "any illicit drug other than marijuana" and "hallucinogens" are also affected by these changes and have been handled in a parallel manner.

[c]For 12th graders, college students, and young adults 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 beginning in 1999; N is one-half of N indicated.

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

[e]For 12th graders only: Data based on one of six forms; N is one-sixth of N indicated. For college students and young adults only: Data based on two of six forms; N is two-sixths of N indicated. Questions about nitrite use were dropped from the young adult questionnaires in 1995.

[f]Hallucinogens are unadjusted for underreporting of PCP.

[g]For 12th graders only: Data based on one of six forms; N is one-sixth of N indicated. For college students and young adults only: Data based on one of six forms; N is one-sixth of N indicated.

[h]For 8th and 10th graders only: Data based on one of two forms in 1996; N is one-half of N indicated. Data based on one-third of N indicated in 1997–2001 due to changes in the questionnaire forms. Data based on two of four forms in 2002; N is one-half of N indicated. For 12th graders only: Data based on one of six forms in 1996–2001; N is one-sixth of N indicated. Data based on two of six forms in 2002; N is two-sixths of N indicated. For college students and young adults only: Data based on two of six forms in 1991–2001; N is two-sixths of N indicated. Data based on three of six forms in 2002; N is one-half of N indicated.

[i]For college students and young adults only: Data based on four of six forms in 1991–2001; N is four-sixths of N indicated. Data based on five of six forms in 2002; N is five-sixths of N indicated.

[j]For 12th graders only: Data based on four of six forms; N is four-sixths of N indicated. For college students and young adults only: Data based on four of six forms; N is four-sixths of N indicated.

[k]In 1995, the heroin question was changed in one of two forms for 8th and 10th graders, in three of six forms for 12th graders, and in two of six forms for college students and young adults. Separate questions were asked for use with 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.

[l]For 8th and 10th graders only: Data based on one of two forms in 1995; N is one-half of N indicated. Data based on all forms beginning in 1996. For 12th graders only: Data based on three of six forms; N is one-half of N indicated. For college students and young adults only: Data based on two of six forms; N is two-sixths of N indicated.

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

[n]In 2002 the question text was changed in half of the questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric—all of which had negligible rates of use by 2001—were replaced with Vicodin, Oxycontin, and Percocet. The 2001 data presented here are based on all forms. The 2002 estimates are based on the 2001 prevalence of use rate plus the increase observed from 2001 to 2002 in the half-sample in which the question did not change. Thus, the change score given in the right-hand column is the difference between the data from the unchanged forms only in both 2001 and 2002.

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

[p]For 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.

[q]For 12th graders only: Data based on one of six forms; N is one-sixth of N indicated.

[r]For 8th and 10th graders only: Data based on one of two forms in 1996; N is one-half of N indicated. Data based on three of four forms in 1997–98; N is two-thirds of N indicated. Data based on two of four forms in 1999–2001; N is one-third of N indicated. Data based on one of four forms in 2002; N is one-sixth of N indicated. For 12th graders only: Data based on one of six forms; N is one-sixth of N indicated. Data for 2001 and 2002 are not comparable due to changes in the questionnaire forms. For college students and young adults only: Data based on two of six forms; N is two-sixths of N indicated.

[s]For 8th, 10th, and 12th graders only: In 1993, the question text was changed slightly in half of the forms to indicate that a "drink" meant "more than just a few sips." The 1993 data are based on the changed forms only; N is one-half of N indicated for these groups. In 1994 the remaining forms were changed to the new wording. The 1994 data are based on all forms. 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.

[t]For 8th and 10th graders only: 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. For college students and young adults only: Questions about smokeless tobacco use were dropped from the analyses in 1989.

[u]For 12th graders only: Data based on two of six forms in 2000; N is two-sixths of N indicated. Data based on three of six forms in 2001; N is one-half of N indicated. Data based on one of six forms in 2002; N is one-sixth of N indicated. For college students and young adults only: Data based on two of six forms; N is two-sixths of N indicated.

[v]For 12th graders only: Data based on two of six forms in 2000; N is two-sixths of N indicated. Data based on three of six forms beginning in 2001; N is one-half of N indicated. For college students and young adults only: Data based on two of six forms; N is two-sixths of N indicated.

[w]Daily use 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													30-Day											
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01–'02 change	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01–'02 change
Any Illicit Drug[a]																										
8th Grade	11.3	12.9	15.1	18.5	21.4	23.6	22.1	21.0	20.5	19.5	19.5	17.7	-1.7s	5.7	6.8	8.4	10.9	12.4	14.6	12.9	12.1	12.2	11.9	11.7	10.4	-1.2
10th Grade	21.4	20.4	24.7	30.0	33.3	37.5	38.5	35.0	35.9	36.4	37.2	34.8	-2.4s	11.6	11.0	14.0	18.5	20.2	23.2	23.0	21.5	22.1	22.5	22.7	20.8	-1.9s
12th Grade	29.4	27.1	31.0	35.8	39.0	40.2	42.4	41.4	42.1	40.9	41.4	41.0	-0.5	16.4	14.4	18.3	21.9	23.8	24.6	26.2	25.6	25.9	24.9	25.7	25.4	-0.4
College Students	29.2	30.6	30.6	31.4	33.5	34.2	34.1	37.8	36.9	36.1	37.9	37.0	-0.9	15.2	16.1	15.1	16.0	19.1	17.6	19.2	19.7	21.6	21.5	21.9	21.5	-0.4
Young Adults	27.0	28.3	28.4	28.4	29.8	29.2	29.2	29.9	30.3	30.8	32.1	32.4	+0.3	15.1	14.8	14.9	15.3	15.8	15.8	16.4	16.1	17.1	18.1	18.8	18.9	+0.2
Any Illicit Drug Other Than Marijuana[a,b]																										
8th Grade	8.4	9.3	10.4	11.3	12.6	13.1	11.8	11.0	10.5	10.2	‡10.8	8.8	-2.0ss	3.8	4.7	5.3	5.6	6.5	6.9	6.0	5.5	5.5	5.6	‡5.5	4.7	-0.8
10th Grade	12.2	12.3	13.9	15.2	17.5	18.4	18.2	16.6	16.7	16.7	‡17.9	15.7	-2.1s	5.5	5.7	6.5	7.1	8.9	8.9	8.8	8.6	8.6	8.5	‡8.7	8.1	-0.6
12th Grade	16.2	14.9	17.1	18.0	19.4	19.8	20.7	20.2	20.7	20.4	‡21.6	20.9	-0.7	7.1	6.3	7.9	8.8	10.0	9.5	10.7	10.7	10.4	10.4	‡11.0	11.3	+0.3
College Students	13.2	13.1	12.5	12.2	15.9	12.8	15.8	14.0	15.4	15.6	16.4	16.6	+0.3	4.3	4.6	5.4	4.6	6.3	4.5	6.8	6.1	6.4	6.9	7.5	7.8	+0.3
Young Adults	14.3	14.1	13.0	13.0	13.8	13.2	13.6	13.2	13.7	14.9	15.4	16.3	+1.0	5.4	5.5	4.9	5.3	5.7	4.7	5.5	5.5	6.0	6.4	7.0	7.7	+0.6
Any Illicit Drug Including Inhalants[a,c]																										
8th Grade	16.7	18.2	21.1	24.2	27.1	28.7	27.2	26.2	25.3	24.0	23.9	21.4	-2.5ss	8.8	10.0	12.0	14.3	16.1	17.5	16.0	14.9	15.1	14.4	14.0	12.6	-1.4s
10th Grade	23.9	23.5	27.4	32.5	35.6	39.6	40.3	37.1	37.7	38.0	38.7	36.1	-2.6s	13.1	12.6	15.5	20.0	21.6	24.5	24.1	22.5	23.1	23.6	23.6	21.7	-1.9s
12th Grade	31.2	28.8	32.5	37.6	40.2	41.9	43.3	42.4	42.8	42.5	42.6	42.1	-0.5	17.8	15.5	19.3	23.0	24.8	25.5	26.9	26.6	26.4	26.4	26.5	25.9	-0.5
College Students	29.8	31.1	31.7	31.9	33.7	35.1	35.5	39.1	37.4	37.0	38.2	37.7	-0.4	15.1	16.5	15.7	16.4	19.6	18.0	19.6	21.0	21.8	22.6	21.9	21.9	0.0
Young Adults	27.8	29.2	28.9	29.2	30.4	30.2	30.1	30.6	30.6	31.2	33.2	32.4	-0.8	15.4	15.3	15.1	16.1	16.1	16.4	16.9	16.7	17.4	18.8	19.2	19.5	+0.2
Marijuana/Hashish																										
8th Grade	6.2	7.2	9.2	13.0	15.8	18.3	17.7	16.9	16.5	15.6	15.4	14.6	-0.8	3.2	3.7	5.1	7.8	9.1	11.3	10.2	9.7	9.7	9.1	9.2	8.3	-0.9
10th Grade	16.5	15.2	19.2	25.2	28.7	33.6	34.8	31.1	32.1	32.2	32.7	30.3	-2.4s	8.7	8.1	10.9	15.8	17.2	20.4	20.5	18.7	19.4	19.7	19.8	17.8	-1.9s
12th Grade	23.9	21.9	26.0	30.7	34.7	35.8	38.5	37.5	37.8	36.5	37.0	36.2	-0.8	13.8	11.9	15.5	19.0	21.2	21.9	23.7	22.8	23.1	21.6	22.4	21.5	-0.9
College Students	26.5	27.7	27.9	29.3	31.2	33.1	31.6	35.9	35.2	34.0	35.6	34.7	-0.9	14.1	14.6	14.2	15.1	18.6	17.5	17.7	18.6	20.7	20.0	20.2	19.7	-0.5
Young Adults	23.8	25.2	25.1	25.5	26.5	27.0	26.8	27.4	27.6	27.9	29.2	29.3	+0.1	13.5	13.3	13.4	14.1	14.0	15.1	15.0	14.9	15.6	16.1	16.7	16.9	+0.1
Inhalants[c,d]																										
8th Grade	9.0	9.5	11.0	11.7	12.8	12.2	11.8	11.1	10.3	9.4	9.1	7.7	-1.4ss	4.4	4.7	5.4	5.6	6.1	5.8	5.6	4.8	5.0	4.5	4.0	3.8	-0.2
10th Grade	7.1	7.5	8.4	9.1	9.6	9.5	8.7	8.0	7.2	7.3	6.6	5.8	-0.9	2.7	2.7	3.3	3.6	3.5	3.3	3.0	2.9	2.6	2.6	2.4	2.4	-0.1
12th Grade	6.6	6.2	7.0	7.7	8.0	7.6	6.7	6.2	5.6	5.9	4.5	4.5	0.0	2.4	2.3	2.5	2.7	3.2	2.5	2.5	2.3	2.0	2.2	1.7	1.5	-0.2
College Students	3.5	3.1	3.8	3.0	3.9	3.6	4.1	3.0	3.2	2.9	2.8	2.0	-0.7	0.9	1.1	1.3	0.6	1.6	0.8	0.8	0.6	1.5	0.9	0.4	0.7	+0.3
Young Adults	2.0	1.9	2.1	2.1	2.4	2.2	2.3	2.1	2.3	2.1	1.7	1.6	-0.1	0.5	0.6	0.7	0.5	0.7	0.5	0.5	0.7	0.8	0.5	0.4	0.5	+0.1
Nitrites[e]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.9	0.5	0.9	1.1	1.1	1.6	1.2	1.4	0.9	0.6	0.6	1.1	+0.5	0.4	0.3	0.6	0.4	0.4	0.7	0.7	1.0	0.4	0.3	0.5	0.6	+0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	0.2	0.1	0.4	0.3	—	—	—	—	—	—	—	—	—	*	0.1	0.2	0.1	—	—	—	—	—	—	—	—	—

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	2000	2001	2002	'01–'02 change	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01–'02 change
Hallucinogens[b,f]																										
8th Grade	1.9	2.5	2.6	2.7	3.6	4.1	3.7	3.4	2.9	2.8 ‡	3.4	2.6	-0.8	0.8	1.1	1.2	1.3	1.7	1.9	1.8	1.4	1.3	1.2 ‡	1.6	1.2	-0.4
10th Grade	4.0	4.3	4.7	5.8	7.2	7.8	7.6	6.9	6.9	6.1 ‡	6.2	4.7	-1.5s	1.6	1.8	1.9	2.4	3.3	2.8	3.3	3.2	2.9	2.3 ‡	2.1	1.6	-0.4
12th Grade	5.8	5.9	7.4	7.6	9.3	10.1	9.8	9.0	9.4	8.1 ‡	9.1	6.6	-2.5sss	2.2	2.1	2.7	3.1	4.4	3.5	3.9	3.8	3.5	2.6 ‡	3.3	2.3	-1.0ss
College Students	6.3	6.8	6.0	6.2	8.2	6.9	7.7	7.2	7.8	6.7	7.5	6.3	-1.2	1.2	2.3	2.5	2.1	3.3	1.9	2.1	2.1	2.0	1.4	1.8	1.2	-0.6
Young Adults	4.5	5.0	4.5	4.8	5.6	5.6	5.9	5.2	5.4	5.4	5.4	4.7	-0.7	1.1	1.5	1.2	1.4	1.7	1.2	1.5	1.4	1.3	1.2	1.2	0.9	-0.3
LSD																										
8th Grade	1.7	2.1	2.3	2.4	3.2	3.5	3.2	2.8	2.4	2.4	2.2	1.5	-0.7s	0.6	0.9	1.0	1.1	1.4	1.5	1.5	1.1	1.1	1.0	1.0	0.7	-0.3
10th Grade	3.7	4.0	4.2	5.2	6.5	6.9	6.7	5.9	6.0	5.1	4.1	2.6	-1.6sss	1.5	1.6	1.6	2.0	3.0	2.4	2.8	2.7	2.3	1.6	1.5	0.7	-0.8sss
12th Grade	5.2	5.6	6.8	6.9	8.4	8.8	8.4	7.6	8.1	6.6	6.6	3.5	-3.1sss	1.9	2.0	2.4	2.6	4.0	2.5	3.1	3.2	2.7	1.6	2.3	0.7	-1.6sss
College Students	5.1	5.7	5.1	5.2	6.9	5.2	5.0	4.4	5.4	4.3	4.0	2.1	-2.0ss	0.8	1.8	1.6	1.8	2.5	0.9	1.1	1.5	1.2	0.9	1.0	0.2	-0.8ss
Young Adults	3.8	4.3	3.8	4.0	4.6	4.5	4.4	3.5	4.0	3.7	3.4	1.8	-1.6sss	0.8	1.1	0.8	1.1	1.3	0.7	0.9	1.0	0.8	0.8	0.7	0.3	-0.4ss
Hallucinogens Other Than LSD[b]																										
8th Grade	0.7	1.1	1.0	1.3	1.7	2.0	1.8	1.6	1.5	1.4 ‡	2.4	2.1	-0.3	0.3	0.4	0.5	0.7	0.8	0.9	0.7	0.7	0.6	0.6 ‡	1.1	1.0	-0.2
10th Grade	1.3	1.4	1.9	2.4	2.8	3.3	3.3	3.4	3.2	3.1 ‡	4.3	4.0	-0.4	0.4	0.5	0.7	1.0	1.0	1.0	1.2	1.4	1.2	1.2 ‡	1.4	1.4	0.0
12th Grade	2.0	1.7	2.2	3.1	3.8	4.4	4.6	4.6	4.3	4.4 ‡	5.9	5.4	-0.4	0.7	0.5	0.8	1.2	1.3	1.6	1.7	1.6	1.6	1.7 ‡	1.9	2.0	+0.1
College Students	3.1	2.6	2.7	2.8	4.0	4.1	4.9	4.4	4.5	4.4	5.5	5.8	+0.3	0.6	0.7	1.1	0.8	1.6	1.2	1.2	0.7	1.2	0.8	0.8	1.1	+0.3
Young Adults	1.7	1.9	1.9	2.0	2.5	2.8	3.1	3.0	3.0	3.4	3.5	4.0	+0.5	0.3	0.5	0.6	0.6	0.6	0.6	0.7	0.5	0.6	0.7	0.6	0.8	+0.2
PCP[g]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.4	1.4	1.4	1.6	1.8	2.6	2.3	2.1	1.8	2.3	1.8	1.1	-0.7	0.5	0.6	1.0	0.7	0.6	1.3	0.7	1.0	0.8	0.9	0.5	0.4	-0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	0.3	0.3	0.2	0.3	0.3	0.2	0.5	0.6	0.6	0.3	0.6	0.3	-0.3	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.2	0.2	0.0	0.0	0.1	+0.1
MDMA (Ecstasy)[h]																										
8th Grade	—	—	—	—	—	2.3	2.3	1.8	1.7	3.1	3.5	2.9	-0.6	—	—	—	—	—	1.0	1.0	0.9	0.8	1.4	1.8	1.4	-0.5
10th Grade	—	—	—	—	—	4.6	3.9	3.3	4.4	5.4	6.2	4.9	-1.3s	—	—	—	—	—	1.8	1.3	1.3	1.8	2.6	2.6	1.8	-0.8s
12th Grade	—	—	—	—	—	4.6	4.0	3.6	5.6	8.2	9.2	7.4	-1.8	—	—	—	—	—	2.0	1.6	1.5	2.5	3.6	2.8	2.4	-0.4
College Students	0.9	2.0	0.8	0.5	2.4	2.8	2.4	3.9	5.5	9.1	9.2	6.8	-2.4	0.2	0.4	0.3	0.2	0.7	0.7	0.8	0.8	2.1	2.5	1.5	0.7	-0.8
Young Adults	0.8	1.0	0.8	0.7	1.6	1.7	2.1	2.9	3.6	7.2	7.5	6.2	-1.3	0.1	0.3	0.3	0.2	0.4	0.3	0.6	0.8	1.3	1.9	1.8	1.3	-0.5
Cocaine																										
8th Grade	1.1	1.5	1.7	2.1	2.6	3.0	2.8	3.1	2.7	2.6	2.5	2.3	-0.3	0.5	0.7	0.7	1.0	1.2	1.3	1.1	1.4	1.3	1.2	1.2	1.1	-0.1
10th Grade	2.2	1.9	2.1	2.8	3.5	4.2	4.7	4.7	4.9	4.4	3.6	4.0	+0.5	0.7	0.7	0.9	1.2	1.7	1.7	2.0	2.1	1.8	1.8	1.3	1.6	+0.3
12th Grade	3.5	3.1	3.3	3.6	4.0	4.9	5.5	5.7	6.2	5.0	4.8	5.0	+0.2	1.4	1.3	1.3	1.5	1.8	2.0	2.3	2.4	2.6	2.1	2.1	2.3	+0.2
College Students	3.6	3.0	2.7	2.0	3.6	2.9	3.4	4.6	4.6	4.8	4.7	4.8	+0.1	1.0	1.0	0.7	0.6	0.7	0.8	1.6	1.6	1.2	1.4	1.9	1.6	-0.3
Young Adults	6.2	5.7	4.7	4.3	4.4	4.1	4.7	4.9	5.4	5.4	5.8	5.8	0.0	2.0	1.8	1.4	1.3	1.5	1.2	1.6	1.7	1.9	1.7	2.2	2.2	0.0
Crack[i]																										
8th Grade	0.7	0.9	1.0	1.3	1.6	1.8	1.7	2.1	1.8	1.8	1.7	1.6	-0.1	0.3	0.5	0.4	0.7	0.7	0.8	0.7	0.9	0.8	0.8	0.8	0.8	0.0
10th Grade	0.9	0.9	1.1	1.4	1.8	2.1	2.2	2.5	2.4	2.2	1.8	2.3	+0.5s	0.3	0.4	0.5	0.6	0.9	0.8	0.9	1.1	0.8	0.9	0.7	1.0	+0.2
12th Grade	1.5	1.5	1.5	1.9	2.1	2.1	2.4	2.5	2.7	2.2	2.1	2.3	+0.2	0.7	0.6	0.7	0.8	1.0	1.0	0.9	1.0	1.1	1.0	1.1	1.2	+0.1
College Students	0.5	0.4	0.6	0.5	1.1	0.6	0.4	1.0	0.9	0.9	0.9	0.4	-0.4	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.1	0.3	+0.2
Young Adults	1.2	1.4	1.3	1.1	1.1	1.1	1.0	1.1	1.4	1.2	1.3	1.0	-0.2	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.3	-0.1

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												'01–'02 change	30-Day												'01–'02 change
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
Other Cocaine[j]																										
8th Grade	1.0	1.2	1.3	1.7	2.1	2.5	2.2	2.4	2.3	1.9	1.9	1.8	-0.1	0.5	0.5	0.6	0.9	1.0	1.0	0.8	1.0	1.1	0.9	0.9	0.8	-0.2
10th Grade	2.1	1.7	1.8	2.4	3.0	3.5	4.1	4.0	4.4	3.8	3.0	3.4	+0.4	0.6	0.6	0.7	1.0	1.4	1.3	1.6	1.8	1.6	1.6	1.2	1.3	+0.2
12th Grade	3.2	2.6	2.9	3.0	3.4	4.2	5.0	4.9	5.8	4.5	4.4	4.4	0.0	1.2	1.0	1.2	1.3	1.3	1.6	2.0	2.0	2.5	1.7	1.8	1.9	+0.1
College Students	3.2	2.4	2.5	1.8	3.3	2.3	3.0	4.2	4.2	4.1	4.1	5.0	+0.9	1.0	0.9	0.6	0.3	0.8	0.6	1.3	1.5	1.0	0.9	1.5	1.4	-0.1
Young Adults	5.4	5.1	3.9	3.6	3.9	3.8	4.3	4.5	4.8	4.8	5.3	5.6	+0.4	1.8	1.7	1.1	1.0	1.3	1.1	1.5	1.5	1.6	1.5	1.8	2.0	+0.1
Heroin[k]																										
8th Grade	0.7	0.7	0.7	1.2	1.4	1.6	1.3	1.3	1.4	1.1	1.0	0.9	-0.1	0.3	0.4	0.4	0.6	0.6	0.7	0.6	0.6	0.6	0.5	0.6	0.5	-0.1
10th Grade	0.5	0.6	0.7	0.9	1.1	1.2	1.4	1.4	1.4	1.4	0.9	1.1	+0.1	0.2	0.2	0.3	0.4	0.6	0.5	0.6	0.7	0.7	0.5	0.3	0.5	+0.2
12th Grade	0.4	0.6	0.5	0.6	1.1	1.0	1.2	1.0	1.1	1.5	0.9	1.0	+0.1	0.2	0.3	0.2	0.3	0.6	0.5	0.5	0.5	0.5	0.7	0.4	0.5	+0.1
College Students	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.6	0.2	0.5	0.4	0.1	-0.2	0.1	0.0	*	0.0	0.1	*	0.2	0.1	0.1	0.2	0.1	0.0	-0.1
Young Adults	0.1	0.2	0.2	0.1	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.2	-0.3ss	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	*	-0.2ss
With a needle[l]																										
8th Grade	—	—	—	—	0.9	1.0	0.8	0.8	0.9	0.6	0.7	0.6	-0.1	—	—	—	—	0.4	0.5	0.4	0.5	0.4	0.3	0.4	0.3	-0.1
10th Grade	—	—	—	—	0.6	0.7	0.7	0.8	0.6	0.5	0.4	0.6	+0.1	—	—	—	—	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.3	+0.1
12th Grade	—	—	—	—	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.4	+0.1	—	—	—	—	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.3	+0.1
College Students	—	—	—	—	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.0	-0.1	—	—	—	—	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0
Young Adults	—	—	—	—	0.1	0.1	0.1	0.1	0.1	*	0.3	0.0	-0.3s	—	—	—	—	0.0	0.0	0.1	*	0.1	*	0.2	0.0	-0.2
Without a needle[l]																										
8th Grade	—	—	—	—	0.8	1.0	0.8	0.8	0.9	0.7	0.6	0.6	0.0	—	—	—	—	0.3	0.4	0.4	0.3	0.4	0.3	0.4	0.3	-0.1
10th Grade	—	—	—	—	0.8	0.9	1.1	1.0	1.1	1.1	0.7	0.8	+0.1	—	—	—	—	0.3	0.3	0.4	0.5	0.5	0.4	0.2	0.4	+0.1
12th Grade	—	—	—	—	1.0	1.0	1.2	0.8	1.0	1.6	0.8	0.8	0.0	—	—	—	—	0.6	0.4	0.6	0.4	0.4	0.7	0.3	0.5	+0.1
College Students	—	—	—	—	0.0	0.8	0.4	0.9	0.3	0.8	0.6	0.2	-0.4	—	—	—	—	0.0	0.1	0.2	0.2	0.3	0.4	0.3	0.0	-0.3
Young Adults	—	—	—	—	0.3	0.4	0.4	0.7	0.6	0.5	0.9	0.2	-0.7ss	—	—	—	—	0.1	*	0.1	0.2	0.2	0.2	0.4	*	-0.4ss
Other Narcotics[m,n]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.5	3.3	3.6	3.8	4.7	5.4	6.2	6.3	6.7	7.0	6.7	7.0	+0.2[n]	1.1	1.2	1.3	1.5	1.8	2.0	2.3	2.4	2.6	2.9	3.0	3.1	+0.2[n]
College Students	2.7	2.7	2.5	2.4	3.8	3.1	4.2	4.2	4.3	4.5	5.7	5.9	+0.2[n]	0.6	1.0	0.7	0.4	1.2	0.7	1.3	1.1	1.0	1.7	1.7	1.6	-0.1[n]
Young Adults	2.5	2.5	2.2	2.5	3.0	2.9	3.3	3.4	3.8	4.1	5.0	5.1	+0.1[n]	0.6	0.7	0.7	0.6	0.9	0.7	0.9	0.9	1.2	1.4	1.7	1.7	0.0[n]
Oxycontin[o,p]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	1.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	4.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	1.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	1.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vicodin[o,p]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	2.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	6.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	9.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	6.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	8.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	2000	2001	2002	'01–'02 change	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01–'02 change
Amphetamines[m]																										
8th Grade	6.2	6.5	7.2	7.9	8.7	9.1	8.1	7.2	6.9	6.5	6.7	5.5	-1.2s	2.6	3.3	3.6	3.6	4.2	4.6	3.8	3.3	3.4	3.4	3.2	2.8	-0.4
10th Grade	8.2	8.2	9.6	10.2	11.9	12.4	12.1	10.7	10.4	11.1	11.7	10.7	-1.0	3.3	3.6	4.3	4.5	5.3	5.5	5.1	5.1	5.0	5.4	5.6	5.2	-0.4
12th Grade	8.2	7.1	8.4	9.4	9.3	9.5	10.2	10.1	10.2	10.5	10.9	11.1	+0.2	3.2	2.8	3.7	4.0	4.0	4.1	4.8	4.6	4.5	5.0	5.6	5.5	-0.2
College Students	3.9	3.6	4.2	4.2	5.4	4.2	5.7	5.1	5.8	6.6	7.2	7.0	-0.2	1.0	1.1	1.5	1.5	2.2	0.9	2.1	1.7	2.3	2.9	3.3	3.0	-0.4
Young Adults	4.3	4.1	4.0	4.5	4.6	4.2	4.6	4.5	4.7	5.4	5.8	5.9	+0.1	1.5	1.5	1.5	1.7	1.7	1.5	1.7	1.7	1.9	2.3	2.4	2.5	+0.1
Ritalin[o,p]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	2.9	2.8	-0.1	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	4.8	4.8	0.0	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	5.1	4.0	-1.1	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	5.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	2.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methamphetamine[o,p]																										
8th Grade	—	—	—	—	—	—	—	—	3.2	2.5	2.8	2.2	-0.6	—	—	—	—	—	—	—	—	1.1	0.8	1.3	1.1	-0.2
10th Grade	—	—	—	—	—	—	—	—	4.6	4.0	3.7	3.9	+0.2	—	—	—	—	—	—	—	—	1.8	2.0	1.5	1.8	+0.4
12th Grade	—	—	—	—	—	—	—	—	4.7	4.3	3.9	3.6	-0.3	—	—	—	—	—	—	—	—	1.7	1.9	1.5	1.7	+0.1
College Students	—	—	—	—	—	—	—	—	3.3	1.6	2.4	1.2	-1.2	—	—	—	—	—	—	—	—	1.2	0.2	0.5	0.2	-0.3
Young Adults	—	—	—	—	—	—	—	—	2.8	2.5	2.8	2.5	-0.3	—	—	—	—	—	—	—	—	0.8	0.7	1.0	1.0	-0.1
Ice[p]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.4	1.3	1.7	1.8	2.4	2.8	2.3	3.0	1.9	2.2	2.5	3.0	+0.6	0.6	0.5	0.6	0.7	1.1	1.1	0.8	1.2	0.8	1.0	1.1	1.2	+0.1
College Students	0.1	0.2	0.7	0.8	1.1	0.3	0.8	1.0	0.5	0.5	0.6	0.8	+0.2	0.0	0.0	0.3	0.5	0.3	0.1	0.2	0.3	0.0	0.0	0.1	0.0	-0.1
Young Adults	0.3	0.4	0.8	0.9	1.2	0.9	0.9	1.1	0.9	1.2	1.1	1.4	+0.4	*	0.1	0.3	0.5	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	+0.1
Sedatives (Barbiturates)[m]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.4	2.8	3.4	4.1	4.7	4.9	5.1	5.5	5.8	6.2	5.7	6.7	+1.0s	1.4	1.1	1.3	1.7	2.2	2.1	2.1	2.6	2.6	3.0	2.8	3.2	+0.4
College Students	1.2	1.4	1.5	1.2	2.0	2.3	3.0	2.5	3.2	3.7	3.8	3.7	-0.2	0.3	0.7	0.4	0.4	0.5	0.8	1.2	1.1	1.1	1.1	1.5	1.7	+0.2
Young Adults	1.8	1.6	1.9	1.8	2.1	2.2	2.4	2.5	2.8	3.4	3.7	3.9	+0.2	0.5	0.5	0.6	0.6	0.8	0.8	0.9	0.9	1.1	1.3	1.7	1.5	-0.2
Methaqualone[m,q]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.5	0.6	0.2	0.8	0.7	1.1	1.0	1.1	1.1	0.3	0.8	0.9	+0.2	0.2	0.4	0.1	0.4	0.4	0.6	0.3	0.6	0.4	0.2	0.5	0.3	-0.2
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers[b,m]																										
8th Grade	1.8	2.0	2.1	2.4	2.7	3.3	2.9	2.6	2.5	2.6 ‡	2.8	2.6	-0.3	0.8	0.8	0.9	1.1	1.2	1.5	1.2	1.2	1.1	1.4 ‡	1.2	1.2	0.0
10th Grade	3.2	3.5	3.3	3.3	4.0	4.6	4.9	5.1	5.4	5.6 ‡	7.3	6.3	-1.0	1.2	1.5	1.1	1.5	1.7	1.7	2.2	2.2	2.2	2.5 ‡	2.9	2.9	0.0
12th Grade	3.6	2.8	3.5	3.7	4.4	4.6	4.7	5.5	5.8	5.7 ‡	6.9	7.7	+0.8	1.4	1.0	1.2	1.4	1.8	2.0	1.8	2.4	2.5	2.6 ‡	2.9	3.3	+0.4
College Students	2.4	2.9	2.4	1.8	2.9	2.8	3.8	3.9	3.8	4.2	5.1	6.7	+1.5	0.6	0.6	0.4	0.4	0.5	0.7	1.2	1.3	1.1	2.0	1.5	3.0	+1.5ss
Young Adults	3.5	3.4	3.1	2.9	3.4	3.2	3.1	3.8	3.7	4.6	5.5	7.0	+1.5ss	0.9	1.0	1.0	0.8	1.1	0.7	1.1	1.2	1.3	1.8	2.1	2.8	+0.7s

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	2000	2001	2002	'01–'02 change	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01–'02 change
Rohypnol[r]																										
8th Grade	—	—	—	—	—	1.0	0.8	0.8	0.5	0.5	0.7	0.3	-0.4	—	—	—	—	—	0.5	0.3	0.4	0.3	0.3	0.4	0.2	-0.2
10th Grade	—	—	—	—	—	1.1	1.3	1.2	1.0	0.8	1.0	0.7	-0.3	—	—	—	—	—	0.5	0.5	0.4	0.5	0.4	0.2	0.4	+0.2
12th Grade	—	—	—	—	—	1.1	1.2	1.4	1.0	0.8	0.9	1.6	—[e]	—	—	—	—	—	0.5	0.3	0.3	0.3	0.4	0.3	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GHB[o,u]																										
8th Grade	—	—	—	—	—	—	—	—	—	1.2	1.1	0.8	-0.2	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	1.1	1.0	1.4	+0.4	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	1.9	1.6	1.5	-0.1	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	0.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ketamine[o,v]																										
8th Grade	—	—	—	—	—	—	—	—	—	1.6	1.3	1.3	0.0	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	2.1	2.1	2.2	+0.1	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	2.5	2.5	2.6	+0.1	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	1.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol[s]																										
Any use																										
8th Grade	54.0	53.7	‡45.4	46.8	45.3	46.5	45.5	43.7	43.5	43.1	41.9	38.7	-3.2ss	25.1	26.1	‡24.3	25.5	24.6	26.2	24.5	23.0	24.0	22.4	21.5	19.6	-1.9s
10th Grade	72.3	70.2	‡63.4	63.9	63.5	65.0	65.2	62.7	63.7	65.3	63.5	60.0	-3.5ss	42.8	39.9	‡38.2	39.2	38.8	40.4	40.1	38.8	40.0	41.0	39.0	35.4	-3.6ss
12th Grade	77.7	76.8	‡72.7	73.0	73.7	72.5	74.8	74.3	73.8	73.2	73.3	71.5	-1.8	54.0	51.3	‡48.6	50.1	51.3	50.8	52.7	52.0	51.0	50.0	49.8	48.6	-1.2
College Students	88.3	86.9	85.1	82.7	83.2	82.9	82.4	84.6	83.6	83.2	83.0	82.9	-0.1	74.7	71.4	70.1	67.8	67.5	67.0	65.8	68.1	69.6	67.4	67.0	68.9	+1.9
Young Adults	86.9	86.2	85.3	83.7	84.7	84.0	84.3	84.0	84.1	84.0	84.3	84.9	+0.6	70.6	69.0	68.3	67.7	68.1	66.7	67.5	66.9	68.2	66.8	67.0	68.3	+1.1
Been Drunk[p]																										
8th Grade	17.5	18.3	18.2	18.2	18.4	19.8	18.4	17.9	18.5	18.5	16.6	15.0	-1.6s	7.6	7.5	7.8	8.7	8.3	9.6	8.2	8.4	9.4	8.3	7.7	6.7	-1.0
10th Grade	40.1	37.0	37.8	38.0	38.5	40.1	40.7	38.3	40.9	41.6	39.9	35.4	-4.5sss	20.5	18.1	19.8	20.3	20.8	21.3	22.4	21.1	22.5	23.5	21.9	18.3	-3.6sss
12th Grade	52.7	50.3	49.6	51.7	52.5	51.9	53.2	52.0	53.2	51.8	53.2	50.4	-2.8	31.6	29.9	28.9	30.8	33.2	31.3	34.2	32.9	32.9	32.3	32.7	30.3	-2.4
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes																										
Any use																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	14.3	15.5	16.7	18.6	19.1	21.0	19.4	19.1	17.5	14.6	12.2	10.7	-1.5s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	20.8	21.5	24.7	25.4	27.9	30.4	29.8	27.6	25.7	23.9	21.3	17.7	-3.6sss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	28.3	27.8	29.9	31.2	33.5	34.0	36.5	35.1	34.6	31.4	29.5	26.7	-2.8s
College Students	35.6	37.3	38.8	37.6	39.3	41.4	43.6	44.3	44.5	41.3	39.0	38.3	-0.7	23.2	23.5	24.5	23.5	26.8	27.9	28.3	30.0	30.6	28.2	25.7	26.7	+0.9
Young Adults	37.7	37.9	37.8	38.3	38.8	40.3	41.8	41.6	41.1	40.9	41.1	39.1	-2.0s	28.2	28.3	28.0	28.0	29.2	30.1	29.9	30.9	30.3	30.1	30.2	29.2	-0.9
Bidis[o,p]																										
8th Grade	—	—	—	—	—	—	—	—	—	3.9	2.7	2.7	0.0	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	6.4	4.9	3.1	-1.8ss	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	9.2	7.0	5.9	-1.2	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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												
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01–'02 change	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01–'02 change
Kreteks[o,p]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	2.6	2.6	-0.1	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	6.0	4.9	-1.2	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	10.1	8.4	-1.7	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smokeless Tobacco[t]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	7.0	6.6	7.7	7.1	7.1	5.5	4.8	4.5	4.2	4.0	3.3	-0.8
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	10.0	9.6	10.4	10.5	9.7	8.6	8.9	7.5	6.5	6.1	6.9	6.1	-0.8
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.4	10.7	11.1	12.2	9.8	9.7	8.8	8.4	7.6	7.8	6.5	-1.4
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[p]																										
8th Grade	1.0	1.1	0.9	1.2	1.0	0.9	1.0	1.2	1.7	1.7	1.6	1.5	-0.1	0.4	0.5	0.5	0.5	0.6	0.4	0.5	0.5	0.7	0.8	0.7	0.8	0.0
10th Grade	1.1	1.1	1.0	1.1	1.2	1.2	1.2	1.2	1.7	2.2	2.1	2.2	+0.1	0.6	0.6	0.5	0.6	0.6	0.5	0.7	0.6	0.9	1.0	0.9	1.0	+0.1
12th Grade	1.4	1.1	1.2	1.3	1.5	1.4	1.4	1.7	1.8	1.7	2.4	2.5	+0.1	0.8	0.6	0.7	0.9	0.7	0.7	1.0	1.1	0.9	0.8	1.3	1.4	+0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	0.5	0.4	0.3	0.4	0.5	0.3	0.5	0.4	0.6	0.4	0.4	0.4	0.0	0.2	0.1	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.0

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.

'‡' indicates some change in the question. See relevant footnote for that drug. See relevant figure to assess the impact of the wording changes.

Any apparent inconsistency between the change estimate and the prevalence of use estimates for the two most recent classes is due to rounding error.

See Table 2-1 for relevant footnotes.

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

TABLE 2-3

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

| | Daily | | | | | | | | | | | | |
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01–'02 change
Marijuana/Hashish, daily[w]													
8th Grade	0.2	0.2	0.4	0.7	0.8	1.5	1.1	1.1	1.4	1.3	1.3	1.2	-0.1
10th Grade	0.8	0.8	1.0	2.2	2.8	3.5	3.7	3.6	3.8	3.8	4.5	3.9	-0.6s
12th Grade	2.0	1.9	2.4	3.6	4.6	4.9	5.8	5.6	6.0	6.0	5.8	6.0	+0.1
College Students	1.8	1.6	1.9	1.8	3.7	2.8	3.7	4.0	4.0	4.6	4.5	4.1	-0.4
Young Adults	2.3	2.3	2.4	2.8	3.3	3.3	3.8	3.7	4.4	4.2	5.0	4.5	-0.4
Alcohol[s,w]													
Any daily use													
8th Grade	0.5	0.6 ‡	1.0	1.0	0.7	1.0	0.8	0.9	1.0	0.8	0.9	0.7	-0.2
10th Grade	1.3	1.2 ‡	1.8	1.7	1.7	1.6	1.7	1.9	1.9	1.8	1.9	1.8	-0.1
12th Grade	3.6	3.4 ‡	3.4	2.9	3.5	3.7	3.9	3.9	3.4	2.9	3.6	3.5	-0.1
College Students	4.1	3.7	3.9	3.7	3.0	3.2	4.5	3.9	4.5	3.6	4.7	5.0	+0.3
Young Adults	4.9	4.5	4.5	3.9	3.9	4.0	4.6	4.0	4.8	4.1	4.4	4.7	+0.3
Been Drunk, daily[p,w]													
8th Grade	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.3	0.0
10th Grade	0.2	0.3	0.4	0.4	0.6	0.4	0.6	0.6	0.7	0.5	0.6	0.5	-0.2
12th Grade	0.9	0.8	0.9	1.2	1.3	1.6	2.0	1.5	1.9	1.7	1.4	1.2	-0.2
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	14.1	13.2	12.4	-0.8
10th Grade	22.9	21.1	23.0	23.6	24.0	24.8	25.1	24.3	25.6	26.2	24.9	22.4	-2.4s
12th Grade	29.8	27.9	27.5	28.2	29.8	30.2	31.3	31.5	30.8	30.0	29.7	28.6	-1.1
College Students	42.8	41.4	40.2	40.2	38.6	38.3	40.7	38.9	40.0	39.3	40.9	40.1	-0.8
Young Adults	34.7	34.2	34.4	33.7	32.6	33.6	34.4	34.1	35.8	34.7	35.9	35.9	0.0
Cigarettes													
Any daily use													
8th Grade	7.2	7.0	8.3	8.8	9.3	10.4	9.0	8.8	8.1	7.4	5.5	5.1	-0.3
10th Grade	12.6	12.3	14.2	14.6	16.3	18.3	18.0	15.8	15.9	14.0	12.2	10.1	-2.1ss
12th Grade	18.5	17.2	19.0	19.4	21.6	22.2	24.6	22.4	23.1	20.6	19.0	16.9	-2.1s
College Students	13.8	14.1	15.2	13.2	15.8	15.9	15.2	18.0	19.3	17.8	15.0	15.9	+0.8
Young Adults	21.7	20.9	20.8	20.7	21.2	21.8	20.6	21.9	21.5	21.8	21.2	21.2	-0.1
1/2 pack+/day													
8th Grade	3.1	2.9	3.5	3.6	3.4	4.3	3.5	3.6	3.3	2.8	2.3	2.1	-0.2
10th Grade	6.5	6.0	7.0	7.6	8.3	9.4	8.6	7.9	7.6	6.2	5.5	4.4	-1.2s
12th Grade	10.7	10.0	10.9	11.2	12.4	13.0	14.3	12.6	13.2	11.3	10.3	9.1	-1.2
College Students	8.0	8.9	8.9	8.0	10.2	8.4	9.1	11.3	11.0	10.1	7.8	7.9	+0.1
Young Adults	16.0	15.7	15.5	15.3	15.7	15.3	14.6	15.6	15.1	15.1	14.6	14.2	-0.4
Smokeless Tobacco, daily[t]													
8th Grade	1.6	1.8	1.5	1.9	1.2	1.5	1.0	1.0	0.9	0.9	1.2	0.8	-0.4
10th Grade	3.3	3.0	3.3	3.0	2.7	2.2	2.2	2.2	1.5	1.9	2.2	1.7	-0.6
12th Grade	—	4.3	3.3	3.9	3.6	3.3	4.4	3.2	2.9	3.2	2.8	2.0	-0.9
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
'—' indicates data not available.
'‡' indicates some change in the question. See relevant footnote for that drug. See relevant figure to assess the impact of the wording changes.
Any apparent inconsistency between the change estimate and the prevalence of use estimates for the two most recent classes is due to rounding error.
See Table 2-1 for relevant footnotes.
SOURCE: The Monitoring the Future Study, the University of Michigan.

Chapter 3

STUDY DESIGN AND PROCEDURES

Monitoring the Future has a complex cohort-sequential design appropriate for distinguishing and explaining three 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 younger and middle-aged 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 28 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.[8, 9]

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 120 to 146 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 for several reasons as an optimal point for monitoring the drug use and related attitudes of youth. 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 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

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[8]For a more detailed description of the study design, see Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (2001). *The Monitoring the Future project after twenty-seven years: Design and procedures.* (Monitoring the Future Occasional Paper No. 54.) Ann Arbor, MI: Institute for Social Research.

[9]For a more detailed description of the full range of research objectives of Monitoring the Future, see Johnston, L. D., O'Malley, P. M., Schulenberg, J. E., & Bachman, J. G. (2001)*. The aims and objectives of the Monitoring the Future study and progress toward fulfilling them as of 2001*. (Monitoring the Future Occasional Paper No. 52.) Ann Arbor, MI: Institute for Social Research.

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% 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 drug use prevalence and trends 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, though a smaller sample is sometimes taken to accommodate the needs of the school. When a subset of seniors is to be selected, it is done either by randomly sampling entire classrooms or by some other unbiased, random method. Weights are assigned to compensate for differential probabilities of selection at each stage of sampling. Final weights are normalized to average 1.0 (so that the weighted number of cases equals the unweighted number of cases overall). This three-stage sampling procedure has yielded the numbers of participating schools and students over the years shown in Table 3-1.

Questionnaire Administration

About 10 days before the questionnaire administration date, the target respondents 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 distributed to participants in an ordered sequence that ensures six virtually identical random sub-samples. (Five questionnaire forms were used between 1975 and 1988.) About one third of each questionnaire form consists of key, or "core," variables 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 1989-2002 (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 both receive the same questionnaire forms and, for the most part, the 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 150 schools (mostly junior high schools and middle schools) are sampled, and approximately 17,000 students have been surveyed. For the tenth graders, approximately 130 high schools have been sampled, and about 15,000 students surveyed. (See Table 3-1 for specifics.)

The research design originally called for follow-up surveys of sub-samples 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 was generated at no additional cost. However, having followed this design from 1991 through 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) have been conducted only

on panels of students drawn from the first three cohorts of students surveyed in the eighth and tenth grades, that is, those surveyed in school in 1991, 1992, and 1993.

Mode of Administration

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 that 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 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 a possible increase in the observed eighth-grade prevalence estimates for marijuana, alcohol, and cigarettes in 1998 from what they would have been had there been 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 that 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 and 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 all of the eighth graders surveyed is shown to have fallen 0.3 percentage points between 1997 and 1998; while the half-sample of eighth-grade schools receiving exactly the same type of questionnaire as 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 in detail the effects of administration mode 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.[10]

All tables and figures in Volume I use data from both half-samples of eighth graders surveyed in a given year, 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). (See Representativeness and Sample Accuracy, School Participation, for a further discussion of half-samples among all three grades.) 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 the small proportion who are randomly selected into the panel studies.

Questionnaire Forms and Sample Proportions

Another consequence of not interlocking the school samples at eighth and tenth grades was that we could consider having more forms of the questionnaire. Earlier, from 1991 through 1996, two questionnaire forms were used in the surveys of eighth and tenth grade students, with a random half-sample of students in each grade receiving each of the two forms. (By having only two forms distributed randomly at each grade, we could by chance emerge with half of the students being surveyed both times with the same form, making panel analysis possible.) The constraint of "recapturing" students removed, we could consider having a larger number of forms. Beginning in 1997, the number of forms was expanded to four, but the four forms are not distributed in equal numbers. Forms 1, 2, 3, and 4 are assigned to one third, one third, one sixth, and one sixth of the students, respectively. Thus, if a question appears on only one form, it may be administered to either one third or one sixth of the sample. Similarly, a question in two forms may be assigned to one third of the sample (one sixth plus one sixth), one half of the sample (one third plus one sixth), or two thirds of the sample (one third plus one third). No questions appear on three forms. Footnotes to the tables indicate what proportion of all respondents in each grade complete the question, if that proportion is other than the entire sample.

The two additional forms were introduced to allow for more questions. The new forms 1 and 2 substantially follow the content of the previous forms 1 and 2, but each was now assigned to a third of the sample instead of half. Form 3 builds on form 1, with some questions omitted to make room for more content; and form 4 builds on the content of form 2 in a similar manner. Much of the new content was placed in both of the new forms (forms 3 and 4), each of which is administered to one sixth of the sample, in order to assign one third of the total sample to those new questions.

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[10]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.

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

Beginning with the graduating class of 1976, some members of each senior class have been selected to be surveyed by mail after high school graduation. 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 in the previous 30 days (i.e., "daily users"), 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 sampling probabilities. Because those in the drug-using stratum receive a weight of only 0.33 in the calculation of all statistics to correct for their overrepresentation at the selection stage, there are actually more follow-up respondents than are reported in the weighted Ns given in the tables.

The 2,400 participants selected from each twelfth-grade 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.

Until 2002, each respondent was followed for up to seven times; at the seventh follow-up, which would occur either 13 or 14 years after graduation, the respondents had reached modal age of 31 or 32. Beginning in 2002, the seventh follow-up was discontinued, and each respondent was followed for up to six times, corresponding to modal age of 29 or 30. Additional follow-ups occur at modal age 35 and again at modal age 40. (Age 45 follow-ups will begin in 2003, when the Class of 1976 will be at that age.)

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.[11] 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, Michigan. 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.

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[11]Note 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.

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; all forms contain a common core section that includes questions on drug use, background factors, and demographic factors; 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 corresponding 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. Most of these are added to the core section.

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 Ns 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 or concatenated.

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 2002, either an original school or a replacement school was obtained in 97% 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 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, replacements for declining schools are obtained in the vast majority of cases.

There are two questions that are sometimes raised with respect to school participation rates: (a) Are participation rates so low as to compromise the representativeness of the sample? (b) 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 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.[12] 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 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); and 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 the common factor of 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

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[12]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 2000, for grades 8, 10, and 12 combined, the difference between original schools and replacement schools averaged 0.03% in the observed prevalence rates averaged across two indexes of annual illicit drug use, the annual prevalence of each of the major illicit drug classes, and several measures of alcohol and cigarette use. For the individual drugs and drug indexes, the differences between the original and replacement schools, averaged across grades and years, fell within ±0.9%.

seriously biased the survey results. Nevertheless, it is apparent that, for a host of reasons, securing high school cooperation rates has become more difficult in recent years. This is a problem common to the field, not specific to Monitoring the Future. Therefore, in the study's most recent proposal for continuation we requested funding to permit the payment of schools as a means of increasing their incentives to participate. (Several other ongoing school survey studies already use payments to schools.) Such payments were approved and will be implemented in the 2003 survey.

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 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 2000 *and* 2001, then based on the students in the half-sample that participated in both 2001 *and* 2002, and so on. Thus, each one-year *matched half-sample* trend estimate derived in this way is based on a constant set of schools (about 65 in twelfth grade, for example). 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 2002, completed questionnaires were obtained from 91% 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 report[13] provides a discussion of this point, and Appendix A in this volume 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.

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

Sampling Accuracy of the Estimates

Confidence intervals (95%) are provided in Tables 4-1a through 4-1d (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 less than ±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 less than 1.5 percentage points 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 (smokeless tobacco, PCP, nitrites, and others, as indicated in Table 2-1 footnotes) are measured on only one or two forms; these drugs will have somewhat larger confidence intervals due to their smaller sample sizes. Appendix C 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.

PANEL RETENTION

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

The Problem of Panel Attrition

Virtually all longitudinal studies of drug use, including Monitoring the Future, experience attrition, which is often differential with respect to substance use.[14] In addition, survey response rates in general have been declining over the past few decades,[15] highlighting an important challenge in the conduct of population-based research.

A vital feature of the Monitoring the Future panel studies is their very low cost per respondent. There are many advantages to collecting panel data through low-cost mail surveys, as we have done since the outset of the study. Indeed, given the number of panel surveys we administer each year (roughly 15,000) across the entire coterminous United States, using low-cost mail surveys is our best (and really the only) cost-effective option. One disadvantage of this mode of data collection is that attrition rates tend to be higher than those that might be obtained with much more expensive methods, for example, with more intensive and expensive personal tracking and interviewing. Certainly there exist a few large epidemiological/etiological surveys that have better retention rates than Monitoring the Future, but their procedures are extremely

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[14]McGuigan, K. A., Ellickson, P. L., Hays, R. D., & Bell, R. M. (1997). Adjusting for attrition in school-based samples: Bias, precision, and cost trade-off of three methods. *Evaluation Review, 21,* 554-567.

[15]Groves, R. M., Dillman, D. A., Eltinge, J. L., & Little, R. J. A. (Eds.). (2002). *Survey nonresponse.* New York: Wiley.

expensive and not realistic for an ongoing effort like this one.[16] Nevertheless, our retention rates compare reasonably favorably with those of most longitudinal studies (including interview studies) reported in the field.

Response Rates Attained

We begin with the college student segment in the follow-up sample. The series of survey data on American college students now goes back 22 years. We know about actual college attendance only from the follow-up questionnaire answers; however, we can use senior year questionnaire answers (i.e., college intentions and program of study) to predict college attendance with a high degree of accuracy. The study's retention of college-bound seniors remains quite good. Among those follow-up respondents who, in high school, reported planning to attend college *and* being enrolled in a college-prep curriculum, the follow-up retention rates in 2001 for the three most recent classes surveyed at each follow-up point were 70% in the first follow-up, one to two years past high school (based on the classes of 1998-2000); 67% in the second follow-up, three to four years past high school (based on the classes of 1996-1998); and 65% in the third follow-up, five to six years past high school (based on the classes of 1994-1996). While to date we have reported in Volume II only on college students who are one to four years past high school graduation, the average age of attendance has been rising. Therefore, having the extended age coverage is of growing importance. The follow-up participation rates just noted compare favorably with the other major national survey of substance use among college students, the Harvard College Alcohol Study, which in both 1997 and 1999 had cross-sectional response rates of 60%.[17]

Retention rates in the biennial follow-ups of *all* panel members ages 19-30 (corresponding to the first six follow-ups) decline with the length of the follow-up interval, of course. For the five-year period from 1997 to 2001, the response rate in the first follow-up (corresponding to l-2 years past high school) averaged 65%; for the second through sixth follow-ups (corresponding to 3-12 years past high school) response rates were (respectively) 62%, 60%, 55%, 55%, and 53%. Among the very long-term respondents—the 35- and 40-year-olds—the retention rates are quite good, apparently because some of the decline in retention rates reflects cohort differences. Among the 35-year-old respondents surveyed from 1997 to 2001 (corresponding to 17 years past high school), the average response rate was 57%.   Among the 40-year-old respondents surveyed from 1998 (the first survey of this age group) to 2001, corresponding to a 22-year follow-up interval, the average retention rate was 61%.

In sum, the response rates attained under the current design range from respectable to quite good, especially when the low-cost nature of the procedures and the substantial length of the questionnaires are taken into account. More important, the evidence leaves us confident that the data resulting from these follow-up panels are reasonably accurate, which brings us to our adjustments for panel attrition and the comparison of our results with those from other sources.

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[16]See, for example, footnote 14.

[17]Wechsler, H., Lee, J. E., Kuo, M., & Lee, H. (2000). College binge drinking in the 1990s: A continuing problem. Results of the Harvard School of Public Health 1999 College Alcohol Study. *Journal of American College Health*, 48, 195-198.

The Impact of Panel Attrition on Research Results

One of the important purposes of the Monitoring the Future follow-ups is to allow estimation of drug prevalence rates among American high school graduates at various age levels, published annually in Volume II of this series. Thus, we have always been concerned about making the appropriate adjustments to take account of panel attrition. In essence, our standard adjustment procedure is a post-stratification procedure in which we re-weight the obtained follow-up samples so as to reproduce the original (senior year) distribution of usage reports for (separately) cigarettes, alcohol, marijuana, and (combined) other illicit drugs. As expected, this procedure produces estimates that are somewhat higher than those uncorrected for attrition, indicating that there is indeed some positive association between drug use and panel attrition. However, the adjustments are relatively modest, as documented next. One reason the adjustments are modest is that attrition rates do not differ greatly by levels of senior year substance use; they do differ, but less than one might expect. For example, among all respondents who had never used marijuana, an average of 81% of the classes of 1976-1993 participated in the first follow-up. The proportion responding is somewhat lower among those who had used marijuana once or twice in the past 12 months: 78%. This proportion decreases gradually with increasing levels of marijuana use; but even among those who used marijuana on 20-39 occasions in the past 30 days in their high school senior year, 71% participated in the first follow-up. The corresponding participation rates for the same drug-use strata at the fourth follow-up (i.e., at ages 25-26) were 68%, 65%, and 60%, respectively. Thus, even among those who in high school were quite heavy users of marijuana, response rates at the fourth follow-up were only 8 percentage points lower than among those who had never used marijuana by high school senior year. That is not to say that we assume that all types of drug users remain in the panels at high rates. We believe that people who become dependent on, or addicted to, heroin or cocaine are unlikely to be retained in any reasonable proportions. That is why we are careful to not quantify or characterize these special segments of the population. But we note that they constitute very low proportions of the entire population and even low proportions of the drug-using portion of the adult population. Therefore, for a great many purposes, our samples are extremely useful.

The National Household Survey on Drug Abuse (NHSDA) would seem to provide the best available data against which to validate the estimates generated for adult age groups in Monitoring the Future, because it is also based on national samples but uses cross-sectional surveys that do not carry the burden of panel attrition. (Their results, of course, may be affected by their own non-response rates; but that will be true of any comparison survey. The overall response rates for the NHSDA were about 73% in 1997 and 1998, and 61% in 1999.)

We compared the prevalence rates on a set of drugs—cigarettes, alcohol, marijuana, and cocaine—for which there was reasonable similarity in question wording across the two studies. The comparisons to follow are for the age group 19-28 in the Monitoring the Future panel data and for 19-28 (or 19-29 for 1999 only) in the NHSDA cross-sectional data. The most recent data from NHSDA that were readily available were for 1999, so the following comparisons are for that year. (However, similar comparisons were run for a number of prior years, and the outcomes are highly consistent.) The comparisons are not perfect; most notably, the NHSDA data contain school dropouts and, other things equal, that would lead one to expect its rates to be higher than those from Monitoring the Future. Nevertheless, the Monitoring the Future estimates

for the 30-day prevalence of marijuana actually are higher (14.0% without post-stratification and 15.6% with it) than the NHSDA estimate (11.0%). The same is true for the 12-month cocaine prevalence estimate (4.8% without post-stratification and 5.4% with it, vs. 4.3% in the NHSDA).

The other two comparisons made were for alcohol and cigarettes. Both of these drugs show larger differences, with alcohol use consistently higher in Monitoring the Future and cigarette use consistently higher in NHSDA. We believe it likely that both are due to definitional differences in the exact question wording. In 1999, Monitoring the Future estimates of 30-day alcohol prevalence were 68.0% and 68.2% (with post-stratification) vs. 59.5% in NHSDA. For cigarettes, the 30-day Monitoring the Future prevalence estimates were 28.3% and 30.3%, respectively, vs. 37.4% in NHSDA. It is worth noting that the nature and magnitude of the differences between Monitoring the Future and NHSDA estimates tend to be quite consistent for each of the four drugs since at least 1992.

The fact that Monitoring the Future estimates for both marijuana and cocaine are higher than NHSDA estimates (especially after applying the post-stratification re-weighting) suggests that attrition does not produce substantially lower estimates of drug use than would be obtained if response rates were higher. Our estimates come out as high as, and in fact a bit higher than, the best available comparison study for estimating rates using cross-sectional data, and that despite our loss of dropouts and absentees.

It is also worth noting that even with the attrition, there remain in the Monitoring the Future follow-up samples substantial proportions of recent users of the various substances. About 15%-16% of respondents report marijuana use in just the past 30 days, and about 5% reported past 12-month use of cocaine. These proportions and the underlying numbers of actual cases are quite adequate for analytic purposes, particularly given the fact that the follow-up surveys over-sample those who reported illicit drug use in the senior year surveys.

An important point worth emphasizing here is that in the present study, attrition is not necessarily as great a problem as is nonresponse in a cross-sectional study. This is because we already know a great deal about each of the follow-up non-respondents, including their substance use, based on a lengthy questionnaire in senior year (and, for many, in subsequent years as well). Thus, adjustments can be made utilizing data that are highly informative about the lost individuals. As stated by Schafer and Graham, "We recommend procedures that use all the available data for each participant, because missing information can then be partially recovered from earlier or later waves. Longitudinal modeling by ML [Maximum Likelihood] can be a highly efficient way to use the available data. MI [Multiple Imputation] of missing responses is also highly effective if we impute under a longitudinal model that borrows information across waves" (p. 150).[18]

Effects on Relational Analyses

While differential attrition (uncorrected) may contribute to some bias in point estimates and other univariate statistics, such attrition tends to have less influence on bivariate and multivariate statistics. This was found to be true in a secondary analysis of data from seven panel studies that

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[18]Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods, 7*(2), 147-177.

followed adolescents over time;[19] and we have found this to be true in our Monitoring the Future panel analyses,[20] and in analyses with other panel data sets.[21] Thus, differential attrition may be less of a concern in multivariate panel analyses focused on understanding the course, causes, and consequences of substance use. Still, as we summarized above, correcting for attrition is important, and we continue to do so.

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 used in Monitoring the Future 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 only briefly summarize the evidence.[22]

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.[23] 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 over 80% in some follow-up years, constituting *prima facie* evidence that the degree of underreporting 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,

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[19]Cordray, S., & Polk, K. (1983). The implication of respondent loss in panel studies of deviant behavior. *Journal of Research in Crime and Delinquency, 20,* 214-242.

[20]Bryant, A. L., Schulenberg, J., Bachman, J. G., O'Malley, P. M., & Johnston, L. D. (2000). Understanding the links among school misbehavior, academic achievement, and cigarette use: A national panel study of adolescents. *Prevention Science, 1*(2), 71-87; Schulenberg, J., Bachman, J. G., O'Malley, P. M., & Johnston, L. D. (1994). High school educational success and subsequent substance use: A panel analysis following adolescents into young adulthood. *Journal of Health and Social Behavior, 35,* 45-62.

[21]Bachman, J. G., O'Malley, P. M., & Johnston, J. (1978). *Youth in Transition: Vol. 6. Adolescence to adulthood: A study of change and stability in the lives of young men.* Ann Arbor, MI: Institute for Social Research; Schulenberg, J., Bryant, A. L., Bachman, J. G., O'Malley, P. M., & Johnston, L. D. (1999, April). *Transitional floundering among well-functioning adolescents: National panel data spanning the transition to young adulthood.* Presentation in symposium "Falling Apart and Getting It Together: Discontinuity in Health and Well-Being during the Transition to Young Adulthood" (J. Schulenberg & A. Bryant, Chairs). 1999 Biennial Meetings of the Society for Research in Child Development, Albuquerque, NM.

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

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

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 immediately preceding the drug section 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.[24] 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 misinformation about definitions that is corrected as they get older. Finally, the great majority of respondents, when asked, say they would answer such questions honestly if they were users.[25]

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 underreporting. 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 data set. 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. A 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

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[24]Johnston, 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.

[25]For 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.

most trend curves reported for the various drugs provides rather compelling empirical support for this assertion.

TABLE 3-1

Sample Sizes and Response Rates

	Number of Public Schools			Number of Private Schools			Total Number of Schools				Total Number of Students				Student Response Rate		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	Total	8th	10th	12th	Total	8th	10th	12th
1975	—	—	111	—	—	14	—	—	125	—	—	—	15,791	—	—	—	78%
1976	—	—	108	—	—	15	—	—	123	—	—	—	16,678	—	—	—	77
1977	—	—	108	—	—	16	—	—	124	—	—	—	18,436	—	—	—	79
1978	—	—	111	—	—	20	—	—	131	—	—	—	18,924	—	—	—	83
1979	—	—	111	—	—	20	—	—	131	—	—	—	16,662	—	—	—	82
1980	—	—	107	—	—	20	—	—	127	—	—	—	16,524	—	—	—	82
1981	—	—	109	—	—	19	—	—	128	—	—	—	18,267	—	—	—	81
1982	—	—	116	—	—	21	—	—	137	—	—	—	18,348	—	—	—	83
1983	—	—	112	—	—	22	—	—	134	—	—	—	16,947	—	—	—	84
1984	—	—	117	—	—	17	—	—	134	—	—	—	16,499	—	—	—	83
1985	—	—	115	—	—	17	—	—	132	—	—	—	16,502	—	—	—	84
1986	—	—	113	—	—	16	—	—	129	—	—	—	15,713	—	—	—	83
1987	—	—	117	—	—	18	—	—	135	—	—	—	16,843	—	—	—	84
1988	—	—	113	—	—	19	—	—	132	—	—	—	16,795	—	—	—	83
1989	—	—	111	—	—	22	—	—	133	—	—	—	17,142	—	—	—	86
1990	—	—	114	—	—	23	—	—	137	—	—	—	15,676	—	—	—	86
1991	131	107	117	31	14	19	162	121	136	419	17,844	14,996	15,483	48,323	90%	87%	83
1992	133	106	120	26	19	18	159	125	138	422	19,015	14,997	16,251	50,263	90	88	84
1993	126	111	121	30	17	18	156	128	139	423	18,820	15,516	16,763	51,099	90	86	84
1994	116	116	119	34	14	20	150	130	139	419	17,708	16,080	15,929	49,717	89	88	84
1995	118	117	120	34	22	24	152	139	144	435	17,929	17,285	15,876	51,090	89	87	84
1996	122	113	118	30	20	21	152	133	139	424	18,368	15,873	14,824	49,065	91	87	83
1997	125	113	125	27	18	21	152	131	146	429	19,066	15,778	15,963	50,807	89	86	83
1998	122	110	124	27	19	20	149	129	144	422	18,667	15,419	15,780	49,866	88	87	82
1999	120	117	124	30	23	19	150	140	143	433	17,287	13,885	14,056	45,228	87	85	83
2000	125	121	116	31	24	18	156	145	134	435	17,311	14,576	13,286	45,173	89	86	83
2001	125	117	117	28	20	17	153	137	134	424	16,756	14,286	13,304	44,346	90	88	82
2002	115	113	102	26	20	18	141	133	120	394	15,489	14,683	13,544	43,716	91	85	83

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

FIGURE 3-1
Schools Included in One Year's Data Collection
Eighth, Tenth and Twelfth Grades

FIGURE 3-2
School Response Rates
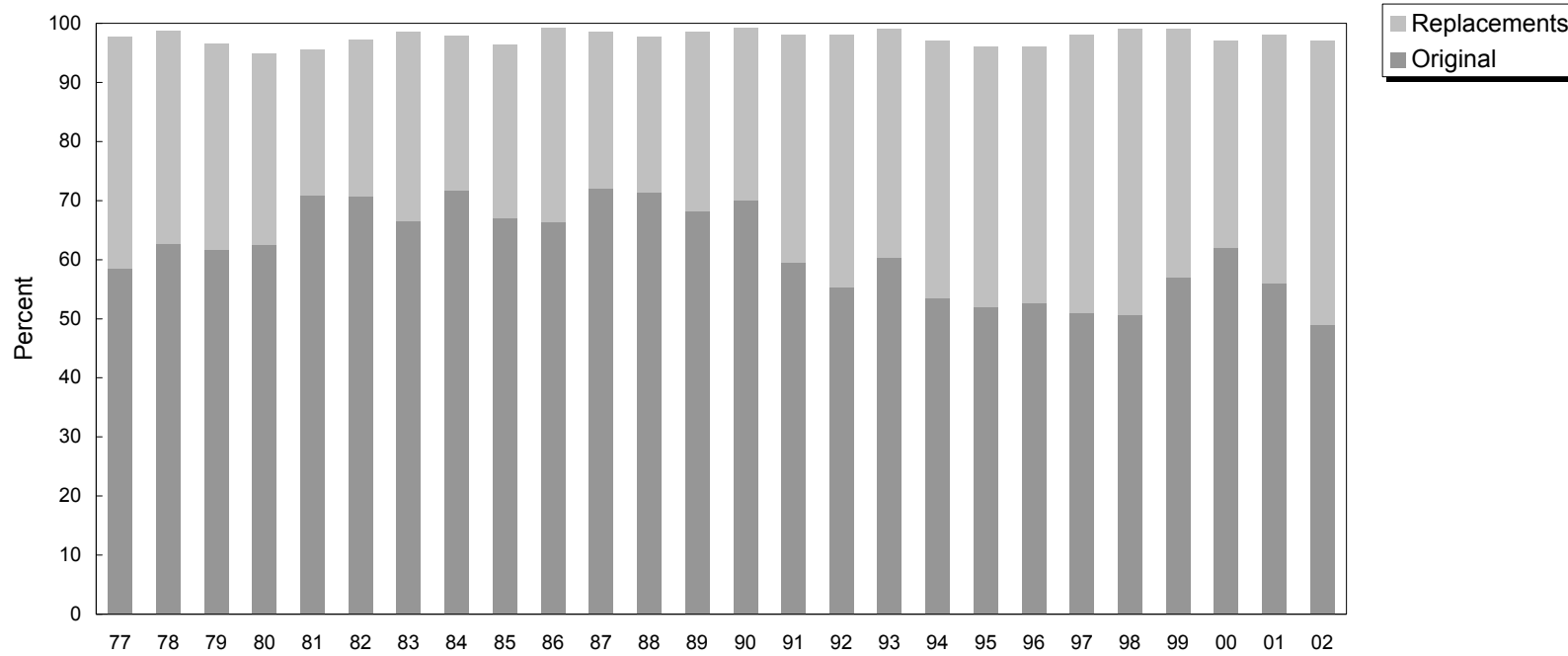
	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02
Original	59	63	62	63	71	71	66	72	67	66	72	71	68	70	59	55	60	53	52	53	51	51	57	62	56	49
Replacements	39	36	35	32	25	26	32	26	29	33	26	26	30	29	39	43	39	44	44	43	47	48	42	35	42	48
Total	98	99	97	95	96	97	99	98	96	99	99	98	99	99	98	98	99	97	96	96	98	99	99	97	98	97

Chapter 4

PREVALENCE OF DRUG USE
IN EARLY AND MIDDLE ADULTHOOD

Longitudinal panel data are used most commonly to study change in individuals over time, and the panel data gathered each year as part of the Monitoring the Future study are used to conduct such analyses. However, because the panels are based on nationally representative samples of many contiguous graduating high school classes, they can also be used to characterize age bands of all high school graduates in a given year. In other words, we can treat them as cross-sectional data representing various age groups in 2002, for instance. That is how these panel data are used in this chapter.

As described in more detail in chapter 3, the Monitoring the Future study conducts ongoing panel studies on representative samples from each graduating class, beginning with the class of 1976. Two matched subpanels, of roughly 1,200 seniors each, are selected from each graduating class—one panel is surveyed every even-numbered year after graduation, the other is surveyed every odd-numbered year. Thus, in a given year, the study encompasses one of the panels from each of the last 12 senior classes previously participating in the study.[26] Because the study design calls for an end of biennial follow-up of these panels after the respondents reach approximately age 30 (i.e., six follow-ups for each half panel), the (older) classes of 1976 through 1989 were not included in the standard 2002 follow-up surveys. In 2002 this meant that representative samples of the classes of 1990 through 2001 were surveyed by mail. For brevity, we refer to the 19- through 30-year-old age group as "young adults" in this chapter.

Additional surveys are conducted at age 35 (that is, 17 years after high school graduation) and at 5-year intervals thereafter. In 2002 the class of 1985 received the "age-35" follow-up questionnaire, and the class of 1980 received the "age-40" questionnaire. The findings from these special questionnaires are included in this chapter, which now covers the age interval from 18 to 40, with those of modal age 18 represented by the high school seniors.

The results of the 2002 follow-up survey should accurately characterize approximately 86% of all young adults in the class cohorts 1 to 12 years beyond high school (modal ages 19 to 30). The remaining 14% or so, the high school dropout segment, was missing from the senior year surveys and, of course, is missing from all of the follow-up surveys as well. Thus, the results presented here are not generalizable to that part of the population.

Figures 4-1 through 4-20 contain the 2002 *prevalence* data by age, corresponding to those respondents 1 to 12 years beyond high school (modal ages 19 to 30). Figures provided in chapter 5 contain the *trend* data for each age group, including high school seniors and high school graduates through age 40. With the exception of the twelfth graders, age groups have been paired into two-year intervals in both sets of figures in order to increase the number of cases, and thus the reliability, for each point estimate.

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[26]Through 2001, the follow-ups also included modal ages 31 and 32. This seventh follow-up was dropped in 2002 because we believed that the marginal costs no longer were justified by the marginal benefits of having this follow-up data, given that an age-35 survey is being conducted.

The data for ages 35 and 40 are, of necessity, based on a single age in each case. Both half samples from a given class cohort are included in the samples of 35- and 40-year-olds; thus in 2002 the two half samples come from the graduating classes of 1985 and 1980, respectively. Their respective weighted Ns are 920 and 1,060.

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

A NOTE ON ADJUSTED LIFETIME PREVALENCE ESTIMATES

In Figures 4-1 through 4-20, two different estimates of lifetime prevalence are provided. One estimate is based on the respondent's most recent statement of whether he or she ever used the drug in question (the light gray bar). The other estimate takes into account the respondent's answers regarding lifetime use gathered in *all* of the previous data collections in which he or she participated (the white bar). *To be categorized as one who has used the drug based on all past answers regarding that drug, the respondent must have reported either past use in the most recent data collection <u>and/or</u> some use in his or her lifetime on at least two earlier occasions.* Because respondents in the age groups of 18-year-olds and 19- to 20-year-olds cannot have their responses adjusted on the basis of two earlier occasions, adjusted prevalence rates are reported only for ages 21 and older. An unadjusted estimate is most commonly presented in epidemiological studies because it can be made based on the data from a single cross-sectional survey. An adjusted estimate of the type used here is possible only when panel data have been gathered so that a respondent can be classified as having used a drug at some time in his or her life, based on earlier answers, even though he or she no longer indicates lifetime use in the most recent survey.

The divergence of these two estimates as a function of age shows that there is more inconsistency as time passes. Obviously, there is more opportunity for inconsistency as the number of data collections increases. Our judgment is that "the truth" lies somewhere between the two estimates: the lower estimate may be depressed by tendencies to forget, forgive, or conceal earlier use, and the upper estimate may include earlier response errors or incorrect definitions of drugs that respondents appropriately corrected in later surveys. It should be noted that a fair proportion of those giving inconsistent answers across time had earlier reported having used only once or twice in their lifetime.

As we have reported elsewhere, cross-time stability of self-reported usage measures, which take into account the number of occasions of self-reported use, is still very high.[27]

It also should be noted that the divergence between the two lifetime prevalence estimates is greatest for the psychotherapeutic drugs and for the derivative index of "use of an illicit drug other than

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

marijuana," which is heavily affected by the psychotherapeutic estimates. We believe this is due to respondents having greater difficulty accurately categorizing psychotherapeutic drugs (usually taken in pill form) with a high degree of certainty—especially if such a drug was used only once or twice. We expect higher inconsistency across time when the event—and in many of these cases, a single event—is reported with a relatively low degree of certainty at quite different points in time. Those who have gone beyond simple experimentation with one of these drugs would undoubtedly be able to categorize them with a higher degree of certainty. Also, those who have experimented more recently, in the past month or year, should have a higher probability of recall, as well as fresher information for accurately categorizing the drug.

We provide both estimates to make clear that a full use of respondent information provides a possible range for lifetime prevalence estimates, not a single point. However, by far the most important use of the prevalence data is to track *trends* in *current* (as opposed to lifetime) use. Thus, we are much less concerned about the nature of the variability in the lifetime estimates than we might otherwise be. The lifetime prevalence estimates are primarily of importance in showing the degree to which a drug class has penetrated the general population.[28]

The reader is reminded that the reweighting procedures used to correct the panel data for the effects of panel attrition are described in chapter 3.

PREVALENCE OF DRUG USE AS A FUNCTION OF AGE

For virtually all drugs, available age comparisons show a much higher lifetime prevalence for the older age groups. In fact, the figures reach impressive levels among young adults in their early thirties.

- In 2002, the adjusted lifetime prevalence figures among 29- to 30-year-olds reach 65% for *any illicit drug*, 59% for *marijuana*, 42% for *any illicit drug other than marijuana*, and 18% for *cocaine*. Put another way, among young Americans who graduated from high school in 1987 and 1988—somewhat after the peak of the larger drug epidemic—only about one third (35%) have *never* tried an illegal drug.
  The 2002 survey responses, *unadjusted* for previous answers, show somewhat lower lifetime prevalence: 59% for *any illicit drug*, 56% for *marijuana*, 33% for *any illicit drug other than marijuana*, and 15% for *cocaine*.

  The data are most impressive for today's 40-year-olds, who were passing through adolescence in the peak of the drug epidemic. Some 83% of them have admitted trying an *illicit drug* (lifetime prevalence, adjusted), leaving only 17% who have not made such an admission. Some 76% said they had tried *marijuana* and about two thirds (68%) said they had tried some

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[28]For a more detailed analysis and discussion, see Johnston, L. D., & O'Malley, P. M. (1997). The recanting of earlier-reported drug use by young adults. In L. Harrison, & A. Hughes (Eds.), *The validity of self-reported drug use: Improving the accuracy of survey estimates.* (NIDA Research Monograph No. 97-4147.) Washington, DC: National Institute on Drug Abuse.

other illicit drug, including 44% who had tried *cocaine*. Clearly, the parents of today's teenagers are themselves a very drug-experienced generation.

- Despite the higher lifetime prevalence rates among older age groups, these groups generally show levels of *annual* or *current* use that are no higher than such use among today's high school seniors. In fact, for a number of drugs the levels reported by older respondents are lower, suggesting that the incidence of quitting more than offsets the incidence of initiating use of these drugs after high school.

  In analyses published elsewhere, we looked closely at patterns of change in drug use and identified some post-high school experiences that contribute to declining levels of annual or current use as respondents grow older. For example, the likelihood of marriage increases with age, and we have found that marriage is consistently associated with declines in *alcohol* use in general, *heavy drinking*, *marijuana* use, and *cocaine* use.[29]

- For the use of *any illicit drug*, lifetime prevalence is 59% among 29- to 30-year-olds versus "only" 53% among the 2002 high school seniors. Annual prevalence, however, is highest among the seniors (41%) with progressively lower rates among the older age groups, reaching 21% among the 29- to 30-year-olds (see Figure 4-1). Current (30-day) prevalence shows much the same pattern, with seniors having the highest rate (25%) and the rate declining gradually for each of the older age groups, to 11% among the 29- to 30-year-olds.

- Interestingly enough, the annual and 30-day prevalence rates found among the 35- and 40-year-olds for *marijuana*, *any illicit drug*, and *any illicit drug other than marijuana* are all virtually identical to the rates observed among the 29- to 30-year-olds. (This is also true for many of the other specific illicit drugs.) Yet more—and sometimes substantially more—of the 35- and 40-year-old cohorts (the classes of 1985 and 1980) have reported some use of marijuana and other illicit drugs in their lifetime than had the 29- to 30-year-old cohorts (the classes of 1990 and 1991). Thus, greater proportions of the older cohorts have discontinued use, but current use remains the same between the groups because a higher percentage of the 35- and 40-year-olds had used earlier in their lives. Put another way, there is a substantial cohort effect reflected here.

- Among the young adults, a similar pattern exists for *marijuana*: a higher lifetime prevalence as a function of age, but considerably lower annual and 30-day prevalence rates up through the late twenties. Current *daily marijuana* use shows the least variation across age (as shown in the next chapter in Figure 5-3c). Still, in 2002 it ranges from 6.0% among twelfth graders, to 2.3% among 29- to 30-year-olds. Daily use in 2002 is 3.0% for 35- and 40-year-olds.

- Statistics on the use of *any illicit drug other than marijuana* (Figure 4-2) have a similar pattern. Like marijuana and the any-illicit-drug-use index, corrected lifetime rates on this

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[29]Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities.* Mahwah, NJ: Lawrence Erlbaum Associates; and Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Bryant, A. L., & Merline, A. C. (2002). *The decline of substance use in young adulthood: Changes in social activities, roles, and beliefs.* Mahwah, NJ: Lawrence Erlbaum Associates.

index also show an appreciable rise with age level, reaching 42% among the 29- to 30-year-old age group and 68% among the 40-year-olds. Current use shows a decline across the age bands, ranging from 11% among seniors to 4% among 29- to 30-year-olds. Annual use is lower with increased age of the respondent through age 27 and then remains fairly constant through age 40. A number of the individual drugs that comprise this general category show lower rates of use at higher ages for annual prevalence. This is particularly true for ***amphetamines***, ***hallucinogens***, ***LSD*** specifically, ***inhalants***, ***sedatives*** (***barbiturates***), and ***narcotics other than heroin***. The falloff with age is not as great nor as consistent for ***cocaine***, ***crack***, ***other cocaine***, ***ice***, ***heroin***, ***tranquilizers***, and ***MDMA*** (***ecstasy***), though in general, usage rates are somewhat lower among those in their thirties than among those in their early twenties. Several classes of drugs are discussed individually next.

- *Inhalants* show some very interesting differences across the age strata (see Figure 4-11). There is little difference in contemporaneously reported lifetime prevalence across age but a considerable difference in the lifetime prevalence figure adjusted for previous reporting of use. The adjusted pattern—an increase with age—is the one we have come to expect and, we suspect, is the more accurate one. Annual prevalence rates drop off with age, while 30-day rates begin fairly low and can drop only a little. Clearly, the use of inhalants is extremely low beyond about age 20; and we know from data presented in Volume I that much of the decline in use with age already has occurred by the time young people have reached twelfth grade.

- For *amphetamines*, lifetime prevalence is again much higher among the older age groups—reflecting the addition of new users who initiate use in their twenties but also reflecting some cohort differences (Figure 4-4). (There is also a considerable divergence between the corrected lifetime prevalence versus the contemporaneously reported lifetime prevalence, as is true for most of the psychotherapeutic drugs.) However, more recent use as reflected in the annual prevalence figure is lower among the older age groups. This has not always been true; the present pattern is the result of a sharper decline in use among older respondents than has occurred among seniors. These trends are discussed in the next chapter.

- Questions on the use of *crystal methamphetamine* (*ice*) are contained in two of the six questionnaire forms, making the estimates less reliable than those based on all six forms. (Ice use is not asked of the 35- or 40-year-old respondents.) Among the 19- to 30-year-old respondents *combined*, 1.3% reported some use in the prior year—lower than the 3.0% reported by seniors (see Table 4-1 and Figure 4-16).

- *Sedatives* (*barbiturates*) are similar to amphetamines in that lifetime prevalence, adjusted, is higher in the older ages and annual use appreciably lower (Figure 4-12). At present, current usage rates are quite low in all age groups; therefore 30-day use varies rather little by age. Because of the substantial long-term decline in sedative (barbiturate) use over the life of the study, the 40-year-olds have by far the highest adjusted lifetime prevalence rate.[30]

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[30]Barbiturates were the dominant form of sedatives in use when these questions were first introduced. In the intervening years, a number of non-barbiturate sedatives have entered the market and largely displaced barbiturate sedatives. Because our question did not change, we believe that a number of users of non-barbiturate sedatives are reporting them in answer to the barbiturate question, which also defines them in terms of the conditions for which they are prescribed. In recognition of this fact, we will now label them as "sedatives (barbiturates)," though to date the question specifies "barbiturates."

- In 2002 the question text for ***narcotics other than heroin*** was changed on three of the six questionnaire forms in order to update the list of examples of narcotics other than heroin. Talwin, laudanum, and paregoric—each of which had negligible rates of use by 2001—were replaced by Vicodin, OxyContin, and Percocet. As a consequence of this revision, reported use rates increased in 2002 in the half of the questionnaire forms using the new question wording; however, it did not increase in those forms using the original wording, as is discussed in the next chapter. Using data from the three unchanged questionnaire forms, we derived a best guess as to the actual change in use. We added that change score to the 2001 prevalence rate that would have been observed had we not changed the measures. This adjusted value is provided in the relevant tables and figures. Using these adjusted values for 2002, narcotics other than heroin show age differences similar to those seen for sedatives (barbiturates)—somewhat higher lifetime prevalence as a function of age, annual prevalence modestly lower at increasing age levels, and 30-day use falling some in the mid-twenties and then varying rather little with age (Figure 4-13).

- ***Tranquilizer*** use shows an increase with age in lifetime prevalence and some modest decrease with age in annual prevalence. Thirty-day prevalence is fairly flat across all age groups (Figure 4-14).

- ***Cocaine*** generally had presented a unique case among the illicit drugs in that lifetime, annual, and current prevalence rates have *all* tended to be higher among the older age groups. By 1994, however, 30-day cocaine use had reached such low levels that it varied rather little by age; since then, annual and current use have been fairly similar across all age groups. The annual prevalence rate is highest (and fairly flat at present) between ages 18 and 28 (Figure 4-5). The cohort differences in lifetime cocaine use are particularly vivid, with the 40-year-olds showing a 44% adjusted lifetime prevalence, compared to 15% among 21- to 22-year-olds in 2002.

- In 2002, lifetime prevalence of ***crack*** use reached 3.8% among high school seniors, 5.3% to 7.7% (adjusted) among those in their late twenties and early thirties, 11.7% among the 35-year-olds, yet only 10.9% among 40-year-olds. This curvilinear pattern no doubt reflects something of a cohort effect due to the rather transient popularity of crack in the early to mid-1980s. Current prevalence is very low at all ages. On average, the follow-up respondents 1 to 12 years out of high school have an annual prevalence of 1.0% versus 2.3% among seniors, and a 30-day prevalence of 0.3% versus 1.2% among seniors. Clearly, the follow-up respondents have a higher rate of noncontinuation than seniors, as is true for most other drugs.

  We believe that the omission of high school dropouts is likely to have a greater-than-average impact on the prevalence estimates for crack. It also seems likely that any members of the panels who are dependent on crack (or other illicit drugs like heroin) would be less likely than average to respond to the questionnaires; therefore, such extreme users are no doubt underrepresented among the panel respondents.

- In 1989, ***MDMA*** (***ecstasy***) was added to two of the six forms of the follow-up surveys to assess how widespread its use had become among young adults. Questions about its use were

not asked of high school students until 1996, primarily because we were concerned that its alluring name might have the effect of stimulating interest. We were less concerned about such an effect after the name of the drug had become more widely known. (MDMA is not asked of the 35- or 40-year-old respondents.)

Among all 19- to 30-year-olds combined, 14% say they have ever tried **MDMA**; and among high school seniors, 11% say they have used it. The age differences are quite dramatic for this drug, with lifetime prevalence highest at ages 21-22 and generally declining with age thereafter (Figure 4-15). This very likely reflects the fact that ecstasy use rose very rapidly in recent years. Annual prevalence is much lower among those more than 24 years of age. Clearly, past-year and past-month ecstasy use remain concentrated among those in their late teens and early twenties, through age 24.

- In the case of **alcohol**, all prevalence rates are higher among those of post-high school age than among those in high school, and they generally increase for the first three or four years after high school, through age 21 or 22 (Figure 4-19a). After that, prevalence rates vary only modestly among the different age groups. Lifetime prevalence changes very little after ages 23 to 24, due in large part to a "ceiling effect." Current (30-day) alcohol use is considerably higher among those ages 21-22 (72%) than among seniors (49%); it drops some through age 30 (65%) and is at about the same level among those ages 35 and 40. Current **daily drinking** varies rather little by age, though it is lowest among those aged 18 (4%) and highest among those aged 40 (7%) (Figure 4-19b).

- Among the various measures of alcohol consumption, **occasions of heavy drinking** in the two weeks prior to the survey show large differences among the age groups (Figure 4-19b). There is a fair difference between 18-year-olds (29%) and 21- to 22-year-olds, who have the highest prevalence of such heavy drinking (41%). Then there is a falloff at each subsequent age level, reaching 26% by ages 29 to 30. We have interpreted this curvilinear relationship as reflecting an age effect—and not a cohort effect—because it seems to replicate across different graduating class cohorts, and also because it has been linked directly to age-related events such as leaving the parental home (which increases heavy drinking) and marriage (which decreases it).[31] Among those 35 and 40 years of age, about one fourth (27% and 25%, respectively) report such heavy drinking in the prior two-week interval—about the same proportion as among 29- to 30-year-olds (26%).

- **Cigarette smoking** also shows an unusual pattern of age-related differences (Figure 4-20). Current (30-day) smoking used to be about the same among those in their early twenties as among high school seniors, in part reflecting the fact that relatively few new people are recruited to smoking after high school. In 2002, however, it is lower among seniors, almost surely due to the sharp drop in smoking that has been occurring among seniors. On the other hand, smoking at heavier levels—such as smoking half a pack daily—is (and has been)

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

somewhat higher among those in their twenties than among high school seniors, reflecting the fact that many previously moderate smokers move into a pattern of heavier consumption after high school.[32] While about a third (34%) of the current smokers in high school smoke at the rate of a half-pack per day or more, well over one half (57%) of the current smokers in the 29 to 30 age group do so.

- Questions about use of *steroids* were added in 1989 to one form only (and to an additional form in 1990), making it difficult to determine age-related differences with much accuracy due to the limited sample sizes. (Steroids are not asked of the 35- or 40-year-old respondents.) Overall, 1.9% of 19- to 30-year-olds in 2002 reported having used steroids in their lifetime. Annual and 30-day use levels were very low, at 0.5% and 0.2%, respectively. (See Tables 4-2 to 4-4.) The rates among seniors tend to be considerably higher than the rates among older age groups, reflecting possibly both age and cohort effects. (As described in Volume I, the prevalence of steroid use among seniors rose sharply in recent years.)

- In essence, lifetime prevalence rates in some of the older age groups studied here, who passed through adolescence in the heyday of the drug epidemic, show impressively high lifetime rates of illicit drug use—particularly when lifetime prevalence is corrected for the recanting of earlier reported use. However, the *current* use of most illicit drugs is substantially lower among those in their thirties and forties than among those in their late teens to early twenties. For the two licit drugs, alcohol and cigarettes, the picture is a more complicated one. Steroids also present a more complicated picture.

PREVALENCE COMPARISONS FOR SUBGROUPS OF YOUNG ADULTS

Gender Differences

Statistics on usage rates for the group of young adults 1 to 12 years beyond high school (modal ages 19 to 30) are given for the total sample and separately for males and females in Tables 4-1 to 4-5. In general, most of the gender differences in drug use that pertained in high school may be found in the young adult sample as well.

- Among young adults, more males than females report using *any illicit drug* during the prior year (34% versus 29%). Males have higher annual prevalence rates for nearly all of the specific illicit drugs—with ratios greater than 2 for *steroids*, *heroin*, *inhalants*, and *hallucinogens*. For example, among the 19- to 30-year-olds, heroin was used by 0.4% of males versus 0.1% of females during the prior 12 months.

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[32]Because age is confounded with class cohort, and because we have established that cigarette smoking shows strong cohort effects (enduring differences among cohorts), one must be careful in interpreting age-related differences in a cross-sectional sample as if they were due only to age effects, i.e., changes with age consistently observable across cohorts. However, multivariate analyses conducted on panel data from multiple cohorts do show a consistent age effect of the type mentioned here (See O'Malley, Bachman, & Johnston, 1988, in previous footnote).

- All forms of ***cocaine*** were used in the past year by more males than females (19- to 30-year-olds). Annual ***cocaine*** use was reported by 7.7% of the males and 4.2% of the females, ***crack*** use by 1.4% of the males and 0.8% of the females, and ***other cocaine*** use by 7.7% of the males and 4.0% of the females.

- Other large gender differences among the 19- to 30-year-olds are found in ***daily marijuana*** use (5.9% for males versus 3.0% for females in 2002), ***daily alcohol*** use (7.2% versus 2.7%), and occasions of drinking ***five or more drinks in a row*** in the prior two weeks (46% versus 26%). This gender difference in occasions of heavy drinking is even greater among young adults than among high school seniors, where it is 34% for males versus 23% for females.

- ***MDMA*** (***ecstasy***) use is only moderately higher among males than among females in the young adult sample overall (annual prevalence 6.7% versus 4.9%, respectively) as is the use of ***OxyContin*** (annual prevalence of 2.5% versus 1.5%) and ***Vicodin*** (annual prevalence of 8.8% versus 7.0%).

- The use of ***amphetamines***, which is now about equivalent among males and females in high school, is also fairly similar for both genders in this post-high school period (annual prevalence 6.0% versus 4.8%, respectively).

- ***Crystal methamphetamine*** (***ice***) is used by small, and roughly similar, percentages of both genders (1.7% annual prevalence for males versus 1.1% for females).

- In the 1980s, there were few differences between males and females in rate of ***cigarette*** use. By the early 1990s, however, there were slightly higher rates of use by males. Among high school seniors, past month prevalence in 2002 is 27% for males, compared to 26% for females. Daily use rates are 17% and 16%, respectively, and half-pack or more use rates are 10.0% for males and 7.9% for females. The patterns are similar among the 19- to 30-year-olds, with males slightly more likely to have smoked in the past month (31% versus 27%), to have smoked daily (22% versus 20%), and to have smoked half a pack or more per day (16% versus 13%).

- ***Steroid*** use among young adults is much more prevalent among males than females, as is true for seniors. Among seniors, 3.8% of the males reported steroid use in the past year versus 1.3% of the females. These statistics are much lower among the 19- to 30-year-olds, but use by males remains considerably higher (1.0% for males versus 0.2% for females).

Regional Differences

Follow-up respondents all are asked in what state they currently reside. States are then grouped into the same regions used in the analysis of the high school data.[33] Tables 4-2 through 4-5 present regional differences in lifetime prevalence, annual prevalence, 30-day prevalence, and current daily prevalence, for the 19- to 30-year-olds combined.

- There exist some regional differences in the use of ***marijuana***, with the South and North Central somewhat lower than the Northeast and the West. They are also somewhat lower in the proportion using ***any illicit drug*** and ***any illicit drug other than marijuana*** (see Table 4-3).

- The use of ***crystal methamphetamine*** (***ice***) by 19- to 30-year-olds remains highest in the West region of the country, which has a 2.5% annual prevalence rate, followed by the North Central (1.4%), the South (1.2%), and the Northeast (0.4%). Among high school seniors, the West also has a higher rate of use than the other three regions.

- While the regional differences are not large for ***hallucinogen*** use, the West and Northeast have higher rates than the other two regions.

- ***MDMA***, "***ecstasy***," use among young adults is highest in the West (7.7% annual prevalence) and the Northeast (7.3%) and lower in the South (5.1%) and the North Central (4.0%).

- ***OxyContin*** use is somewhat higher in the Northeast (2.5% annual prevalence) than in the other regions (from 1.6% to 1.9%), while ***Vicodin*** use is highest in the West (10.2%) and lowest in the South (4.9%).

- For the remaining illicit drugs, regional differences are not substantial (see Tables 4-3 and 4-4).

- Prevalence rates for ***alcohol*** are typically somewhat higher in the Northeast and North Central regions than in the South and West regions; this pattern has generally been true among seniors, as well. For ***binge drinking***, the North Central and Northeast have prevalence rates of 39% and 36%, respectively, whereas the South and West have rates of 31% and 32%.

- As with alcohol, ***cigarette smoking*** among young adults is highest in the Northeast and North Central. It is lowest in the West. This difference is most pronounced at the half-pack-a-day level, where the rate in the West (9.7%) is close to half the rate in the North Central (17.6 %).

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

Population Density Differences

Population density is measured by asking respondents to select the response category that best describes the size and nature of the community where they lived during March of the year in which they were completing the follow-up questionnaire. The major answer alternatives are listed in Table 4-2, and the population size given to the respondent to help define each level is provided in a footnote. An examination of the 1987 and 1988 drug use data for the two most urban strata revealed that the modest differences in prevalence rates between the suburbs and the corresponding cities were not worth the complexity of reporting them separately; accordingly, these categories have been merged since. See Tables 4-3 through 4-5 for the relevant tabular results that are discussed below.

- Differences in illicit drug use by population density tend to be very modest, perhaps more modest than is commonly supposed. Among the general population, use of most illicit drugs is fairly broadly distributed among all areas from rural to urban. To the extent that there are variations, almost all of the associations are positive, with rural/country areas having the lowest levels of use, and small towns having the next lowest. Medium-sized cities, large cities, and very large cities tend to be higher, with only small variations among these three categories. Positive associations with population density exist for annual prevalence of *any illicit drug*, *marijuana*, *any illicit drug other than marijuana*, *hallucinogens*, *tranquilizers*, *GHB*, and *MDMA* (*ecstasy*). The association is strongest for ecstasy, where the prevalence rate in the large cities (8.0%) is more than twice that in the rural areas (3.5%), with the intermediate groups arrayed ordinally.

- Among young adults, the lifetime, annual, and 30-day *alcohol* use measures all show a positive association with population density. *Occasions of heavy drinking* are fairly similar across all strata except farm/country, which has a somewhat lower rate (see Table 4-5). *Daily* use falls between 3.9% and 5.6% for all community size strata, with no discernible association.

- Contrary to what we find for almost all other substances, there exists a *negative,* and fairly ordinal association between population density and *daily cigarette smoking*, which is highest in the small town stratum and lowest in the very large cities (daily prevalence rates of 24% and 15%, respectively). Smoking at the half-pack-a-day level is nearly twice as high in farm/country areas (16.2%) as in very large cities (8.5%). (See Table 4-5.)

TABLE 4-1
Prevalence of Use of Various Types of Drugs by Gender, 2002
Among Respondents of Modal Ages 19-30

(Entries are percentages)

	Males	**Females**	**Total**
Approx. Weighted N =	*2600*	*3700*	*6300*
Any Illicit Drug[a]			
Annual	33.7	28.5	30.6
30-Day	21.5	15.1	17.7
Any Illicit Drug[a] Other Than Marijuana			
Annual	17.9	13.9	15.5
30-Day	8.0	6.6	7.1
Marijuana			
Annual	31.0	24.9	27.4
30-Day	19.7	12.7	15.6
Daily	5.9	3.0	4.2
Inhalants[b,c]			
Annual	2.1	1.0	1.5
30-Day	0.7	0.3	0.5
Hallucinogens[b]			
Annual	6.1	3.0	4.3
30-Day	1.3	0.5	0.8
LSD			
Annual	2.2	1.3	1.7
30-Day	0.4	0.1	0.2
PCP[d]			
Annual	0.5	0.0	0.2
30-Day	0.1	0.0	*
MDMA (Ecstasy)[c]			
Annual	6.7	4.9	5.6
30-Day	1.7	0.9	1.2
Cocaine			
Annual	7.7	4.2	5.6
30-Day	3.0	1.5	2.1
Crack[e]			
Annual	1.4	0.8	1.0
30-Day	0.4	0.2	0.3
Other Cocaine[f]			
Annual	7.7	4.0	5.5
30-Day	2.8	1.3	1.9
Heroin			
Annual	0.4	0.1	0.2
30-Day	0.1	0.0	*
Other Narcotics[g,j]			
Annual	4.9	5.6	4.4
30-Day	1.6	1.7	1.6

(Table continued on next page)

TABLE 4-1 (cont.)
Prevalence of Use of Various Types of Drugs by Gender, 2002
Among Respondents of Modal Ages 19-30
(Entries are percentages)

	Males	**Females**	**Total**
Approx. Weighted N =	*2600*	*3700*	*6300*
Amphetamines, Adjusted[g,h]			
Annual	6.0	4.8	5.3
30-Day	2.0	2.2	2.1
Crystal Methamphetamine (Ice)[i]			
Annual	1.7	1.1	1.3
30-Day	0.6	0.3	0.4
Sedatives (Barbiturates)[g]			
Annual	4.2	3.1	3.5
30-Day	1.5	1.2	1.3
Tranquilizers[g]			
Annual	7.4	6.2	6.7
30-Day	3.1	2.4	2.7
Alcohol			
Annual	86.1	83.7	84.7
30-Day	73.5	63.9	67.9
Daily	7.2	2.7	4.5
5+ Drinks in a Row in the Last 2 Weeks	45.6	26.4	34.3
Cigarettes			
Annual	40.4	36.2	37.9
30-Day	30.5	27.1	28.5
Daily	21.8	19.7	20.6
Half-Pack or More per Day	15.5	13.3	14.2
Steroids[i]			
Annual	1.0	0.2	0.5
30-Day	0.4	0.0	0.2

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

'*' indicates a prevalence rate of less than 0.05% but greater than true zero.

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

[b]Unadjusted for known underreporting of certain drugs. See text for details.

[c]This drug was asked about in three of the six questionnaire forms. Total N is approximately 3200.

[d]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1100.

[e]This drug was asked about in five of the six questionnaire forms. Total N is approximately 5200.

[f]This drug was asked about in four of the six questionnaire forms. Total N is approximately 4200.

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

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

[i]This drug was asked about in two of the six questionnaire forms. Total N is approximately 2100.

[j]In 2002, the question text was changed on half of the questionnaire forms. The list of narcotics other than heroin was updated: Talwin, laudanum, and paregoric-all of which had negligible rates of use by 2001-were replaced by Vicodin, OxyContin, and Percocet. The 2002 estimates are based on the 2001 prevalence of use rate plus the increase observed difference between the data from 2001 to 2002 in the half-sample in which the question did not change.

TABLE 4-2
Lifetime Prevalence of Use of Various Types of Drugs by Subgroups, 2002
Among Respondents of Modal Ages 19-30
(Entries are percentages)

	Approx. Weighted N	Any Illicit Drug[a]	Any Illicit Drug[a] Other than MJ	Marijuana	Inhalants[b,c]	Hallucinogens[b]	LSD	PCP[d]	MDMA[c]	Cocaine
Total	*6300*	59.1	32.8	56.7	12.5	19.6	15.3	2.5	13.5	13.7
Gender:										
Male	*2600*	60.7	36.1	58.4	15.1	24.0	18.5	3.5	15.4	17.2
Female	*3700*	57.9	30.6	55.5	10.7	16.6	13.2	1.8	12.2	11.2
Modal Age:										
19-20	*1100*	51.7	28.4	49.8	10.1	14.5	10.2	1.4	12.1	9.9
21-22	*1100*	60.8	35.5	57.6	11.5	19.7	14.4	2.8	18.2	14.1
23-24	*1000*	63.7	34.5	60.9	13.6	21.5	17.2	2.9	17.6	14.6
25-26	*1000*	59.7	34.6	58.2	13.6	22.8	18.6	2.7	14.8	15.0
27-28	*1100*	59.7	31.5	57.8	13.3	19.9	15.4	2.7	10.6	13.9
29-30	*1000*	59.2	32.9	55.8	13.3	19.7	16.7	2.8	7.4	14.6
Region:										
Northeast	*1200*	63.5	33.0	61.5	13.0	20.7	15.4	4.1	15.6	13.1
North Central	*1800*	57.4	30.4	55.3	12.4	18.4	14.4	1.4	9.7	11.8
South	*2100*	55.7	31.8	52.7	11.8	17.2	14.7	2.7	13.6	13.3
West	*1200*	62.8	37.8	60.6	13.6	24.4	17.7	2.5	17.4	17.7
Population Density:[e]										
Farm/Country	*800*	49.2	29.4	46.2	9.9	14.1	12.2	2.8	8.8	10.4
Small Town	*1700*	58.9	30.1	56.4	12.5	17.3	13.4	1.4	9.8	12.9
Medium City	*1400*	59.8	33.6	57.4	13.4	19.2	15.5	3.6	13.4	12.3
Large City	*1400*	61.9	33.9	59.4	12.8	22.1	16.8	1.6	17.4	15.2
Very Large City	*1000*	62.4	38.3	60.8	13.2	25.7	19.2	4.1	19.1	17.7

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

[a]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, or heroin, or any use of other narcotics, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders.
[b]Unadjusted for known underreporting of certain drugs. See text for details.
[c]This drug was asked about in three of the six questionnaire forms. Total N is approximately 3200.
[d]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1100.
[e]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents.
Within each level of population density, suburban and urban respondents are combined.

TABLE 4-2 (cont.)
Lifetime Prevalence of Use of Various Types of Drugs by Subgroups, 2002
Among Respondents of Modal Ages 19-30
(Entries are percentages)

	Approx. Weighted N	Crack[a]	Heroin	Narcotics[b,f]	Amphtetamines[b,c]	Ice[d]	Sedatives (Barbiturates)[b]	Tranquilizers[b]	Alcohol	Cigarettes	Steroids[d]
Total	*6300*	4.4	1.7	11.9	14.7	4.1	7.8	13.4	90.6	NA	1.9
Gender:											
Male	*2600*	5.8	2.3	14.3	16.3	5.7	9.5	14.9	90.4	NA	3.8
Female	*3700*	3.4	1.3	10.3	13.6	2.9	6.6	12.4	90.8	NA	0.5
Modal Age:											
19-20	*1100*	3.1	1.0	12.0	14.1	4.8	8.0	13.1	82.4	NA	1.4
21-22	*1100*	4.6	1.9	12.9	15.4	3.1	8.5	14.6	90.2	NA	1.9
23-24	*1000*	4.9	2.5	13.3	15.7	4.6	9.3	13.8	92.5	NA	2.3
25-26	*1000*	3.9	2.1	11.7	14.9	3.8	7.8	14.2	93.3	NA	1.4
27-28	*1100*	4.9	1.2	11.8	13.8	4.2	6.5	11.2	92.9	NA	0.9
29-30	*1000*	4.9	1.4	9.7	14.3	4.0	6.6	13.6	92.9	NA	3.4
Region:											
Northeast	*1200*	3.1	1.6	11.6	14.1	2.0	7.9	13.3	93.3	NA	1.0
North Central	*1800*	3.8	1.2	12.9	13.4	3.8	6.7	10.2	93.1	NA	1.7
South	*2100*	4.0	1.9	12.0	15.1	3.5	8.6	15.9	88.6	NA	2.4
West	*1200*	7.2	2.3	11.2	16.8	7.5	8.1	14.2	87.8	NA	1.4
Population Density:[e]											
Farm/Country	*800*	5.1	1.2	8.8	14.4	2.9	7.5	11.9	86.5	NA	2.0
Small Town	*1700*	4.8	1.5	11.1	14.5	4.0	7.8	13.2	89.6	NA	2.2
Medium City	*1400*	3.7	1.7	12.3	15.0	3.3	7.7	12.4	90.9	NA	1.5
Large City	*1400*	4.0	1.9	12.6	14.0	4.6	7.5	13.8	92.5	NA	1.5
Very Large City	*1000*	4.9	2.1	14.4	16.3	5.6	8.9	16.6	92.4	NA	2.2

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

'NA' indicates data not available.

[a]This drug was asked about in five of the six questionnaire forms. Total N is approximately 5200.

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

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

[d]This drug was asked about in two of the six questionnaire forms. Total N is approximately 2100.

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

[f]In 2002, the question text was changed on half of the questionnaire forms. The list of narcotics other than heroin was updated: Talwin, laudanum, and paregoric-all of which

had negligible rates of use by 2001-were replaced by Vicodin, OxyContin, and Percocet. The 2002 estimates are based on the 2001 prevalence of use rate plus the increase
observed difference between the data from 2001 to 2002 in the half-sample in which the quesiton did not change.

TABLE 4-3
Annual Prevalence of Use of Various Types of Drugs by Subgroups, 2002
Among Respondents of Modal Ages 19-30
(Entries are percentages)

	Approx. Weighted N	Any Illicit Drug[a]	Any Illicit Drug[a] Other Than MJ	Marijuana	Inhalants[b,c]	Hallucinogens[b]	LSD	PCP[d]	MDMA[c]	Cocaine
Total	6300	30.6	15.5	27.4	1.5	4.3	1.7	0.2	5.6	5.6
Gender:										
Male	2600	33.7	17.9	31.0	2.1	6.1	2.2	0.5	6.7	7.7
Female	3700	28.5	13.9	24.9	1.0	3.0	1.3	0.0	4.9	4.2
Modal Age:										
19-20	1100	39.4	19.6	36.4	2.8	7.3	3.3	0.8	6.3	6.5
21-22	1100	36.7	18.9	34.3	1.9	5.8	1.8	0.0	9.3	7.0
23-24	1000	35.2	17.2	31.8	1.9	5.2	2.2	0.3	8.3	6.0
25-26	1000	27.6	14.6	24.5	0.8	2.8	1.0	0.2	4.4	5.6
27-28	1100	22.9	11.4	19.4	0.6	2.2	0.7	0.0	2.6	4.0
29-30	1000	20.9	10.9	17.5	0.5	2.0	0.9	0.0	2.4	4.4
Region:										
Northeast	1200	34.7	17.2	31.5	1.4	5.3	2.1	0.2	7.3	7.4
North Central	1800	29.3	13.7	26.6	1.8	3.7	1.8	0.2	4.0	4.6
South	2100	26.9	14.6	23.2	1.3	3.0	1.3	0.3	5.1	4.9
West	1200	34.4	18.4	31.0	1.3	6.4	1.6	0.3	7.7	6.6
Population Density:[e]										
Farm/Country	800	23.8	14.2	18.6	0.6	3.3	1.5	0.3	3.5	4.3
Small Town	1700	28.8	14.9	25.7	1.6	4.0	1.5	0.0	4.3	5.3
Medium City	1400	31.4	14.8	28.5	1.7	4.2	1.7	0.7	4.8	4.8
Large City	1400	32.6	16.1	30.1	1.5	4.5	2.0	0.0	7.8	6.2
Very Large City	1000	35.7	18.5	32.1	1.4	5.5	1.8	0.0	8.0	8.0

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

'*' indicates a percentage of less than 0.05% but greater than true zero.

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

[b]Unadjusted for known underreporting of certain drugs. See text for details.

[c]This drug was asked about in three of the six questionnaire forms. Total N is approximately 3200.

[d]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1100.

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

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

(Table continued on next page)

TABLE 4-3 (cont.)
Annual Prevalence of Use of Various Types of Drugs by Subgroups, 2002
Among Respondents of Modal Ages 19-30
(Entries are percentages)

	Approx. Weighted N	Crack[a]	Heroin	Narcotics[b,f]	OxyContin[c]	Vicodin[c]	Amphtetamines[b,d]	Ritalin[c]	Methamphetamine[c]	Ice[c]
Total	6300	1.0	0.2	4.9	1.9	7.7	5.3	2.4	2.5	1.3
Gender:										
Male	2600	1.4	0.4	5.6	2.5	8.8	6.0	3.6	3.0	1.7
Female	3700	0.8	0.1	4.4	1.5	7.0	4.8	1.6	2.2	1.1
Modal Age:										
19-20	1100	1.7	0.4	7.7	2.8	10.7	9.1	4.1	4.5	2.6
21-22	1100	1.0	0.1	5.4	1.6	7.8	7.1	4.6	1.5	1.2
23-24	1000	1.1	0.3	5.4	1.6	8.3	5.8	3.0	2.0	1.6
25-26	1000	0.7	0.3	3.7	2.7	8.7	3.9	1.8	2.0	0.9
27-28	1100	0.6	0.1	2.9	1.1	5.2	3.3	0.6	2.7	0.8
29-30	1000	0.9	0.2	4.0	1.7	5.0	2.1	0.0	2.7	0.7
Region:										
Northeast	1200	1.0	0.4	5.4	2.5	8.0	5.5	3.7	1.1	0.4
North Central	1800	1.1	0.2	5.2	1.6	9.1	5.1	2.6	2.1	1.4
South	2100	0.7	0.1	5.1	1.9	4.9	5.1	2.0	2.3	1.2
West	1200	1.6	0.2	4.6	1.7	10.2	6.1	1.7	5.1	2.5
Population Density:[e]										
Farm/Country	800	1.1	0.3	3.7	2.1	7.9	5.8	1.8	2.6	0.7
Small Town	1700	1.3	0.3	4.0	2.2	8.7	5.5	3.5	2.6	1.6
Medium City	1400	0.5	0.1	5.1	2.3	7.6	5.3	1.5	2.1	1.6
Large City	1400	1.0	0.2	5.4	1.2	5.8	4.9	2.6	2.6	1.3
Very Large City	1000	1.2	0.3	6.0	1.7	8.8	5.6	2.3	3.1	1.0

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

'*' indicates a percentage of less than 0.05% but greater than true zero.

[a]This drug was asked about in five of the six questionnaire forms. Total N is approximately 5200.

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

[c]This drug was asked about in two of the six questionnaire forms. Total N is approximately 2100.

[d]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription amphetamines.

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

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

[f]In 2002, the question text was changed on half of the questionnaire forms. The list of narcotics other than heroin was updated: Talwin, laudanum, and paregoric--all of which

had neglicible rates of use by 2001-were replaced by Vicodin, OxyContin, and Percocet. The 2002 extimates are based on the 2001 prevalence of use rate plus the increase

observed difference between the data from 2001 to 2002 in the half-sample in which the question did not change.

TABLE 4-3 (cont.)
Annual Prevalence of Use of Various Types of Drugs by Subgroups, 2002
Among Respondents of Modal Ages 19-30
(Entries are percentages)

	Approx. Weighted N	Sedatives (Barbiturates)[b]	Tranquilizers[a]	Rohypnol[b]	GHB[b]	Ketamine[b]	Alcohol	Cigarettes	Steroids[b]
Total	*6300*	3.5	6.7	0.3	0.7	1.2	84.7	37.9	0.5
Gender:									
Male	*2600*	4.2	7.4	0.5	0.7	1.4	86.1	40.4	1.0
Female	*3700*	3.1	6.2	0.2	0.7	1.0	83.7	36.2	0.2
Modal Age:									
19-20	*1100*	5.8	8.8	0.6	0.6	1.5	78.0	41.5	1.0
21-22	*1100*	3.8	7.8	0.3	1.0	1.0	85.8	42.8	0.3
23-24	*1000*	4.4	6.4	0.0	1.1	1.2	88.0	41.1	0.4
25-26	*1000*	2.9	7.0	0.6	1.2	2.2	88.3	37.0	0.3
27-28	*1100*	2.3	4.9	0.1	0.1	0.2	84.7	33.0	0.0
29-30	*1000*	1.7	5.0	0.1	0.0	0.9	83.6	31.6	1.1
Region:									
Northeast	*1200*	4.2	6.4	0.3	1.1	2.5	89.7	39.7	0.4
North Central	*1800*	3.5	5.4	0.2	0.4	1.0	88.4	41.8	0.4
South	*2100*	3.4	7.9	0.2	0.6	0.7	80.1	36.2	0.9
West	*1200*	3.5	7.1	0.4	0.7	0.8	81.9	32.7	0.1
Population Density:[c]									
Farm/Country	*800*	3.5	6.2	0.0	0.1	0.7	77.3	39.7	0.8
Small Town	*1700*	3.8	6.5	0.3	0.6	1.2	83.3	40.5	1.0
Medium City	*1400*	3.1	5.6	0.5	0.8	1.4	84.9	38.1	0.3
Large City	*1400*	3.1	7.0	0.3	0.8	1.3	88.4	35.9	0.1
Very Large City	*1000*	4.6	9.1	0.4	1.0	1.2	87.2	33.9	0.4

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

'*' indicates a percentage of less than 0.05% but greater than true zero.

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

[b]This drug was asked about in two of the six questionnaire forms. Total N is approximately 2100.

[c]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents.

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

TABLE 4-4
Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups, 2002
Among Respondents of Modal Ages 19-30
(Entries are percentages)

	Approx. Weighted N	Any Illicit Drug[a]	Any Illicit Drug[a] Other Than MJ	Marijuana	Inhalants[b,c]	Hallucinogens[b]	LSD	PCP[d]	MDMA[c]	Cocaine
Total	6300	17.7	7.1	15.6	0.5	0.8	0.2	*	1.2	2.1
Gender:										
Male	2600	21.5	8.0	19.7	0.7	1.3	0.4	0.1	1.7	3.0
Female	3700	15.1	6.6	12.7	0.3	0.5	0.1	0.0	0.9	1.5
Modal Age:										
19-20	1100	24.9	10.1	22.2	0.6	1.6	0.5	0.3	1.1	2.0
21-22	1100	22.0	9.1	20.1	1.2	1.1	0.2	0.0	1.4	2.8
23-24	1000	19.7	7.8	17.2	0.5	0.9	0.6	0.0	2.2	2.7
25-26	1000	16.3	6.2	14.8	0.2	0.7	0.2	0.0	1.3	2.1
27-28	1100	11.6	5.0	9.9	0.1	0.2	0.0	0.0	0.6	1.4
29-30	1000	11.0	4.4	9.0	0.1	0.1	*	0.0	0.6	1.8
Region:										
Northeast	1200	19.9	8.1	17.6	0.7	0.8	0.2	0.0	1.5	3.0
North Central	1800	16.4	6.1	15.0	0.5	0.9	0.4	0.2	1.1	1.8
South	2100	16.0	7.3	13.4	0.3	0.6	0.1	0.0	1.1	2.1
West	1200	20.4	7.5	18.2	0.4	1.1	0.4	0.0	1.2	1.8
Population Density:[e]										
Farm/Country	800	13.4	6.0	11.6	0.5	0.7	0.1	0.0	1.1	1.8
Small Town	1700	17.0	7.2	14.6	0.3	0.8	0.3	0.0	1.0	2.2
Medium City	1400	17.9	6.9	16.3	0.7	0.9	0.3	0.2	1.0	1.8
Large City	1400	18.9	6.9	16.6	0.5	0.7	0.3	0.0	1.6	2.3
Very Large City	1000	20.8	8.6	18.4	0.2	1.0	0.2	0.0	1.4	2.6

Source: The Monitoring the Future Study, the University of Michigan.
'*' indicates a percentage of less than 0.05% but greater than true zero.

[a]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, or heroin, or any use of other narcotics, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders.
[b]Unadjusted for known underreporting of certain drugs. See text for details.
[c]This drug was asked about in three of the six questionnaire forms. Total N is approximately 3200.
[d]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1100.
[e]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents.
Within each level of population density, suburban and urban respondents are combined.

(Table continued on next page)

TABLE 4-4 (cont.)
Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups, 2002
Among Respondents of Modal Ages 19-30
(Entries are percentages)

	Approx. Weighted N	Crack[a]	Heroin	Narcotics[b,f]	Amphtetamines[b,c]	Ice[d]	Sedatives (Barbiturates)[b]	Tranquilizers[b]	Alcohol	Cigarettes	Steroids[d]
Total	6300	0.3	*	1.6	2.1	0.4	1.3	2.7	67.9	28.5	0.2
Gender:											
Male	2600	0.4	0.1	1.7	2.0	0.6	1.5	3.1	73.5	30.5	0.4
Female	3700	0.2	0.0	1.6	2.2	0.3	1.2	2.4	63.9	27.1	0.0
Modal Age:											
19-20	1100	0.7	*	2.6	4.0	0.9	2.6	4.1	59.2	29.8	0.4
21-22	1100	0.4	0.0	1.4	2.6	0.6	1.6	3.2	71.9	32.6	0.0
23-24	1000	0.2	0.1	1.9	2.6	0.6	1.5	2.2	71.9	31.9	0.0
25-26	1000	0.1	0.0	0.0	1.4	0.1	0.8	2.6	71.2	27.3	0.3
27-28	1100	0.0	0.1	2.1	1.6	0.0	1.0	1.7	67.9	24.7	0.0
29-30	1000	0.3	*	0.9	0.4	0.1	0.4	2.1	65.4	24.4	0.5
Region:											
Northeast	1200	0.2	0.1	2.0	2.2	0.3	1.8	2.8	73.8	31.2	0.1
North Central	1800	0.4	*	1.7	2.0	0.6	1.1	2.2	72.0	31.8	0.0
South	2100	0.3	0.0	2.0	2.4	0.2	1.4	3.5	61.7	27.3	0.3
West	1200	0.2	*	0.7	1.9	0.7	1.2	2.1	66.1	22.7	0.1
Population Density:[e]											
Farm/Country	800	0.5	0.1	2.2	1.7	0.0	1.1	2.5	55.1	30.1	0.0
Small Town	1700	0.4	0.1	1.3	2.3	0.5	1.7	2.6	65.9	31.7	0.3
Medium City	1400	0.1	0.0	1.3	2.2	0.8	1.5	2.5	67.9	29.0	0.0
Large City	1400	0.3	0.0	1.5	1.9	0.3	1.0	2.5	72.7	26.0	0.1
Very Large City	1000	0.2	0.1	2.1	2.4	0.1	1.4	3.7	74.3	24.0	0.4

Source: The Monitoring the Future Study, the University of Michigan.
'*' indicates a percentage of less than 0.05% but greater than true zero.

[a]This drug was asked about in five of the six questionnaire forms. Total N is approximately 5200.

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

[c]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription amphetamines.

[d]This drug was asked about in two of the six questionnaire forms. Total N is approximately 2100.

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

[f]In 2002, the question text was changed on half of the questionnaire forms. The list of narcotics other than heroin was updated: Talwin, laudanum, and paregoric--all of which
had negligible rates of use by 2001-were replaced by Vicodin, OxyContin, and Percocet. The 2002 estimates are based on the 2001 prevalence of use rate plus the increase
observed difference between the data from 2001 to 2002 in the half-sample in which the question did not change.

TABLE 4-5
Thirty-Day Prevalence of <u>Daily</u> Use of Various Types of Drugs by Subgroups, 2002
Among Respondents of Modal Ages 19-30
(Entries are percentages)

	Approx. Weighted N	Marijuana Daily	Alcohol Daily	Alcohol 5+ Drinks in a Row in Past 2 Weeks	Cigarettes Daily	Cigarettes: Half-Pack or More per Day
Total	*6300*	4.2	4.5	34.3	20.6	14.2
Gender:						
Male	*2600*	5.9	7.2	45.6	21.8	15.5
Female	*3700*	3.0	2.7	26.4	19.7	13.3
Modal Age:						
19-20	*1100*	6.0	3.9	36.0	20.6	12.8
21-22	*1100*	6.0	5.6	40.7	23.9	14.4
23-24	*1000*	5.5	5.0	39.4	23.5	15.9
25-26	*1000*	2.7	5.4	34.9	19.8	14.1
27-28	*1100*	2.5	3.7	28.9	18.1	13.9
29-30	*1000*	2.3	3.8	25.8	17.4	14.0
Region:						
Northeast	*1200*	4.5	5.7	36.0	22.6	15.7
North Central	*1800*	4.1	4.2	39.1	23.5	17.6
South	*2100*	3.5	3.9	30.6	20.1	13.1
West	*1200*	5.1	4.9	31.8	15.1	9.7
Population Density:[a]						
Farm/Country	*800*	4.1	4.0	28.8	22.7	16.2
Small Town	*1700*	4.2	4.7	35.5	24.3	17.8
Medium City	*1400*	3.5	4.7	32.9	20.8	14.4
Large City	*1400*	5.1	3.9	35.2	18.1	12.1
Very Large City	*1000*	3.9	5.6	38.2	14.9	8.5

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

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

FIGURE 4-1

**Any Illicit Drug: Lifetime, Annual, and 30-Day Prevalence Among
High School Seniors and Adults Through Age 40, 2002**
by Age Group
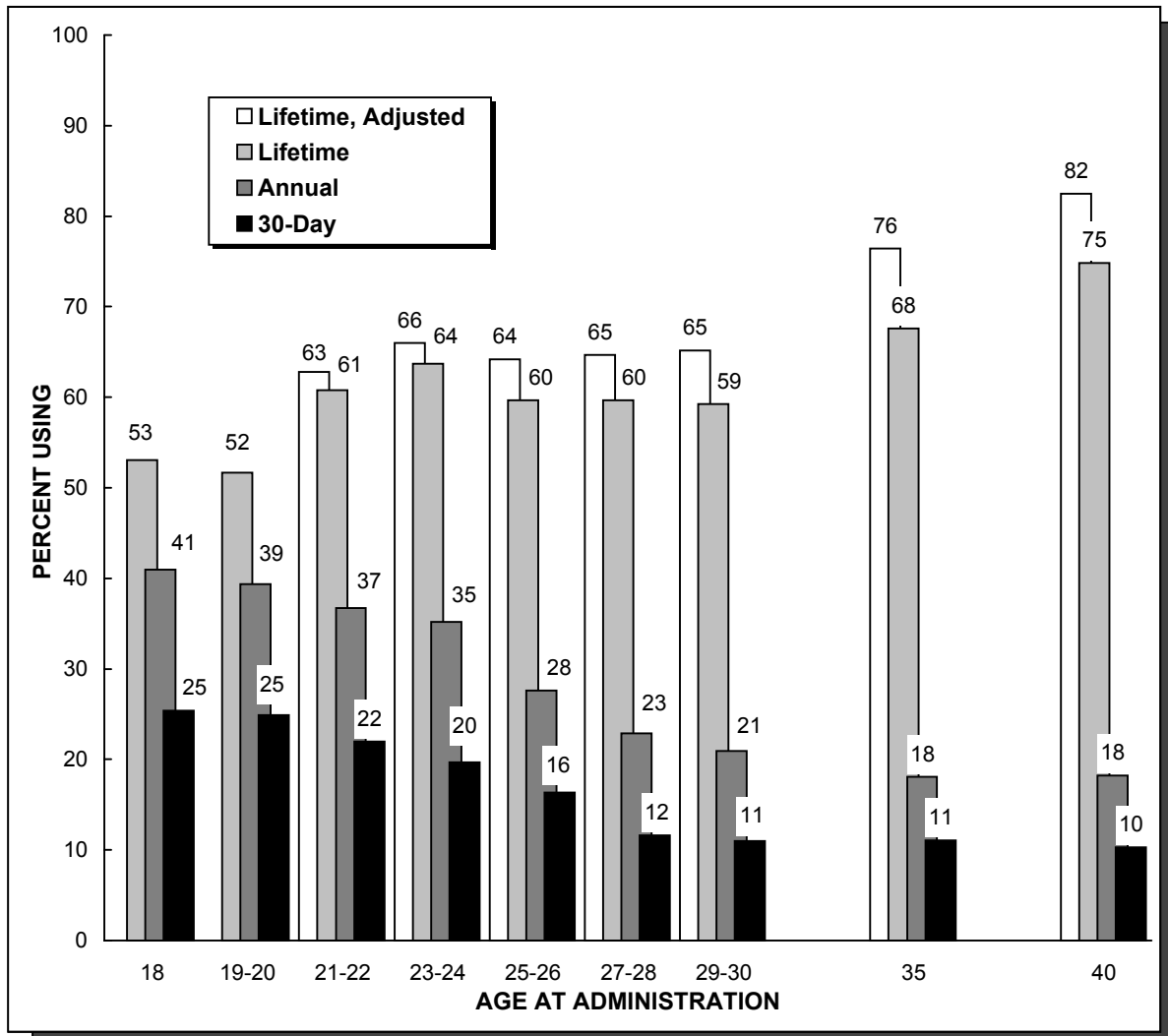
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time
See text for discussion.

FIGURE 4-2

Any Illicit Drug Other Than Marijuana: Lifetime, Annual, and 30-Day Prevalence Among High School Seniors and Adults Through Age 40, 2002
by Age Group
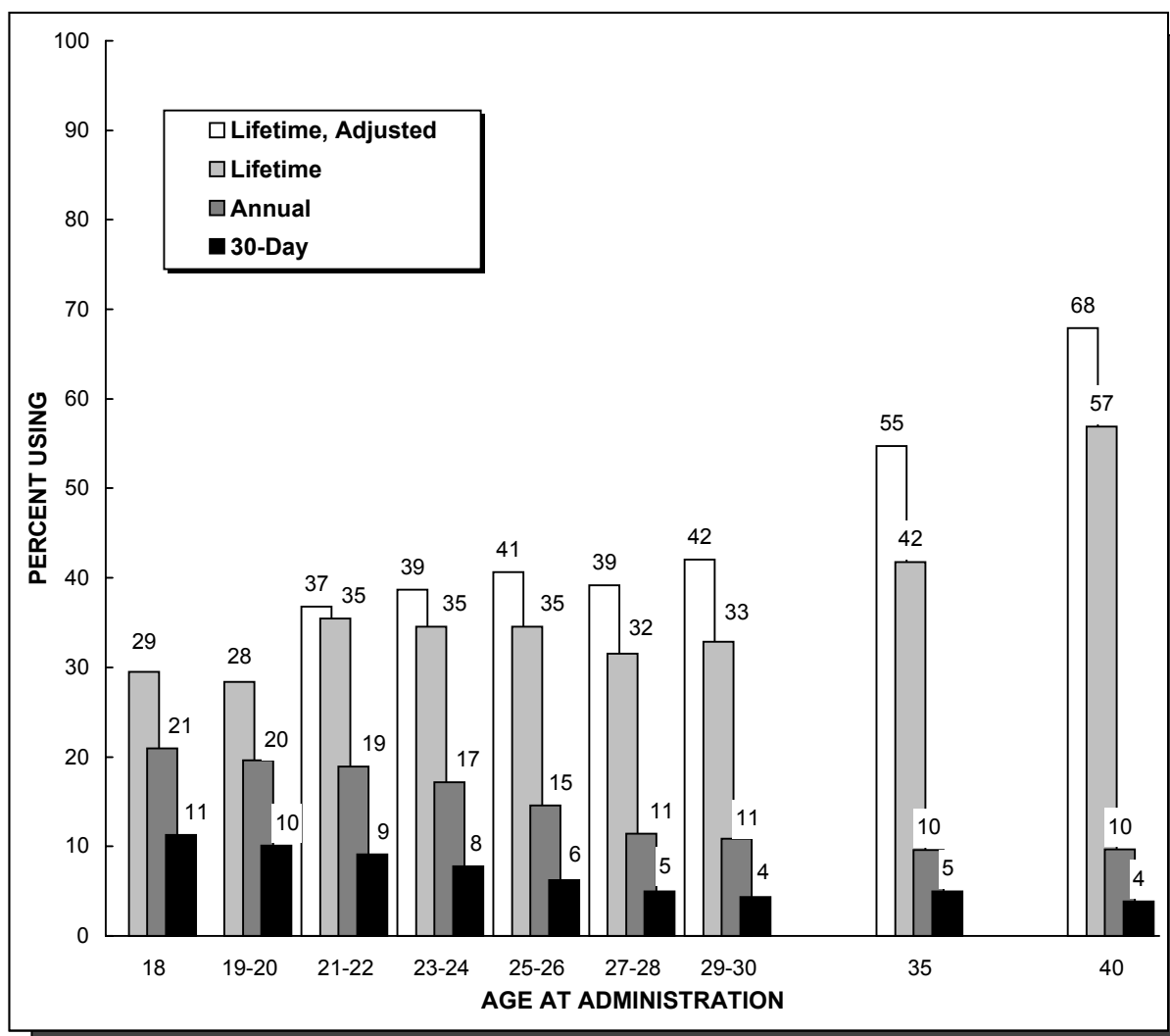
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time.
See text for discussion.

FIGURE 4-3

**Marijuana: Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40, 2002**
by Age Group
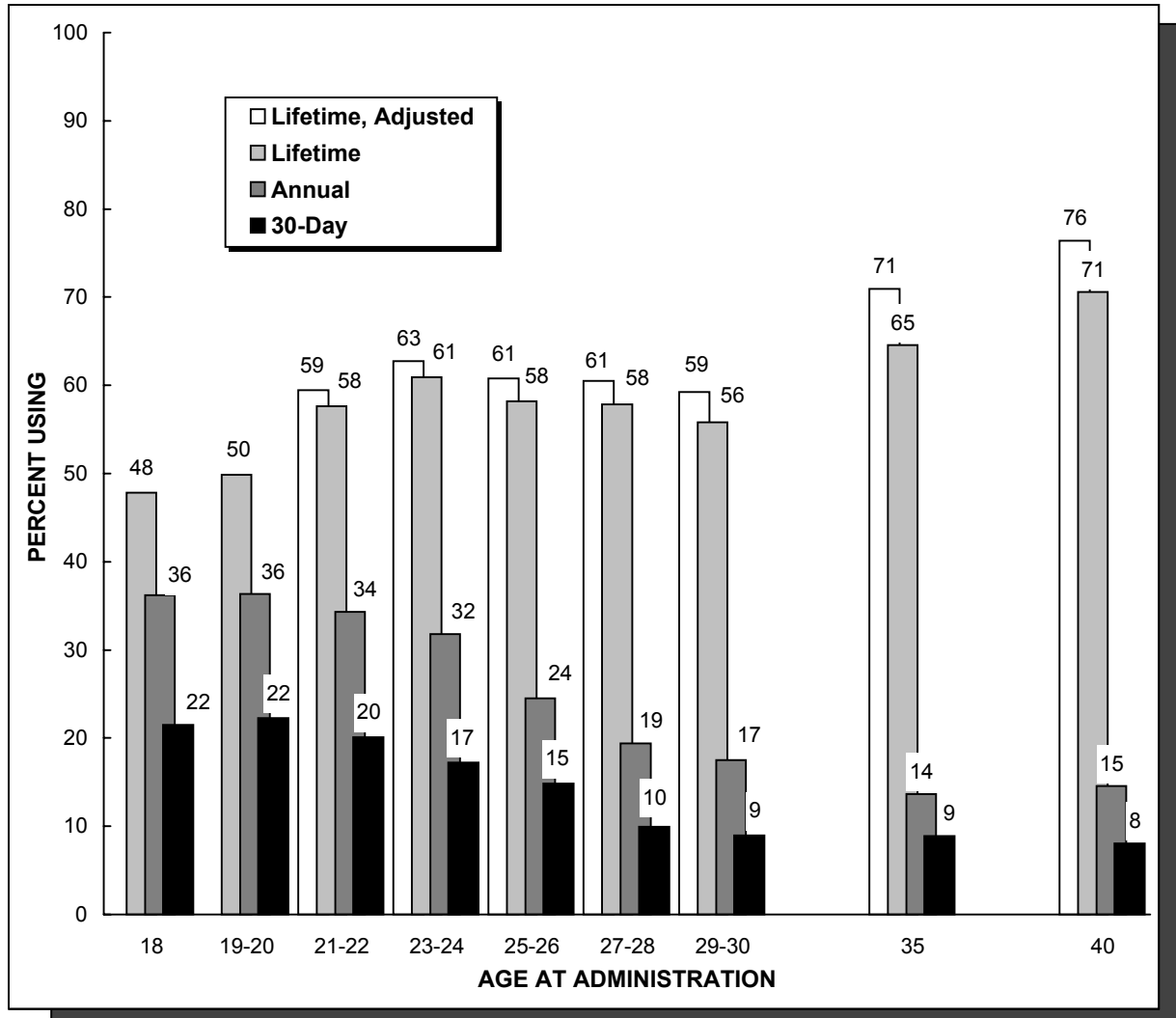
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time.
See text for discussion.

FIGURE 4-4

**Amphetamines: Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40, 2002**
by Age Group
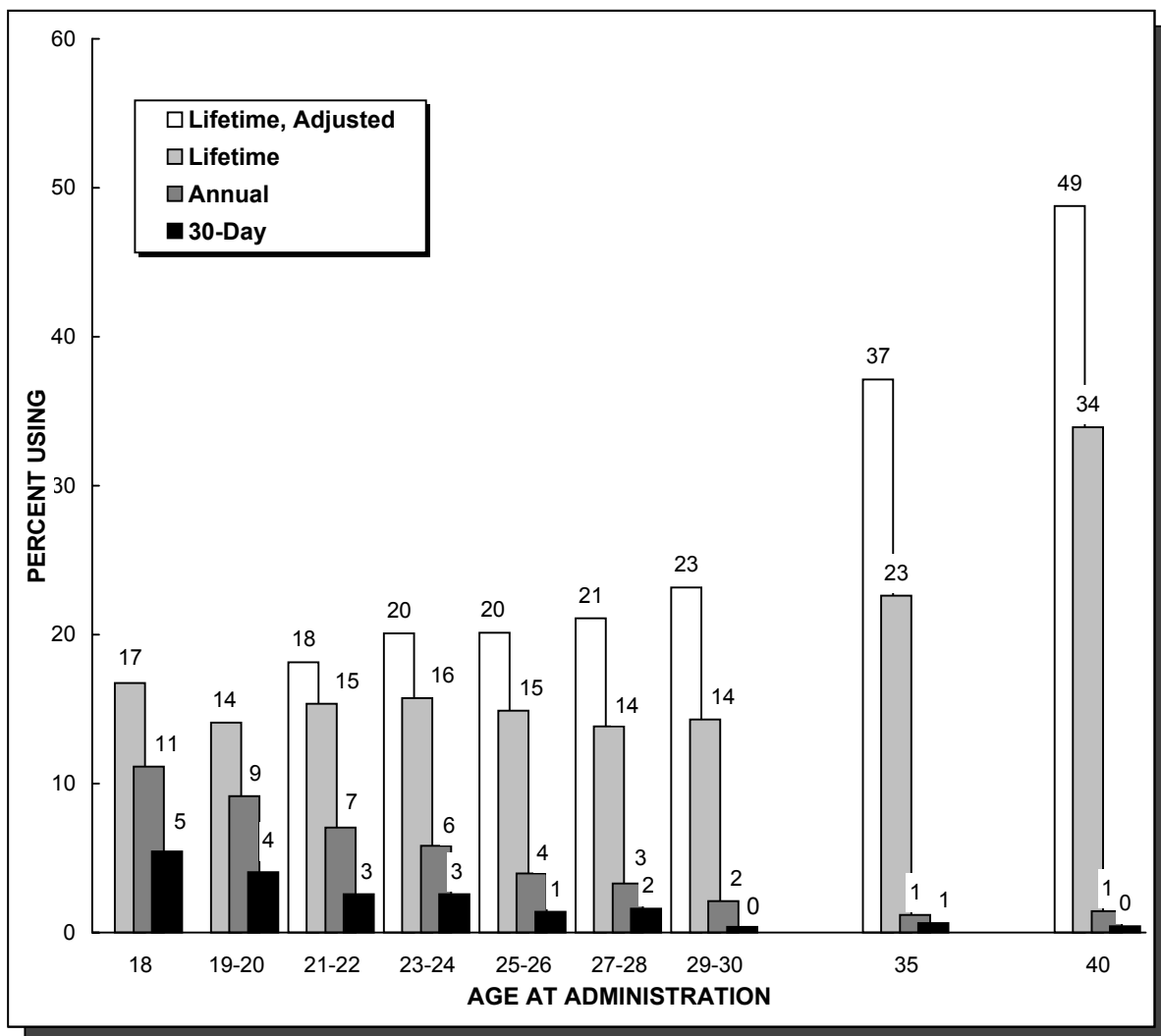
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 4-5

Cocaine: Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40, 2002
by Age Group
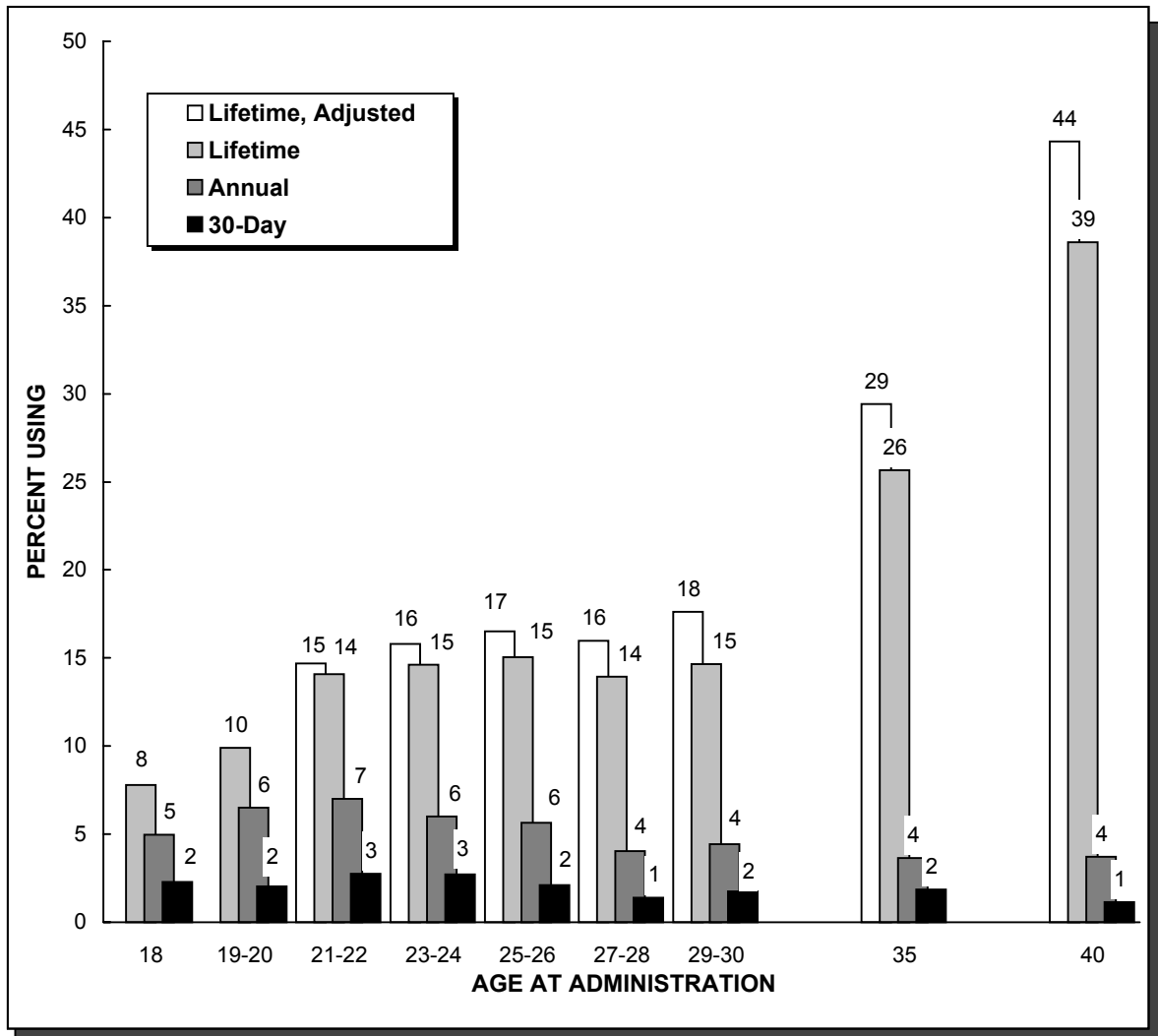
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time.
See text for discussion.

FIGURE 4-6

**Crack Cocaine: Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40, 2002**
by Age Group
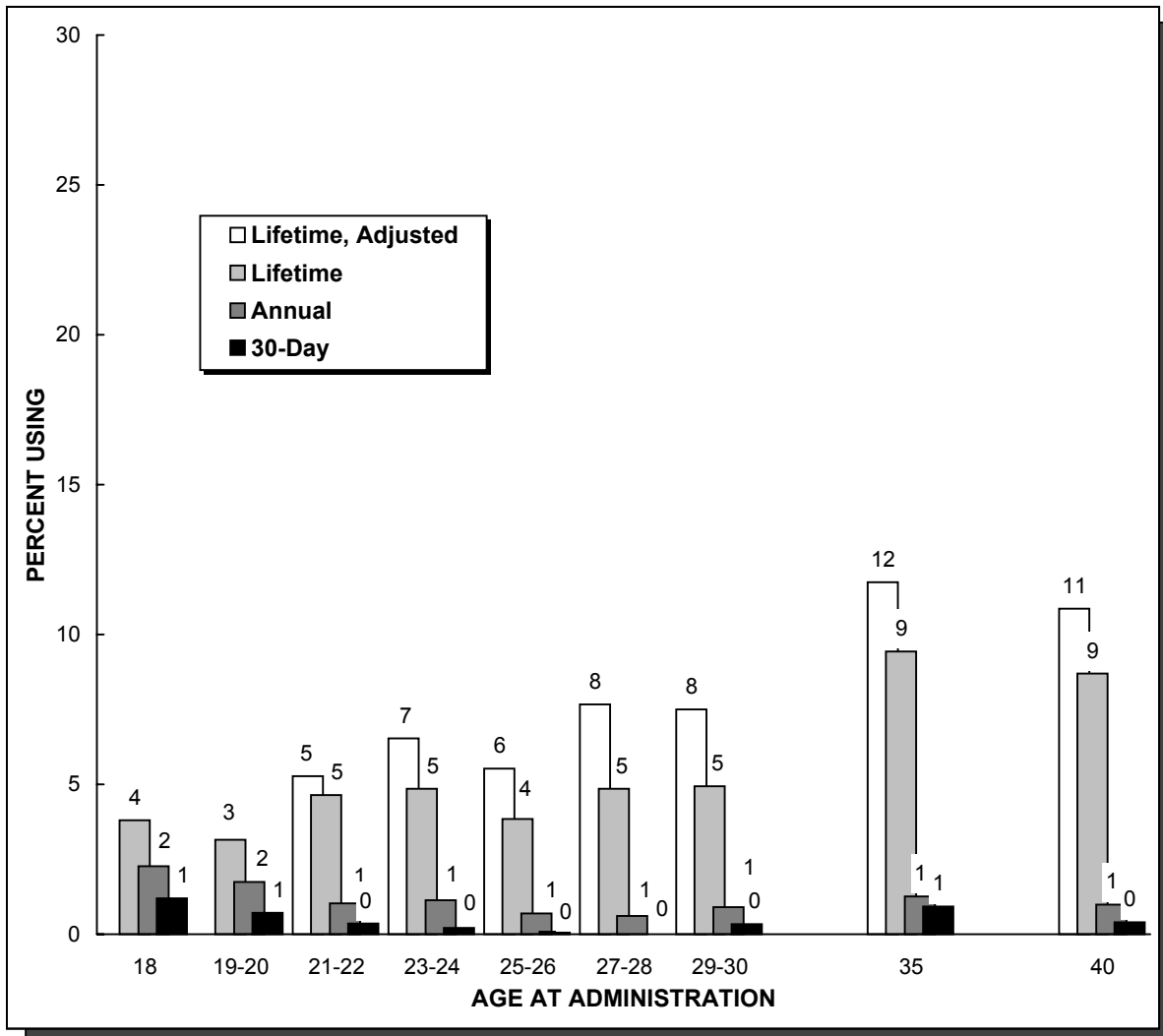
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time.
See text for discussion.

FIGURE 4-7

**Other Cocaine: Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40, 2002**
by Age Group
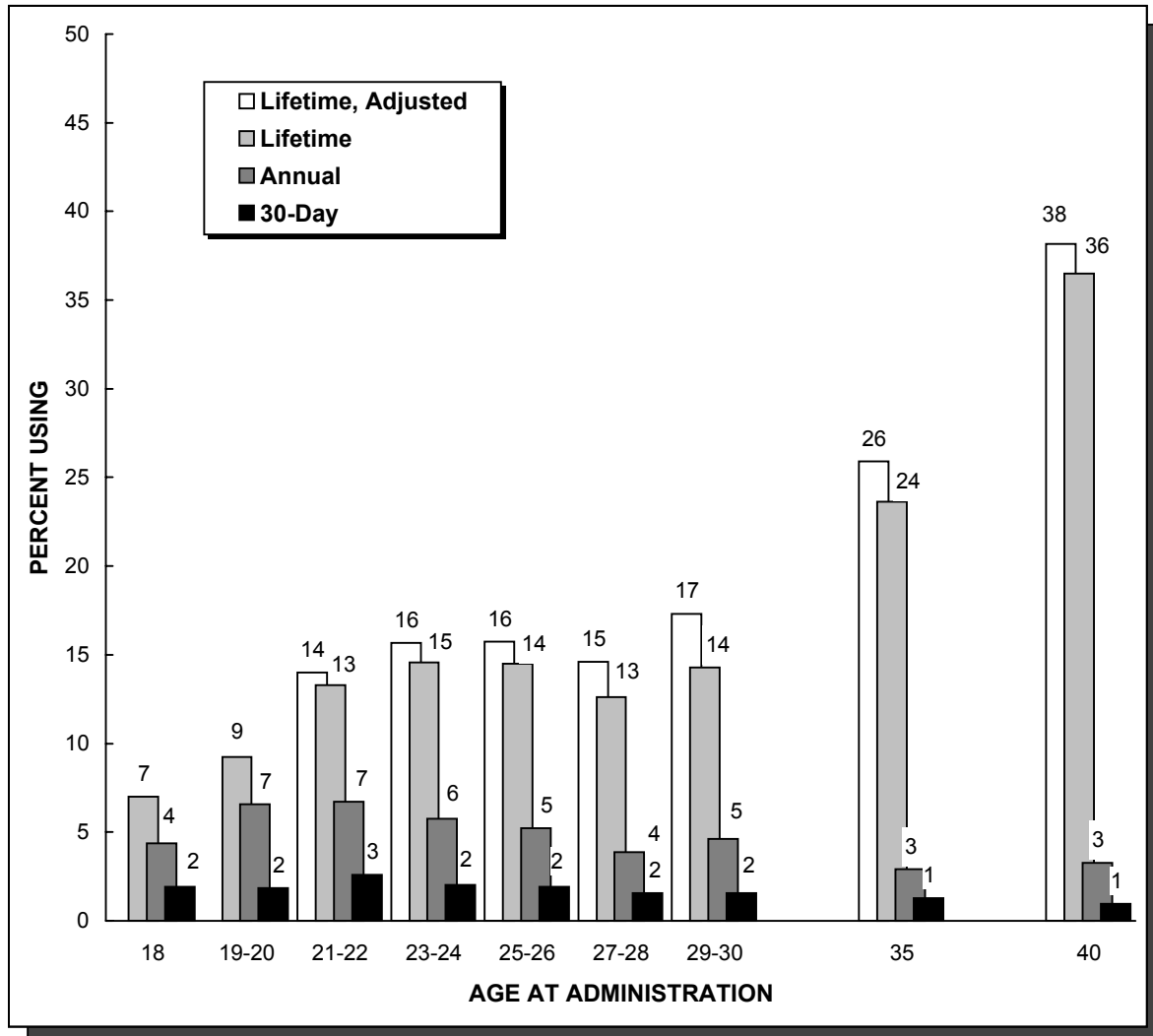
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time
See text for discussion.

FIGURE 4-8

Hallucinogens:* Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40, 2002
by Age Group
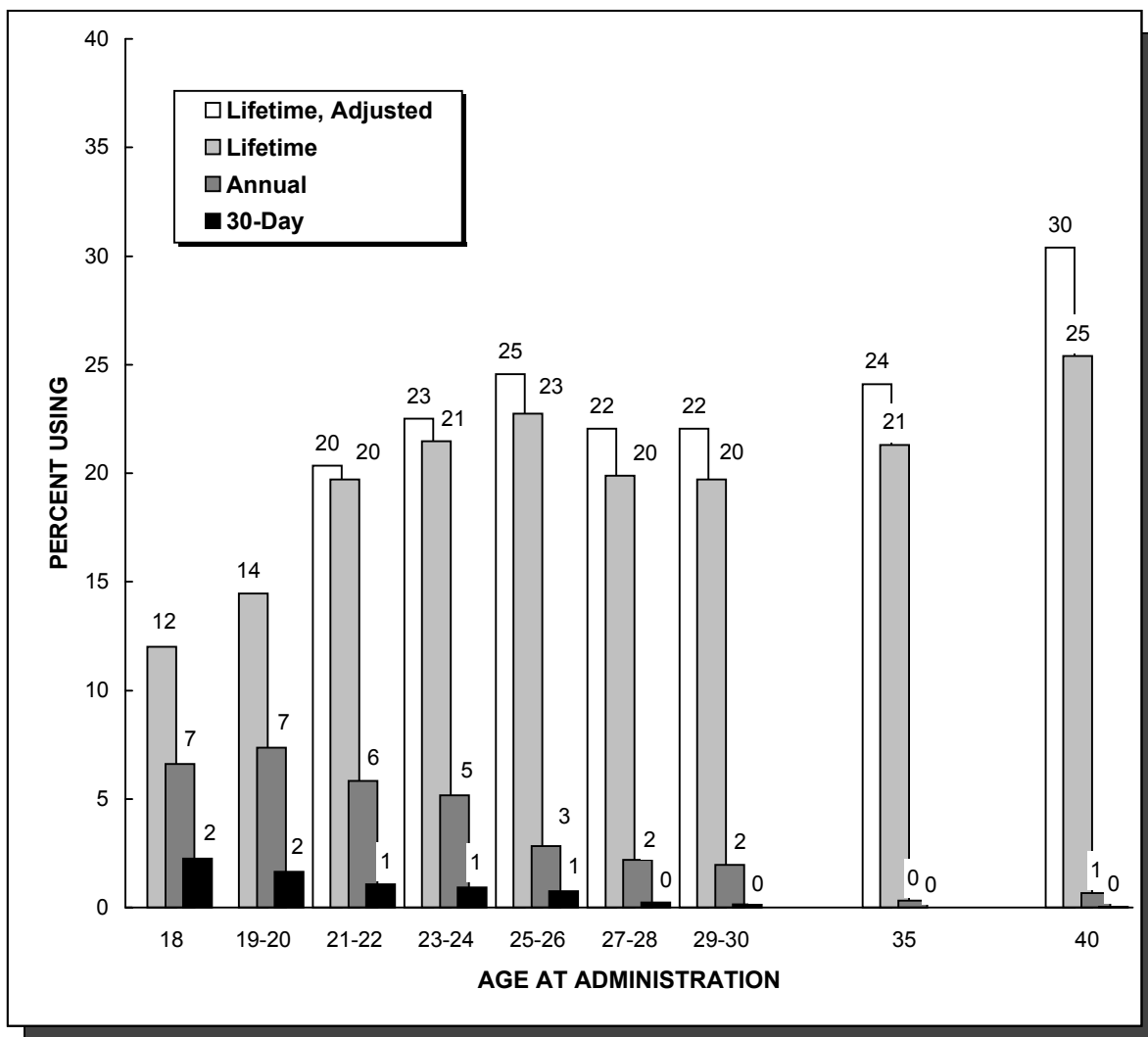
*Unadjusted for the possible underreporting of PCP.

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

FIGURE 4-9

LSD: Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40,* 2002
by Age Group
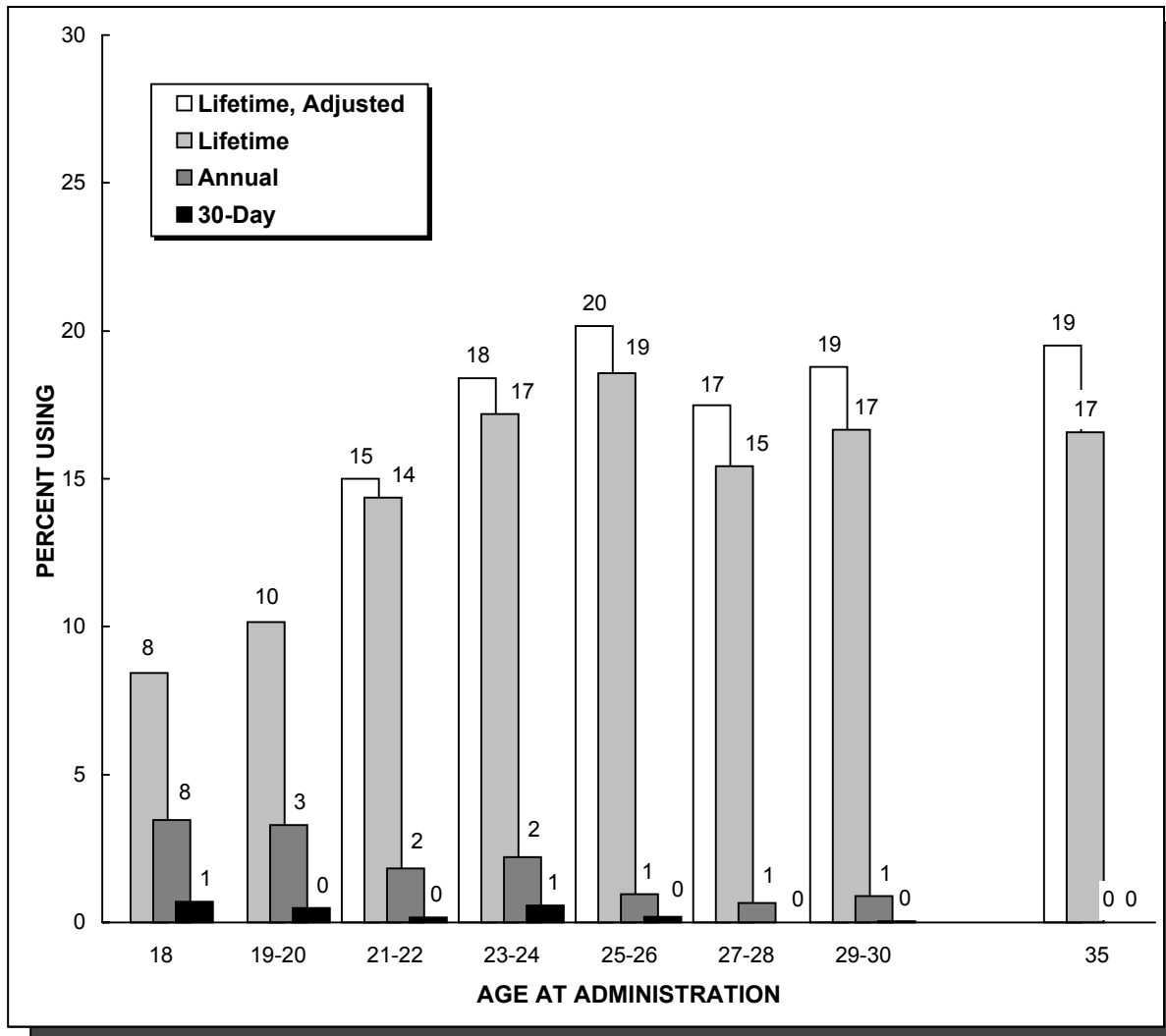
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time.
See text for discussion.
*This specific drug was not included in the age 40 questionnaire.

FIGURE 4-10

**Hallucinogens Other Than LSD: Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40,* 2002**
by Age Group
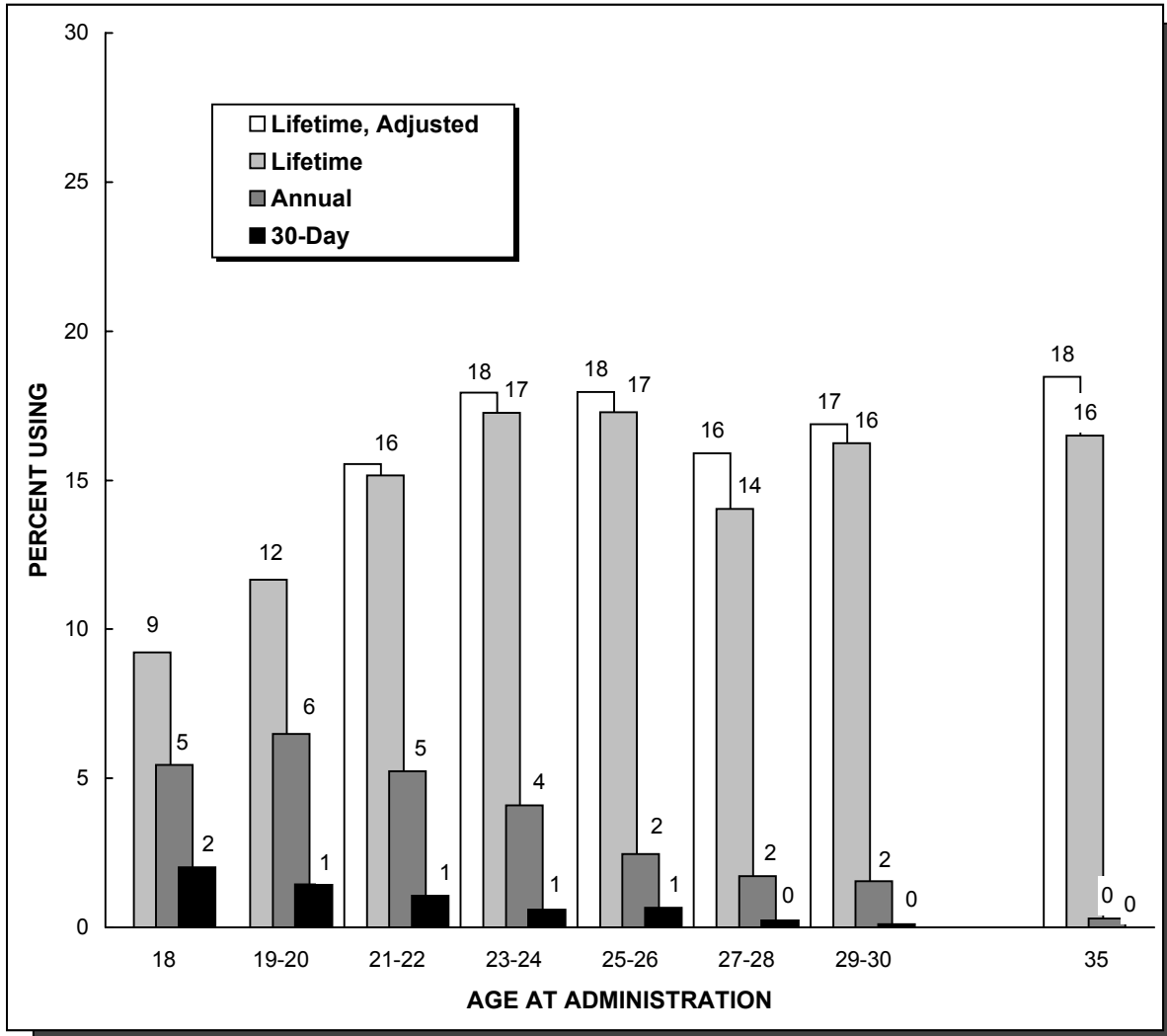
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

*This specific drug was not included in the age 40 questionnaire.

FIGURE 4-11

**Inhalants:* Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40, 2002**
by Age Group
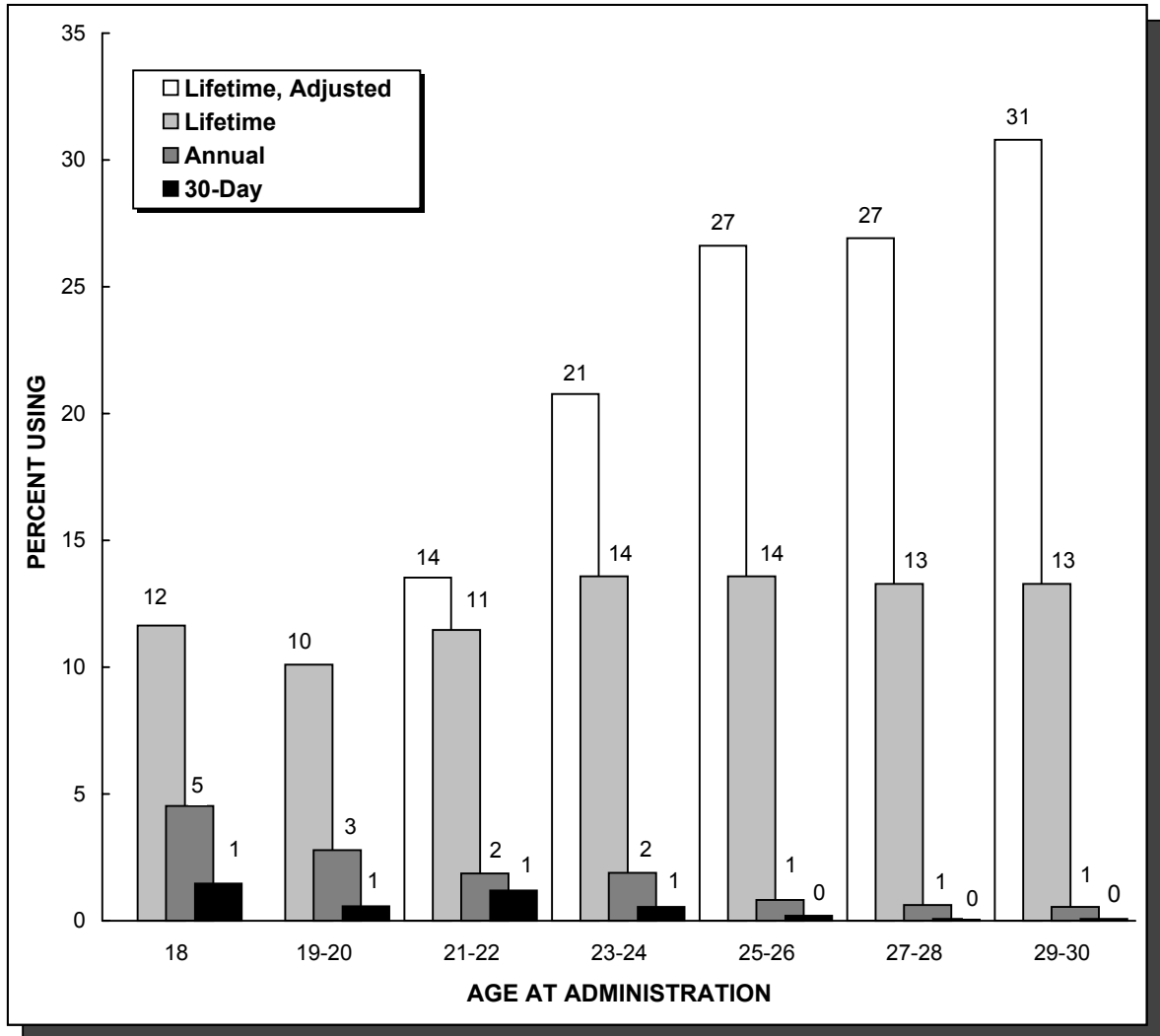
*Unadjusted for the possible underreporting of amyl and butyl nitrites. This specific drug was not included in the age 35 or age 40 questionnaires.

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

FIGURE 4-12

**Sedatives (Barbiturates): Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40, 2002**
by Age Group
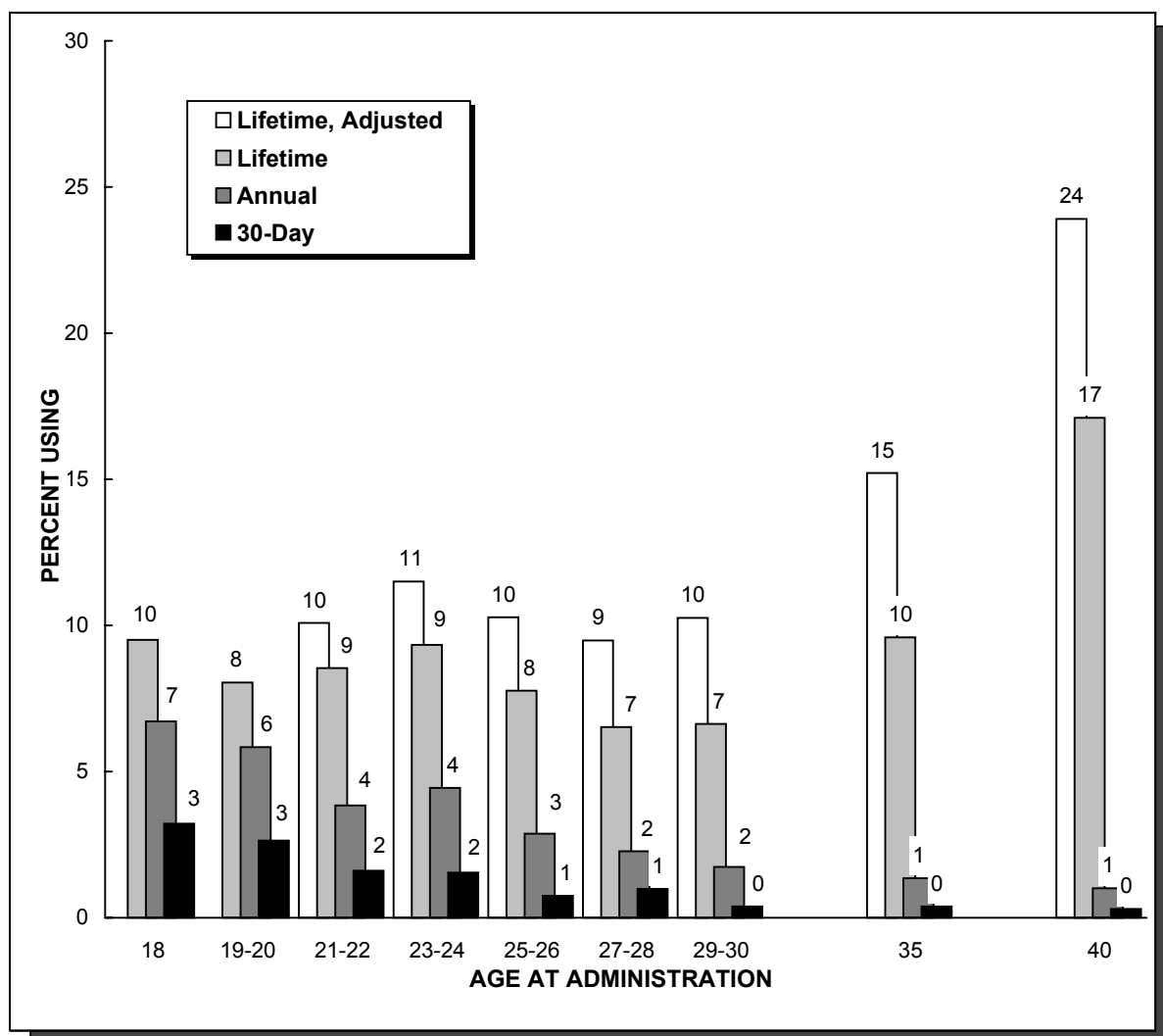
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 4-13

Narcotics Other Than Heroin*: Lifetime, Annual, and 30-Day Prevalence Among
High School Seniors and Adults Through Age 40, 2002
by Age Group
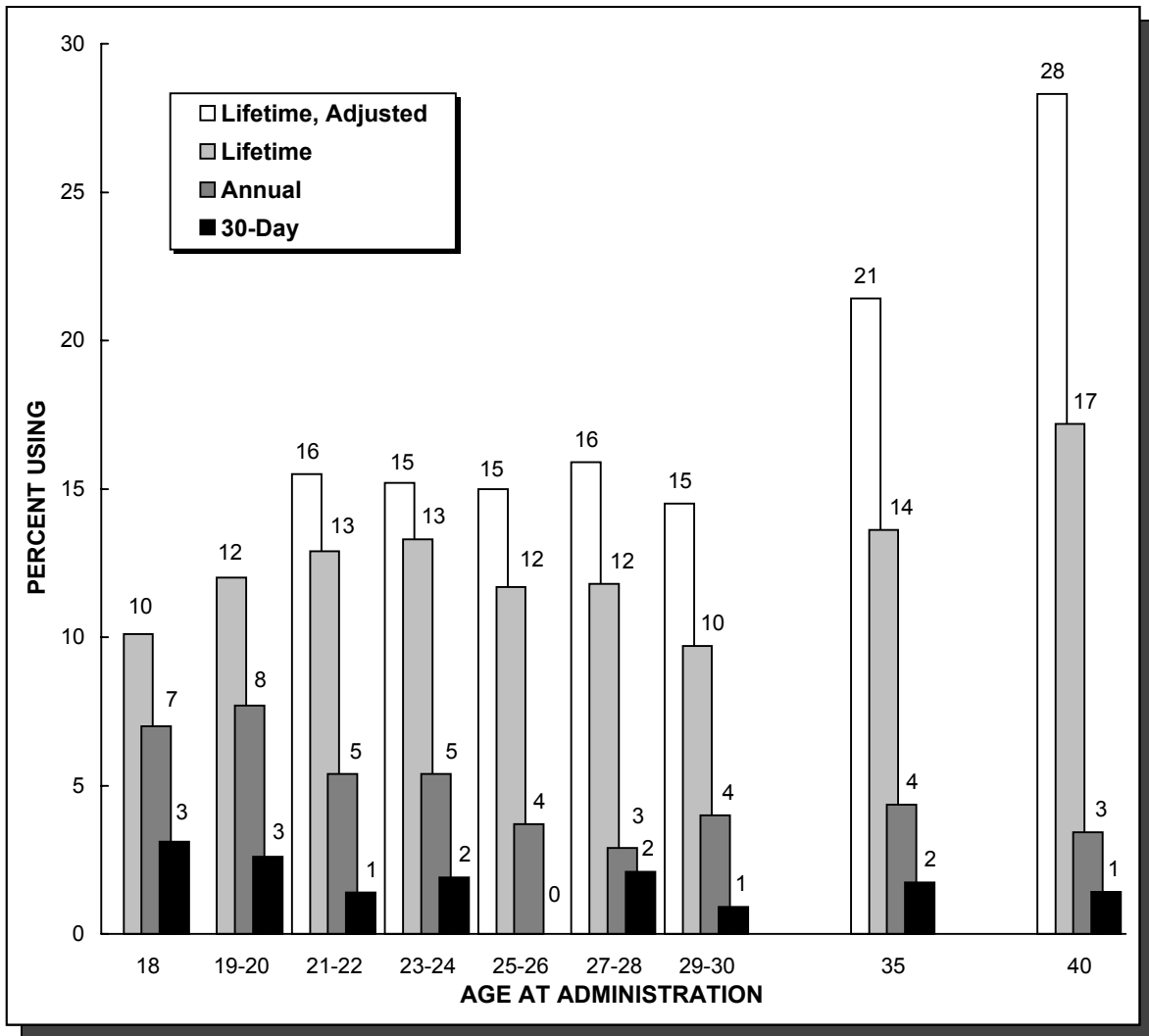
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time and question wording changes. See text for discussion.

* In 2002, the question text was changed in half the questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric-all of which had negligible rates of use by 2001--were replaced with Vicodin, OxyContin, and Percocet. The 2002 estimates are based on the 2001 prevalence of use rate plus the observed difference between the data from 2001 and 2002 in the half-sample in which the question did not change.

FIGURE 4-14

**Tranquilizers: Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40, 2002**
by Age Group
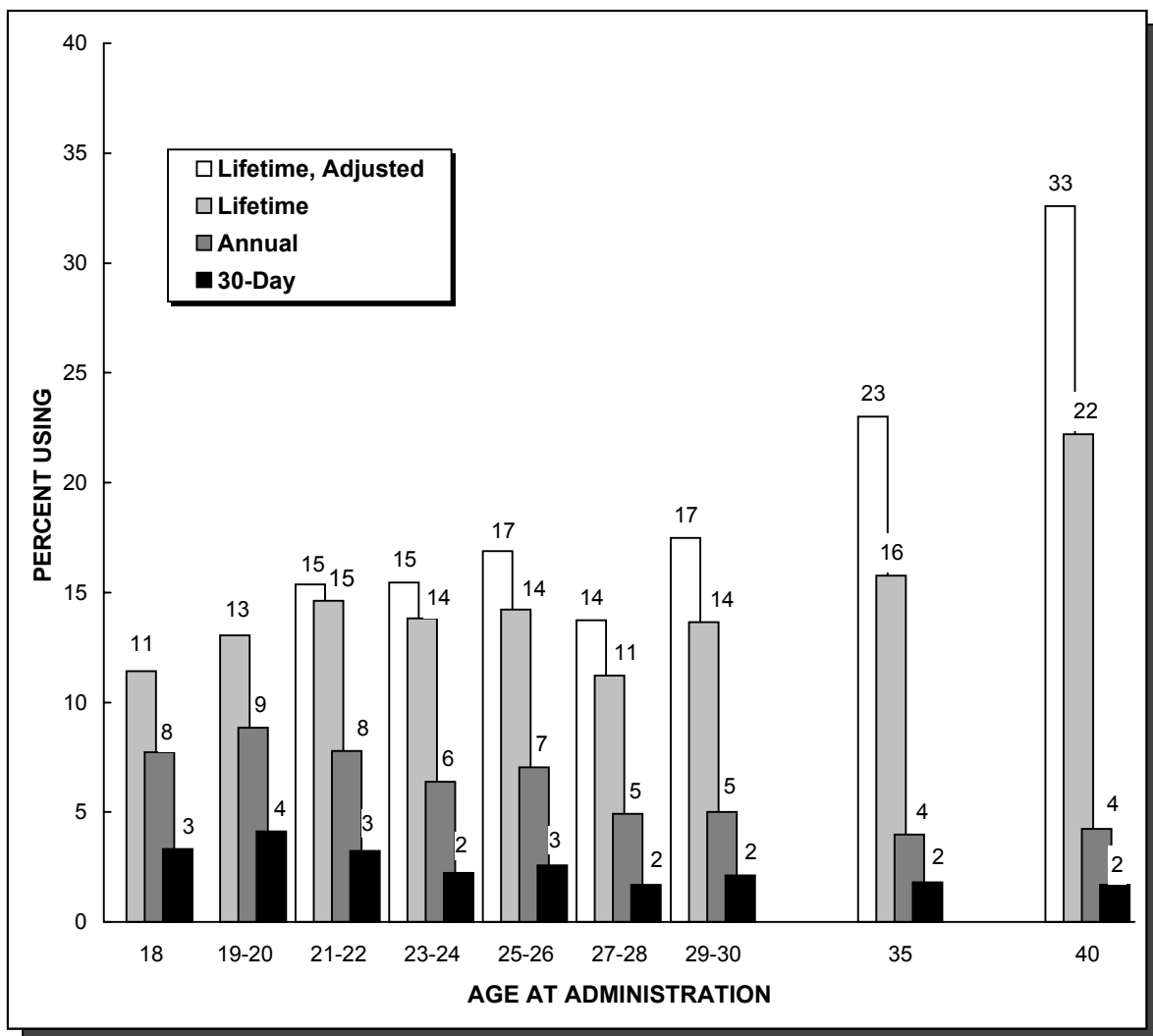
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time.
See text for discussion.

FIGURE 4-15

MDMA: Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40,* 2002
by Age Group
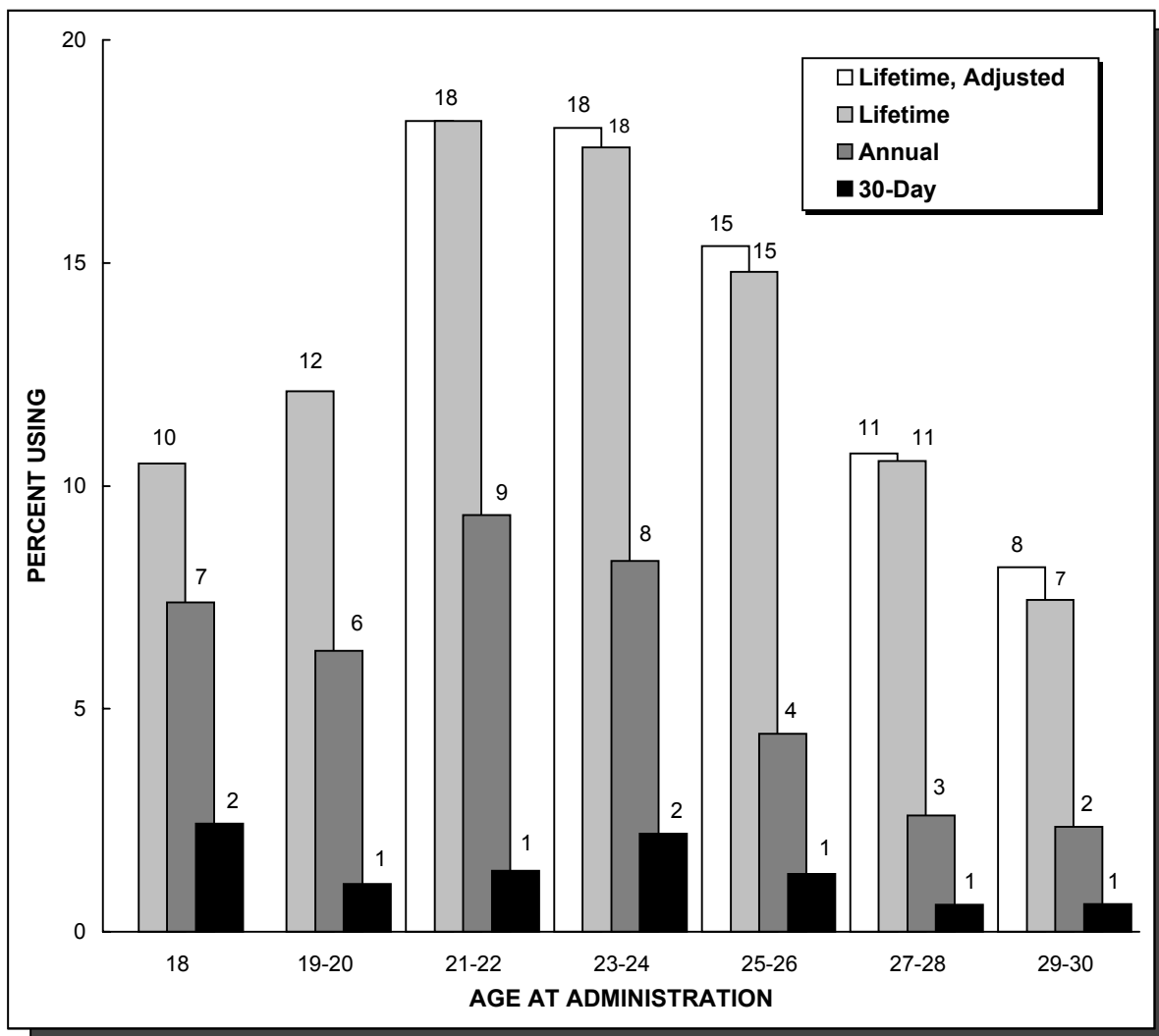
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

*This specific drug was not included in the age 35 and age 40 questionnaires.

FIGURE 4-16

Crystal Methamphetamine ("Ice"): Lifetime, Annual, and 30-Day Prevalence Among High School Seniors and Adults Through Age 40,* 2002
by Age Group
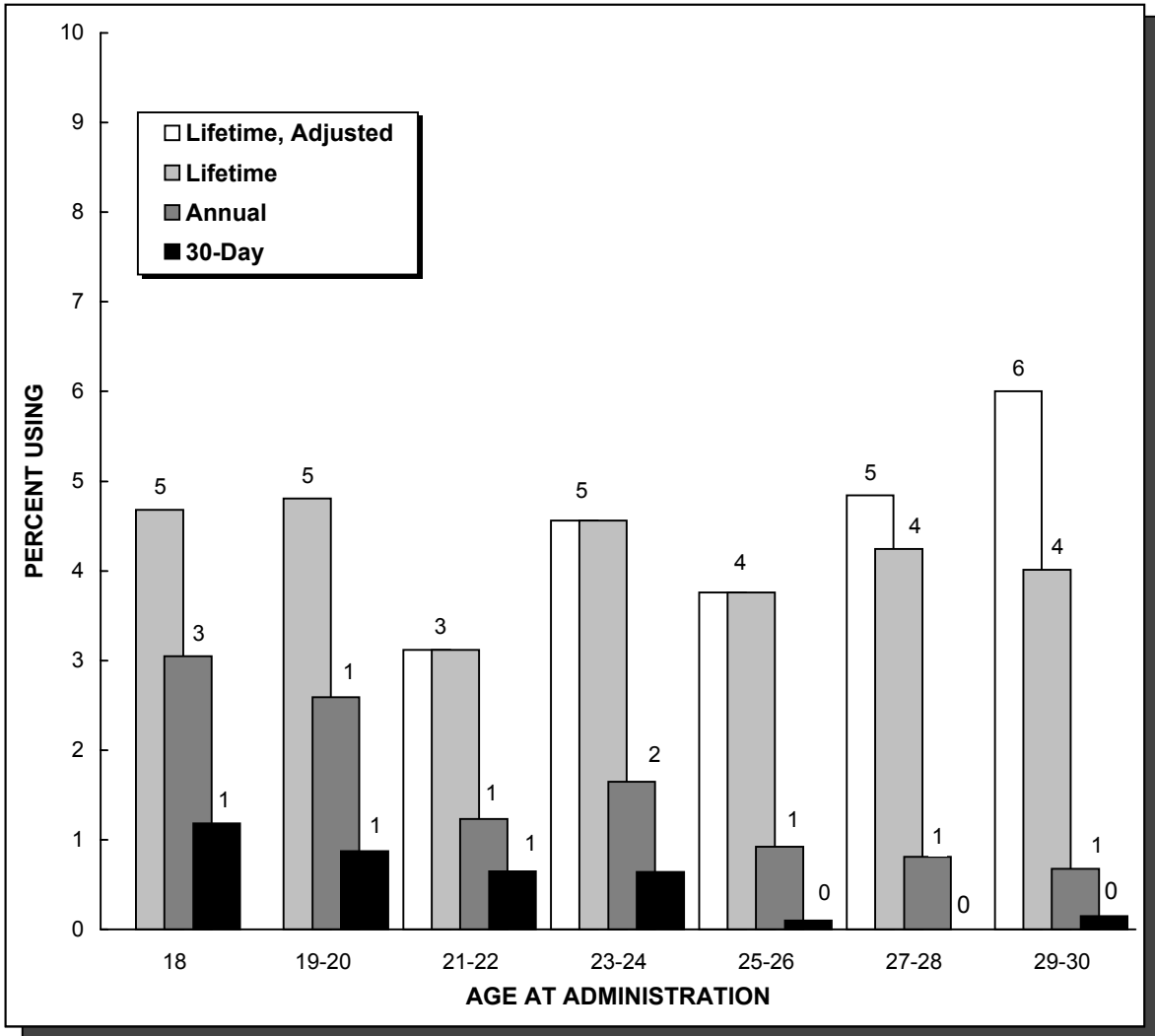
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for details.
*This specific drug was not included in the age 35 and age 40 questionnaires.

FIGURE 4-17

**Steroids: Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40,* 2002**
by Age Group
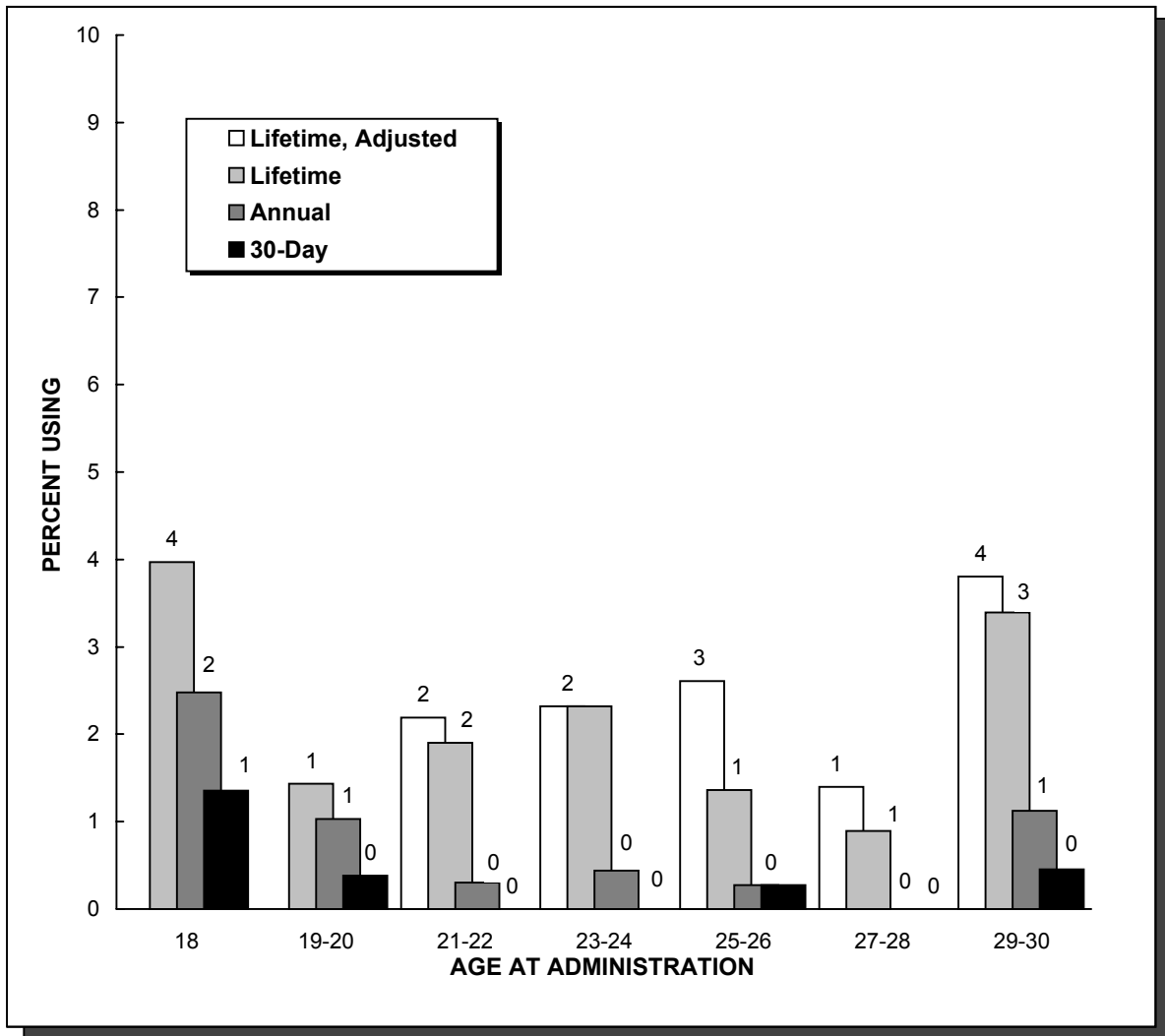
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time.
See text for details.

*This specific drug was not included in the age 35 and age 40 questionnaires.

FIGURE 4-18

Heroin: Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40, 2002
by Age Group
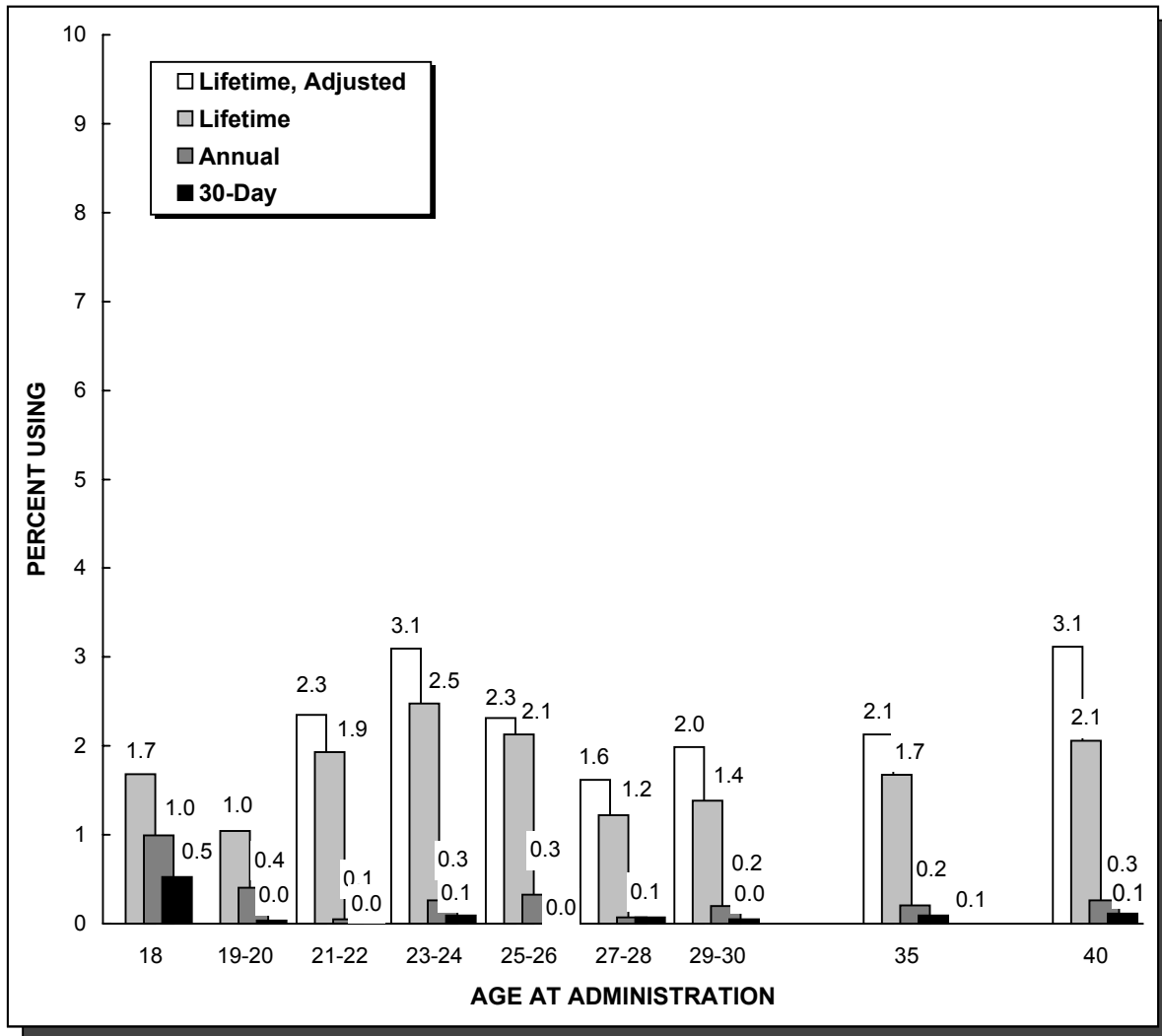
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time.
See text for discussion.

FIGURE 4-19a

Alcohol: Lifetime, Annual, and 30-Day Prevalence
Among High School Seniors and Adults Through Age 40, 2002
by Age Group
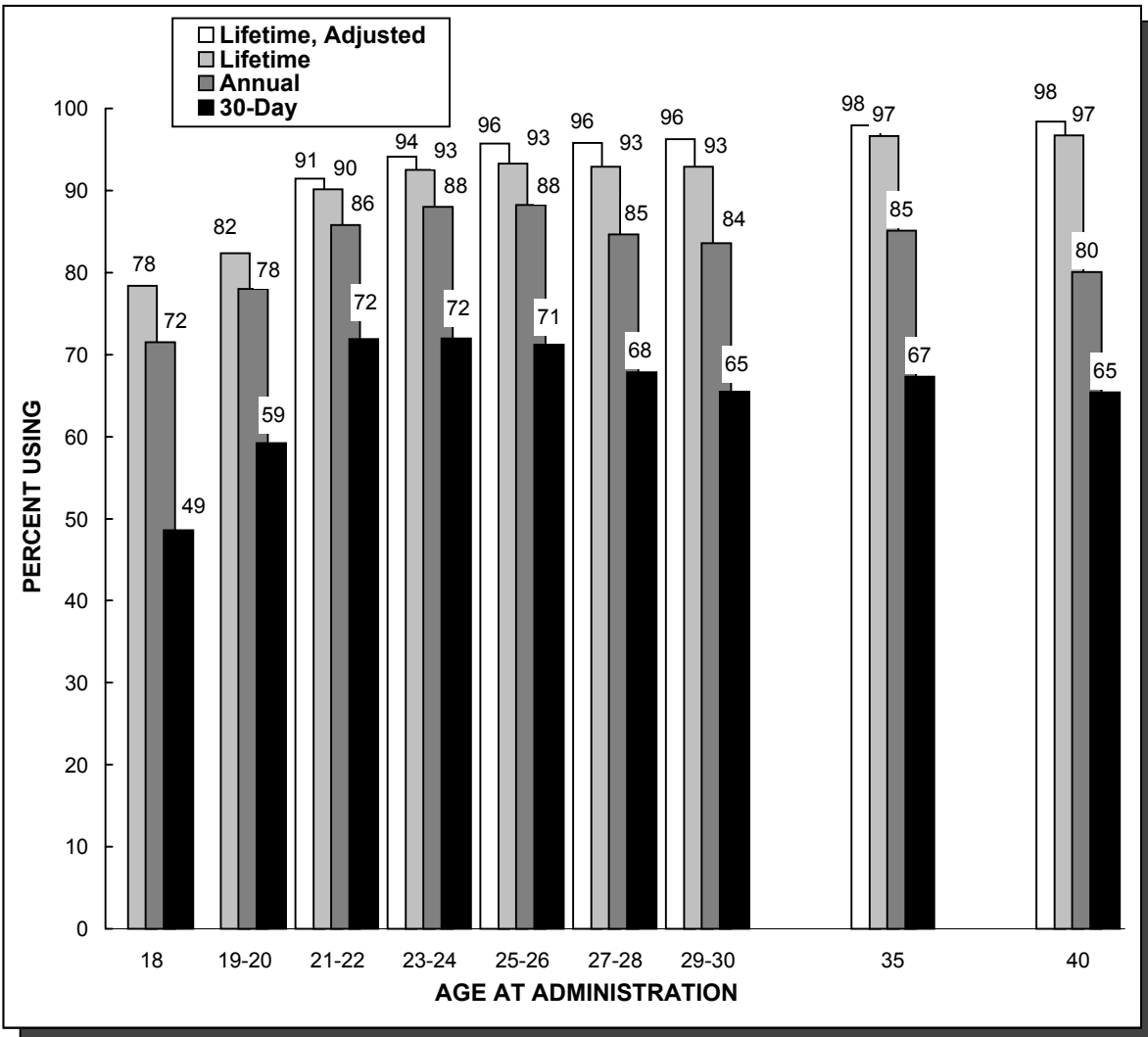
NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time.
See text for discussion.

FIGURE 4-19b

**Alcohol: Two-Week Prevalence of Five or More Drinks in a Row
and 30-Day Prevalence of Daily Use Among High School Seniors
and Adults Through Age 40, 2002**
by Age Group
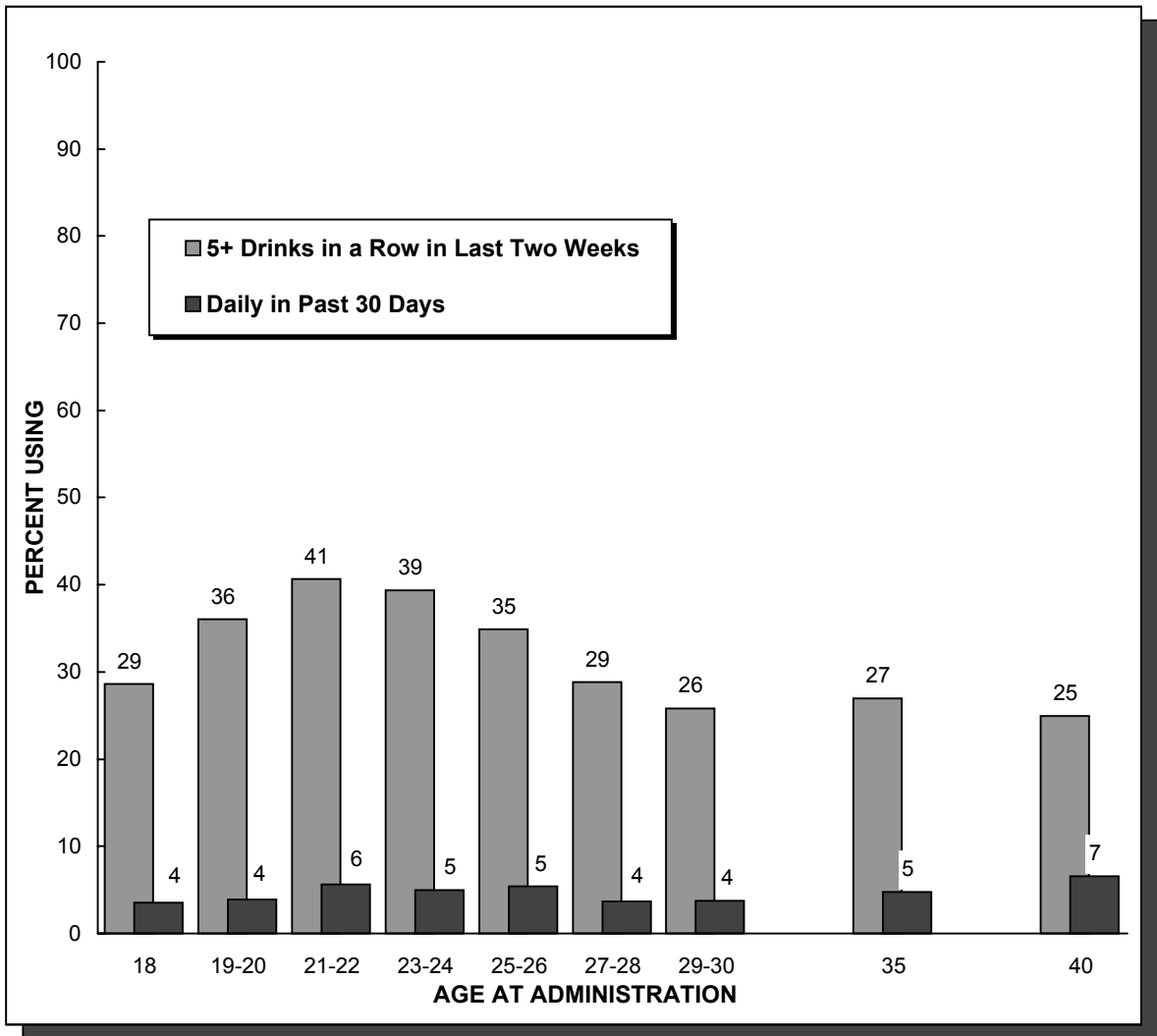
FIGURE 4-20

**Cigarettes: Annual, 30-Day, Daily, and Half-Pack-a-Day Prevalence
Among High School Seniors and Adults Through Age 40, 2002**
by Age Group
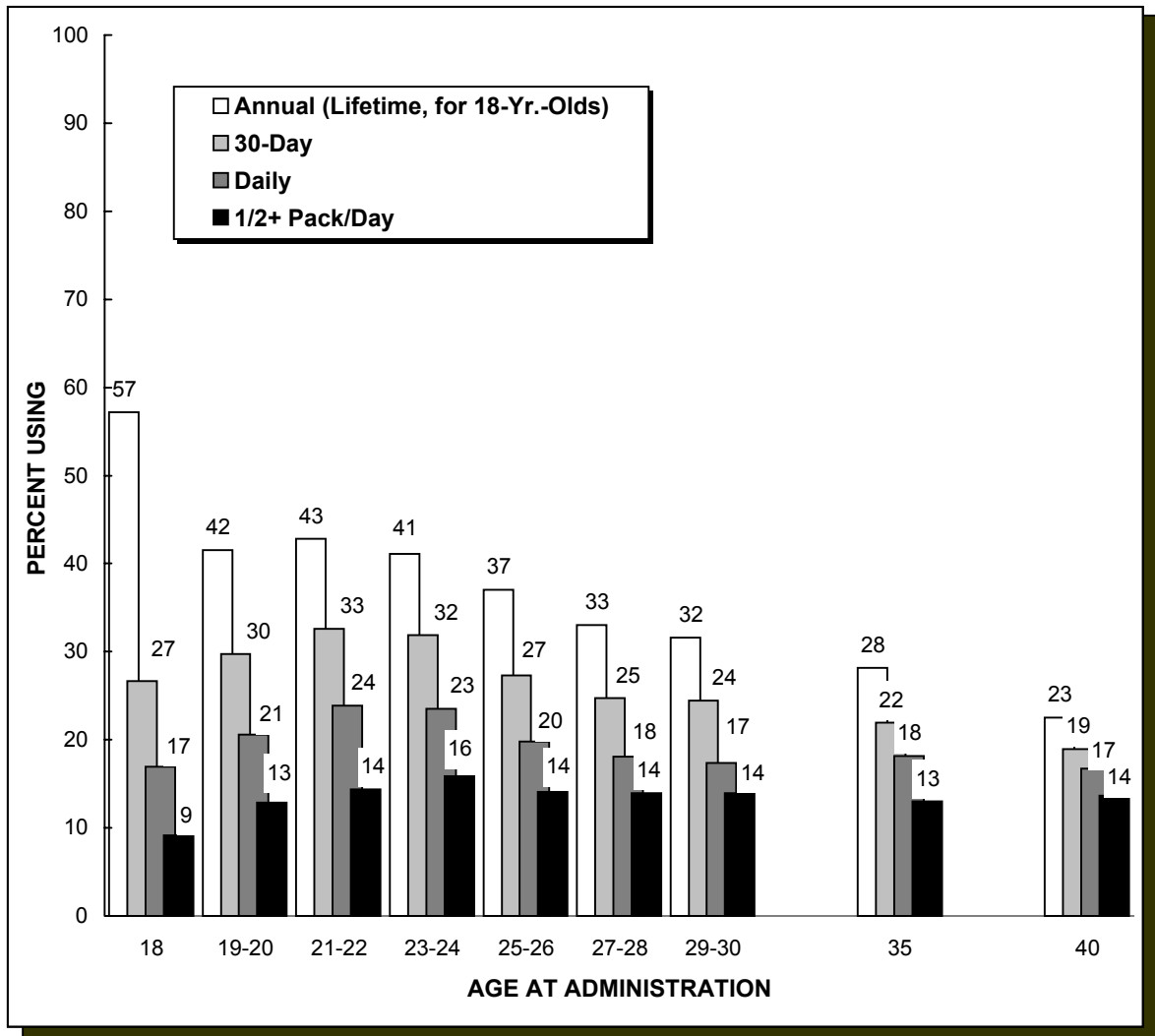
Chapter 5

TRENDS IN DRUG USE IN EARLY TO
MIDDLE ADULTHOOD

In this chapter we track trends in use of various substances for particular age bands over time. This differs from the manner in which longitudinal panel data are typically used, which is to study changes in the behaviors and attitudes of individuals as they age over time. Although the panel data from the many high school graduating classes encompassed in this study can be, and frequently are, used for that more typical purpose, they also can be used to track trends for fixed age-bands across years. In other words, they can be used much as we use the cross-sectional surveys of secondary school students.

In the early 1990s, we began to document large and important increases among secondary school students in the use of a number of substances, particularly marijuana and cigarettes. The increases continued among high school seniors through 1997, as discussed in Volume I. One of the important issues addressed in this chapter is whether such increases occurred only among adolescents or whether recent graduating classes have carried their higher levels of drug use in high school with them as they have moved into young adulthood. In other words, are they exhibiting lasting cohort effects?

Trends in the use of the various licit and illicit drugs by all high school graduates who are between 1 and 22 years beyond high school are presented in this chapter; they span modal ages 19 through 40. Figures 5-1 through 5-19 plot separate trend lines for two-year age strata (that is, 1-2 years beyond high school, 3-4 years beyond high school, etc.) in order to damp down the random fluctuations that would be seen with one-year strata. (Strictly speaking, these two-year strata are not age strata, because they are based on all respondents that year from two adjacent high school classes, and they do not take account of the minor differences in individual respondents' ages within each class; however, they are close approximations to age strata, and we characterize them by the modal age of the respondents as ages 19 to 20, 21 to 22, and so on.) Each data point in these figures is based on approximately 1,200 weighted cases drawn from two adjacent high school classes; actual (unweighted) numbers of cases are somewhat higher. For the 2002 data, the 19- to 20-year-old stratum is comprised of participating respondents from the high school graduating classes of 2001 and 2000, respectively; the 21- to 22-year-old stratum contains data from the classes of 1999 and 1998, respectively, and so on. Figures 5-1 through 5-19 also present some recent trend data on age 35 and age 40 follow-ups. Each of these is constituted in a slightly different way, in that the two half-samples from a *single* graduating class (which until age 35 had been surveyed in alternating years) are both surveyed in the same year. In 2002, the 35-year-olds are graduates from the high school class of 1985 (n = 919), while the 40-year-olds are graduates from the high school class of 1980 (n = 1,058).

Tables 5-1 through 5-5 are derived from the same data but are presented in tabular form for 19- to 28-year-olds combined (i.e., those who graduated from high school 1 to 10 years earlier). Data are given for each year in which they are available for that full age band (i.e., from 1986 onward). Those aged 29 and over are omitted because their inclusion would shorten the time period over

which trends can be examined. However, the full data for them are contained in Figures 5-1 through 5-19.

TRENDS IN PREVALENCE: EARLY AND MIDDLE ADULTHOOD

The trend results are as follows:

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

  Thus, it is clear that by 1992 the downward secular trend observable in all of these age strata (as well as among adolescents) had ended.[34] (Such secular trends, in which different age groups move in parallel, are also called "period effects.") What has happened since 1992, however, is quite a different form of change. Rather than being a period effect common to all age groups, it is more of a "cohort effect," reflecting an interaction between age and period such that only adolescents showed the increase in illicit drug use initially, and then they carried those new (higher) levels of drug use with them as they entered older age bands. Figure 5-1 shows the effects due to generational replacement, as the teens of the early 1990s reached their twenties. It can be seen that, while all age groups moved fairly parallel through about 1992, the youngest age bands first showed sign of increase in their overall level of illicit drug use. The 18-year-olds shifted up first, followed by the 19- to 20-year-olds, the 21- to 22-year-olds, the 23- to 26-year-olds in 1999, and 27- to 30-year-olds in 2000. By 2000 and 2001, as the older groups were just beginning to increase, use among seniors and 19- to 20-year-olds began to decline.

  To repeat, in the earlier decline phase of the drug epidemic, annual prevalence of use of *any illicit drug* moved in parallel for all of the age strata, as illustrated in Figure 5-1; this pattern reflects a secular trend, because a similar change is observed simultaneously across different age levels. In what we have called the "relapse phase" after 1992, however, a quite different pattern emerged, with the seniors increasing their drug use first, and rising fastest; the next oldest age group following, but with a little delay; the next oldest then following, but with a longer delay; and the oldest groups not yet even showing an increase. This pattern reflects a classical cohort effect, in which different age groups are not all moving in parallel; rather, different age groups show increases when the cohorts (that is, different high school classes) having heavier use at an earlier stage in development reach the relevant age level. Further, the slopes of the age bands are successively less steep in the higher age groups, suggesting

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[34]Actually, the downturn ended at least a year earlier among the youngest adolescents —the eighth graders—who showed the beginning of an increase in 1992. (See Table 2-2.)

that some of the cohort effect may be dissipating with maturation. But, we think it unlikely that only cohort effects will be occurring (in addition to the long-established age effects); period effects are no doubt entering into the mix, as well.

- Use of *marijuana*, which is the major component of the index of illicit drug use, shows an almost identical pattern (Figure 5-3a). After a long and steady decline from the late 1970s to the early 1990s, use leveled for a while among young adults, before beginning a gradual increase. Virtually all of this increase was attributable to the two youngest age bands (18 and 19 to 20) until 1996, when the third youngest age band (21- to 22-year-olds) began to show a rise. The older age bands then tended to show increases fairly sequentially.

- A similar pattern emerged for current *daily marijuana* use (Figure 5-3c). In the mid- to late 1990s, daily marijuana use among the 35- and 40-year-olds has been as high as, or higher than, use among some younger age groups, suggesting a lasting cohort effect on this behavior. However, in recent years, the 35- and 40-year-olds have been similar to those ages 27-32 at the lowest levels of daily use. An important finding shown in Figure 5-3c is that, although the various age groups had been moving in parallel for many years, the trends diverged very considerably in the 1990s.

- The index of using *any illicit drug other than marijuana* has shown a similar transition in the pattern of change. Period effects seemed to predominate until about 1992, but a cohort-related pattern of change emerged thereafter (Figure 5-2). And, while use leveled by 1997 among 18-year-olds, it began rising during that interval among 25- to 26-year-olds and is also now rising among 27- to 28-year-olds and the 29- to 30-year-olds. The primary difference from the picture for marijuana is that the increases were not as sharp in the 1990s for most of the age bands for the other illicit drugs taken as a group as they were for marijuana.

- In the 1980s and 1990s, *LSD* use also increased among those in their teens and early twenties more than among the older strata, as Figure 5-6 illustrates. Over the interval 1985 to 1996 there was a gradual but considerable increase in LSD use among those aged 18 to 24, which was sharpest among the seniors and the 19- to 20-year-olds. (In this case the increase did not seem to radiate up the age spectrum beyond age 26.) A turnaround began among the seniors after 1995 and then among the older age groups in a somewhat staggered fashion, again indicative of a cohort effect. The declines in the years since have been greatest among the 18- to 24-year-olds, who had attained the highest rates of LSD use.

- Several of these drug classes actually exhibited a faster decline in use among the older age groups than among high school seniors during the *earlier* period of decline. (See Figures 5-1 through 5-19.) These included *any illicit drug*, *any illicit drug other than marijuana*, *amphetamines*, *hallucinogens* (until 1987), *LSD* (through 1989), and *methaqualone*.

- In fact there was a crossover for some drugs when seniors are compared to young adult graduates. In earlier years, seniors had lower usage levels but in recent years have tended to have higher ones than post-high school respondents for use of *any illicit drug*, *marijuana*, *any illicit drug other than marijuana*, *hallucinogens*, *LSD* specifically, *amphetamines*,

tranquilizers, **narcotics other than heroin**, and *crystal methamphetamine* (*ice*). However, by 2002, as the next two age strata continued to show increases on a number of these drugs, they have closed the gap with seniors. This has been true for **marijuana**, **hallucinogens**, **LSD**, **narcotics other than heroin,** and **tranquilizers**. (See, for example, Figure 5-3a for annual marijuana prevalence.)

- *Cocaine* (Figure 5-9) gives a quite dramatic picture of change. Unlike most of the other drugs, active use of cocaine generally has tended to rise with age after high school, usually peaking approximately three to four years past graduation. Despite the large age differences in absolute prevalence, all age strata moved in a fairly parallel way through 1991, indicating that a secular trend was taking place. All began a sharp and sustained decline in use after 1986. The two youngest strata (seniors and 19- to 20-year-olds) leveled by 1992, whereas use continued a decelerating decline for a few years beyond that in the older age groups. From 1994 to 1999, cocaine use rose some in the five youngest strata (i.e., those younger than 27) on a somewhat staggered basis, with the three older groups still decreasing a bit more over that same period. This to some degree reversed the age differences that were so prominent in the 1970s and 1980s. Cohort-related change appears to have predominated in the 1990s, quite possibly as the result of "generational forgetting" of the cocaine-related casualties so evident in the early to mid-1980s. The fact that in recent years the 35- and 40-year-olds had higher levels of cocaine use than some of the younger age groups also suggests some lasting cohort-related differences in cocaine use.

- *Crack* use was added to the seniors' questionnaires in 1986 and to the follow-up questionnaires in 1987. The subsequent decline in crack use ended in 1991 among seniors, and by 1994 it had ended among young adults (see Figure 5-10 and Table 5-2). Among 19- to 28-year-olds, the annual prevalence rate held at about 1%, which was down from the peak levels of just over 3% in 1986 through 1988. As was true for a number of other drugs, crack use began to rise (in this case after 1993) among seniors but not in the older age strata until later years, as increases were observed in a somewhat staggered pattern going up the age scale. Again, a cohort effect due to generational replacement seems to have been occurring.

- With regard to *inhalants*, the large separation of the age band lines in Figure 5-4 shows that, across many cohorts, use consistently has dropped sharply with age, particularly in the first few years after high school. In fact, of all the populations covered in this study, the eighth graders (not shown in Figure 5-4) have had the highest rate of use, indicating that the decline in use with age starts at least as early as eighth or ninth grade.

  Figure 5-4 also shows that there was a long-term gradual increase in annual inhalant use (unadjusted for underreporting of nitrite inhalants), one which was greatest among seniors, next greatest among 19- to 20-year-olds, and next greatest among 21- to 22-year-olds. Respondents more than six years past high school, who historically have had a negligible rate of use, did not exhibit the increases in use seen among the younger respondents, which began at least as early as 1977 among seniors and in 1983 among 19- to 20-year-olds. There was subsequently some increase among 21- to 22-year-olds and later still an increase among 23- to 24-year-olds. After 1995, this long-term trend began to reverse in the two youngest

age strata and subsequently among the next two age strata. The older age strata generally have shown negligible rates of inhalant use.

- In the late 1970s, ***amphetamine*** use rose with age beyond high school; but after a long period of decline in use from 1981 to the early 1990s, this relationship had reversed (see Figure 5-13). The declines were sharpest in the older strata and least among the seniors, even though use decreased substantially in all groups. As was true for many of the illicit drugs, amphetamine use began to rise among the seniors after 1992, and eventually among the 19- to 24-year-olds; but there has only recently been a small increase among those 25 to 30 years old. In other words, another cohort-related pattern of change seems to have emerged in the 1990s for amphetamines, though in this case it may be dissipating quickly after respondents reach their early twenties. At present the age differences through age 35 are ordinal (with the youngest showing the highest rates of use) and of considerable magnitude.

- The annual prevalence for ***MDMA*** (***ecstasy***) among the entire young adult sample (ages 19 to 28) was at about 1.5% in 1989 and 1990 (Table 5-2 and Figure 5-8). After 1991 it dropped to around 0.8% for several years before starting to rise significantly in 1995 to 1.6%. After 1994, ecstasy use began to rise in all of the young adult age strata but clearly rose the most among those in the younger age bands (19 through 26) through 2000, although some decline began in 2001 among those at the older end of that range (23 through 26.) Use among seniors, which was not measured until 1996, was by then the highest of any of the age groups at 4.6% annual prevalence. Seniors' use slipped by a full percentage point through 1998 before jumping significantly—by two full percentage points—in 1999. (Use by tenth graders also jumped significantly in 1999.) Thus it appears that young people from their mid-teens to mid-twenties had "discovered" ecstasy, after some years of low and relatively level use. In 2000 the sharp increase in use continued among those aged 15 to 26 and also showed up among eighth graders (13- to 14-year-olds) for the first time. By 2001 the increase had slowed and even begun to reverse among those aged 18 to 26, even as the 31- to 32-year-olds showed their first appreciable increase in ecstasy use. We attributed the deceleration in 2001 to a fairly sharp increase in perceived risk that year and predicted the likelihood of a turnaround in use in 2002. In 2002, perceived risk jumped sharply again; and, as Figure 5-8 illustrates, all age bands except one (23- to 24-year-olds) showed a reversal, with a decrease in use. (The 25- to 26-year-olds had already shown a decline the previous year, and use among the 31- to 32-year-olds was no longer measured.) Clearly, the decrease has been sharpest in the younger age bands, perhaps because a cohort effect is at work in the upper ages, helping to offset a secular downward trend.

- Since 1990, when it was first measured, the use of ***crystal methamphetamine*** (***ice***) has remained at fairly low rates in this young adult population (Figure 5-14). However, among 19- to 28-year-olds combined, annual prevalence rose from 0.4% in 1992 to 1.2% by 1995 before leveling at around 1% through 2001 (Table 5-2). But use has been rising steadily among seniors for three years and among 19- to 20-year-olds for two years, and the prevalence for all young adults rose to its highest level in 2002 (to 1.4%).

- Use of ***heroin*** increased appreciably in 1995 among seniors and young adults aged 19 to 24 but not among the older age bands (Figure 5-11 and Table 5-2). Among young adults

generally, annual use had previously been quite stable at least as far back as 1986 (Table 5-2), and it stabilized again at a higher level after 1995. Heroin use among seniors declined in 2001, followed by a (nonsignificant) decline among 19- to 20-year-olds in 2002.

- Among 19- to 28-year-olds, the use of ***narcotics other than heroin*** leveled after 1991, following a period of slow, long-term decline (Figure 5-12). Seniors showed an appreciable increase in use, beginning in 1993, which continued into 2000, while 19- to 20-year-olds showed some increase after 1994, 21- to 22-year-olds after 1996, 23- to 24-year-olds after 1997, and the older age groups after 2000. Thus, cohort-related change appears to have been occurring during the 1990s for this class of drugs, following a long period of secular trends. In 2002, the question text was changed on three of the six questionnaire forms to update the list of examples of narcotics other than heroin. Talwin, laudanum, and paregoric, each of which had negligible rates of use by 2001, were replaced by Vicodin, OxyContin, and Percocet. As a consequence of this revision, reported use rates increased in 2002 in the half of the questionnaire forms using the revised question wording; however, it did not increase in those forms using the same wording as before. Using data from the three unchanged questionnaire forms, we derived a best guess as to what the actual change in use was. We added that change score to the 2001 prevalence rate based on all six questionnaire forms to calculate an adjusted estimate of a 2002 prevalence rate that would have been observed had we not changed the measures. This adjusted value is provided in the relevant tables and figures. Of primary importance, no significant changes were observed in 2002, suggesting an end to the long-term increase that had been occurring through 2001. The annual prevalence rates for ***Vicodin*** and ***OxyContin***, which were first measured in 2002, were appreciable (8.2% and 1.9%, respectively, for all 19- to 28-year-olds). Because these were measured with tripwire questions, only annual prevalence is available (see Figure 5-2); and because this is the first year of measurement, no trend estimates are yet available.

- ***Sedative*** (***barbiturate***) use (Figure 5-15) showed a long-term parallel decline in all age groups covered through the late 1970s and 1980s, leveling by about 1988. While use has remained low and quite level for most of the age bands, use began to rise by 1993 among seniors, by 1995 among 19- to 20-year-olds, by 1997 among 21- to 22-year-olds, by 1998 among 23- to 24-year-olds, and by 2001 among 25- to 28-year-olds. The same cohort-related pattern of change, seen during the 1990s for many other drugs, exists for sedatives (barbiturates) also.

- ***Tranquilizers*** (Figure 5-16) give a fairly similar picture to that just described for sedatives (barbiturates). One difference is that the seniors' annual prevalence rate has not always been the highest among the various age groups, as was the case for sedatives (barbiturates), although it was highest between 1994 and 2000 as a result of the greater increase in tranquilizer use among the seniors. In the last three years, however, as use continues to increase among those in their early twenties, the seniors no longer stand out as having the highest rate of tranquilizer use. Since 2000, all age strata have shown an increase in their use of tranquilizers, making this one of the few classes of drugs still showing a broad pattern of increasing use.

- The use of ***anabolic steroids*** (Figure 5-17) is substantially lower after high school than during, and this has been true since measures of steroid use were first introduced into two of the follow-up questionnaires in 1991. The age-related differences are not consistent; the prevalence rates are all quite low and do not appear to trend in any systematic way. In general, it seems that the rise in steroid use in 1999 among eighth and tenth graders, in 2000 among tenth graders, and in 2001 among twelfth graders seems to have been specific to those age groups, at least so far.

- The ***alcohol*** trends for the older age groups (see Figures 5-18a-d) have been somewhat different than for the younger age groups and in some interesting ways. For ***30-day prevalence*** and ***occasions of heavy drinking***, the declines for the two youngest age strata (seniors and those one to two years past high school) during the 1980s were greater than for the older age groups. These differential trends are due in part to the effects of changes in minimum drinking age laws in many states, changes that would be expected to affect primarily the age groups under age 21. However, because similar (though weaker) trends were evident among high school seniors in states that maintained a constant minimum drinking age of 21, the changed laws cannot account for all the downward trends, suggesting that there was also a more general downward trend in alcohol consumption during the 1980s.[35] By 1994, these declines in 30-day prevalence had slowed or discontinued for virtually all age groups.

  Those respondents 3 to 4 years past high school stand out for showing the smallest downward trend in ***binge drinking*** since the early 1980s (see Figure 5-18d). One important segment of that age stratum is comprised of college students, who showed very little downward trend (see chapter 9).

  The older age groups, in general, have shown only a modest long-term decline in annual prevalence rates and no recent decline in binge drinking or in 30-day prevalence rates. Note that the binge drinking trend lines for different age groups (Figure 5-18d) are spread out on the vertical dimension, reflecting large and persisting age differentials (age effects) in this behavior. In recent years the 21- to 22-year-olds have shown the highest rates of binge drinking, while the two adjacent age bands have shown the next highest.

  Rates of ***daily drinking*** (Figure 5-18c) fell by considerable amounts in all age strata, reflecting an important change in drinking patterns in the culture. Among 19- to 28-year-olds combined, daily drinking fell from 6.6% in 1987 to 3.9% in 1994, before leveling. In 2002, daily drinking stood at 4.7% (see Table 5-4).

  It is worth noting that the 35- and 40-year-olds have had among the lowest rates of binge drinking but among the highest rates of daily drinking in recent years for which we have data available. These patterns—particularly the high rate of daily drinking—may reflect age effects and perhaps also some enduring cohort differences (because these cohorts had considerably higher rates of daily drinking when they were in high school).

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

As shown in Figure 5-18b, there was a gradual decline in 30-day prevalence of *alcohol* use among seniors between 1980 (72%) and 1987 (66%), followed by a sharper drop between 1987 and 1992 to 51%. After 1992, 30-day prevalence leveled until it rose slightly in 1997, followed by a very gradual decline that continued through 2002. Among those one to two years past high school there was a gradual decline from 1981 (77%) to 1989 (70%), followed by a sharper decline through 1996 (58%), a little increase through 1999, and some falloff since then. The declines may reflect some lagged and lasting effects resulting, at least in part, from the change in drinking age laws.

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

  While in the earlier years of the study the curves are of the same general shape for each age band (Figures 5-19a-c), each of those curves tended to be displaced to the right of the immediately preceding age group, which is two years younger. The pattern is clearest in Figure 5-19c (half-pack plus per day). This pattern is very similar to the one described in Volume I for lifetime smoking rates for various grade levels *below* senior year; it is the classic pattern exhibited by a cohort effect—that is, when cohorts (in this case, high school graduating class cohorts) differ from other cohorts in a consistent way across much or all of the life span. We interpret the cigarette data as reflecting just such a cohort effect,[36] and we believe that the persisting cohort differences are due to the dependence-producing characteristics of cigarette smoking.

  The declining levels of cigarette smoking across cohorts at age 18, which were observed when the classes of 1978 through 1981 became high school seniors, were later observable in the early-30s age band, as those same high school graduating classes reached their early 30s (see Figures 5-19b and c). This was true at least through about 1991. After that, there was a considerable convergence of rates across age groups, largely because of few cohort differences among the senior class cohorts who graduated from the early to mid-1980s through the early 1990s.

  In addition to these cohort differences, there are somewhat different age trends in which, as respondents grow older, the proportion smoking at all in the past 30 days declines some, while the proportion smoking a half-pack per day actually increases. Put another way, many of the light smokers in high school either become heavy smokers or quit smoking.[37]

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[36] 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.

[37] To illustrate, in the class of 1976, 39% were 30-day smokers in senior year, 39% at ages 19 to 20, and by age 31 to 32 only 28%—a net drop of 11 percentage points over the entire interval. By way of contrast, 19% of that class were half-pack-a-day smokers in senior year, 24% by ages 19 to 20, and 21% at ages 31 to 32—a net gain of 2% over the interval.

The picture was further complicated in the 1990s, when it appears that a new cohort effect emerged, with smoking among adolescents first rising sharply (beginning after 1991 for the eighth and tenth graders and after 1992 for the twelfth graders). The 19- to 20-year-olds also showed a rise at the beginning of the 1990s—responding perhaps to some of the same social forces as the adolescents (including possibly the Joe Camel advertising campaign); but the 21- to 24-year-olds did not show an increase until about 1995, and the 25- to 26-year-olds until about 1996. Those young adults over age 26 have not yet shown much increase, though they may well do so as the heavier smoking senior class cohorts enter those age bands.

After about 1999, smoking rates among virtually all age groups leveled or declined, suggesting that general societal forces may be affecting all age groups in a similar way, giving rise to some secular trends. Increases in price and a great deal of adverse publicity for the tobacco industry are highly plausible candidates for such forces, as are an increase in anti-smoking advertising and the demise of the Joe Camel campaign and of billboard advertising.

- Apart from cigarettes, none of the other drugs included in the study showed a clear long-term pattern of enduring cohort differences in the earlier years of the study (the 1970s and 1980s), despite wide variations in their use by different cohorts at a given age. There was one exception; a modest cohort effect was observable for ***daily marijuana*** use during the late 1970s and early 1980s. (But as more recent classes leveled at lower rates of use, evidence for the cohort effect faded.) The emergence in the 1990s of a new epidemic of marijuana use and daily marijuana use among teens once again yielded a strong pattern of cohort effects. As can be seen in Figure 5-3c, use rose sharply among seniors and 19- to 20-year-olds after 1992, among 21- to 22-year-olds after 1993 with a sharp rise occurring in 1997, among the 23- to 24-year-olds after 1998, and among 25- to 26-year-olds after 2000. However, among those 27 and older, as of yet there has been virtually no increase in daily use. This is not unlike the pattern of change for cigarette smoking that occurred in the 1990s (Figure 5-19a). The cohort effect for daily marijuana use may be attributable, in part, to the very strong association between that behavior and regular cigarette smoking. It is noteworthy that even among the 35- and 40-year-olds in the study, fully 3.0% report that they still currently smoke marijuana on a daily basis. That amounts to 1 in every 33 adults at those ages.

- In sum, except for ***cigarettes*** and ***alcohol,*** prior to 1992 substance use among high school seniors and young adults had shown *longer-term* trends that were highly parallel. Since 1992, however, there has been some considerable divergence in the trends for different age bands on a number of drugs as use among adolescents rose sharply, followed by subsequent rises among the 19- to 20-year-olds, the 21- to 22-year-olds, and so on. This divergence indicates a new cohort effect, quite possibly reflecting a "generational forgetting" of the dangers of drugs by the cohorts who reached senior year in the early to mid-1990s. The data discussed in chapter 6, "Attitudes and Beliefs About Drugs Among Young Adults," provide additional evidence for this interpretation.

TRENDS FOR IMPORTANT SUBGROUPS OF YOUNG ADULTS

Four-year age bands have been used here to examine subgroup trends in order to yield sufficiently large numbers of cases to permit reliable estimates for the various subgroups being examined. Subgroup data for respondents of each gender and for respondents from communities of different sizes are available for 19- to 22-year-olds since 1980, 23- to 26-year-olds since 1984, and 27- to 30-year-olds since 1988. Beginning with the 1987 follow-up questionnaires, a question about state of residence was added to all follow-up questionnaires, permitting trend data to be calculated for the four regions of the country since 1987. These various subgroup data are not presented in tables or figures here because of the substantial amount of space they would require. Rather, a verbal synopsis of what they contain is presented.

Gender Differences in Trends

- Over the long term, gender differences narrowed for some drugs among young adults, primarily because of a steeper decline in use among males (who generally had higher rates of use) than among females. The overall picture, though, is one of parallel trends, with use among males remaining higher for most drugs, including the indexes of *any illicit drug* use in the prior year and use of *any illicit drug other than marijuana* (see Table 5-5, for example).

- The downward trend in *marijuana* use among 19- to 22-year-olds between 1980 and 1989 was somewhat sharper among males than females, narrowing the gap between the two groups. Annual prevalence fell by 22 percentage points (to 34%) among males, compared to a drop of 14 percentage points (to 31%) amo ng females. In the late 1990s, the gap widened a bit, but it is again at 3% in 2002 (37% versus 34%).

  Similarly, between 1980 and 1993 *daily marijuana* use for this age group fell more steeply, from 12.9% to 2.9% among males, versus from 6.1% to 1.7% among females, narrowing the gap considerably. As use began to rise after 1993, the gap widened again. Among 23- to 26-year-olds, as daily use first began to increase in 1998 and 1999, the gap between the genders began to widen, but movement since then has mostly been in parallel. In the oldest age group (aged 27-30), the difference has been fairly constant, with daily marijuana use among males generally being two to three times higher than among females.

- Males have shown slightly higher proportions using *any illicit drug other than marijuana* in all three age bands, a fact that has not changed appreciably over the years, though the differences tended to narrow some as use dropped and to widen as use increased.

- For *LSD*, males have consistently had higher rates of use than females. Among 19- to 22-year-olds, the male-female differences tended to diminish as use declined (1980-1985) and tended to increase as use increased (1985-1995). In the two older age bands, there was less change in use, and differences had been relatively consistent. In the last couple of years, however, the pattern has changed: LSD use dropped since 1999 among 19- through 26-year-old males, narrowing the gender differences. The same happened since 2001 among the 27- to 30-year-olds. In essence, males, who had considerably higher rates of LSD use, have exhibited declines. And among 19- to 22-year-olds, females also showed a decline in 2002.

- Questions about the use of *MDMA* (*ecstasy*) were added to the study in 1990. In the beginning of the 1990s, rates of use were quite low in all three age bands and use among males tended to be higher. The gender difference narrowed in the older two age bands in the early 1990s but not among the 19- to 22-year-olds. Ecstasy use increased in all three age bands, though in a staggered fashion. Among the 19- to 22-year-olds, there was a sharp increase from 1993 through 2000. Among 23- to 26-year-olds, use increased from 1997 through 2000 and among 27- to 30-year-olds in 1999 and 2000. In general, the gender differences have widened as use has increased; but use in the youngest age band increased just as sharply among females as among males.

- During the period of sharp decline from the peak levels in annual *cocaine* prevalence (1986-1993), use dropped more among males than females, narrowing the gender differences. In the 19- to 22-year-old age band, annual prevalence for males declined by 16 percentage points (to 4.5%) versus 13 percentage points among females (to 2.8% in 1993). In the 23- to 26-year-old age band, there was also a narrowing of the gender difference between 1986 and 1993, with annual prevalence down 19 percentage points (to 6.9%) among males and 13 percentage points (to 4.2%) among females. Since 1988, when data are first available for them, use in the 27- to 30-year-old group also dropped faster among males (down 13.3 percentage points versus 7.1 among females) between 1988 and 1997. In sum, during the period of sharp decline in cocaine use overall, the gender differences—which had been fairly large—narrowed considerably in all three of these age bands.

- A similar occurrence happened with *crack* during the earlier decline, though the proportional difference between the two genders has consistently been higher than for cocaine overall. With crack, though, there was some convergence between 1992 and 1998 among 19- to 22-year-olds, as use among males declined slightly and use among females rose gradually. Since 2000 there has been some divergence among those 19 to 22 years old, and among the 23- to 26-year-olds as well, as use has held steady among the males but declined among females.

- As *sedative* (*barbiturate*) use declined through the 1980s, the modest gender differences (males were higher) were virtually eliminated in all three of the age bands. Since the early 1990s, there has been an increase in use by both genders among the 19- to 22-year-olds, with males being the first to rise (as is often the case), followed by the females. Among the 23- to 26-year-olds, use began to rise among males since 1997, with the females catching up by 2000.

- The annual prevalence figures for *heroin* dropped among males in the 19- to 22-year-old category between 1980 and 1986 (from 0.6% to 0.2%) before leveling through 1994; thus most of the decline in use in that interval was among males. Rates for both genders remained very low, between 0.1% and 0.3% throughout the period 1986 through 1994. In 1995 through 1998, use increased appreciably among both males and females in this youngest age group, but a gender difference opened up again (with males higher). In 2002, after both showed a decline, their respective annual prevalence rates were 0.4% and 0.1%. Among 23- to 26-year-olds, use also remained low (0.1% to 0.2%) over the years 1986-1994 for both genders. There was an increase in 1995 in both genders, followed by two years of falloff,

but since 1994 use rose primarily among males and more of a gender difference emerged (again, males are higher, 0.4% and 0.1% in 2002, following a drop among males after 2001). Among 27- to 30-year-olds there was some falloff in **heroin** use between 1988 (when data were first available) and 1990 in both genders, as well as a narrowing of gender differences. Use rose slightly in the mid-1990s among males, and the rates among males have recently been higher than among females (0.3% and 0.0%, respectively, in 2002). Males in all three age bands exhibited a decline in heroin use between 2001 and 2002.

- Among 19- to 22-year-olds, both genders showed some decline in their use of **narcotics other than heroin** between 1980 and 1991, with a near elimination of previous gender differences (males had been higher). Beginning in 1994, use by males began to rise in this age band, while use by females began to rise a year later. In 2002 the increase came to a halt, with females remaining essentially level while males actually decreased. Some gender differences remain, with males at 7.4% and females at 5.9% in 2002. Among 23- to 26-year-olds, the gender difference (males higher) had been eliminated by 1988. It reemerged after 1992 as use has increased more among males. Among the 27- to 30-year-olds, there has been a smaller gender difference and the least increase in use in the 1990s. Still, use has increased in both genders since 1999 and continued to increase (very slightly) in 2002 for both genders in both older age bands.

- Generally, there has been no appreciable gender difference in **amphetamine** use for some years in any of these three age bands. Between 1981 and 1991, rates of **amphetamine** use were similar for males and females and showed substantial and parallel downward trends for both genders. Among the 19- to 22-year-olds, use for males dropped 22 percentage points in annual prevalence (to 5.2% in 1991), and use for females dropped 21 percentage points (to 4.7% in 1991). Since 1991 there have been small increases in annual prevalence for both genders in the 19- to 22-year-age group, and the prevalence rate now stands at 8.4% for males and 7.9% for females. Among 23- to 26-year-olds there has been a gradual upturn for both genders since 1995, slightly widening the gender difference. However, there has been no upturn among the 27- to 30-year-olds for either gender.

- **Crystal methamphetamine** (**ice**) was added to the study in 1990. In the early 1990s, use was low and very similar for both genders in all three young adult age bands. Nearly all of the increase in use that occurred in the mid-1990s in the younger two age bands occurred among males—opening a gender gap. The gap has narrowed since then, though males continue to be slightly more likely to report use of ice.

- For **tranquilizers**, both genders showed a long, gradual decline (and very similar rates of use) from 1980 through about 1993 in all three age bands. Beginning in 1995, use increased for both genders in the 19- to 22-year-old group, followed by some increase in 1998 among the 23- to 26-year-olds and after 1999 among the 27- to 30-year-olds, again reflecting generational replacement. Some gender difference has emerged in this period of increase, with males reporting higher usage rates.

- **Inhalant** use generally has been quite a bit higher among males than females in all three age groups. The 19- to 22-year-old group showed a gradual upward shift from 1980 to 1988,

followed by a leveling for some years, in both genders. In 1996, however, the gender gap diminished as use among females jumped to a higher plateau. Among 23- to 26-year-olds there was a widening gender gap as use by males, but not females, increased between 1992 and 1999, though a decline among males since then has narrowed the gap.

- For ***alcohol***, 30-day prevalence rates have shown a long, gradual, parallel decline from 1981 through 1992 for both genders in the 19- to 22-year-old age group. Thirty-day prevalence fell from 83% to 72% among males and from 75% to 62% among females by 1992. In the two older age bands, there had also been a modest, parallel decline for both genders, from 1985 through 1992 in the case of 23- to 26-year-olds, and at least from 1988 (when data were first available) to 1991 or 1992 in the case of the 27- to 30-year-olds. Since 1992, both genders in all three of the age bands have shown fairly level use rates, with males somewhat higher.

  There also was a general long-term decline in ***daily drinking*** from about 1981 or 1982 through about 1992, with daily use falling more among males, considerably reducing—but far from eliminating—what had been a large gender difference among 19- to 22-year-olds. To illustrate, in 1981, 11.8% of the males reported daily use versus 4.0% of the females; the comparable 1992 statistics were 5.3% and 2.7%. After 1995 daily drinking began to increase among the 19- to 22-year-olds for both genders but leveled a few years later. There is still a large gender difference for daily drinking among the 19- to 22-year-old age group in 2002— 6.4% for males versus 3.6% for females—but not nearly as large as it had been in 1981 (11.8% versus 4.0%). The gender differences have been similar for the older age groups (in 2002, for example, 8.9% versus 2.7% among 23- to 26-year-olds), and there has been little evidence of any convergence.

  There also are long-established and large gender differences in all age groups on ***occasional heavy drinking*** or "binge drinking" (i.e., having five or more drinks in a row at least once in the past two weeks). Males in the 19- to 22-year-old band showed some longer-term decline in this statistic, from 54% in 1986 to 45% in 1995, thus narrowing the gender gap (from 24 percentage points in 1986 to 17 in 1995). Since 1995 the rates for both genders have drifted up a few percentage points. In the two older age bands (23- to 26-year-olds and 27- to 30- year-olds), both the binge drinking rates and the sizeable gender differences have been stable for the most part. However, from 1997 to 2002 both genders showed some slight increase in binge drinking in the 23- to 26-year-old group, much as happened among the 19- to 22-year-olds.

- For ***cigarette smoking*** the similarities between the genders in both absolute levels and in trends are what is most striking, though there are some differences. All three age groups showed a long-term decline in ***daily smoking*** rates for both males and females since data were first available for each: 19- to 22-year-olds from 1980 to 1990; 23- to 26-year-olds from 1984 to 1992; and 27- to 30-year-olds from 1988 to 1994. Male and female daily smoking rates have also been very close, particularly in the two older age groups. But among the 19- to 22-year-olds there was a crossover after 1993—up to that point females had slightly higher 30-day prevalence rates, but after that males did. Among the 23- to 26-year-olds, a small gap has opened over the last few years, with males higher by about 3 percentage points.

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There have been some increases in the last decade in 30-day smoking rates among the two younger groups and especially among the males. For example, from 1993 to 1999, 19- to 22-year-old males increased from 29% to 37%, while females increased from 29% to 34%. Because smoking rates in high school graduating classes since 1992 have been on the rise, and because we know that class cohorts tend to maintain their relative differences over time, we had predicted the increase in smoking among 19- to 22-year-olds and eventually in the older age bands as the heavier-smoking high school class cohorts grew older. Beginning in 1996, smoking began to rise among the 23- to 26-year-olds, before leveling after 1998. Again, it rose more among males, opening a small gender gap.

Regional Differences in Trends

The respondent's current state of residence was first asked in the 1987 follow-up survey; thus trend data by region exist only for the interval since then. In this case, changes have been examined for all 19- to 28-year-olds combined to increase the reliability of the estimates. Because gender and urbanicity crosscut all regions, they have less sampling error than when the sample is divided into four separate regions. (All regions are represented by between 1,000 and 2,200 cases in all years.) In general, the changes that have occurred since 1987 have been fairly consistent across regions, particularly in terms of the direction of the change.

- There were substantial drops in all four regions between 1987 (the initial measurement point) and 1991 for *any illicit drug*, *marijuana*, *any illicit drug other than marijuana*, *cocaine*, *crack*, and *amphetamines*. Since 1991 in most or all regions, there has been a leveling or increase in the use of these drugs (except *cocaine*), which continued to decline through the mid-1990s before beginning to inch up in the years since.

- The proportion of 19- to 28-year-olds using *any illicit drug* has been consistently lowest in the South and highest in the West and Northeast. For *marijuana* use, the South stands out as being consistently lowest, and for the most part the North Central has been second lowest. Generally, the other two regions have been fairly close to one another. For the use of *any illicit drug other than marijuana*, the West stands out as consistently highest, with the other three regions nearly identical since 1990.

- From 1991 through 1995 the West had slightly higher rates of *LSD* use than the other three regions among young adults (at least until 1995, when use dropped in the West). All four regions have shown declines in LSD use over the past two years, leaving very little by way of regional differences. The West has tended to have the highest rate of using hallucinogens other than LSD, though in general the trends have been parallel for the four regions.

- Questions about *MDMA* (*ecstasy*) were added to the follow-up surveys of young adults in 1989. Through 1993, rates were highest in the West and South and lower in the Northeast and North Central regions. Subsequently, use in the Northeast began to increase, approaching the levels of use found in the South and West (though rates were relatively low in all regions). But in 1999 there was a sharp increase in the Northeast, as was true among seniors, giving it the highest annual prevalence: 6.1% versus 4.6% in the West, 3.4% in the South, and 1.5% in the North Central. In fact, the North Central has consistently had a much

lower level of use than the other three regions. In 2000 all four regions showed a sharp and fairly parallel increase in ecstasy use, the rise decelerated in 2001, and rates of use fell in 2002 in all regions except the West, where it remained essentially level. As we have discussed elsewhere, we believe that this decrease may be caused by a growing awareness of the hazards of ecstasy use.

- The declines in *cocaine* use observed in all regions between 1987 and 1991 were greatest in the two regions that had attained the highest levels of use by the mid-1980s—the West and the Northeast. Thus, regional differences had diminished considerably by 1992. Similar to the finding for seniors, in 1992 these declines stalled in all regions except the Northeast. A gradual further decline then occurred in all regions through 1996 (1997 for the West) before a slight rise began to occur, likely reflecting the effects of generational replacement. Very little regional variability in cocaine use has existed since the mid-1990s.

- All four regions also exhibited an appreciable drop in *crack* use between 1987 and 1991, again with the greatest declines in the West and Northeast, where prevalence had been the highest. Use then generally leveled in all regions except the South, where it continued a gradual decline through 1997. As was true for cocaine generally, annual prevalence rates among the regions have converged; they now stand between 0.6% in the South and 1.6% in the West. (It is worth noting that lifetime use of crack stands out more in the West—and has for some years—compared to all other regions. For example, 7.0% of the 19- to 28-year-olds in the West in 2002 indicated having used crack at some time, compared to 3.0% to 3.9% in the other three regions.)

- From 1987 (when data were first available) through 1994, rates of *inhalant* use remained relatively stable, quite low, and about equal in all four regions among 19- to 28-year-olds. Annual use then rose in the Northeast in 1995 and 1996 and remained higher through 2000, when it dropped back to rates comparable to the other three regions. Except for that divergence, the regions have moved very much in parallel for this class of drugs.

- The regions have trended fairly similarly in their prevalence of *amphetamine* use by young adults. The only modest exception was that use declined more in the Northeast (which started out lowest) in the period 1987 to 1992, giving it a substantially lower rate than the other three regions; and it remained lowest until 1998. (The West has fairly consistently had the highest rate, but not by much.) By the late 1990s, the Northeast had caught up to the North Central and South, making the regional differences very small, and there essentially have been no regional differences since 2000.

- The West has tended to have the highest rates for *ice* (*crystal methamphetamine*), and the regional differences have been very substantial, particularly in terms of lifetime use. The Northeast has had the lowest rates. In fact, when data were first available on ice in 1990, the West had a lifetime prevalence of 5.1% versus a range of 1.7% to 2.3% in the other three regions. By 2002, the rate in the West was 6.7% versus 4.1% in the North Central, 3.7% in the South, and 2.2% in the Northeast. This strongly suggests that ice use diffused from the West primarily to the South and North Central regions but diffused much less to the Northeast. The annual prevalence figures tell a similar story but also show that there was a

bulge in use in the West in 1994 through 1996 before use there declined and then stabilized at around 2% annual prevalence.

- The use of *sedatives* (*barbiturates*) remained flat, and at about equivalent levels, in all four regions of the country from 1987, when regional data were first available, through 1994. Rates then rose gradually in all regions and the most in the South, peaking at 4.4% in 2001. There is only modest difference among the regions in 2002 because use in the South declined some in 2002 and continued to rise some in the other regions.

- The picture for *tranquilizers* is quite similar to that for sedatives (barbiturates). The regional differences have been small, though the South tends to have a slightly higher rate. Use generally declined in all regions from 1987 through 1993. Since then there has been some increase in the South, where annual prevalence stands at 8.1% in 2002 versus 6.0% to 7.1% in the other regions. All regions have shown an ongoing increase in tranquilizer use since 1997.

- With respect to *alcohol* use, there were modest declines in 30-day prevalence in all four regions between 1987 (when the first measurement was available for 19- to 28-year-olds) and 1992. The rates for 30-day prevalence then leveled in all regions for two to three years, followed by a bit more decline in all regions, and then quite stable rates. The West and the South have consistently had lower rates of 30-day use than the Northeast and North Central, as has generally been true among the high school seniors.

  Current daily use of alcohol also showed a decline from the first (1987) data collection through about 1994 or 1995 in all regions. The proportional declines were substantial—on the order of 40%–50%. (This decline corresponds to a period of appreciable decline in daily drinking among high school seniors, though we can tell from their longer-term data that their decline started in 1980; thus the decline may well have started earlier for the 19- to 28-year-olds, as well.) In 2002 the daily use rates for each region are about where they were in 1995 except in the Northeast region, which showed a significant increase in daily alcohol use in 2002.

- *Occasional heavy drinking* (or "binge drinking") has remained fairly level in all regions since 1987. The rates generally have been appreciably higher in the North Central (41% in 2002) and the Northeast (39%) than in the South and the West (32% and 33%, respectively).

- There have been highly consistent regional differences among young adults in *cigarette smoking* since data were first available in 1987—and they exist for monthly, daily, and the half-pack-daily prevalence rates. The West consistently has had the lowest rates (e.g., 14% daily prevalence in 2002) and the South the next lowest (21% in 2002); the Northeast and North Central were at 23% and 25%, respectively, in 2002. After some slight decline in 30-day prevalence in all regions between 1987 and 1989, rates leveled off for about five years (roughly through 1994). There then followed a very gradual increase of a few percentage points through 1998, followed by a leveling. Daily use showed a very similar pattern. For half-pack-a-day smoking, the decline phase was longer (from 1987 through about 1992 or 1993), likely reflecting the lag between smoking initiation and regular heavy smoking. By

2002 the rates in all regions were slightly lower than they were in 1998 (by one to two percentage points).

Population Density Differences in Trends

The analyses presented here for population density return to the use of four-year age groupings, which allows a longer time interval to be examined for the younger strata and for cross-age comparisons of the trends. Among the young adults five levels of population density are distinguished based on the respondent's answer: very large city, large city, medium-sized city, small town, and farm/country.

- In general, the proportion of young adults using *any illicit drug* declined substantially over the long term in communities of all sizes. Among the 19- to 22-year-olds this decline began in 1980 (when data were first available) and continued through 1991 (or, in the cases of very large cities and farm/country areas, 1993); rates then began to increase fairly steadily through 2001 or 2002 among the 19- to 22-year-olds in all areas. (The farm/country stratum showed a decline in drug use in 2002.) In the two older age groups, the earlier decline also showed up through about 1991 in all strata, followed by some leveling. Since about 1996, a gradual increase has occurred in all strata in the 23- to 26-year-old age band but not yet among the 27- to 30-year-olds. In general, the farm/country stratum has tended to have lower use than all of the other strata. The other four strata have tended to differ little from one another, though the very large cities generally rank at the top. In 2002 the proportions of 19- to 22-year-olds reporting use of an illicit drug in the past year were 28% for the farm/country strata, 39% for small towns, 37% for medium-sized cities, 40% for large-sized cities, and 45% for very large cities.

- The use of *any illicit drug other than marijuana* tells a similar story. There was a long period of fairly parallel decline before leveling, along with some convergence of usage rates among the strata at all three age levels. In general, small, large, and very large cities all have tended to have about the same rates, and the farm/country stratum has tended to have the lowest rates, particularly prior to 1990. All three age bands have shown some increases in use in recent years—mostly parallel ones for the different strata of population density— beginning with the 19- to 22-year-olds after 1993 or 1994, the 23- to 26-year-olds after 1996 or 1997, and the 27- to 30-year-olds after 1999 or so. In earlier years the farm/country stratum had lower rates than the other strata, but this generally has not been true since the early 1990s.

- *Marijuana* use began to decline in 1981 or 1982 among the 19- to 22-year-olds in all community-sized categories; the declines lasted until about 1991, when 30-day prevalence rates stabilized briefly, before trending upward from 1993 through 2001. (The farm/country stratum showed the increase only from 1993 to 1994; then marijuana use stabilized through 1998 before rising through 2001 then declining in 2002.) Still, all urban strata are 10 to 18 percentage points below where they were in 1980. The most rural region has consistently had the lowest rate of marijuana use, and it fell less in the earlier period and rose less in the subsequent increase than it did the other strata. Among 23- to 26-year-olds there was some increase in use starting around 1999, but among 27- to 30-year-olds there has been no increase in marijuana use in the 1990s in any stratum.

- In general there have not been large differences in *LSD* use among young adults as a function of community size. Among the 19- to 22-year-olds (the young adult age group with by far the highest rates of LSD use) LSD use in communities of all sizes declined appreciably in the 1980s, particularly in the urban strata, eliminating modest prior differences by 1984. From around 1989 through 1996, there was some increase in use in all strata among the 19- to 22-year-olds, with the most rural region generally continuing to have the lowest prevalence (though this has not been true since 1998). Since about 1997, there has been a fair decline in LSD use in all strata. The 23- to 26-year-old respondents also had some modest increases after 1989 in all strata, though they had virtually ended by 1995. There also has been some decline in all strata since about 1999. In the oldest age group, LSD has remained very low and quite stable, with no evidence yet of any decline.

- The use of *hallucinogens other than LSD*, taken as a class, also has shown considerably higher rates in the youngest age band than in the two others. Use of this class of drugs fell in communities of all sizes among the young adults between 1980 and about 1988. Then there was a leveling of use for a few years, followed by an extended increase in use among all strata in the 19- to 22-year-old age band. By 2002 the rates attained by each stratum were similar to those originally observed in 1980. The 23- to 26-year-old group has shown slightly higher rates in the past four years or so, especially among the more urban strata. The sharpest increase occurred in the very large cities in 1999 and 2000, possibly as a result of growing ecstasy use. Among 27- to 30-year-olds the trend lines have been very flat with only minor stratum differences, although all showed some increase in 2002.

- *Ecstasy* (*MDMA*) use was first measured in 1989 and since then has shown the largest increase among the younger adults of any of the drugs. Use in 1989 was highest among the 19- to 22-year-olds in the very large cities (5% annual prevalence); but prevalence declined in all strata between 1989 and 1994 (to 1.6% or less). By 1998, use had begun to increase in all strata within this age band, except among the farm/country stratum. The farm/country stratum moved up sharply in 1999, but then the three most urban strata jumped sharply in 2000, opening a fair gap in use as a function of population density. All strata showed some decline in ecstasy use since 2000 or 2001, and in 2002 the very large and large cities had rates nearly twice as high as any of the other strata. Use began to increase a little later among the 23- to 26-year-olds, and again the most urban strata showed the most increase, particularly in 2000; but all three of them showed a decline in 2001, narrowing the differences among the strata. Considerably less increase in use has occurred among 27- to 30-year-olds, though there has been some increase in the largest cities starting after 1996 and in the large and medium-sized cities after 1999.

  The trends in the past three years tell an interesting story. In the very large cities, where use had spiked early, use is declining through 2002 in all three age bands. The medium-sized cities are beginning to level or decline in all three age bands. Only the small town and farm/country strata were still showing an increase in use in 2001. These data support our analysis, based on the secondary schools, suggesting that the presence of this drug was still diffusing geographically—in this case from more urban to more rural areas—and, were it not for this continued diffusion, ecstasy use would actually have declined nationally a year

earlier. The data from seniors on perceived risk provide the clue as to the most likely cause of this turnaround. They showed a large jump in the level of perceived risk associated with ecstasy in both of the past two years.

- In the early 1980s, *cocaine* use was positively correlated with population density, with the highest use in the very large cities. The important drop in cocaine use after 1986 slowed considerably after 1992 or 1993 in all three of the age strata and in communities of all sizes, by which time the positive association with population density had been virtually eliminated. Among the 19- to 22-year-olds, and to a lesser extent among the 23- to 26-year-olds, there has been a sustained increase in cocaine use among all strata since about 1993 or 1994. As just stated, usage rates among the strata tended to converge considerably during the period of decline, and this convergence remains, with the very large cities showing rates of cocaine use only slightly higher than the less densely populated areas—at least until 2002, when an increase in use in the large cities widened the gap. In the 27- to 30-year-old age group, a little increase in use has emerged in nearly all strata since 2000, with medium-sized cities being the exception.

- *Crack* use among all age groups peaked in 1987 or 1988 and, after declining, bottomed out in all population-density strata for several years. Among the 19- to 22-year-olds only, it may have made some comeback in the rural and small town strata in 1999 and 2000, but not in the larger cities. The crack use reported in these young adult samples at all three age levels has borne practically no systematic association with community size, and for the most part they have all trended in parallel.

- *Amphetamine* use showed large drops after 1981 among 19- to 22-year-olds in communities of all sizes; after 1984 (the first time point available) among the 23- to 26-year-olds; and, to a lesser extent, after 1988 (first time point available) among the 27- to 30-year-olds. After 1991, use tended to level at relatively low prevalence rates in all strata and age groups, although use increased somewhat after 1992 or 1993 for most population density strata of 19- to 22-year-olds before leveling around 1998. Use has remained level in the older two age groups. There are virtually no differences in use associated with urbanicity in any of the three age groups, and this has been fairly consistently true since 1983.

- The use of *crystal methamphetamine* (*ice*), first measured in 1990, showed a modest increase from the early 1990s through the mid-1990s among young adults generally. This was observable in all age levels and in most population density groupings. There have not been any sustained differences in use as a function of population density. The years 1997 and 1998 saw a rise among 23- to 26-year-olds in the farm/country stratum (reaching 3.0% annual prevalence in 1998—higher than the other strata), but that finding did not replicate in the other two age bands.

- *Methaqualone* use, which in 1981 was rather strongly associated (positively) with population density, dropped to annual prevalence rates of 0.8% or below in all size strata for all three age bands by 1989. Its use is no longer measured in the study.

- Unlike methaqualone, *sedatives* (*barbiturates*) have never shown much correlation with urbanicity, at least as far back as 1980. This remains true in all three age bands.

- *Tranquilizer* use among young adults has had little or no association with population density over this time interval, either. However, since 2000 or 2001 tranquilizer use has increased sizably in the very large cities in all three age groups, thus opening up a differential.

- From 1980 to 1995, annual *heroin* prevalence was less than 1.0%—usually much less—in all strata for all three of the age bands. After 1994, use among 19- to 22-year-olds in all strata rose and reached 1% in the three urban strata by 1998. In fact, in the very large cities, it reached 1.6% in 1996 (versus 0.3% to 0.7% in the other strata). Use of heroin generally has been highest in the very large cities in this age band; but an across-the-board decrease by 2002 leaves rather little difference across the strata. Use levels are lower among the 23- to 26-year-olds and lower still among the 27- to 30-year-olds, and it is difficult to discern systematic differences among the population density strata.

- The annual use of *narcotics other than heroin* had some positive association with degree of population density among 19- to 22-year-olds through the early 1990s; however, it has shown rather little association since then. In recent years, through 2001, use increased among all community sizes in all three age bands. The increase continued only in the very large cities in 2002 in all three age bands, but little other systematic change was evident that year.

- The absolute levels of *inhalant* use have remained low in these age groups, particularly above age 22. However, during the mid- to late 1980s, there was a gradual increase in use among 19- to 22-year-olds in all community-size strata. No strong or consistent association with population density has appeared, though the very large cities generally have tended to have higher rates than the other areas among 19- to 22-year-olds, particularly in the period 1998 through 2000.

- There have been few differences in the 30-day prevalence of drinking *alcohol* among 19- to 22-year-olds since data were first available on them in 1980, except for the fact that the farm/country stratum has tended to have lower-than-average use. In the two older age bands, however, there has been a fairly consistent positive correlation between urbanicity and use of alcohol in the past 30 days. But there have been no consistent differences in current *daily drinking* associated with urbanicity in any of the three age bands. For *occasional heavy drinking*, all strata have been fairly close across time at all three age levels, with the exception that the farm/country areas have fairly consistently shown the lowest rates of binge drinking at all ages.

- *Cigarette smoking* has been negatively associated with urbanicity in all three age strata, without much evidence of differential trends related to degree of urbanicity, with one exception. Among 19- to 22-year-olds, all smoking prevalence measures rose from 1997 through 1999 in the farm/country and small town strata, while most other strata remained level. The differences in 1999 were most striking for half-pack-a-day smoking among the 19- to 22-year-olds: farm/country (24% prevalence), small town (19%), medium-sized and large cities (both 15%), and very large cities (10%). This compares with 1985, when there

was virtually no difference in half-pack-a-day smoking rates among these strata (all were at 18% or 19%). Thus, smoking among those in their early twenties has become more concentrated in the nonurban populations. In 2000 there was a decline or leveling in 30-day prevalence in all strata among the 19- to 22-year-olds but less systematic change in 2001. Further declines were observed in four of the five strata in 2002; and the continuing declines in smoking among seniors would lead us to expect still further declines in the young adults, as well. While smoking has been dropping among 19- to 22-year-olds in the small town and rural strata, as well as in the more urban strata, use remains negatively correlated with the degree of urbanicity, though the gap may be narrowing.

TABLE 5-1
Trends in Lifetime Prevalence of Various Types of Drugs
Among Respondents of Modal Ages 19-28
(Entries are percentages)

Percentage who used in lifetime

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Approx. Wtd. N =	(6900)	(6800)	(6700)	(6600)	(6700)	(6600)	(6800)	(6700)	(6500)	(6400)	(6300)	(6400)	(6200)	(6000)	(5700)	(5800)	(5300)	
Any Illicit Drug[a]	70.5	69.9	67.9	66.4	64.5	62.2	60.2	59.6	57.5	57.4	56.4	56.7	57.0	57.4	58.2	58.1	59.0	+0.9
Any Illicit Drug[a] Other Than Marijuana	48.4	47.0	44.6	42.7	40.8	37.8	37.0	34.6	33.4	32.8	31.0	30.5	29.9	30.2	31.3	31.6	32.8	+1.2
Marijuana	66.5	66.0	63.8	62.8	60.2	58.6	56.4	55.9	53.7	53.6	53.5	53.8	54.4	54.6	55.1	55.7	56.8	+1.1
Inhalants[b]	12.3	12.7	12.6	13.2	12.5	13.4	13.5	14.1	13.2	14.5	14.1	14.1	14.2	14.2	14.3	12.8	12.4	-0.5
Inhalants, Adj.[c]	18.6	15.7	15.0	NA	13.5	14.1	13.9	14.5	13.5	NA	NA	NA	NA	NA	NA	NA	NA	----
Nitrites[d]	2.6	6.9	6.2	NA	1.9	1.4	1.2	1.3	1.0	NA	NA	NA	NA	NA	NA	NA	NA	----
Hallucinogens[e]	18.5	17.1	17.0	15.9	16.1	15.7	15.7	15.4	15.4	16.1	16.4	16.7	17.4	18.0	18.4	18.3	19.6	+1.3
Hallucinogens, Adj.[e,f]	20.1	17.2	17.2	NA	16.5	16.0	15.9	15.5	15.5	16.2	16.5	16.7	17.5	18.2	18.5	18.4	19.6	+1.2
LSD	14.6	13.7	13.8	12.7	13.5	13.5	13.8	13.6	13.8	14.5	15.0	15.0	15.7	16.2	16.4	16.0	15.1	-0.9
PCP[g]	8.4	4.8	5.0	NA	2.5	3.1	2.0	1.9	2.0	2.2	1.9	2.4	2.7	2.3	2.3	3.1	2.5	-0.6
MDMA (Ecstasy)[h]	NA	NA	NA	3.3	3.7	3.2	3.9	3.8	3.8	4.5	5.2	5.1	7.2	7.1	11.6	13.0	14.6	+1.6
Cocaine	32.0	29.3	28.2	25.8	23.7	21.0	19.5	16.9	15.2	13.7	12.9	12.0	12.3	12.8	12.7	13.1	13.5	+0.4
Crack[i]	NA	6.3	6.9	6.1	5.1	4.8	5.1	4.3	4.4	3.8	3.9	3.6	3.8	4.3	4.6	4.7	4.3	-0.4
Other Cocaine[j]	NA	28.2	25.2	25.4	22.1	19.8	18.4	15.1	13.9	12.4	11.9	11.3	11.5	11.8	11.7	12.1	12.8	+0.7
Heroin	1.3	1.3	1.1	1.0	0.9	0.9	0.9	0.9	0.8	1.1	1.3	1.3	1.6	1.7	1.8	2.0	1.8	-0.2
Other Narcotics[k,l]	10.7	10.6	9.8	9.6	9.4	9.3	8.9	8.1	8.2	9.0	8.3	9.2	9.1	9.5	10.0	11.5	12.3	+0.8
Amphetamines, Adj[k,m]	32.3	30.8	28.8	25.3	24.4	22.4	20.2	18.7	17.1	16.6	15.3	14.6	14.3	14.1	15.0	15.0	14.8	-0.2
Ice[n]	NA	NA	NA	NA	2.5	2.9	2.2	2.7	2.5	2.1	3.1	2.5	3.4	3.3	3.9	4.0	4.1	+0.1
Sedatives[k]	16.7	15.0	13.2	12.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	----
Barbiturates[k]	11.1	9.7	8.9	7.9	8.7	8.2	7.4	6.5	6.4	6.7	6.6	6.5	6.9	7.4	8.1	7.8	8.0	+0.2
Methaqualone[k]	13.1	11.6	9.7	8.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	----
Tranquilizers[e,k]	17.6	16.5	15.1	13.5	12.9	11.8	11.3	10.5	9.9	9.7	9.3	8.6	9.6	9.6	10.5	11.9	13.4	+1.5 s
Alcohol[o]	94.8	94.9	94.8	94.5	94.3	94.1	93.4	92.1	91.2	91.6	91.2	90.7	90.6	90.2	90.7	89.9	90.2	+0.3
Cigarettes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	----
Steroids[p]	NA	NA	NA	1.1	1.2	1.7	1.9	1.5	1.3	1.5	1.5	1.4	1.4	1.9	1.4	1.4	1.6	+0.1

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

'NA' indicates data not available.

See footnotes on next page.

FOOTNOTES FOR TABLES 5-1 THROUGH 5-4

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

[b]This drug was asked about in four of the five questionnaire forms in 1986-1989, five of the six questionnaire forms in 1990-1998, and three of six questionnaire forms in 1999-2002. Total N in 2002 is approximately 2700.

[c]Adjusted for underreporting of amyl and butyl nitrites, except in 1995-2002, when questions about nitrite use were dropped.

[d]This drug was asked about in one questionnaire form. Total N in 1994 was approximately 900.

[e]In 2001, the question text was changed on half of the questionnaire forms and in 2002 it was changed on the remainder of the forms. For hallucinogens, "psychedelics" was changed to "hallucinogens" and "shrooms" was added to the list of examples. For tranquilizers, "Miltown" was replaced with "Xanax" in the list of examples. These changes are partially responsible for the discontinuity in the 2001 and 2002 data.

[f]Adjusted for underreporting of PCP.

[g]This drug was asked about in one of the five questionnaire forms in 1986-1988, and in one of the six questionnaire forms in 1990-2002.   Total N in 2002 is approximately 900.

[h]This drug was asked about in two of the six questionnaire forms in 1990-2001, and in three of the six questionnaire forms in 2002. Total N in 2002 is approximately 2700.

[i]This drug was asked about in two of the five questionnaire forms in 1987-1989, in all six questionnaire forms in 1990-2001, and in five of the six questionnaire forms in 2002. Total N in 2002 is approximately 4400.

[j]This drug was asked about in one of the five questionnaire forms in 1987-1989, and in four of the six questionnaire forms in 1990-2002. Total N in 2002 is approximately 3600.

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

[l]In 2002, the question text was changed on half of the questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric--all of which had negligible rates of use by 2001--were replaced by Vicodin, OxyContin, and Percocet. The 2001 data presented here are based on all forms. The 2002 estimates are based on the 2001 prevalence of use rate plus the increase observed from 2001 to 2002 in the half-sample in which the question did not change. Thus, the change score given in the right-hand column is the difference between the data from the unchanged forms only in both 2001 and 2002.

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

[n]This drug was asked about in two of the five questionnaire forms in 1989, and in two of the six questionnaire forms in 1990-2002. Total N in 2002 is approximately 1800.

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

[p]This drug was asked about in one of the five questionnaire forms in 1989, and in two of the six questionnaire forms in 1990-2002. Total N in 2002 is approximately 1800.

[q]This drug was asked about in two of the six questionnaire forms in 1999-2002. Total N in 2002 is approximately 1800.

[r]This drug was asked about in two of the six questionnaire forms in 2002. Total N in 2002 is approximately 1800.

TABLE 5-2
Trends in Annual Prevalence of Various Types of Drugs
Among Respondents of Modal Ages 19-28
(Entries are percentages)

Percentage who used in last 12 months

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Approx. Wtd. N =	(6900)	(6800)	(6700)	(6600)	(6700)	(6600)	(6800)	(6700)	(6500)	(6400)	(6300)	(6400)	(6200)	(6000)	(5700)	(5800)	(5300)	
Any Illicit Drug[a]	41.9	39.3	36.3	32.8	30.7	27.0	28.3	28.4	28.4	29.8	29.2	29.2	29.9	30.3	30.8	32.1	32.4	+0.3
Any Illicit Drug[a] Other Than Marijuana	27.0	23.9	21.3	18.3	16.7	14.3	14.1	13.0	13.0	13.8	13.2	13.6	13.2	13.7	14.9	15.4	16.3	+1.0
Marijuana	36.5	34.8	31.8	29.0	26.1	23.8	25.2	25.1	25.5	26.5	27.0	26.8	27.4	27.6	27.9	29.2	29.3	+0.1
Inhalants[b]	1.9	2.1	1.8	1.9	1.9	2.0	1.9	2.1	2.1	2.4	2.2	2.3	2.1	2.3	2.1	1.7	1.6	-0.1
Inhalants, Adj.[c]	3.0	2.8	2.4	NA	2.1	2.2	1.9	2.3	2.2	NA	NA	NA	NA	NA	NA	NA	NA	----
Nitrites[d]	2.0	1.3	1.0	NA	0.4	0.2	0.1	0.4	0.3	NA	NA	NA	NA	NA	NA	NA	NA	----
Hallucinogens[e]	4.5	4.0	3.9	3.6	4.1	4.5	5.0	4.5	4.8	5.6	5.6	5.8	5.2	5.4	5.4	5.4	4.7	-0.7
Hallucinogens, Adj.[e,f]	4.9	4.1	3.9	NA	4.2	4.6	5.1	4.6	4.9	5.7	5.6	5.9	5.2	5.5	5.5	5.5	4.7	-0.8
LSD	3.0	2.9	2.9	2.7	3.3	3.8	4.3	3.8	4.0	4.6	4.5	4.4	3.5	4.0	3.7	3.4	1.8	-1.6 sss
PCP[g]	0.8	0.4	0.4	NA	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.5	0.6	0.6	0.3	0.6	0.3	-0.3
MDMA (Ecstasy)[h]	NA	NA	NA	1.4	1.5	0.8	1.0	0.8	0.7	1.6	1.7	2.1	2.9	3.6	7.2	7.5	6.2	-1.3
Cocaine	19.7	15.7	13.8	10.8	8.6	6.2	5.7	4.7	4.3	4.4	4.1	4.6	4.9	5.4	5.4	5.8	5.8	0.0
Crack[i]	3.2	3.1	3.1	2.5	1.6	1.2	1.4	1.3	1.1	1.1	1.1	1.0	1.1	1.4	1.2	1.3	1.0	-0.2
Other Cocaine[j]	NA	13.6	11.9	10.3	8.1	5.4	5.1	3.9	3.6	3.9	3.8	4.3	4.5	4.8	4.8	5.3	5.6	+0.4
Heroin	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.2	-0.3 ss
Other Narcotics[k,l]	3.1	3.1	2.7	2.8	2.7	2.5	2.5	2.2	2.5	3.0	2.9	3.3	3.4	3.8	4.1	5.0	5.1	+0.1
OxyContin[r]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.9	----
Vicodin[r]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.2	----
Amphetamines, Adj.[k,m]	10.6	8.7	7.3	5.8	5.2	4.3	4.1	4.0	4.5	4.6	4.2	4.6	4.5	4.7	5.4	5.8	5.9	+0.1
Ritalin[r]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.9	----
Methamphetamine[q]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.8	2.5	2.8	2.5		-0.3
Ice[n]	NA	NA	NA	NA	0.4	0.3	0.4	0.8	0.9	1.2	0.9	0.9	1.1	0.9	1.2	1.1	1.4	+0.4
Sedatives[k]	3.0	2.5	2.1	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	----
Barbiturates[k]	2.3	2.1	1.8	1.7	1.9	1.8	1.6	1.9	1.8	2.1	2.2	2.4	2.5	2.8	3.4	3.7	3.9	+0.2
Methaqualone[k]	1.3	0.9	0.5	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	----
Tranquilizers[e,k]	5.4	5.1	4.2	3.7	3.7	3.5	3.4	3.1	2.9	3.4	3.2	3.1	3.8	3.7	4.6	5.5	7.0	+1.5 ss
Rohypnol[r]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.3	----
GHB[r]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.8	----
Ketamine[r]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.2	----
Alcohol[o]	88.6	89.4	88.6	88.1	87.4	86.9	86.2	85.3	83.7	84.7	84.0	84.3	84.0	84.1	84.0	84.3	84.9	+0.6
Cigarettes	40.1	40.3	37.7	38.0	37.1	37.7	37.9	37.8	38.3	38.8	40.3	41.8	41.6	41.1	40.9	41.1	39.1	-2.0 s
Steroids[p]	NA	NA	NA	0.5	0.3	0.5	0.4	0.3	0.4	0.5	0.3	0.5	0.4	0.6	0.4	0.4	0.4	0.0

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

'*' indicates a prevalence rate of less than 0.05% but greater than true zero.

'NA' indicates data not available.

See footnotes at end of Table 5-1.

TABLE 5-3
Trends in 30-Day Prevalence of Various Types of Drugs
Among Respondents of Modal Ages 19-28
(Entries are percentages)

Percentage who used in last 30 days

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Approx. Wtd. N =	(6900)	(6800)	(6700)	(6600)	(6700)	(6600)	(6800)	(6700)	(6500)	(6400)	(6300)	(6400)	(6200)	(6000)	(5700)	(5800)	(5300)	
Any Illicit Drug[a]	25.8	23.4	20.5	17.7	15.9	15.1	14.8	14.9	15.3	15.8	15.8	16.4	16.1	17.1	18.1	18.8	18.9	+0.2
Any Illicit Drug[a] Other Than Marijuana	13.0	10.7	9.5	7.5	6.0	5.4	5.5	4.9	5.3	5.7	4.7	5.5	5.5	6.0	6.4	7.0	7.7	+0.6
Marijuana	22.0	20.7	17.9	15.5	13.9	13.5	13.3	13.4	14.1	14.0	15.1	15.0	14.9	15.6	16.1	16.7	16.9	+0.1
Inhalants[b]	0.4	0.6	0.6	0.5	0.6	0.5	0.6	0.7	0.5	0.7	0.5	0.5	0.7	0.8	0.5	0.4	0.5	+0.1
Inhalants, Adj.[c]	0.7	0.9	0.9	NA	0.7	0.6	0.7	0.7	0.6	NA	NA	NA	NA	NA	NA	NA	NA	----
Nitrites[d]	0.5	0.5	0.4	NA	0.1	*	0.1	0.2	0.1	NA	NA	NA	NA	NA	NA	NA	NA	----
Hallucinogens[e]	1.3	1.2	1.1	1.1	0.9	1.1	1.5	1.2	1.4	1.7	1.2	1.5	1.4	1.3	1.2	1.2	0.9	-0.3
Hallucinogens, Adj.[e,f]	1.4	1.2	1.1	NA	1.0	1.2	1.6	1.2	1.4	1.7	1.3	1.5	1.5	1.3	1.2	1.2	0.9	-0.3
LSD	0.9	0.8	0.8	0.8	0.6	0.8	1.1	0.8	1.1	1.3	0.7	0.9	1.0	0.8	0.8	0.7	0.3	-0.4 ss
PCP[g]	0.2	0.1	0.3	NA	0.2	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.2	0.2	0.0	0.0	0.1	+0.1
MDMA (Ecstasy)[h]	NA	NA	NA	0.4	0.2	0.1	0.3	0.3	0.2	0.4	0.3	0.6	0.8	1.3	1.9	1.8	1.3	-0.5
Cocaine	8.2	6.0	5.7	3.8	2.4	2.0	1.8	1.4	1.3	1.5	1.2	1.5	1.7	1.9	1.7	2.2	2.2	0.0
Crack[i]	NA	1.0	1.2	0.7	0.4	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.3	-0.1
Other Cocaine[j]	NA	4.8	4.8	3.4	2.1	1.8	1.7	1.1	1.0	1.3	1.1	1.5	1.5	1.6	1.5	1.8	2.0	+0.1
Heroin	0.1	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	*	-0.2 ss
Other Narcotics[k,l]	0.9	0.9	0.7	0.7	0.7	0.6	0.7	0.7	0.6	0.9	0.7	0.9	0.9	1.2	1.4	1.7	1.7	0.0
Amphetamines, Adj.[k,m]	4.0	3.2	2.7	2.1	1.9	1.5	1.5	1.5	1.7	1.7	1.5	1.7	1.7	1.9	2.3	2.4	2.5	+0.1
Ice[n]	NA	NA	NA	NA	0.1	*	0.1	0.3	0.5	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	+0.1
Sedatives[k]	0.9	0.8	0.7	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	----
Barbiturates[k]	0.7	0.7	0.7	0.5	0.6	0.5	0.5	0.6	0.6	0.8	0.8	0.9	0.9	1.1	1.3	1.7	1.5	-0.2
Methaqualone[k]	0.3	0.2	0.1	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	----
Tranquilizers[e,k]	1.8	1.6	1.4	1.2	1.1	0.9	1.0	1.0	0.8	1.1	0.7	1.1	1.2	1.3	1.8	2.1	2.8	+0.7 s
Alcohol[o]	75.1	75.4	74.0	72.4	71.2	70.6	69.0	68.3	67.7	68.1	66.7	67.5	66.9	68.2	66.8	67.2	68.3	+1.1
Cigarettes	31.1	30.9	28.9	28.6	27.7	28.2	28.3	28.0	28.0	29.2	30.1	29.9	30.9	30.3	30.1	30.2	29.2	-0.9
Steroids[p]	NA	NA	NA	0.2	0.1	0.2	0.1	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.0

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

'*' indicates a prevalence rate of less than 0.05% but greater than true zero.
'NA' indicates data not available.

See footnotes at end of Table 5-1.

TABLE 5-4
Trends in 30-Day Prevalence of <u>Daily</u> Use of Various Types of Drugs
Among Respondents of Modal Ages 19-28
(Entries are percentages)

Percentage who used daily in last 30 days

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Approx. Wtd. N =	*(6900)*	*(6800)*	*(6700)*	*(6600)*	*(6700)*	*(6600)*	*(6800)*	*(6700)*	*(6500)*	*(6400)*	*(6300)*	*(6400)*	*(6200)*	*(6000)*	*(5700)*	*(5800)*	*(5300)*	
Marijuana	4.1	4.2	3.3	3.2	2.5	2.3	2.3	2.4	2.8	3.3	3.3	3.8	3.7	4.4	4.2	5.0	4.5	-0.4
Cocaine	0.2	0.1	0.2	0.1	*	0.1	*	0.1	*	0.1	*	*	*	0.1	*	0.1	*	0.0
Amphetamines, Adj.[k,m]	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.0
Alcohol																		
Daily[o]	6.1	6.6	6.1	5.5	4.7	4.9	4.5	4.5	3.9	3.9	4.0	4.6	4.0	4.8	4.1	4.4	4.7	+0.3
5+ Drinks in a Row in Last 2 Weeks	36.1	36.2	35.2	34.8	34.3	34.7	34.2	34.4	33.7	32.6	33.6	34.4	34.1	35.8	34.7	35.9	35.9	0.0
Cigarettes																		
Daily	25.2	24.8	22.7	22.4	21.3	21.7	20.9	20.8	20.7	21.2	21.8	20.6	21.9	21.5	21.8	21.2	21.2	-0.1
Half-Pack or More per Day	20.2	19.8	17.7	17.3	16.7	16.0	15.7	15.5	15.3	15.7	15.3	14.6	15.6	15.1	15.1	14.6	14.2	-0.4

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

The illicit drugs not listed here show a daily prevalence of 0.2% or less in all years.

'*' indicates a prevalence rate of less than 0.05% but greater than true zero.

See footnotes at end of Table 5-1.

TABLE 5-5

Trends in Annual and 30-Day Prevalence of an Illicit Drug Use Index[a]
Among Respondents of Modal Ages 19-28

(Entries are percentages)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Percentage reporting use in last 12 months																		
Any Illicit Drug	41.9	39.3	36.3	32.8	30.7	27.0	28.3	28.4	28.4	29.8	29.2	29.2	29.9	30.3	30.8	32.1	32.4	+0.3
Males	45.3	42.6	39.5	35.7	33.6	30.0	31.4	31.1	32.3	32.1	31.6	31.9	33.6	33.9	34.4	34.9	35.6	+0.7
Females	39.0	36.5	33.6	30.5	28.3	24.5	25.8	26.1	25.3	28.1	27.3	27.1	27.1	27.6	28.2	30.1	30.2	+0.2
Any Illicit Drug Other Than Marijuana	27.0	23.9	21.3	18.3	16.7	14.3	14.1	13.0	13.0	13.8	13.2	13.6	13.2	13.7	14.9	15.4	16.3	+1.0
Males	30.4	26.5	23.8	21.0	19.1	16.4	16.3	14.7	16.2	16.2	15.4	15.6	16.2	16.7	17.8	17.2	18.9	+1.7
Females	24.0	21.6	19.4	16.2	14.7	12.5	12.2	11.6	10.5	12.0	11.4	12.0	11.0	11.5	12.9	14.1	14.6	+0.5
Percentage reporting use in last 30 days																		
Any Illicit Drug	25.8	23.4	20.5	17.7	15.9	15.1	14.8	14.9	15.3	15.8	15.8	16.4	16.1	17.1	18.1	18.8	18.9	+0.2
Males	29.9	27.1	23.7	21.1	18.8	18.3	17.9	17.4	19.5	18.6	19.0	19.8	20.1	20.0	21.5	21.9	22.8	+0.9
Females	22.2	20.2	17.8	15.0	13.5	12.5	12.4	12.9	12.1	13.5	13.3	13.8	13.2	15.0	15.6	16.6	16.3	-0.2
Any Illicit Drug Other Than Marijuana	13.0	10.7	9.5	7.5	6.0	5.4	5.5	4.9	5.3	5.7	4.7	5.5	5.5	6.0	6.4	7.0	7.7	+0.6
Males	15.2	12.3	10.6	9.1	6.8	6.6	6.5	5.9	7.1	6.8	5.7	6.8	7.1	7.3	7.8	8.1	8.5	+0.4
Females	11.0	9.4	8.7	6.2	5.3	4.4	4.7	4.0	3.9	4.8	4.0	4.5	4.4	5.1	5.4	6.3	7.1	+0.8
Approximate Weighted N																		
All Respondents	6900	6800	6700	6600	6700	6600	6800	6700	6500	6400	6300	6400	6200	6000	5700	5800	5300	
Males	3200	3100	3000	2900	3000	3000	3000	3000	2900	2800	2700	2800	2700	2600	2400	2400	2200	
Females	3700	3700	3700	3700	3700	3600	3700	3700	3600	3600	3600	3600	3500	3400	3300	3400	3100	

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

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

FIGURE 5-1

Any Illicit Drug: Trends in Annual Prevalence
Among High School Seniors and Adults Through Age 40
by Age Group
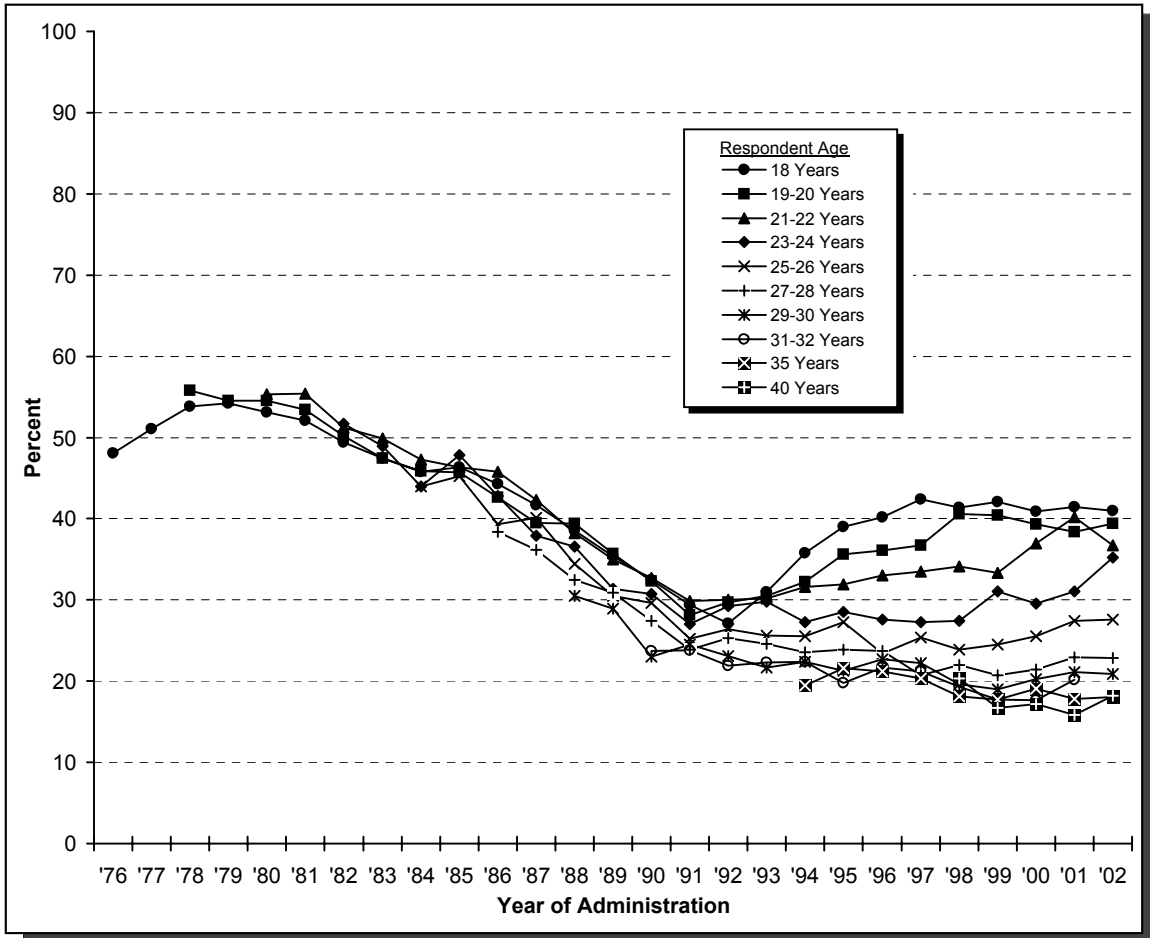
*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	40.9	41.4	41.0
19-20 Years			55.8	54.5	54.5	53.4	50.2	47.4	45.9	45.7	42.6	39.5	39.4	35.7	32.3	28.1	29.7	30.5	32.2	35.6	36.1	36.7	40.6	40.4	39.3	38.4	39.4
21-22 Years					55.3	55.4	51.2	49.9	47.3	46.3	45.8	42.3	38.2	35.0	32.7	29.9	30.0	30.2	31.6	31.9	33.0	33.5	34.1	33.3	36.9	40.2	36.7
23-24 Years							51.7	48.9	44.0	47.8	42.8	37.9	36.6	31.4	30.7	27.0	29.2	29.8	27.3	28.5	27.6	27.3	27.4	31.1	29.6	31.1	35.2
25-26 Years									44.0	45.2	39.3	40.1	34.4	30.5	29.6	25.2	26.4	25.6	25.5	27.3	23.4	25.4	23.9	24.5	25.5	27.4	27.6
27-28 Years											38.4	36.2	32.5	30.9	27.4	23.9	25.3	24.6	23.6	23.9	23.7	20.7	22.0	20.8	21.4	22.9	22.9
29-30 Years													30.5	28.9	23.0	24.5	23.1	21.7	22.4	21.3	22.7	22.2	19.6	19.0	20.3	21.1	20.9
31-32 Years*															23.7	23.8	21.9	22.3	22.4	19.8	21.7	21.2	19.3	17.7	17.6	20.2	NA
35 Years																			19.5	21.6	21.2	20.3	18.1	17.7	19.1	17.8	18.1
40 Years																						20.3	16.7	17.2	15.8	18.2

FIGURE 5-2
Any Illicit Drug Other than Marijuana: Trends in Annual Prevalence Among High School Seniors and Adults Through Age 40
by Age Group
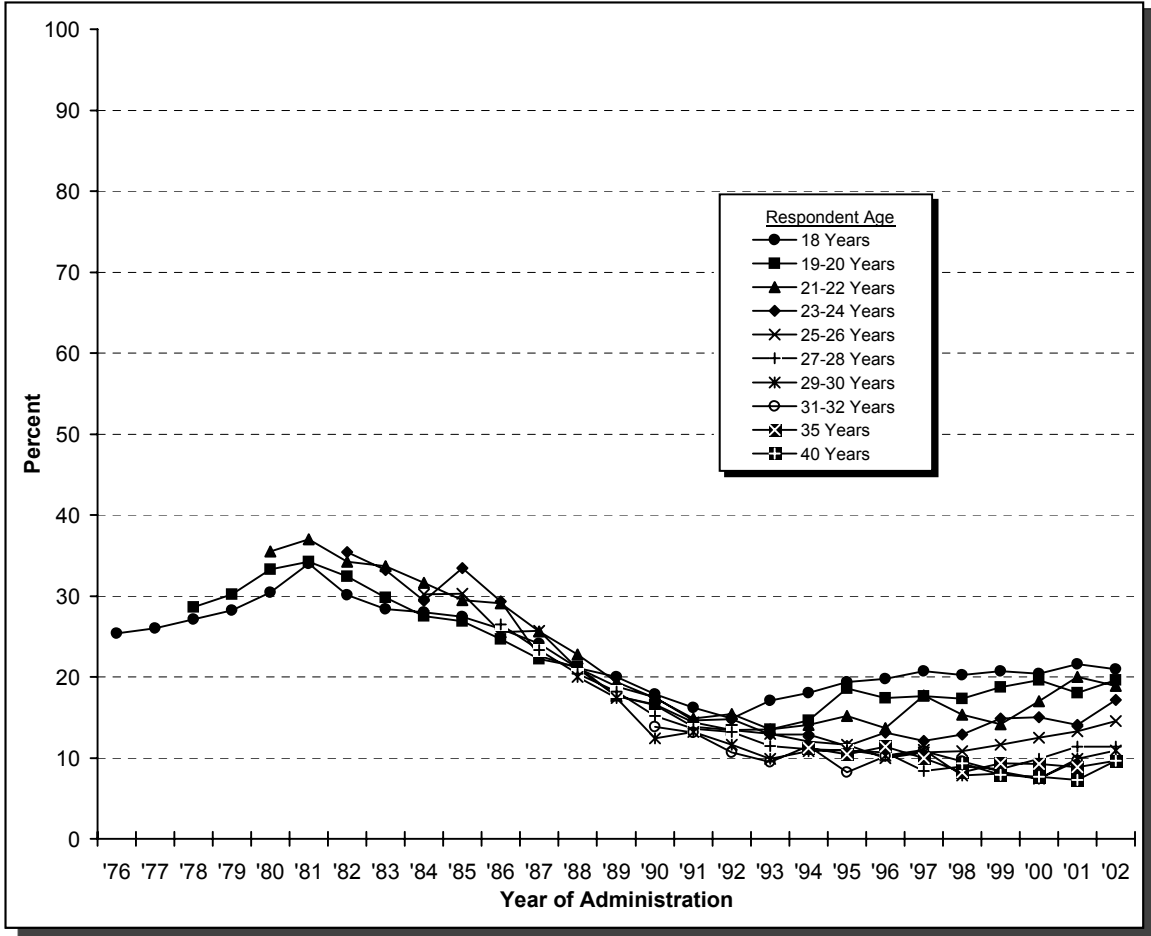
*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	20.4	21.6	20.9
19-20 Years			28.6	30.2	33.3	34.2	32.4	29.8	27.5	26.9	24.7	22.2	21.3	17.6	16.5	13.8	13.4	13.5	14.6	18.6	17.4	17.6	17.3	18.7	19.6	18.0	19.6
21-22 Years					35.5	37.0	34.2	33.7	31.6	29.5	29.1	25.6	22.8	19.4	17.4	14.9	15.4	13.5	14.1	15.2	13.7	17.7	15.3	14.1	17.0	20.0	18.9
23-24 Years							35.4	33.2	29.4	33.4	29.3	22.6	21.1	18.8	17.5	14.6	14.8	12.9	12.9	11.5	13.1	12.1	12.9	14.8	15.0	14.1	17.2
25-26 Years									30.2	30.3	25.5	25.7	21.0	17.6	16.6	14.4	13.4	13.0	12.0	11.6	10.0	10.7	10.8	11.6	12.5	13.3	14.6
27-28 Years											26.5	23.3	20.4	18.2	15.2	13.6	13.2	11.5	11.1	10.9	10.7	8.4	8.9	8.6	9.9	11.4	11.4
29-30 Years													20.0	17.4	12.4	13.2	11.6	9.9	10.8	11.0	10.3	11.0	7.8	8.1	7.4	9.9	10.9
31-32 Years*															13.8	13.1	10.7	9.5	11.5	8.2	10.2	10.8	9.6	8.3	7.4	9.7	NA
35 Years																		11.2	10.4	11.4	10.0	8.2	9.3	9.3	8.8	9.6
40 Years																							9.3	7.9	7.7	7.3	9.7

FIGURE 5-3a
Marijuana: Trends in Annual Prevalence Among High School Seniors and Adults Through Age 40
by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	36.5	37.0	36.2
19-20 Years			52.8	51.0	49.7	49.0	44.9	43.0	41.4	40.3	39.1	35.8	36.2	32.2	28.4	25.4	26.9	27.9	29.3	31.8	34.2	34.8	37.2	37.9	37.0	35.4	36.4
21-22 Years				50.1	51.1	45.8	45.4	42.1	40.9	39.6	37.4	33.7	31.6	28.2	26.8	26.9	26.1	29.2	28.1	30.6	30.6	31.9	31.5	33.2	37.5	34.3
23-24 Years						46.0	43.8	38.6	42.0	36.6	33.7	32.0	27.3	26.6	23.2	26.6	26.5	24.6	25.8	25.8	25.1	25.5	27.4	26.9	28.3	31.8
25-26 Years								38.3	39.2	34.1	35.4	29.7	26.2	24.1	21.8	23.5	22.2	22.6	24.4	21.7	23.3	21.2	21.8	22.7	25.0	24.5
27-28 Years										32.5	31.4	26.7	26.8	22.6	20.9	21.2	21.3	20.1	20.4	20.6	18.0	19.9	18.2	18.8	19.4	19.4
29-30 Years												25.4	24.7	20.0	21.0	20.1	18.8	19.0	18.2	19.5	18.0	16.9	16.0	18.4	17.1	17.5
31-32 Years*														19.8	19.9	17.7	19.9	18.6	17.2	18.6	16.7	15.8	14.8	14.5	16.7	NA
35 Years																			14.5	17.2	16.3	17.5	14.9	14.7	13.8	14.8	13.7
40 Years																							17.1	13.8	13.7	12.5	14.6

FIGURE 5-3b
Marijuana: Trends in 30-Day Prevalence Among
High School Seniors and Adults Through Age 40
by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	21.6	22.4	21.5
19-20 Years			38.0	37.5	33.9	34.2	28.6	25.7	24.6	22.8	22.9	20.4	20.1	16.3	15.2	13.2	14.1	14.6	15.3	18.7	19.9	19.9	20.1	23.1	22.3	21.0	22.2
21-22 Years					35.9	35.3	29.1	29.3	26.4	25.2	23.3	21.8	18.5	15.9	14.3	14.7	14.7	13.8	16.5	15.4	16.4	18.9	17.5	17.8	19.8	22.9	20.1
23-24 Years							30.3	29.7	25.4	26.8	23.0	19.6	17.4	15.6	13.4	13.0	12.5	13.6	13.3	12.2	14.2	14.0	13.8	15.3	14.7	14.9	17.2
25-26 Years									24.9	24.8	19.9	21.5	17.2	14.7	13.4	13.0	12.6	12.4	12.9	11.7	12.6	10.5	11.8	12.0	12.5	14.5	14.8
27-28 Years											20.7	20.3	16.1	14.7	12.9	13.5	12.0	12.3	11.6	10.4	11.0	10.1	10.5	8.9	10.7	10.3	9.9
29-30 Years													15.4	15.0	11.5	12.7	12.2	11.2	11.4	10.8	10.5	9.4	9.0	9.3	9.8	8.3	9.0
31-32 Years*															11.5	12.1	11.3	11.7	10.8	11.1	10.9	10.0	8.7	8.5	7.7	9.6	NA
35 Years																			8.7	11.1	8.8	10.7	9.1	8.8	8.3	8.8	8.9
40 Years																							10.5	8.3	8.5	8.3	8.1

FIGURE 5-3c
Marijuana: Trends in 30-Day Prevalence of <u>Daily</u> Use Among High School Seniors and Adults Through Age 40
by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	8.2	9.1	10.7	10.3	9.1	7.0	6.3	5.5	5.0	4.9	4.0	3.3	2.7	2.9	2.2	2.0	1.9	2.4	3.5	4.6	4.9	5.8	5.6	6.0	6.0	5.8	6.0
19-20 Years			10.5	10.9	8.1	7.9	6.6	5.2	4.7	4.6	3.5	3.4	3.5	2.8	2.3	2.1	1.4	2.3	3.1	4.7	4.9	5.4	5.2	6.2	6.0	6.1	6.0
21-22 Years					10.9	9.4	6.4	6.2	5.3	4.5	4.1	3.9	3.5	3.1	2.5	2.4	2.6	2.3	2.9	3.4	3.2	5.3	5.2	4.6	5.5	7.0	6.0
23-24 Years							8.1	6.7	5.5	5.8	4.9	4.3	3.1	3.0	2.7	2.1	2.3	2.7	3.1	3.3	2.3	2.6	3.1	5.1	3.8	4.7	5.5
25-26 Years									6.0	6.1	3.6	5.0	3.4	3.3	2.7	2.5	2.6	2.5	2.7	2.3	3.1	2.5	2.4	3.1	3.4	4.6	2.7
27-28 Years											4.8	4.6	3.0	4.1	2.4	2.6	2.5	2.3	2.2	2.5	2.5	2.7	2.3	2.8	2.0	2.3	2.5
29-30 Years													3.2	3.2	2.2	2.6	2.9	2.7	2.4	2.5	2.2	2.3	2.4	2.5	2.2	2.6	2.3
31-32 Years*															2.2	2.5	2.1	2.6	2.7	3.1	2.8	2.8	2.8	2.1	2.6	2.9	NA
35 Years																			2.3	2.6	2.3	3.5	2.7	1.9	2.7	2.3	3.0
40 Years																							3.2	2.1	2.6	1.8	3.0

FIGURE 5-4
Inhalants:* Trends in Annual Prevalence Among
High School Seniors and Adults Through Age 40
by Age Group

*Unadjusted for the possible underreporting of amyl and butyl nitrites. Chapter 5, Volume I, shows that such an adjustment would flatten the trend for seniors considerably because the line was adjusted up more in the earlier years, when nitrite use was more prevalent. Questions about nitrite use were dropped from the follow-up questionnaires beginning in 1995. Questions about the use of inhalants were not included in the questionnaires for the 35- and 40-year-olds.

**Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	5.9	4.5	4.5
19-20 Years			2.6	2.4	2.5	2.2	2.7	3.0	2.9	3.4	3.5	4.2	4.4	3.7	4.0	4.0	3.5	3.6	3.1	5.0	4.2	4.7	4.1	3.1	3.2	3.4	2.8
21-22 Years					1.8	2.0	1.9	2.0	1.7	1.8	2.6	3.0	2.7	2.1	2.3	2.3	3.0	2.8	3.3	2.1	2.7	2.8	2.4	3.3	3.0	2.4	1.9
23-24 Years							1.9	1.4	1.5	2.1	1.2	1.4	1.0	1.9	1.4	1.0	1.3	1.9	1.9	2.1	1.8	1.6	1.1	3.0	2.4	0.9	1.9
25-26 Years									0.6	0.8	1.2	0.9	0.5	0.5	0.5	1.2	0.6	0.7	0.7	1.7	0.9	1.0	1.7	0.4	1.0	0.8	0.8
27-28 Years											0.8	0.7	0.1	0.8	0.7	0.6	0.4	0.8	0.6	0.7	0.7	0.5	0.9	1.2	0.9	1.0	0.6
29-30 Years													0.5	0.4	0.3	0.6	0.6	0.4	0.6	0.8	0.0	1.0	0.1	0.5	0.1	0.7	0.5
31-32 Years**															0.3	0.4	0.6	0.5	0.3	0.9	0.2	0.4	0.8	0.3	0.5	0.5	NA
35 Years																				–	–	–	–	–	–	–	–
40 Years																					–	–	–	–	–	–	–

FIGURE 5-5

Hallucinogens:* Trends in Annual Prevalence Among High School Seniors and Adults Through Age 40

by Age Group

*Unadjusted for the possible underreporting of PCP.

**Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	8.1	9.1	6.6
19-20 Years			9.5	10.9	9.7	8.6	9.9	7.2	6.0	5.1	6.3	5.9	5.8	5.8	6.3	6.2	6.7	6.9	6.7	9.6	10.1	9.6	8.1	9.4	8.0	9.0	7.3
21-22 Years					10.1	10.9	9.3	7.4	7.5	5.7	5.7	5.2	5.8	4.3	5.0	5.7	7.2	5.0	6.8	6.6	6.2	8.0	6.7	6.8	7.4	8.1	5.8
23-24 Years							8.1	7.4	5.4	4.9	4.6	3.7	3.8	3.8	4.4	4.4	4.2	4.7	4.3	4.9	5.4	5.0	5.2	5.9	4.9	4.6	5.2
25-26 Years									4.7	4.7	3.0	2.4	2.5	2.0	2.3	3.2	3.7	3.0	3.0	3.7	3.2	3.7	3.2	2.7	3.9	3.1	2.8
27-28 Years											2.4	2.7	1.3	1.7	1.8	2.4	2.2	2.1	2.4	2.3	2.2	1.8	2.0	1.7	2.6	1.8	2.2
29-30 Years													2.1	1.4	1.2	1.5	1.9	1.3	1.5	1.9	1.4	1.6	1.4	1.4	1.7	1.7	2.0
31-32 Years**															1.0	1.3	1.2	0.9	1.0	1.3	0.9	1.6	0.9	1.3	0.9	1.5	NA
35 Years																			0.8	0.7	0.5	1.0	0.6	0.8	0.5	0.8	0.3
40 Years																							0.8	0.5	0.9	0.2	0.7

FIGURE 5-6
LSD: Trends in Annual Prevalence Among High School Seniors and Adults Through Age 40*
by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40. Questions about LSD use were not included in the questionnaire administered to 40-year-olds.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	6.6	6.6	3.5
19-20 Years			6.2	8.1	7.2	6.4	7.7	5.4	4.3	3.3	4.5	4.7	4.9	4.5	5.3	5.4	6.3	6.2	6.2	8.2	8.7	7.8	5.9	7.7	6.3	6.4	3.3
21-22 Years					7.9	8.0	6.9	4.9	5.1	3.3	4.4	3.7	4.2	3.2	4.0	5.0	6.0	4.3	5.7	5.5	4.9	5.5	4.4	4.5	4.9	4.7	1.8
23-24 Years							6.0	4.6	3.1	2.9	2.7	2.2	2.9	2.7	3.5	3.8	3.5	3.5	3.2	4.1	4.6	4.0	3.5	4.3	2.6	2.5	2.2
25-26 Years									2.7	2.9	1.5	1.6	1.6	1.4	1.8	2.5	3.2	2.4	2.4	2.6	2.0	2.6	2.1	1.9	2.5	1.7	1.0
27-28 Years											1.6	1.8	0.8	1.1	1.5	1.9	1.6	1.8	1.6	1.7	1.6	1.3	1.0	1.2	1.6	1.3	0.7
29-30 Years													1.5	0.8	0.8	1.0	1.4	1.0	1.0	1.4	1.0	0.8	1.0	0.8	1.0	1.1	0.9
31-32 Years8															0.6	0.8	1.0	0.7	0.6	1.1	0.5	1.0	0.7	0.9	0.2	0.7	NA
35 Years																			0.6	0.4	0.5	0.5	0.3	0.6	0.3	0.5	0.0
40 Years*																									-	-	-

FIGURE 5-7

Hallucinogens Other than LSD: Trends in Annual Prevalence Among
High School Seniors and Adults Through Age 40*

by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40. Questions about use of hallucinogens other than LSD were not included in the questionnaire administered to 40-year-olds.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	4.4	5.9	5.4
19-20 Years			7.1	7.3	5.4	4.6	6.1	3.9	3.2	3.2	3.6	2.5	2.4	3.0	2.6	2.6	1.9	2.8	2.2	3.9	4.4	5.1	4.8	4.2	4.6	5.5	6.5
21-22 Years					5.8	6.5	5.2	4.3	4.1	3.7	2.6	2.7	3.2	2.0	2.4	2.2	3.1	1.9	3.1	3.2	3.5	5.2	3.7	4.2	4.7	5.9	5.2
23-24 Years							4.0	4.2	3.5	2.8	2.7	2.4	1.8	1.9	1.6	1.4	1.9	2.2	2.0	1.9	2.8	2.3	3.1	3.6	3.7	3.0	4.1
25-26 Years									3.0	2.7	2.0	1.3	1.2	1.2	1.0	1.3	1.5	1.4	1.3	1.8	1.6	1.6	1.8	1.5	2.1	1.9	2.5
27-28 Years											1.4	1.5	0.7	0.8	0.7	1.0	0.8	0.9	1.2	1.1	0.9	1.0	1.4	0.9	1.6	0.9	1.7
29-30 Years													0.9	0.9	0.6	0.6	0.8	0.8	0.9	0.7	0.7	1.1	0.7	0.8	1.1	1.0	1.6
31-32 Years*															0.5	0.8	0.4	0.3	0.5	0.5	0.6	0.8	0.4	0.6	0.6	1.1	NA
35 Years																			0.5	0.3	0.1	0.6	0.5	0.4	0.3	0.4	0.3
40 Years*																							-	-	-	-	-

FIGURE 5-8
MDMA: Trends in Annual Prevalence Among
High School Seniors and Adults Through Age 40*
by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40. Questions about use of MDMA were not included in the questionnaires administered to 35- and 40-year-olds.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years																					4.6	4.0	3.6	5.6	8.2	9.2	7.4
19-20 Years														1.9	2.2	0.6	1.8	1.1	0.6	2.2	3.7	3.1	4.0	4.9	9.1	11.0	6.3
21-22 Years														2.1	2.0	1.1	1.7	0.5	1.4	2.1	1.9	3.9	3.7	4.6	9.8	10.8	9.3
23-24 Years														1.3	1.5	1.0	0.4	1.2	0.9	1.3	1.1	1.3	2.3	3.3	7.0	6.8	8.3
25-26 Years														0.3	1.0	0.6	0.8	0.5	0.2	1.2	1.1	1.6	1.8	3.4	6.9	4.3	4.4
27-28 Years														1.0	0.7	0.6	0.4	0.7	0.4	1.4	0.7	0.5	2.3	1.8	2.6	4.1	2.6
29-30 Years														0.1	0.3	0.7	0.0	0.0	0.3	0.3	0.5	1.4	0.0	0.7	2.4	2.6	2.4
31-32 Years*															0.5	0.2	0.4	0.2	0.2	0.2	0.1	0.6	0.9	0.8	0.3	1.4	NA
35 Years																					–	–	–	–	–	–	–
40 Years																							–	–	–	–	–

FIGURE 5-9
Cocaine: Trends in Annual Prevalence Among High School Seniors and Adults Through Age 40
by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	5.0	4.8	5.0
19-20 Years			11.8	15.0	16.3	15.9	16.9	13.8	14.6	15.4	15.9	13.4	10.6	7.6	5.6	3.8	3.7	3.2	3.2	3.9	3.7	4.5	5.3	5.7	5.8	6.0	6.5
21-22 Years				19.8	20.5	21.6	21.2	20.6	19.2	20.4	16.0	14.1	11.8	8.7	6.1	5.1	4.1	3.9	4.3	4.2	5.8	6.0	5.6	6.3	7.5	7.0
23-24 Years						22.9	20.8	20.2	23.5	22.8	16.2	15.1	12.0	9.5	7.2	6.5	4.6	4.8	4.5	4.8	4.9	5.2	6.8	6.3	5.4	6.0
25-26 Years							21.1	21.6	19.7	17.4	15.2	10.7	9.9	7.4	6.6	6.3	4.2	4.6	3.8	4.3	3.7	5.0	4.8	5.4	5.6
27-28 Years									19.9	15.6	14.2	12.2	9.9	6.9	7.2	5.8	5.4	4.6	4.3	3.7	3.9	3.9	3.6	4.8	4.0
29-30 Years											14.0	11.6	8.1	6.7	6.7	4.7	6.0	4.5	4.3	4.3	3.7	3.6	2.7	2.8	4.4
31-32 Years*													8.9	6.8	5.7	5.1	5.5	3.8	5.0	5.1	4.4	4.1	3.0	3.5	NA
35 Years																	4.7	4.3	5.1	4.1	4.4	4.6	3.9	3.5	3.6
40 Years																					4.5	4.1	3.5	3.0	3.7

FIGURE 5-10
Crack Cocaine: Trends in Annual Prevalence Among
High School Seniors and Adults Through Age 40
by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years											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	2.2	2.1	2.3
19-20 Years												2.7	2.7	1.8	1.0	0.6	1.3	1.2	1.2	1.0	1.3	1.3	1.3	2.4	1.6	1.7	1.7
21-22 Years												4.1	2.9	3.6	1.6	1.3	1.3	1.1	1.1	1.3	1.4	1.2	1.4	1.2	1.6	1.4	1.0
23-24 Years												3.4	4.0	3.1	2.1	1.4	1.3	1.2	0.8	1.0	1.2	1.0	1.2	1.5	1.2	1.1	1.1
25-26 Years												2.4	2.7	1.9	2.3	1.5	1.3	1.3	1.0	1.1	0.7	0.7	0.4	0.9	1.1	1.0	0.7
27-28 Years												3.0	3.0	2.0	1.3	1.6	1.6	1.7	1.5	0.9	0.8	0.6	0.8	0.8	0.6	1.3	0.6
29-30 Years													3.2	2.8	1.7	1.1	0.9	1.0	1.5	1.5	1.0	1.5	0.7	1.3	0.5	0.7	0.9
31-32 Years*															1.5	1.3	1.1	0.9	1.0	1.0	1.3	0.7	0.9	0.8	0.7	1.0	NA
35 Years																			1.0	1.0	1.5	0.8	1.2	1.1	0.8	0.7	1.3
40 Years																							1.5	1.0	0.5	0.6	1.0

FIGURE 5-11
Heroin: Trends in Annual Prevalence Among High School Seniors and Adults Through Age 40
by Age Group
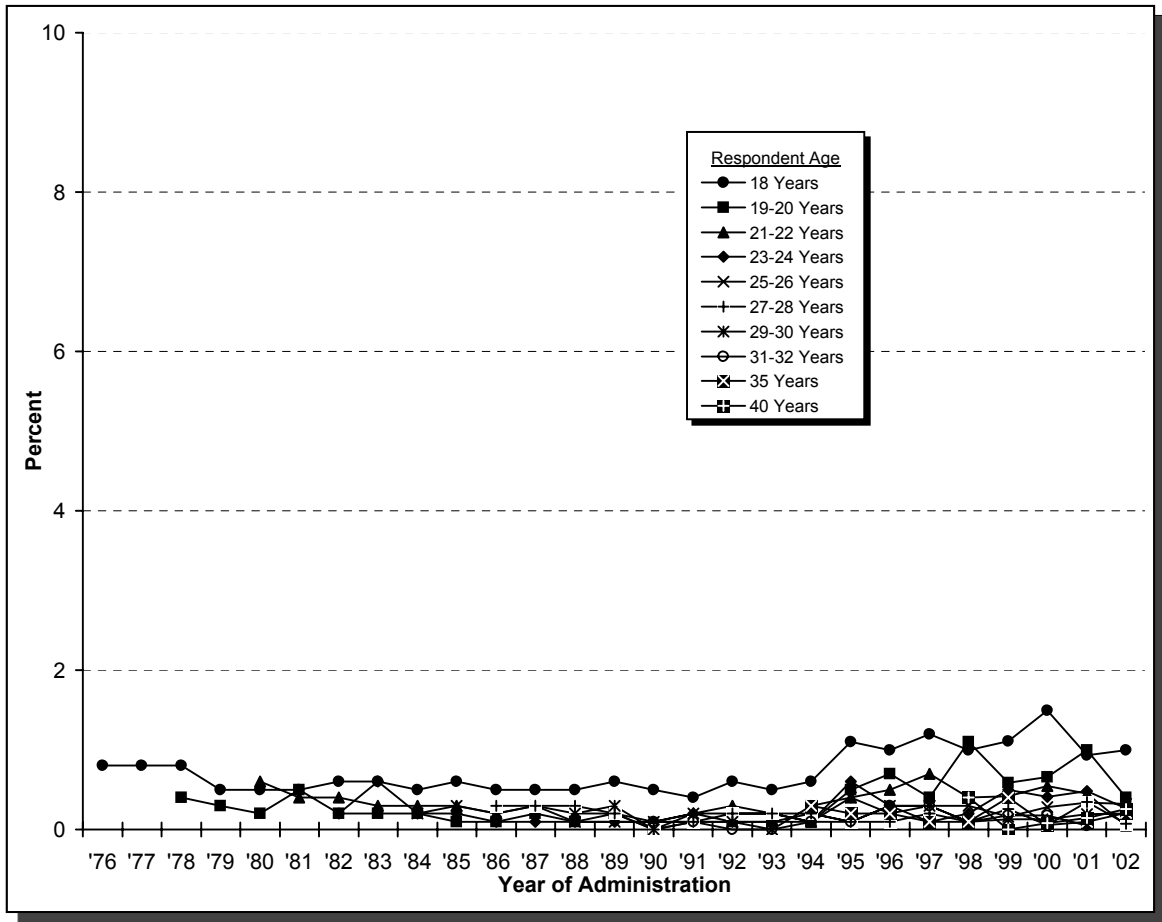
*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	0.8	0.8	0.8	0.5	0.5	0.5	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	1.2	1.0	1.1	1.5	0.9	1.0
19-20 Years			0.4	0.3	0.2	0.5	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.5	0.7	0.4	1.1	0.6	0.7	1.0	0.4
21-22 Years					0.6	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.1	0.2	0.3	0.2	0.1	0.4	0.5	0.7	0.4	0.4	0.5	0.5	0.1
23-24 Years							0.2	0.6	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.6	0.3	0.1	0.2	0.5	0.4	0.5	0.3
25-26 Years									0.2	0.3	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.3	0.3	0.2	0.3	0.3	0.3
27-28 Years											0.3	0.3	0.3	0.2	0.0	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.3	0.1	0.3	0.1
29-30 Years													0.2	0.3	0.0	0.2	0.1	0.0	0.3	0.4	0.2	0.3	0.1	0.1	0.1	0.2	0.2
31-32 Years*															0.1	0.1	0.0	0.0	0.1	0.1	0.3	0.3	0.1	0.2	0.2	0.0	NA
35 Years																			0.3	0.2	0.2	0.1	0.1	0.4	0.1	0.1	0.2
40 Years																							0.4	0.0	0.1	0.1	0.3

FIGURE 5-12

Narcotics Other than Heroin: Trends in Annual Prevalence Among
High School Seniors and Adults Through Age 40
by Age Group

Respondent Age
- 18 Years
- 19-20 Years
- 21-22 Years
- 23-24 Years
- 25-26 Years
- 27-28 Years
- 29-30 Years
- 31-32 Years
- 35 Years
- 40 Years
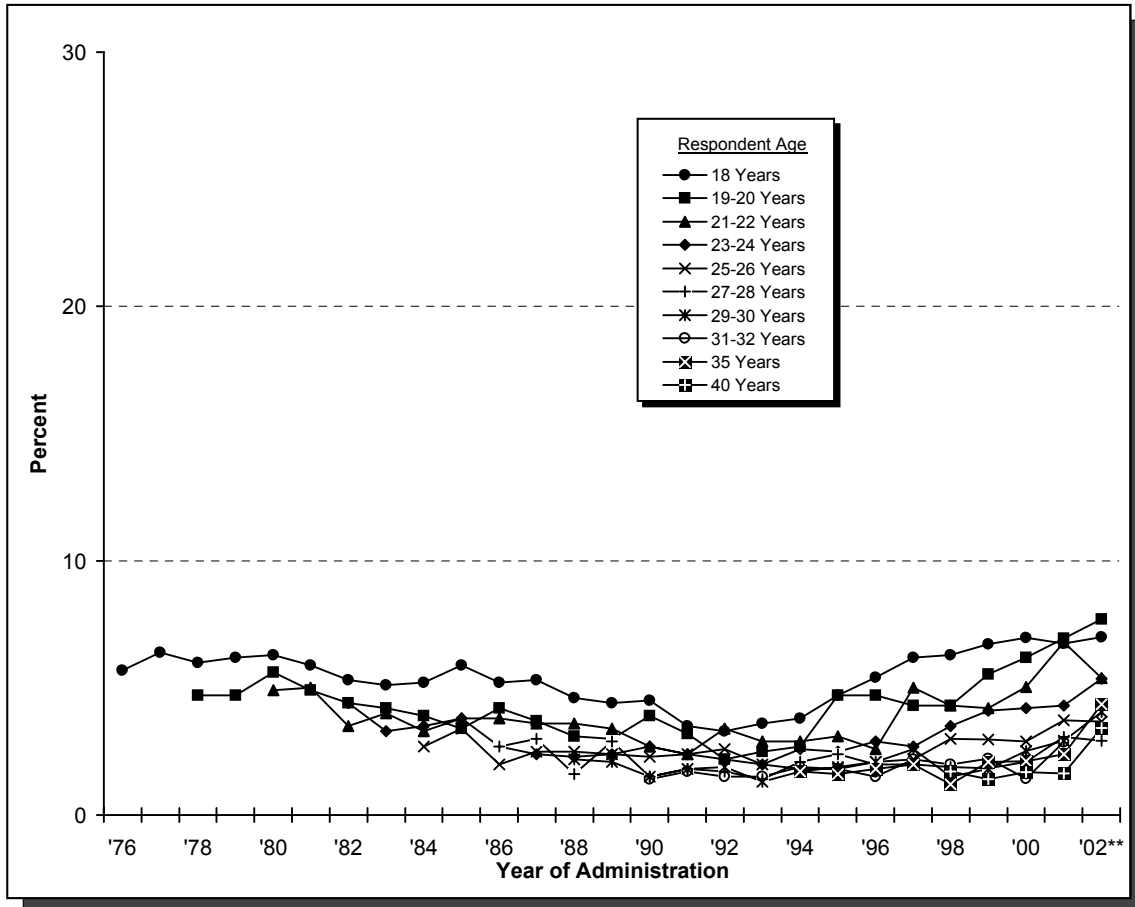
*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

**In 2002, the question text was changed on half of the questionnaire forms for 18-30 year olds. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric--all of which had negligible rates of use by 2001--were replaced by Vicodin, OxyContin, and Percocet. The 2001 data presented here are based on all forms. The 2002 estimates are based on the 2001 prevalence of use rate plus the observed difference between the data from 2001 to 2002 in the half-sample in which the question did not change. In 2002, data is based on the changed question text for 35 and 40 year olds.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02**
18 Years	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	7.0	6.7	7.0
19-20 Years			4.7	4.7	5.6	4.9	4.4	4.2	3.9	3.4	4.2	3.7	3.1	3.0	3.9	3.2	2.2	2.5	2.7	4.7	4.7	4.3	4.3	5.5	6.2	7.0	7.7
21-22 Years					4.9	5.0	3.5	4.0	3.3	3.8	3.8	3.6	3.6	3.4	2.7	2.4	3.4	2.9	2.9	3.1	2.6	5.0	4.3	4.2	5.0	6.8	5.4
23-24 Years							4.4	3.3	3.5	3.8	2.7	2.4	2.3	2.4	2.7	2.4	2.2	2.0	2.6	2.5	2.9	2.7	3.5	4.1	4.2	4.3	5.4
25-26 Years									2.7	3.4	2.0	2.5	2.5	2.4	2.3	2.4	2.6	2.0	1.8	1.8	2.1	2.2	3.0	3.0	2.9	3.7	3.7
27-28 Years											2.7	3.0	1.6	2.9	1.5	1.8	1.7	1.4	2.1	2.4	2.0	2.0	1.9	1.8	2.1	3.1	2.9
29-30 Years													2.2	2.1	1.5	1.8	1.9	1.3	1.7	1.9	2.1	2.6	1.5	1.8	2.5	2.9	4.0
31-32 Years*															1.4	1.7	1.5	1.5	1.9	1.8	1.5	2.2	2.0	2.2	1.4	2.9	NA
35 Years																			1.7	1.6	1.8	2.0	1.2	2.1	2.1	2.4	4.4
40 Years																							1.7	1.4	1.7	1.6	3.4

FIGURE 5-13
Amphetamines: Trends in Annual Prevalence Among
High School Seniors and Adults Through Age 40
by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	10.5	10.9	11.1
19-20 Years			18.2	21.5	23.8	25.5	23.9	19.7	15.8	14.5	11.0	9.1	9.2	6.9	6.6	4.9	5.6	5.4	5.4	7.2	6.5	5.9	7.5	7.9	9.3	8.7	9.1
21-22 Years				25.5	26.7	22.4	19.9	17.4	13.0	13.0	9.9	8.1	6.8	5.5	4.9	4.3	4.8	5.3	5.7	4.9	7.3	5.0	5.0	6.0	7.9	7.1	
23-24 Years						21.8	18.3	14.0	14.1	11.4	7.9	7.6	5.1	5.3	3.8	4.0	3.8	4.5	3.0	4.1	3.8	4.3	4.5	4.8	5.2	5.8	
25-26 Years								14.9	12.5	8.6	8.3	6.4	5.5	4.0	3.4	2.7	2.9	3.9	3.5	2.5	3.2	2.9	3.4	3.6	3.6	3.9	
27-28 Years										9.1	7.9	5.0	4.3	4.3	4.0	3.5	2.6	2.9	2.7	2.5	2.0	2.3	2.6	2.7	3.2	3.3	
29-30 Years											5.5	5.0	2.7	2.9	3.3	2.4	2.6	2.5	2.6	2.7	1.8	2.4	1.4	1.9	2.1		
31-32 Years*													3.7	3.7	2.6	2.4	2.5	1.5	2.7	2.6	2.6	1.9	1.9	1.5	NA		
35 Years																	2.4	1.9	1.9	1.7	1.7	1.9	1.8	1.9	1.2		
40 Years																					1.7	1.2	1.4	1.0	1.4		

FIGURE 5-14
Ice: Trends in Annual Prevalence Among
High School Seniors and Adults Through Age 40*
by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40. Questions about the use of ice were not included in the questionnaires administered to the 35- and 40-year-olds.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years															1.3	1.4	1.3	1.7	1.8	2.4	2.8	2.3	3.0	1.9	2.2	2.5	3.0
19-20 Years															0.3	0.4	0.3	1.4	1.3	1.1	1.5	0.7	2.0	1.4	1.3	1.9	2.6
21-22 Years															0.7	0.5	0.1	1.0	0.4	2.2	0.7	1.5	1.1	0.6	1.2	0.9	1.2
23-24 Years															0.4	0.4	0.7	0.9	1.7	0.8	1.4	1.3	1.4	1.5	2.3	0.6	1.6
25-26 Years															0.3	0.2	0.8	0.1	0.6	0.2	0.1	0.4	0.6	0.8	0.7	1.1	0.9
27-28 Years															0.5	0.0	0.3	0.6	0.3	0.8	0.5	0.3	0.0	0.4	0.7	0.8	0.8
29-30 Years															0.3	0.1	0.4	0.3	0.7	0.6	0.2	0.7	0.0	0.0	0.0	0.3	0.7
31-32 Years*															0.3	0.2	0.2	0.2	0.3	0.0	0.4	0.7	1.2	0.0	0.0	0.7	NA
35 Years																			–	–	–	–	–	–	–	–	–
40 Years																							–	–	–	–	–

FIGURE 5-15
Sedatives (Barbiturates): Trends in Annual Prevalence Among High School Seniors and Adults Through Age 40
by Age Group

Respondent Age
- —●— 18 Years
- —■— 19-20 Years
- —▲— 21-22 Years
- —◆— 23-24 Years
- —✕— 25-26 Years
- —+— 27-28 Years
- —✱— 29-30 Years
- —○— 31-32 Years
- —⊠— 35 Years
- —▣— 40 Years

Percent

Year of Administration

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	6.2	5.7	6.7
19-20 Years			6.4	6.9	4.5	4.7	4.4	3.5	3.5	2.0	2.2	1.9	2.2	1.6	1.7	1.8	1.7	1.9	2.3	3.4	3.3	4.0	3.8	5.0	4.9	5.2	5.8
21-22 Years					5.7	5.8	4.1	3.1	2.5	2.3	2.9	2.7	1.9	1.8	1.7	1.4	1.8	1.6	2.2	2.6	2.4	3.5	3.1	2.5	3.9	4.8	3.8
23-24 Years							4.1	3.7	2.6	3.0	2.3	1.5	2.1	1.8	2.3	2.0	1.7	1.7	1.7	1.4	2.2	1.5	2.4	3.2	4.3	3.4	4.4
25-26 Years									3.3	3.4	1.8	2.1	1.7	1.3	2.2	2.5	1.5	1.8	1.1	1.2	1.0	1.5	1.7	1.8	2.2	2.7	2.9
27-28 Years											2.4	2.3	1.2	1.7	1.8	1.4	1.4	2.3	1.6	1.4	1.7	1.0	1.5	1.1	1.4	2.1	2.3
29-30 Years													2.1	1.4	1.6	1.6	2.0	1.1	1.4	1.7	1.6	1.8	1.0	1.2	0.9	1.3	1.7
31-32 Years*															2.2	2.2	1.7	1.5	1.2	1.1	1.4	0.8	1.0	0.9	0.9	1.1	NA
35 Years																			1.9	1.7	1.6	1.3	1.1	1.6	0.9	1.8	1.4
40 Years																							0.9	1.5	1.6	1.4	1.0

## FIGURE 5-16
Tranquilizers: Trends in Annual Prevalence Among
High School Seniors and Adults Through Age 40
by Age Group
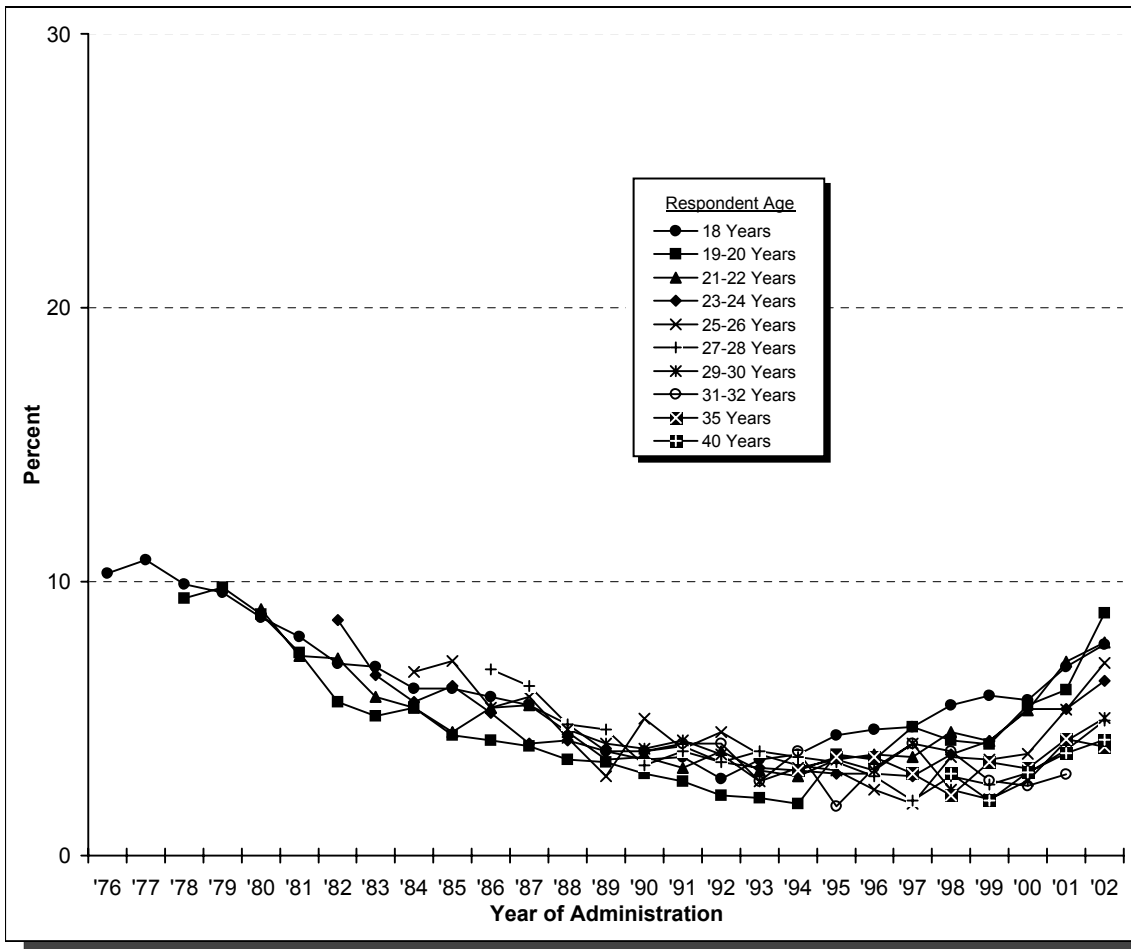
*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	5.7	6.9	7.7
19-20 Years			9.4	9.8	8.8	7.4	5.6	5.1	5.4	4.4	4.2	4.0	3.5	3.4	3.0	2.7	2.2	2.1	1.9	3.7	3.5	4.7	4.2	4.1	5.5	6.1	8.8
21-22 Years					9.0	7.3	7.2	5.8	5.4	4.5	5.4	5.5	4.5	3.5	3.6	3.2	3.8	3.1	2.9	3.5	3.7	3.6	4.5	4.2	5.3	7.1	7.8
23-24 Years							8.6	6.6	5.6	6.2	5.2	4.1	4.2	3.8	3.8	4.0	3.4	3.2	3.1	3.0	3.0	2.9	3.7	4.2	5.3	5.4	6.4
25-26 Years									6.7	7.1	5.4	5.8	4.3	2.9	5.0	3.9	4.5	3.7	3.3	3.1	2.4	1.9	3.6	3.5	3.7	5.3	7.0
27-28 Years											6.8	6.2	4.8	4.6	3.3	3.8	3.4	3.8	3.6	3.4	2.9	2.0	2.9	2.6	3.0	3.9	4.9
29-30 Years													4.6	4.1	3.9	4.2	3.7	2.7	3.2	3.5	3.1	4.1	2.4	2.1	2.7	4.2	5.0
31-32 Years*															3.8	4.1	4.1	2.7	3.8	1.8	3.2	4.1	3.8	2.7	2.6	3.0	NA
35 Years																			3.1	3.6	3.6	3.0	2.2	3.4	3.2	4.3	4.0
40 Years																							3.0	2.0	3.0	3.7	4.2

FIGURE 5-17
Steroids: Trends in Annual Prevalence Among
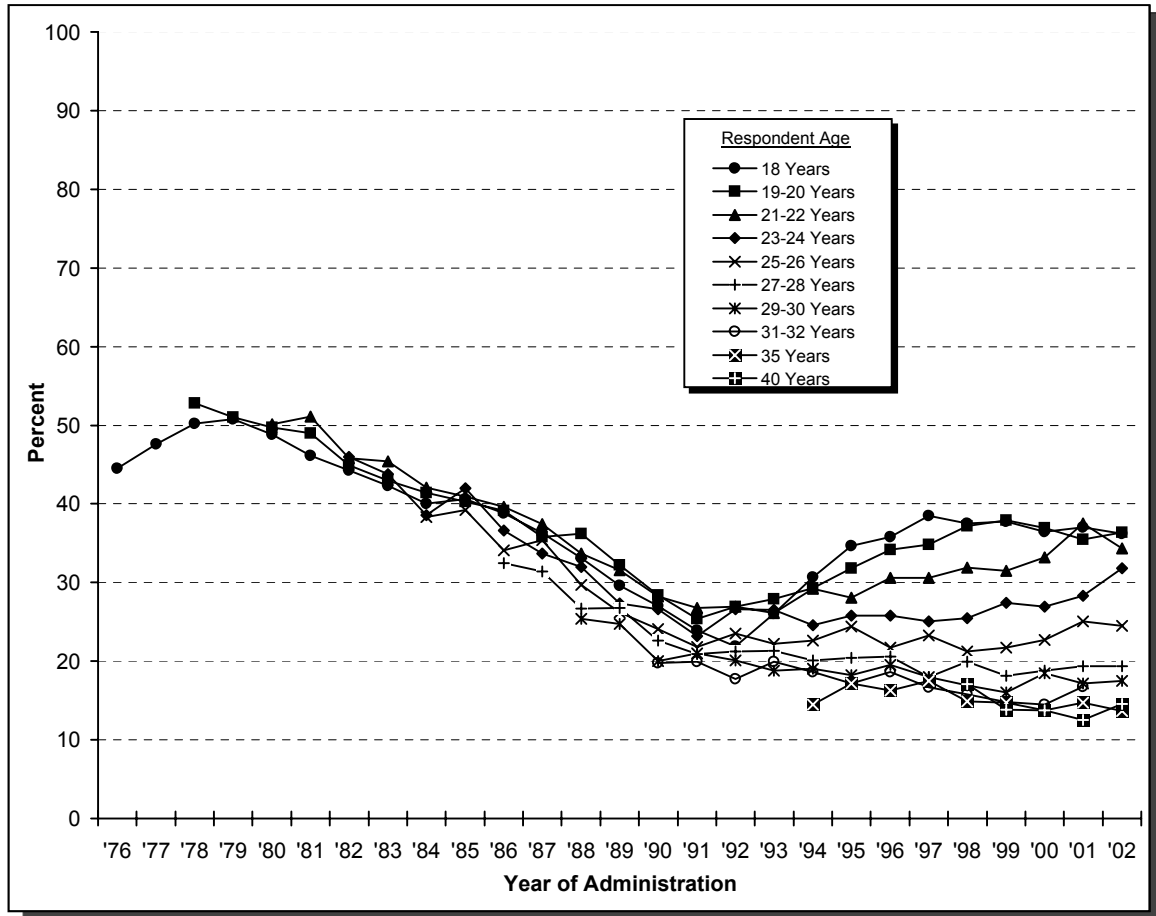### High School Seniors and Adults Through Age 40*
by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40. Questions about the use of steroids were not included in the questionnaires administered to the 35- and 40-year-olds.

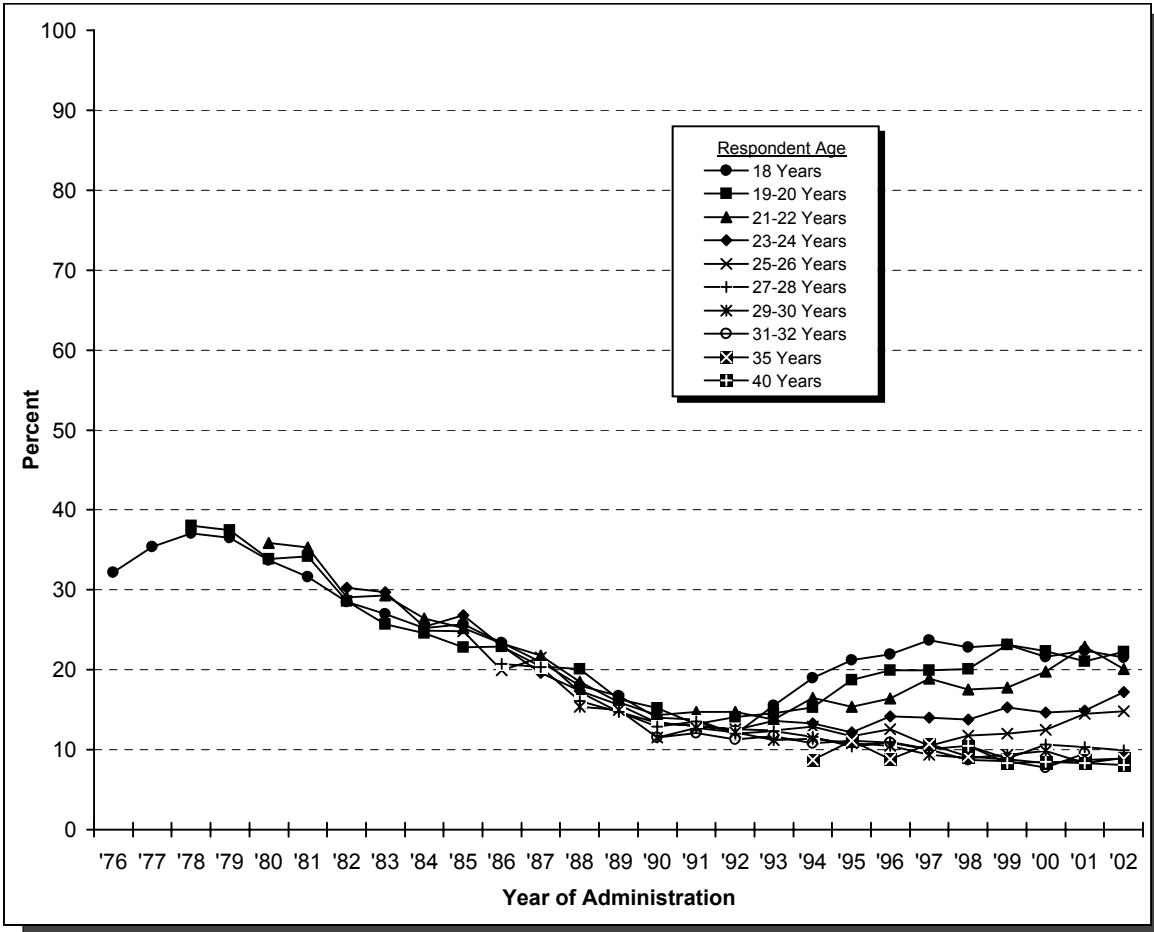| Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years														1.9	1.7	1.4	1.1	1.2	1.3	1.5	1.4	1.4	1.7	1.8	1.7	2.4	2.5
19-20 Years																0.4	0.5	0.0	0.5	0.4	0.3	0.6	0.8	0.5	0.1	0.4	1.0
21-22 Years																0.3	0.1	0.9	0.6	0.6	0.1	0.2	0.2	1.1	0.4	0.9	0.3
23-24 Years																0.4	0.7	0.4	0.0	0.8	0.3	0.9	0.2	0.1	0.3	0.0	0.4
25-26 Years																0.5	0.4	0.0	0.2	0.2	1.0	0.5	0.3	1.0	0.2	0.0	0.3
27-28 Years																0.8	0.0	0.2	0.5	0.0	0.0	0.2	0.4	0.1	0.9	0.6	0.0
29-30 Years																0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.1
31-32 Years*																0.1	0.0	0.0	0.4	0.2	0.5	0.0	0.5	0.0	0.2	0.0	NA
35 Years																			–	–	–	–	–	–	–	–	–
40 Years																							–	–	–	–	–

FIGURE 5-18a

Alcohol: Trends in Annual Prevalence Among High School Seniors and Adults Through Age 40

by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

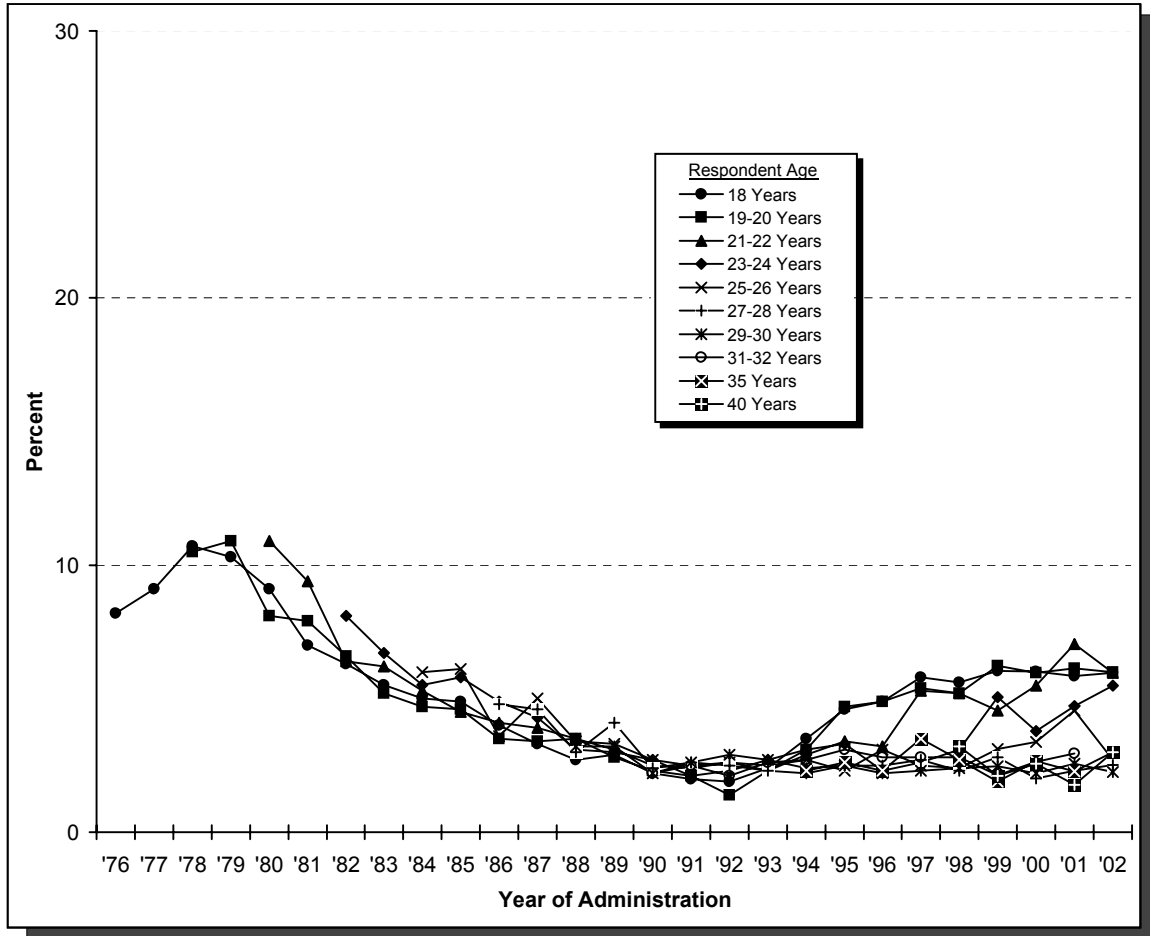| Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	85.7	87.0	87.7	88.1	87.9	87.0	86.8	87.3	86.0	85.6	84.5	85.7	85.3	82.7	80.6	77.7	76.8	76.0	73.0	73.7	72.5	74.8	74.3	73.8	73.2	73.3	71.5
19-20 Years			89.8	90.6	89.0	90.6	88.6	88.5	88.7	88.5	88.2	88.2	86.6	87.5	85.6	84.6	81.9	80.6	78.2	78.3	79.6	79.2	79.7	79.6	79.7	77.6	78.0
21-22 Years					90.2	91.6	91.8	91.8	89.1	89.8	90.1	90.8	89.5	89.1	89.6	89.0	87.9	85.9	84.4	85.7	84.4	85.1	86.3	85.5	86.2	87.0	85.8
23-24 Years							90.0	91.7	90.4	91.6	88.1	89.7	89.7	88.7	88.2	88.1	89.1	87.8	86.6	87.8	85.7	85.4	84.9	85.2	87.2	86.7	88.0
25-26 Years									88.2	89.9	88.8	90.5	89.4	87.5	87.5	87.7	86.7	87.8	86.0	86.7	85.9	86.4	83.8	85.0	84.2	86.3	88.3
27-28 Years											87.8	87.8	87.7	88.0	86.4	85.3	85.6	85.7	84.5	85.7	85.3	85.9	85.3	85.4	82.9	84.2	84.7
29-30 Years													87.2	86.0	86.9	85.0	84.5	83.2	82.6	83.3	84.7	83.7	84.2	85.4	83.7	84.3	83.6
31-32 Years*														84.8	83.8	85.0	83.6	83.6	81.8	82.0	83.3	83.2	85.1	82.9	84.4	NA
35 Years																			82.5	82.1	83.5	82.3	82.3	81.0	81.0	82.7	85.1
40 Years																							77.3	80.0	80.3	81.5	80.0

FIGURE 5-18b

Alcohol: Trends in 30-Day Prevalence Among High School Seniors and Adults Through Age 40

by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	50.1	51.3	50.8	52.7	52.0	51.0	50.0	49.8	48.6
19-20 Years			75.8	76.5	76.6	77.0	75.7	73.9	73.6	73.3	72.9	72.5	69.6	69.8	66.6	64.5	61.0	60.5	59.9	59.2	58.1	59.0	59.7	62.0	59.1	59.0	59.2
21-22 Years					78.3	80.5	79.9	79.3	78.1	75.9	77.2	77.2	76.2	73.8	74.1	75.3	72.7	71.6	70.4	70.4	69.5	69.1	69.4	69.2	70.5	71.8	71.9
23-24 Years							77.9	78.9	77.6	79.7	75.7	74.9	75.9	72.2	73.6	72.4	73.0	73.1	70.1	72.3	69.2	69.3	70.3	70.2	71.5	70.6	71.9
25-26 Years									75.2	76.8	76.3	77.7	74.1	72.5	71.4	71.6	69.8	69.9	70.4	71.8	68.5	70.9	66.3	70.0	68.7	68.7	71.2
27-28 Years											73.6	75.0	74.6	73.9	70.9	69.8	69.1	68.3	69.9	68.0	69.3	70.4	68.7	70.2	64.6	66.5	67.9
29-30 Years													72.1	72.3	70.2	69.6	69.2	66.2	67.0	67.0	68.0	65.8	66.1	67.4	65.2	66.2	65.4
31-32 Years*															68.4	68.5	67.8	66.4	67.7	67.6	65.5	65.3	65.2	66.0	66.7	67.8	NA
35 Years																			65.1	66.8	64.7	65.3	62.9	64.2	64.0	63.7	67.3
40 Years																							59.8	64.2	63.1	65.6	65.4

FIGURE 5-18c

Alcohol: Trends in 30-Day Prevalence of <u>Daily</u> Use Among
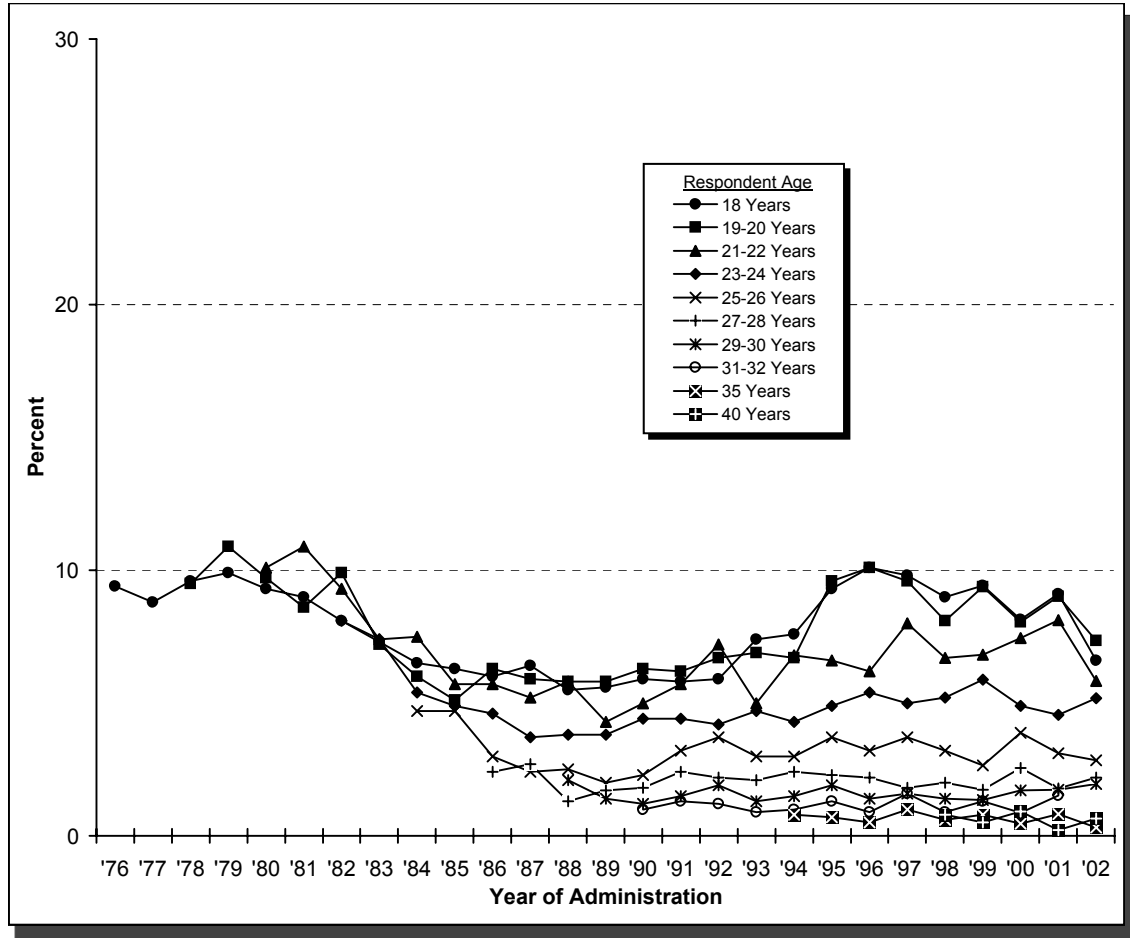## High School Seniors and Adults Through Age 40

by Age Group
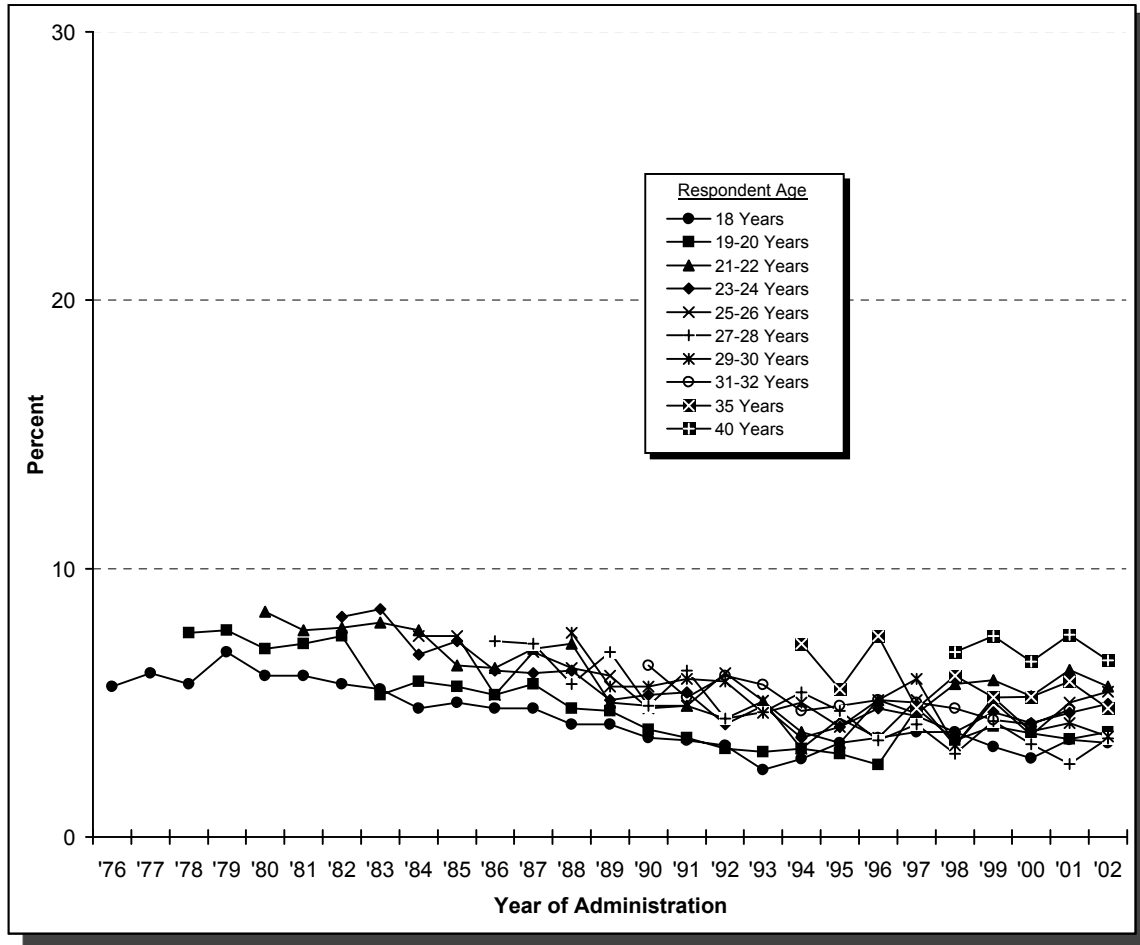
*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	5.6	6.1	5.7	6.9	6.0	6.0	5.7	5.5	4.8	5.0	4.8	4.8	4.2	4.2	3.7	3.6	3.4	2.5	2.9	3.5	3.7	3.9	3.9	3.4	2.9	3.6	3.5
19-20 Years			7.6	7.7	7.0	7.2	7.5	5.3	5.8	5.6	5.3	5.7	4.8	4.7	4.0	3.7	3.3	3.2	3.3	3.1	2.7	4.8	3.6	4.1	3.9	3.6	3.9
21-22 Years					8.4	7.7	7.8	8.0	7.7	6.4	6.3	7.0	7.2	5.0	4.9	4.9	4.4	5.1	3.9	3.5	5.1	4.6	5.7	5.9	5.3	6.2	5.6
23-24 Years							8.2	8.5	6.8	7.3	6.2	6.1	6.2	5.1	5.3	5.4	4.2	4.9	3.7	4.1	4.8	4.5	3.9	4.7	4.2	4.6	5.0
25-26 Years									7.5	7.5	5.3	6.9	6.3	6.0	4.8	4.9	6.1	5.1	3.3	4.4	3.7	5.1	3.4	5.1	3.8	5.0	5.4
27-28 Years											7.3	7.2	5.7	6.9	4.9	6.2	4.4	4.7	5.4	4.7	3.6	4.2	3.1	4.3	3.5	2.7	3.7
29-30 Years													7.6	5.6	5.6	5.9	5.8	4.6	5.0	4.1	5.1	5.9	3.4	5.2	3.9	4.3	3.8
31-32 Years*															6.4	5.2	6.0	5.7	4.7	4.9	5.1	5.0	4.8	4.4	4.2	4.7	NA
35 Years																			7.2	5.5	7.5	4.8	6.0	5.2	5.2	5.8	4.8
40 Years																							6.9	7.5	6.5	7.5	6.6

FIGURE 5-18d

Alcohol: Trends in Two-Week Prevalence of Having Five or More Drinks in a Row at Least Once Among High School Seniors and Adults Through Age 40
by Age Group
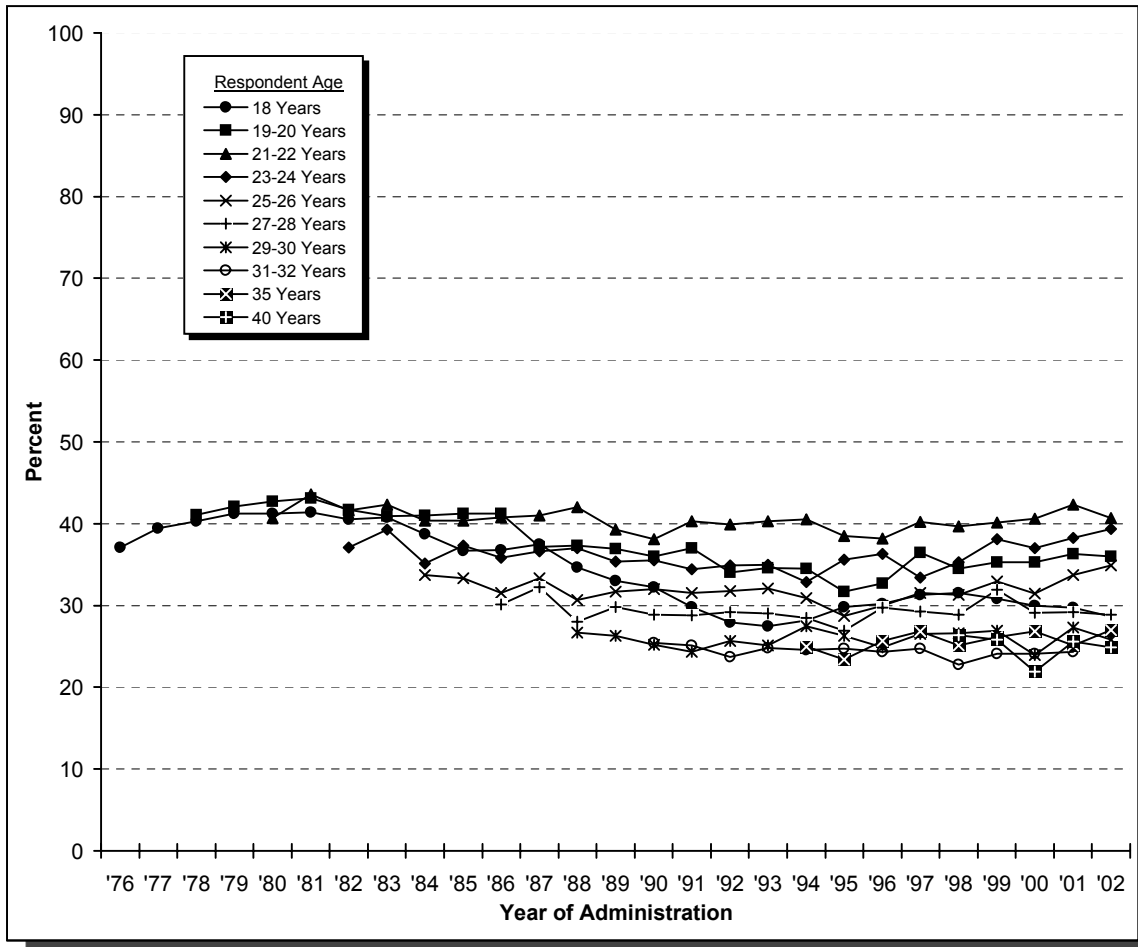
*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

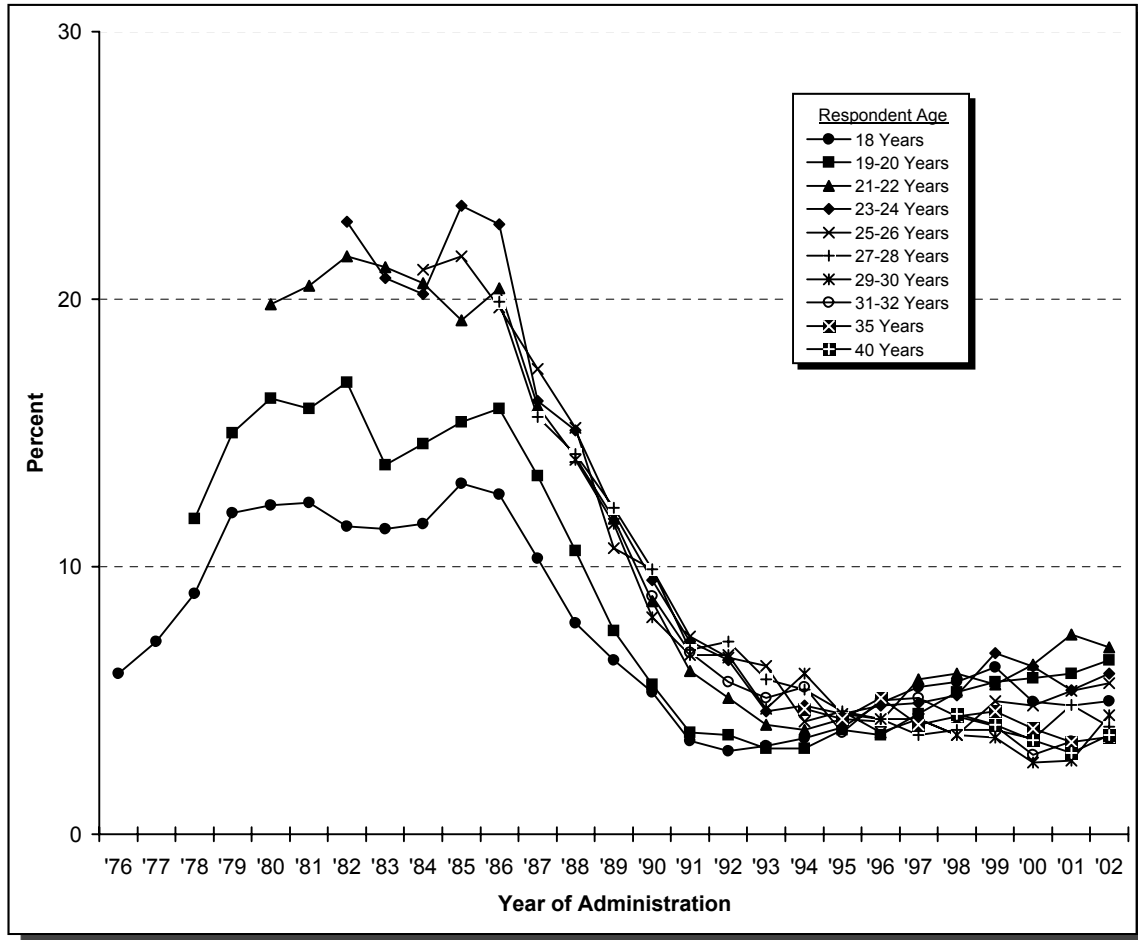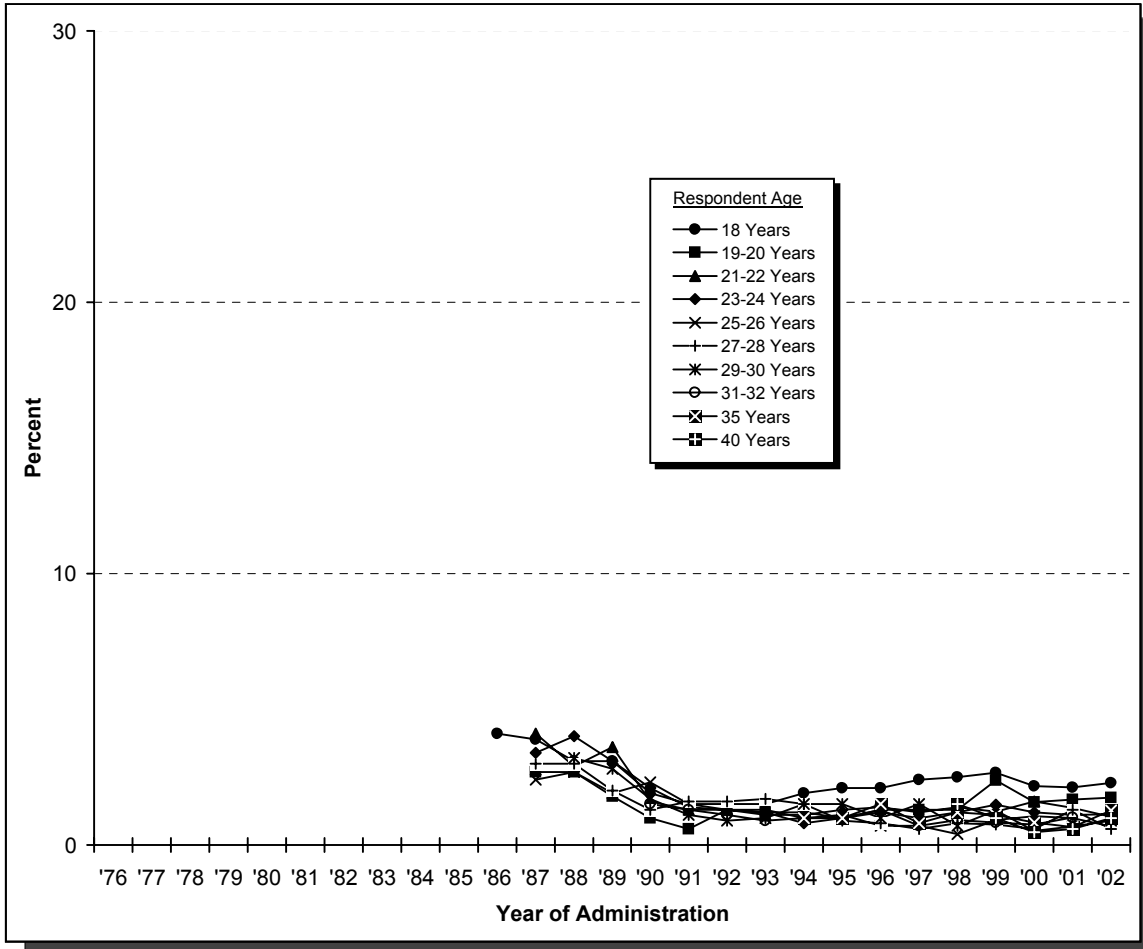| Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	37.1	39.4	40.3	41.2	41.2	41.4	40.5	40.8	38.7	36.7	36.8	37.5	34.7	33.0	32.2	29.8	27.9	27.5	28.2	29.8	30.2	31.3	31.5	30.8	30.0	29.7	28.6
19-20 Years			41.1	42.1	42.7	43.1	41.7	40.9	41.0	41.2	41.2	37.2	37.3	36.9	36.0	37.0	34.0	34.6	34.5	31.7	32.7	36.5	34.5	35.3	35.3	36.3	36.0
21-22 Years					40.7	43.6	41.6	42.3	40.4	40.4	40.8	41.0	42.0	39.3	38.1	40.3	39.9	40.3	40.5	38.5	38.2	40.2	39.7	40.2	40.6	42.4	40.7
23-24 Years							37.1	39.3	35.1	37.3	35.8	36.6	37.0	35.4	35.5	34.4	34.9	35.0	32.9	35.6	36.3	33.4	35.3	38.1	37.0	38.2	39.4
25-26 Years									33.7	33.3	31.5	33.3	30.7	31.7	32.0	31.5	31.8	32.1	30.9	28.7	30.0	31.5	31.3	33.0	31.5	33.7	34.9
27-28 Years											30.1	32.2	28.0	29.8	28.9	28.8	29.2	29.0	28.5	26.9	29.7	29.3	28.9	32.0	29.1	29.2	28.9
29-30 Years													26.7	26.3	25.2	24.3	25.7	25.1	27.5	26.3	24.9	26.5	26.6	26.9	24.0	27.3	25.8
31-32 Years*															25.4	25.1	23.7	24.8	24.6	24.7	24.3	24.7	22.8	24.1	24.1	24.3	NA
35 Years																			25.0	23.4	25.7	26.8	25.1	26.1	26.8	25.1	27.0
40 Years																								26.4	25.8	21.9	25.6	24.9

FIGURE 5-19a
Cigarettes: Trends in 30-Day Prevalence Among High School Seniors and Adults Through Age 40
by Age Group
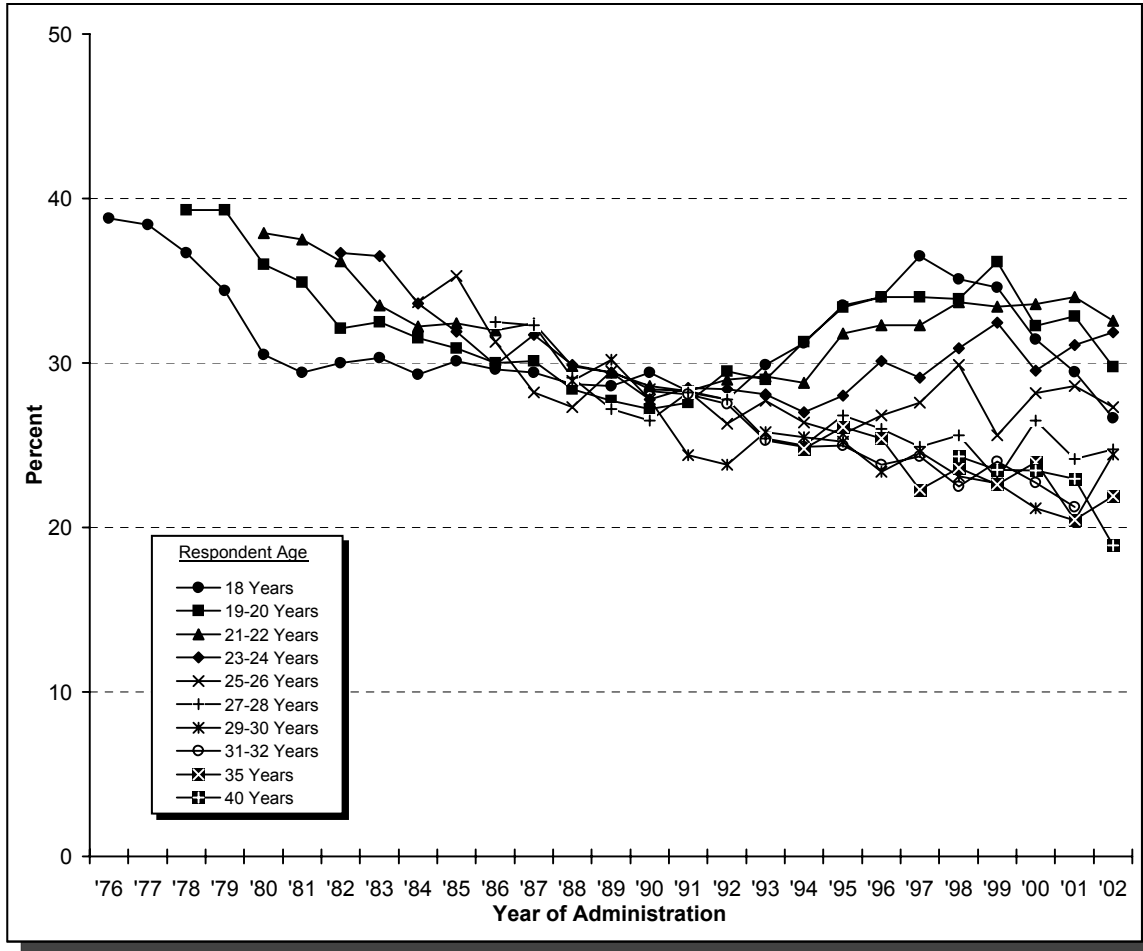
*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	31.4	29.5	26.7
19-20 Years			39.3	39.3	36.0	34.9	32.1	32.5	31.5	30.9	30.0	30.1	28.4	27.7	27.2	27.6	29.5	29.0	31.3	33.4	34.0	34.0	33.9	36.1	32.2	32.8	29.8
21-22 Years					37.9	37.5	36.2	33.5	32.2	32.4	32.0	32.4	29.8	29.4	28.6	28.3	29.0	29.2	28.8	31.8	32.3	32.3	33.7	33.4	33.6	34.0	32.6
23-24 Years							36.7	36.5	33.6	31.9	29.9	31.7	29.9	29.4	27.8	28.5	28.4	28.1	27.0	28.0	30.1	29.1	30.9	32.4	29.5	31.1	31.9
25-26 Years									33.7	35.3	31.3	28.2	27.3	29.5	28.4	28.3	26.3	27.7	26.4	25.7	26.8	27.6	29.9	25.6	28.2	28.6	27.3
27-28 Years											32.5	32.3	29.1	27.2	26.5	28.2	27.8	25.4	25.0	26.8	26.0	24.9	25.6	22.9	26.5	24.2	24.7
29-30 Years													28.9	30.2	27.8	24.4	23.8	25.8	25.5	25.2	23.4	24.6	23.1	22.7	21.2	20.4	24.4
31-32 Years*															28.3	28.1	27.5	25.3	24.9	25.0	23.8	24.3	22.5	24.0	22.7	21.2	NA
35 Years																			24.8	26.1	25.4	22.3	23.6	22.6	24.0	20.5	21.9
40 Years																						24.3	23.5	23.5	22.9	18.9

FIGURE 5-19b
Cigarettes: Trends in 30-Day Prevalence of <u>Daily</u> Use Among High School Seniors and Adults Through Age 40
by Age Group

Legend — Respondent Age:
- 18 Years
- 19-20 Years
- 21-22 Years
- 23-24 Years
- 25-26 Years
- 27-28 Years
- 29-30 Years
- 31-32 Years
- 35 Years
- 40 Years

X-axis: Year of Administration ('76–'02); Y-axis: Percent (0–40)

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	20.6	19.0	16.9
19-20 Years			31.0	31.2	29.3	26.0	23.9	24.4	24.1	23.2	21.9	22.5	19.5	18.9	19.2	19.4	20.5	21.1	21.9	22.2	22.5	22.7	23.8	25.6	22.7	21.9	20.6
21-22 Years					31.1	31.4	28.6	26.0	25.3	25.3	24.4	24.2	22.3	22.5	20.2	20.6	21.2	20.5	21.1	24.0	22.8	21.4	22.8	24.2	25.1	23.6	23.9
23-24 Years							30.1	30.6	27.8	25.1	25.2	26.0	24.0	23.3	22.2	22.5	20.9	20.1	19.9	20.0	22.8	21.5	21.2	21.4	21.2	22.4	23.5
25-26 Years									28.7	30.4	27.3	23.7	22.9	25.0	23.3	22.8	20.3	19.8	19.2	21.1	19.2	21.9	19.6	20.1	20.9	19.8	
27-28 Years											27.6	27.9	25.0	22.9	22.2	23.9	21.8	20.1	20.5	20.9	19.4	17.6	19.5	16.0	19.7	17.2	18.1
29-30 Years													25.4	26.4	24.2	21.0	20.3	21.7	20.9	20.1	18.6	19.7	17.2	17.2	15.8	14.4	17.4
31-32 Years*															23.9	24.9	22.8	21.4	20.9	21.2	19.8	19.1	17.9	18.9	18.1	16.1	NA
35 Years																			22.5	23.0	22.1	18.3	20.4	19.7	20.1	16.5	18.2
40 Years																							21.7	20.9	20.8	20.2	16.7

FIGURE 5-19c

Cigarettes: Trends in 30-Day Prevalence of Smoking a Half-Pack or More Daily Among High School Seniors and Adults Through Age 40
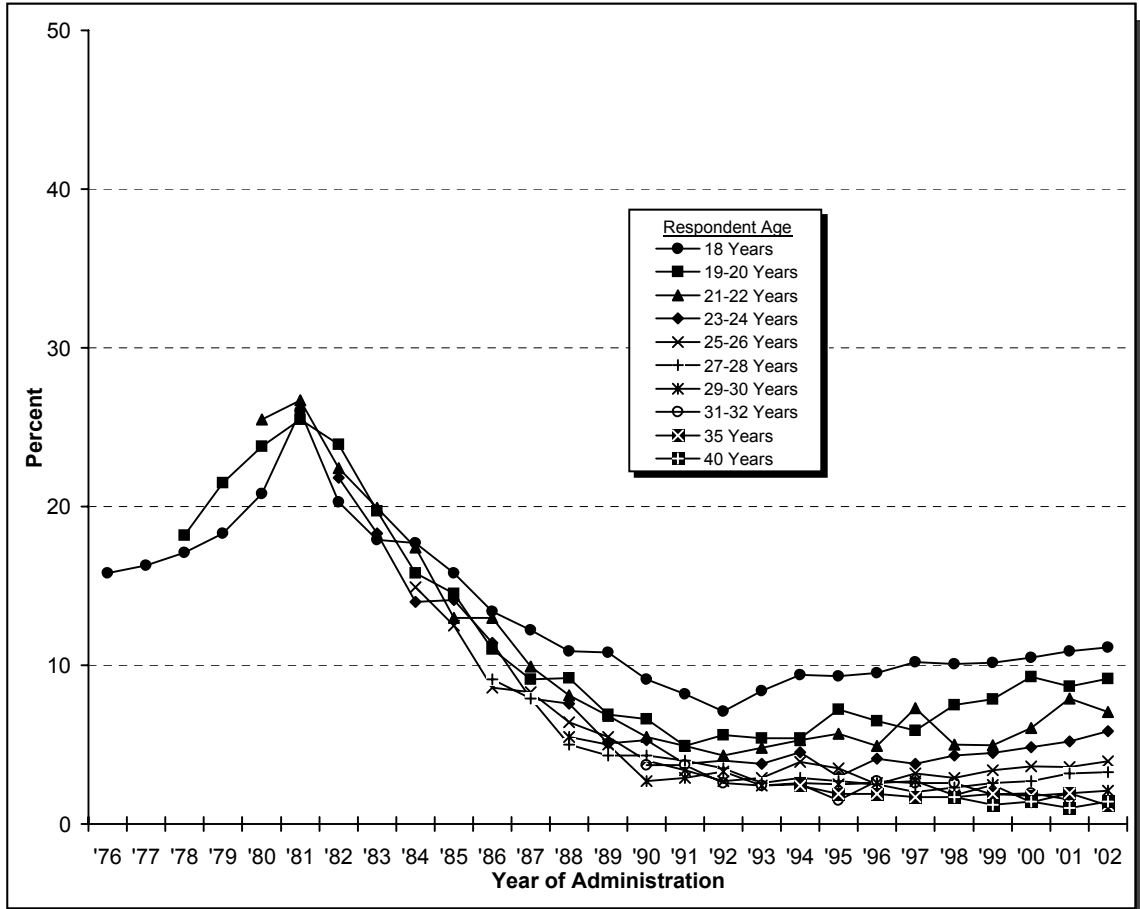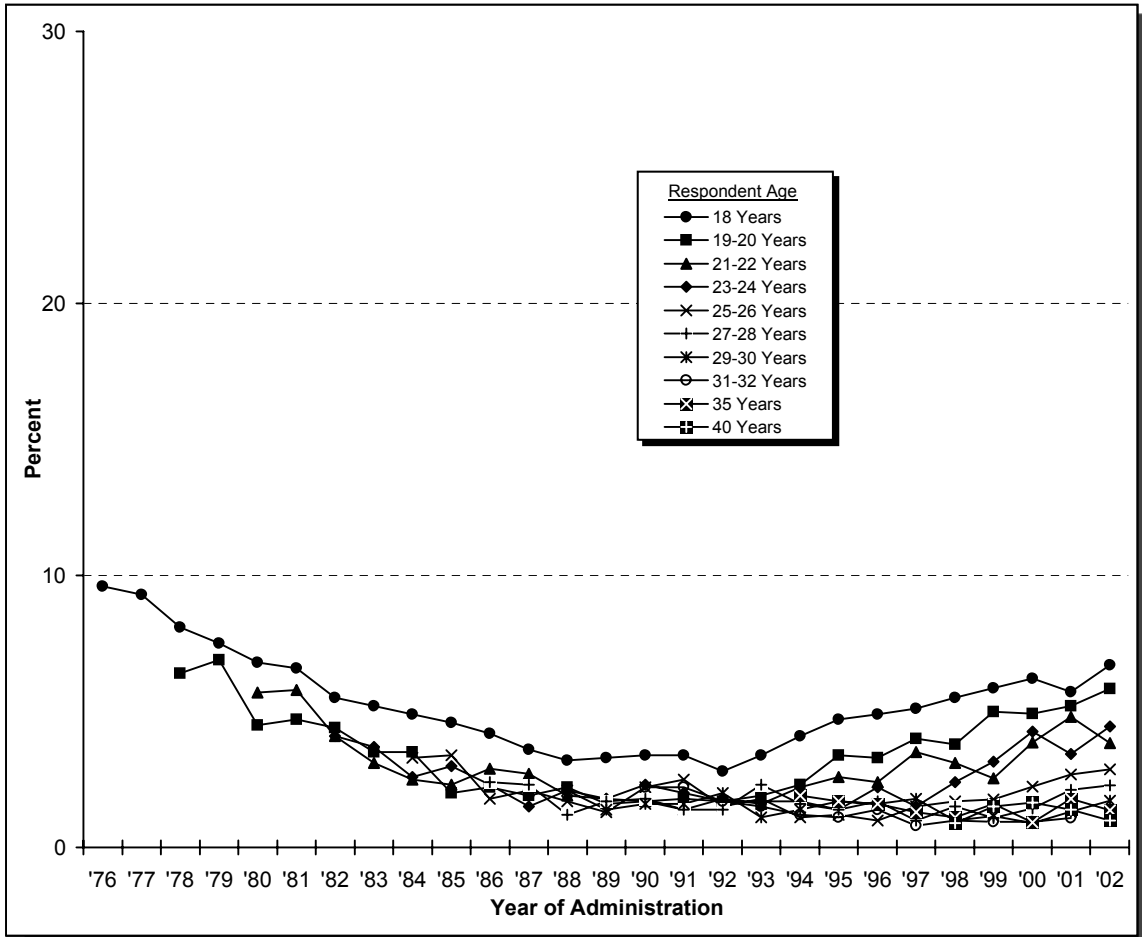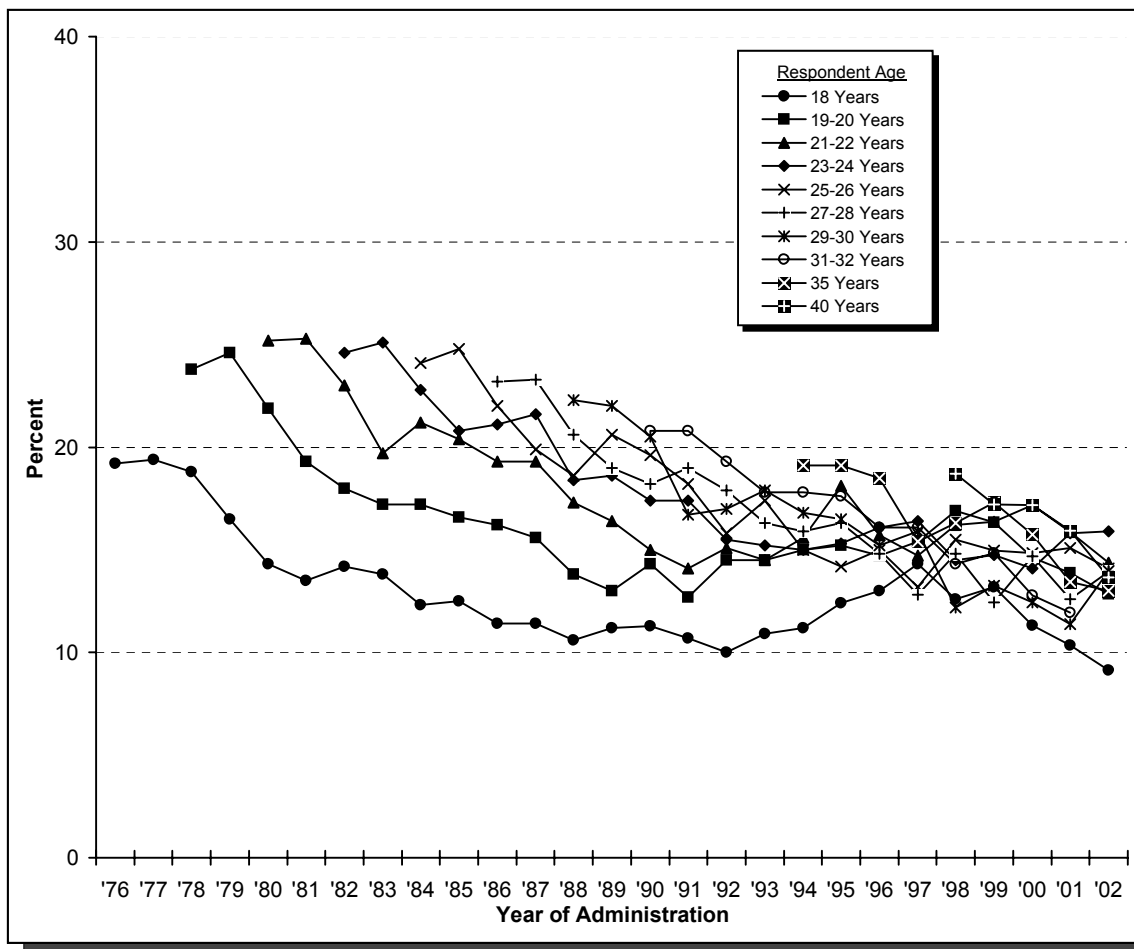
by Age Group

*Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years), then again at age 35 and 40.

Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
18 Years	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	11.3	10.3	9.1
19-20 Years			23.8	24.6	21.9	19.3	18.0	17.2	17.2	16.6	16.2	15.6	13.8	13.0	14.3	12.7	14.5	14.5	15.0	15.2	14.7	15.4	16.9	16.3	14.6	13.9	12.8
21-22 Years					25.2	25.3	23.0	19.7	21.2	20.4	19.3	19.3	17.3	16.4	15.0	14.1	15.1	14.5	15.6	18.1	15.7	14.7	16.2	16.4	17.2	15.9	14.4
23-24 Years							24.6	25.1	22.8	20.8	21.1	21.6	18.4	18.6	17.4	17.4	15.5	15.2	15.0	15.3	16.1	16.4	14.5	14.8	14.1	15.8	15.9
25-26 Years									24.1	24.8	22.0	19.9	18.6	20.6	19.6	18.2	15.8	17.4	15.0	14.2	15.0	13.2	15.5	15.0	14.8	15.1	14.1
27-28 Years											23.2	23.3	20.6	19.0	18.2	19.0	17.9	16.3	15.9	16.3	14.8	12.8	14.8	12.4	14.7	12.6	13.9
29-30 Years													22.3	22.0	20.5	16.7	17.0	17.9	16.8	16.5	15.2	15.9	12.2	13.2	12.5	11.4	14.0
31-32 Years*															20.8	20.8	19.3	17.8	17.8	17.6	16.1	16.1	14.3	14.8	12.8	11.9	NA
35 Years																			19.1	19.1	18.5	15.4	16.3	17.3	15.7	13.4	13.0
40 Years																							18.7	17.2	17.2	15.9	13.6

Chapter 6

ATTITUDES AND BELIEFS ABOUT DRUGS
AMONG YOUNG ADULTS

As is documented at length in Volume I of this monograph and in a number of articles and chapters from the study, we have observed over the past 27 years substantial changes in secondary students' attitudes and beliefs regarding the use of drugs. In particular, large changes have occurred in the perceived risk of harm associated with marijuana and cocaine, as well as in personal disapproval of marijuana, cocaine, and amphetamine use. Further, many earlier volumes in this series and other publications have demonstrated the importance of these attitude and belief shifts in explaining changes in actual drug-using behavior.[38] In this chapter, we review trends since 1980 in the same attitudes and beliefs among the young adult samples.

PERCEIVED HARMFULNESS OF DRUGS

Table 6-1 provides trends in the perceived risk level associated with differing usage levels of various licit and illicit drugs. These questions are contained in one questionnaire form only, limiting the numbers of follow-up cases; accordingly, we use four-year age bands in order to increase the available sample size (to about 400–600 weighted cases per year for each age band) and, thus, to improve the reliability of the estimates. (The numbers of weighted cases are given at the end of Table 6-1. The actual numbers of respondents are somewhat larger.) Still, these are small sample sizes compared to those available for eighth, tenth, and twelfth graders, and the change estimates are thus more labile. Because of the nature of the Monitoring the Future design, trend data are available for a longer period for 19- to 22-year-olds (since 1980) than for 23- to 26-year-olds (since 1984) or for 27- to 30-year-olds (since 1988). Also displayed in this table are comparison data for twelfth graders, shown here as 18-year-olds, from 1980 onward. (See also Table 8-2 in chapter 8 of Volume I for the longer-term trends in twelfth graders' levels of perceived risk.)

- Table 6-1 illustrates considerable differences in the degree of risk young adults associate with various drugs. In general, the results closely parallel the distinctions made by high school seniors.

- *Marijuana* is seen as the least risky of the illicitly used drugs, although sharp distinctions are made between different levels of marijuana use. In 2002, experimental use is perceived as

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[38]Bachman, J. G., Johnston, L. D., O'Malley, P. M., & Humphrey, R. H. (1988). Explaining the recent decline in marijuana use: Differentiating the effects of perceived risks, disapproval, and general lifestyle factors. *Journal of Health and Social Behavior, 29,* 92-112; Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (1990). Explaining the recent decline in cocaine use among young adults: Further evidence that perceived risks and disapproval lead to reduced drug use. *Journal of Health and Social Behavior, 31*, 173-184; Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (1998). Explaining recent increases in students' marijuana use: Impacts of perceived risks and disapproval, 1976 through 1996. *American Journal of Public Health, 88,* 887-892; Johnston, L. D. (1981). Characteristics of the daily marijuana user. In R. de Silva, R. L. DuPont, & G. K. Russell (Eds.), *Treating the marijuana-dependent person* (pp. 12-15). New York: The American Council on Marijuana; Johnston, L. D. (1985). The etiology and prevention of substance use: What can we learn from recent historical changes? In C. L. Jones & R. J. Battjes (Eds.), *Etiology of drug abuse: Implications for prevention* (NIDA Research Monograph No. 56, pp. 155-177). (DHHS Publication No. (ADM) 85-1335). Rockville, MD: National Institute on Drug Abuse.

being of "great risk" by only 13%–16% of all high school graduates (in the age band 19 to 30), whereas regular use is perceived to be that risky by over half (54%–64%) of them.

It is interesting to note that in the mid-1980s and early 1990s, fewer of the older age groups attached great risk to marijuana use than did the younger age bands. Indeed, there was a quite regular negative ordinal relationship between age and perceived risk for some years after 1980, when the first comparisons were available. This could have reflected an age effect, but we interpreted it as a cohort effect: the younger cohorts initially perceived marijuana as more dangerous than the older cohorts and persisted in this belief as they grew older. Newer cohorts, however, have become more relaxed in their attitudes. High school seniors from the class of 2002 are much less likely to perceive marijuana use as dangerous than did high school senior cohorts in the late 1980s and early 1990s. This reflects what we have interpreted as "generational forgetting," a phenomenon wherein younger replacement cohorts no longer carry the knowledge—and perhaps the direct or vicarious experience on which the knowledge is based—that the older cohorts had at that age.

The decline in perceived risk that began in the 1990s has been greater in the younger age bands, including grades 8 and 10, and least among the 27- to 30-year-olds. We believe that much of the decline in perceived risk that has occurred in the older age bands results directly from generational replacement of earlier cohorts by more recent, less concerned ones. The credibility of this view is strengthened by the 1995-1997 reversal of the relationship between perceived risk of regular use and age. This reversal is consistent with an underlying cohort effect and could not simply be a reflection of a regular change in these attitudes being associated with age (i.e., an "age effect"). The decline in perceived risk for regular marijuana ended in a somewhat staggered fashion—among seniors in 1999 and among 19- to 22- year olds in 2001. It is not clear whether the declines have ended in the older age strata. (In 2002 a new—and significant—decline was observed among the seniors.)

- Young adults view use of any of the other illicit drugs as distinctly more risky than use of marijuana. Even the experimental use of *amphetamines* and *sedatives* (*barbiturates*) is perceived as risky by about 31%-39% of young adults aged 19 to 30, and 35%-52% think trying *LSD* or *MDMA* (*ecstasy*) involves great risk. Trying *cocaine powder* is seen as dangerous by 48%–54%, while using *crack* or *heroin* once or twice is seen as dangerous by 54%-71%.

- In recent years, the older age groups have been more likely than the younger age groups to see *LSD* and *sedatives* (*barbiturates*) as dangerous. Indeed, there is now a substantial age-related difference. The age distinctions for LSD and barbiturate use have become sharper in recent years as perceived risk has declined more in the younger age groups than in the older ones—again indicating some important cohort changes in these attitudes, quite likely as a result of the process we have labeled "generational forgetting."

- There are now fair-sized age-related differences with respect to *cocaine* use, with the 23- through 30-year-olds reporting somewhat higher risk than the 18- to 22-year-olds, who have had less experience with cocaine. Among seniors and the young adult age groups, the danger associated with cocaine use on a regular basis grew considerably between 1980 and 1986.

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However, these changed beliefs did not translate into changed behavior until the perceived risk associated with experimental and occasional use began to rise sharply after 1986. When these two measures rose, a sharp decline in actual use occurred.

We hypothesized that respondents saw only these lower levels of use as relevant to them and, therefore, saw themselves as vulnerable to the dangers only of such use. (No one starts out planning to be a heavy user; further, in the early 1980s, cocaine was not believed to be addictive.) Based on this hypothesis, we included the additional question about occasional use in 1986, just in time to capture a sharp increase in perceived risk later that year. This increase occurred largely in response to the growing media frenzy about cocaine—and crack cocaine, in particular—and to the widely publicized, cocaine-related deaths of several public figures (notably, basketball star Len Bias). After stabilizing for a few years, perceived risk began to fall off among seniors after about 1991 but not among the older age groups—once again suggesting that lasting cohort differences were emerging, quite possibly as a result of "generational forgetting" of the dangers of cocaine. A decline in perceived risk began among the 19- to 22-year-olds starting after 1996, likely as the result of generational replacement with the high school seniors who earlier had come to see cocaine as less dangerous. The 23- to 30-year-olds have yet to follow suit.

- A similar situation also now exists for **crack**, for which perceived risk is highest in the two oldest age bands and lowest among seniors. Trend data (available since 1987) on the risks perceived to be associated with use of **crack** show increases in the 1987-1990 interval for all age groups, followed by relatively little change in the older two age strata. Since 1992, the high school seniors have shown decreases in the perceived risk of experimental or occasional use of crack—perhaps reflecting the onset of "generational forgetting"—leaving them as perceiving considerably less risk than the older groups. After 1994, the 19- to 22-year-olds also showed a decline on these two measures, once again probably as the result of generational replacement. Twenty-three- to 26-year-olds have shown some decline since 1998, and 27- to 30-year-olds have not yet shown much change.

- Questions about perceived risk of **crystal methamphetamine** (**ice**) use were introduced in 1990, and the results show what may be an important reason for its lack of rapid spread. More than half of all seniors and young adults perceived it as a quite dangerous drug even to try, perhaps because it was likened to crack in many media accounts. (Both drugs are burned and the fumes inhaled, both are stimulants, and both can produce a strong dependence.) There was rather little age-related difference in perceived risk associated with use of ice in 1990 and 1991 (although the two youngest age groups were somewhat higher). But, as perceived risk fell considerably among seniors (and eventually among 19- to 22-year-olds) and held steady or rose in the oldest two age groups, an age-related difference emerged. Now perceived risk appears to be rising again among the two younger age bands, narrowing the age-related differences that had emerged for a few years.

- **MDMA** (**ecstasy**) questions were introduced in the follow-up surveys in 1989 but were not asked of seniors until 1997. At the beginning of the 1990s, all young adult age bands viewed it as a fairly dangerous drug, even for experimentation. But, again, the different age bands had diverging trends during the 1990s, with the oldest two age bands continuing to see ecstasy as

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quite dangerous but the 19- to 22-year-olds (and very likely the seniors, on whom we did not have data until 1997) coming to see it as less so. In 2000, 38% of the seniors saw great risk in trying ecstasy versus 49% of the 27- to 30-year-olds; in 2001, the corresponding figures were 46% and 54%. In fact, three of the four age bands showed appreciable increases in perceived risk for ecstasy in 2001, which, as we stated last year in this chapter, suggested "that a turnaround in the use of this drug may be about to occur." The increase in perceived risk continued in 2002 in the two youngest age strata, and their use of ecstasy did, indeed, begin to decline (see chapter 5). At present there is rather little age-related difference in perceived risk for this drug.

- Young adults have been more cautious about *heroin* use than have high school seniors. In general, there has been relatively little change over the years in the proportions of all age groups seeing regular heroin use as dangerous; the great majority of each group (over 86%) consistently held this viewpoint. However, with regard to heroin experimentation, from 1975 to 1986 there had been a downward shift among the seniors in the proportion seeing great risk associated with trying heroin; then a sharp upturn occurred in 1987, followed by a leveling through 1991. This was then followed by some falloff in the early 1990s before an increase from 1995 through 1998.

  Young adults, although their data do not extend back as far, also showed an increased caution about heroin use in the latter half of the 1980s—possibly due to heroin injection being associated with the spread of HIV infection—followed by a leveling through most of the 1990s. In 1996 and 1997, young adults' perceived risk increased some, as happened among the twelfth graders (as well as among the eighth and tenth graders). These various trends may reflect, respectively, (a) the lesser attention paid to heroin by the media during the late 1970s and early 1980s; (b) the subsequent great increase in attention paid to intravenous heroin use in the latter half of the 1980s because of its important role in the spread of AIDS; (c) the emergence in the 1990s of heroin so pure that people no longer needed to use a needle to administer it, resulting in lower perceived risk; and (d) the subsequent increased attention given to heroin by the media (partly as a result of some overdose deaths by public figures and partly prompted by the emergence of "heroin chic" in the design industry), as well as an anti-heroin campaign in the media launched by the Partnership for a Drug-Free America in June 1996. At present the older two age groups see heroin use as more dangerous than do the younger two age groups (Table 6-1); and the differences are largest for experimental and occasional use.

- A minority of young adults see *heavy drinking on weekends* as dangerous (37%–41%), which is true for high school seniors as well (42%). The belief that heavy drinking carries great risk has increased over the years in all of these age groups, rising from 36% in 1980 among seniors to 49% in 1992. Among 19- to 22-year-olds it rose from a low of 30% in 1981 to 42% in 1992; the increases among the older groups were smaller. The increase in this belief may well help to explain the important decline in actual heavy drinking and may in turn be explained by the media campaigns against drunk driving and by the increase in the drinking age in a number

of states.[39] After reaching peaks in the early 1990s, perceived risk for this behavior eased back some in all age strata.

- Between 1980 and 1991, a gradually increasing proportion of all four age groups viewed *drinking one or two drinks per day* as dangerous; but then they all showed a parallel decrease in perceived risk for this behavior through 2000, at least. It seems likely that the earlier increase was due to the general rising concern about the consequences of alcohol use, particularly drunk driving and that the subsequent decline was due to increasing reports of cardiovascular health benefits of light-to-moderate daily alcohol consumption.

- More than four fifths (81%–85%) of young adults perceive regular *pack-a-day cigarette smoking* as entailing high risk, higher than the 74% of seniors who hold that belief and much higher than the 58% of eighth graders who do so. In recent years, the 18-year-olds have consistently shown lower perceived risk than young adults, while tenth graders are lower still, and eighth graders lowest. Clearly, there is an age effect in young people coming to understand the dangers of smoking. Unfortunately, it appears that much of the learning occurs after a great deal of smoking initiation has occurred and many young people already have become addicted. These beliefs about smoking risks have strengthened very gradually in all age groups from senior year forward during the years we have monitored them. (See Table 6-1.) The parallel changes in these beliefs across the different age groups indicate a period effect, rather than a cohort effect, suggesting that all of these age groups were responding to common influences in the larger culture. These influences are discussed at some length in the chapter on attitudes and beliefs in Volume I.

- The regular use of *smokeless tobacco* is seen as dangerous by only 54%–61% of young adults and by even fewer seniors (43%). However, these beliefs have also gradually strengthened in all age groups over the intervals covered (Table 6-1). As with cigarettes, the change appears to reflect a secular trend or period effect because it has been occurring in parallel for all age groups.

PERSONAL DISAPPROVAL OF DRUG USE

The questions asked of high school seniors concerning the extent to which they personally disapprove of various drug-using behaviors also are asked of follow-up respondents in one of the six questionnaire forms. Trends in the answers of young adults aged 19 to 22, 23 to 26, and 27 to 30 are contained in Table 6-2. Comparison data for twelfth graders are also provided for 1980 onward. (See also Table 8-4 in chapter 8, Volume I, for the longer-term trends in high school seniors' levels of disapproval associated with using the various drugs.)

- In general, disapproval levels of adult use of the various drugs rank similarly across substances for both twelfth graders and young adults. The great majority of young adults

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[39]See O'Malley, P. M., & Johnston, L. D. (1999). Drinking and driving among U.S. high school seniors: 1984-1997. *American Journal of Public Health, 89*, 678-684. See also O'Malley, P. M., & Johnston, L. D. (2003). Unsafe driving by high school seniors: National trends from 1976 to 2001 in tickets and accidents after use of alcohol, marijuana and other illegal drugs. *Journal of Studies on Alcohol, 64*, 305-312.

disapprove of using, or even experimenting with, all of the ***illicit drugs other than marijuana***. For example, 95% or more of young adults in 2002 disapprove regular use of each of the following drugs: ***LSD***, ***cocaine***, ***amphetamines***, ***sedatives (barbiturates)***, and ***heroin***. Even 79% to 95% of young adults disapprove experimentation with each of these drugs. Many of these attitudes differ rather little as a function of age, at present; when there is a difference, the younger age groups are usually the least disapproving.

- Even for ***marijuana***, half or more of young adults now disapprove of experimentation (from 49% to 57%). In 2002, between 62% and 69% disapprove of occasional use, and 82% to 89% disapprove of regular use.

  Marijuana shows the widest fluctuations in disapproval over time—generally, fluctuations that parallel the changes in perceived risk (though sometimes with a one-year time lag). The most fluctuation has occurred among high school seniors, nearly as much among 19- to 22-year-olds, and the least among 27- to 30-year-olds (Table 6-2). Among seniors, disapproval of regular marijuana use increased substantially in the 1980s, peaked in the early 1990s, declined through much of the 1990s, and then leveled around 1998. The 19- to 22-year-olds had quite a similar pattern, though the decline continued a year longer—likely due to generational replacement. Among 23- to 26-year-olds, there were some declines starting later in the 1990s, but the declines have been very modest.

- Beginning around 1990, there was some decrease in disapproval of trying ***LSD*** among all age groups (from similar high levels of disapproval, all at 90% or 91%). The decline was steepest among high school seniors, but there was a reversal of the decline among seniors in 1997, and disapproval of using LSD has increased some since then. Disapproval in the older age groups declined less and has not yet shown consistent evidence of a reversal. This pattern again suggests some lasting cohort differences.

- Most of the disapproval statistics for ***heroin*** use, with regard to all three levels of use, have remained very high and stable throughout the life of the study. There was, however, a little slippage in heroin disapproval rates among seniors from 1991 through 1996 (from 96% to 92% for disapproval of experimental use)—a period during which heroin usage rates began to rise.

- Disapproval of *regular cocaine* use rose gradually among 19- to 22-year-olds, from 89% in 1981 to 99% in 1990, about where it has remained since (97% in 2002). All three young adult age bands are now near the ceiling of 100%. Disapproval of *experimental* use of cocaine increased during the 1980s, peaking first among the high school seniors at 94% in 1991. It then peaked among 19- to 22-year-olds (at 92%) and 23- to 36-year-olds (at 94%) in 1995. Finally, it peaked among 27- to 30-year-olds at 90% in 1999.

  All age groups have had some falloff in disapproval of cocaine use since reaching their peaks in the 1990s. Again, the lag in inflection points between the successive age groups suggests some lasting cohort differences in these attitudes. For the last few years, all age groups' disapproval of experimental cocaine use has hovered around 90%.

- Disapproval of experimental use of *amphetamines* and *sedatives* (*barbiturates*) increased significantly during the 1980s. Trying amphetamines once or twice was disapproved of by 73%-74% of 19- to 26-year-olds in 1984, compared to 84% by 1990; the corresponding figures for trying barbiturates were 84%-85% in 1984 compared to 89%-91% by 1990. Disapproval of amphetamine and barbiturate use slipped some among seniors after 1992 and among 19- to 22-year-olds after 1994, with the 23- to 26-year-olds following suit after 1996. There has been little such change among the 27- to 30-year-old stratum, as yet. This pattern of staggered change again suggests cohort effects working in these attitudes.

- The story for *alcohol* is quite an interesting one, in that changes in the minimum drinking age law may have led to modest changes in norms for the affected cohorts. Between 1980 and 1992, an increasing proportion of high school seniors favored total abstention, with the percent who disapproved even drinking only once or twice rising from 16% in 1980 to 33% in 1992. (This figure has fallen back some, to 26% as of 2002.) Among 19- to 22-year-olds, there was a modest increase from 15% to 22% disapproving any use between 1985 and 1989; this figure has declined to 18% in 2002. For the two oldest age groups, there has been rather little change in these attitudes so far. These differing trends may reflect the fact that during the 1980s, the drinking age in a number of states was raised so that by 1987 it was 21 in all states; this change would have the greatest effect on seniors, who may have incorporated the legal restrictions into their normative structure and, as they entered the second age band, brought these new norms with them. Put another way, these changes could reflect a cohort effect resulting from the laws that were prevailing when the cohort passed through late adolescence.

  Disapproval of *daily drinking* (of one or two drinks) has not shown any such cohort effects, since all age groups have moved in parallel, at similar levels of disapproval. The three youngest age bands (seniors through 26-year-olds) showed an increase in disapproval of daily drinking up until about 1990 (there was little data yet available on the oldest age group), but disapproval has declined a fair amount in all of the age groups since then. This pattern of cross-time change closely parallels what was observed for perceived risk of light daily drinking, discussed previously; and the decline in both variables may well be due to widely covered reports that some cardiovascular benefits result from having one or two drinks per day.

  There was a considerable increase in disapproval of *occasional heavy drinking* from the early 1980s for the two youngest age groups (who started out the most tolerant), and this continued through 1992 for seniors (who then showed some drop-off) and through 1994 among 19- to 22-year-olds (who also then showed some drop-off). As Figure 5-18d illustrates, the prevalence of occasional heavy drinking declined substantially among seniors and 19- to 22-year-olds between 1981 and the early 1990s, as norms became more restrictive. There was little or no change in the older age strata, either in their levels of disapproval or in their rates of occasional heavy drinking, until the early 2000s, when disapproval began to drop in both strata.

  At present, the seniors are most likely to disapprove of any drinking (as has been the case for some years) but are the least disapproving of heavy daily drinking. Weekend binge drinking is least disapproved by 19- to 26-year-olds—who report the most of such behavior.

- Some fluctuations in the disapproval of ***cigarette smoking*** have occurred over the intervals covered by the study. Seniors showed some increase in disapproval of pack-a-day-or-more smoking between 1982 (69%) and 1992 (74%). Disapproval then fell through 1997 (67%) before increasing in the last several years, to 74% in 2002. The 19- to 22-year-olds showed a similar increase from 1982 (66%) to 1989 (76%), followed by little overall change since then (73% in 2002). In the last few years, the two older age groups have emerged as slightly more disapproving of smoking.

A FURTHER COMMENTARY: COHORT DIFFERENCES AND THEIR IMPLICATIONS FOR PREVENTION AND THEORY

One theoretical point to be made—based on the strong evidence reported here for cohort effects in perceived risk and disapproval of many of the drugs under study—is that one cause for cohort effects in actual use is lasting cohort differences generated in these critical attitudes and beliefs.   The attitudes and beliefs brought into adulthood from adolescence tend to persevere.

The second point has to do with the causes of the cohort effects in attitudes and beliefs. We noted earlier that the older respondents are more likely than younger ones to see the use of ***marijuana***, ***LSD***, ***heroin***, ***amphetamines***, ***MDMA***, ***ice***, ***cocaine***, ***crack***, and ***sedatives*** (***barbiturates***) as dangerous. We have offered the framework for a theory of drug epidemics in which direct learning (from personal use) and vicarious learning (from observing use by others in both the immediate and mass media environments) play important roles in changing these key attitudes.[40] To the extent that the data on perceived risk represent cohort effects (enduring differences between class cohorts), these findings would be consistent with this theoretical perspective. Clearly, use of these particular drugs was greater when the older cohorts were growing up, and public attention and concern regarding the consequences of these drugs were greatest in the 1970s and early 1980s. In the early 1970s, LSD was alleged to cause brain damage and chromosomal damage, as well as bad trips, flashbacks, and behavior that could prove dangerous. Methamphetamine use was discouraged with the slogan "speed kills." There was a serious epidemic of heroin use in the early 1970s. More recent cohorts in our study (through the mid-1990s, at least) were not exposed to these experiences. While there may have been a secular trend toward greater perceived risk for drugs in general, in the case of LSD there may also have been an operating cohort effect (with younger cohorts seeing less danger) offsetting the secular trend among seniors; the net effect has been a decrease in seniors' perceived risk of LSD use since 1980.

This vicarious learning process has a very practical importance for national strategy for preventing future epidemics. As future cohorts of youth grow up with less opportunity for such vicarious learning because fewer in their immediate social circles and fewer public role models are using these drugs and exhibiting the adverse consequences of use, the less opportunity these youth will have to learn about the adverse consequences of these drugs in the normal course of growing up. Unless those hazards are convincingly communicated to them in *other ways*—for example, through school

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

prevention programs, by their parents, and through the mass media, including public service advertising—they will become more susceptible to a new epidemic of use of the same or similar drugs.

Volume I, the companion volume to the present one, reports an increase in use of several drugs in eighth, tenth, and twelfth grades in 1994 through 1997. This increase suggests that this form of "generational forgetting"—in which replacement cohorts lose some of the knowledge held by their predecessors and thus become more vulnerable to using drugs—may well have been taking place during these years.

TABLE 6-1

Trends in Perceived Harmfulness of Drugs

High School Seniors (Age 18) and Young Adults in Modal Age Groups of 19-22, 23-26, and 27-30

(Entries are percentages)

Percentage saying "great risk"[a]

Q. How much do you think people risk harming themselves (physically or in other ways), if they. . .

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Try marijuana once or twice	18	10.0	13.0	11.5	12.7	14.7	14.8	15.1	18.4	19.0	23.6	23.1	27.1	24.5	21.9	19.5	16.3	15.6	14.9	16.7	15.7	13.7	15.3	16.1	+0.8
	19-22	8.3	7.8	9.7	9.7	12.8	11.2	13.0	12.9	16.8	16.9	17.8	19.1	19.7	19.4	18.8	13.3	16.9	14.8	13.4	12.5	14.3	11.9	13.3	+1.4
	23-26					9.6	10.0	12.4	14.5	16.0	14.0	17.7	14.0	15.0	13.0	15.0	15.8	18.5	15.1	16.7	16.4	13.1	13.0	15.1	+2.0
	27-30									14.6	16.0	17.0	15.7	15.1	14.0	14.8	16.1	16.2	16.1	16.4	16.1	14.4	17.3	16.2	-1.1
Smoke marijuana occasionally	18	14.7	19.1	18.3	20.6	22.6	24.5	25.0	30.4	31.7	36.5	36.9	40.6	39.6	35.6	30.1	25.6	25.9	24.7	24.4	23.9	23.4	23.5	23.2	-0.3
	19-22	13.9	14.2	16.9	16.7	21.7	20.6	22.4	23.0	28.7	29.1	30.1	30.2	29.5	30.3	31.3	25.5	25.6	22.0	22.0	19.8	25.8	18.0	21.0	+3.0
	23-26					15.8	16.3	20.9	20.8	26.8	25.3	30.4	26.2	27.4	24.0	25.5	27.7	27.3	26.4	26.8	26.4	24.9	20.5	24.5	+4.0
	27-30									24.2	25.7	28.7	27.4	27.5	26.8	28.1	28.3	28.1	26.0	25.8	25.3	25.8	25.0	30.2	+5.2
Smoke marijuana regularly	18	50.4	57.6	60.4	62.8	66.9	70.4	71.3	73.5	77.0	77.5	77.8	78.6	76.5	72.5	65.0	60.8	59.9	58.1	58.5	57.4	58.3	57.4	53.0	-4.4 s
	19-22	43.9	47.8	52.4	58.4	62.2	66.8	67.6	69.4	72.4	74.9	73.0	75.0	69.3	69.2	65.0	62.1	61.3	60.7	53.4	55.2	58.0	49.6	56.7	+7.1 s
	23-26					52.9	57.5	59.4	65.3	68.3	72.1	71.0	70.9	67.3	64.1	63.2	64.2	62.7	64.1	62.7	60.1	60.3	55.1	53.7	-1.4
	27-30									67.5	69.1	69.2	67.5	68.8	69.4	65.6	69.2	67.3	65.0	63.6	66.1	64.0	61.7	63.5	+1.8
Try LSD once or twice	18	43.9	45.5	44.9	44.7	45.4	43.5	42.0	44.9	45.7	46.0	44.7	46.6	42.3	39.5	38.8	36.4	36.2	34.7	37.4	34.9	34.3	33.2	36.7	+3.5 s
	19-22	44.8	44.4	45.0	44.7	46.0	44.3	47.6	49.4	49.2	49.5	49.3	48.0	45.6	42.4	42.3	40.3	44.4	40.1	38.7	38.1	37.9	37.5	35.3	-2.2
	23-26					48.3	46.9	47.9	51.5	53.7	50.7	52.0	50.1	49.7	49.0	46.8	45.8	46.1	46.6	45.7	49.3	44.9	48.5	45.7	-2.8
	27-30									53.3	55.6	54.6	52.5	53.0	51.5	53.5	52.5	50.1	52.0	52.0	49.9	46.4	46.7	44.9	-1.7
Take LSD regularly	18	83.0	83.5	83.5	83.2	83.8	82.9	82.6	83.8	84.2	84.3	84.5	84.3	81.8	79.4	79.1	78.1	77.8	76.6	76.5	76.1	75.9	74.1	73.9	-0.2
	19-22	83.4	85.3	86.2	86.0	84.5	86.4	87.1	85.6	85.4	85.5	85.8	86.6	87.0	81.3	81.0	80.5	82.4	83.6	78.6	82.2	81.6	79.2	81.1	+1.9
	23-26					89.0	86.6	88.7	90.0	89.2	89.0	88.2	89.1	87.3	85.3	87.5	86.3	84.7	85.6	82.1	85.4	84.1	86.0	85.3	-0.7
	27-30									89.1	91.2	92.0	87.1	88.5	89.0	89.2	88.4	87.0	87.2	90.5	87.8	85.3	86.9	85.3	-1.6
Try PCP once or twice	18								55.6	58.8	56.6	55.2	51.7	54.8	50.8	51.5	49.1	51.0	48.8	46.8	44.8	45.0	46.2	48.3	+2.1
	19-22									63.6	63.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	----
	23-26									64.8	63.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	----
	27-30									65.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	----
Try MDMA (ecstasy) once or twice	18																		33.8	34.5	35.0	37.9	45.7	52.2	+6.5 sss
	19-22										45.2	47.1	48.8	46.4	45.0	51.1	48.3	46.7	45.5	42.7	37.6	37.9	40.5	46.8	+6.3
	23-26										49.5	47.2	47.4	45.5	41.9	50.6	49.3	50.4	50.5	47.7	50.0	46.7	45.7	45.6	-0.1
	27-30										44.9	48.7	47.7	44.2	51.7	47.3	50.0	50.6	48.8	50.4	50.9	48.9	53.6	52.0	-1.6
Try cocaine once or twice	18	31.3	32.1	32.8	33.0	35.7	34.0	33.5	47.9	51.2	54.9	59.4	59.4	56.8	57.6	57.2	53.7	54.2	53.6	54.6	52.1	51.1	50.7	51.2	+0.4
	19-22	31.4	30.4	33.3	28.7	33.1	33.2	35.5	45.9	51.9	51.5	58.1	58.7	56.1	60.5	63.8	57.7	61.9	55.5	55.4	52.8	56.7	48.9	55.5	+6.6
	23-26					31.3	31.1	35.9	48.0	47.1	51.3	51.5	50.5	53.5	54.1	56.0	58.7	57.2	63.1	60.2	62.6	63.1	62.4	61.0	-1.3
	27-30									45.3	53.0	51.6	52.6	51.8	54.7	53.5	56.4	53.6	54.6	60.5	61.7	59.9	60.9	58.8	-2.1
Take cocaine occasionally	18							54.2	66.8	69.2	71.8	73.9	75.5	75.1	73.3	73.7	70.8	72.1	72.4	70.1	70.1	69.5	69.9	68.3	-1.6
	19-22							53.8	61.3	67.1	72.6	74.6	72.6	74.9	75.4	78.0	73.4	76.6	76.1	71.2	68.0	72.4	70.0	69.9	-0.1
	23-26							50.9	62.6	63.2	69.9	69.9	70.3	69.9	72.8	70.3	76.0	71.3	76.5	74.2	77.8	76.2	74.2	75.4	+1.2
	27-30									62.6	66.6	66.6	69.1	69.9	69.1	69.9	70.0	67.8	73.8	73.2	75.4	76.5	78.1	74.3	-3.8

(Table continued on next page)

TABLE 6-1 (cont.)

Trends in Perceived Harmfulness of Drugs

High School Seniors (Age 18) and Young Adults in Modal Age Groups of 19-22, 23-26, and 27-30

(Entries are percentages)

Q. How much do you think people risk harming themselves (physically or in other ways), if they. . .	Age Group	Percentage saying "great risk"[a]																							'01-'02 change
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
Take cocaine regularly	18	69.2	71.2	73.0	74.3	78.8	79.0	82.2	88.5	89.2	90.2	91.1	90.4	90.2	90.1	89.3	87.9	88.3	87.1	86.3	85.8	86.2	84.1	84.5	+0.4
	19-22	65.2	69.3	71.5	75.2	75.1	82.9	82.0	88.0	90.3	89.1	93.9	93.5	92.9	91.7	92.2	91.5	92.2	91.6	88.7	88.5	90.7	85.1	88.3	+3.2
	23-26					75.6	76.9	83.0	88.9	90.9	91.2	91.2	92.7	89.9	91.9	92.6	93.3	90.6	93.2	92.9	92.7	92.9	91.1	91.5	+0.4
	27-30									88.9	92.0	91.4	90.9	92.0	91.6	92.1	91.3	91.6	92.7	93.0	92.4	92.3	94.5	91.2	-3.3
Try crack once or twice	18								57.0	62.1	62.9	64.3	60.6	62.4	57.6	58.4	54.6	56.0	54.0	52.2	48.2	48.4	49.4	50.8	+1.4
	19-22								59.4	67.3	68.5	69.4	66.9	65.4	63.5	70.1	61.9	65.2	62.0	59.3	56.1	52.9	54.1	54.1	-0.1
	23-26								59.1	63.5	69.8	67.3	66.9	67.1	64.2	69.3	64.8	68.6	64.7	67.3	64.6	63.2	59.8	60.9	+1.2
	27-30									66.5	64.9	68.7	66.8	64.3	68.8	65.6	66.4	66.7	68.5	66.5	65.0	62.9	69.3	67.4	-1.8
Take crack occasionally	18								70.4	73.2	75.3	80.4	76.5	76.3	73.9	73.8	72.8	71.4	70.3	68.7	67.3	65.8	65.4	65.6	+0.2
	19-22								75.0	77.3	81.8	82.3	82.7	81.9	83.6	84.3	78.8	83.5	79.1	79.1	75.5	74.9	72.3	75.3	+3.0
	23-26								70.3	74.0	79.9	81.1	83.9	84.4	81.6	83.2	81.4	85.9	80.8	84.2	81.6	84.0	80.1	82.2	+2.1
	27-30									76.4	76.7	82.6	81.8	79.1	83.6	78.6	81.1	81.3	85.3	81.7	79.8	81.6	84.4	81.5	-2.9
Take crack regularly	18								84.6	84.8	85.6	91.6	90.1	89.3	87.5	89.6	88.6	88.0	86.2	85.3	85.4	85.3	85.8	84.1	-1.7
	19-22								89.6	91.1	94.1	94.9	95.6	93.4	96.2	96.0	94.2	94.7	93.3	92.8	92.3	91.1	89.6	91.1	+1.5
	23-26								88.0	89.2	91.5	94.2	95.4	94.1	93.4	94.9	95.5	96.1	91.4	95.6	94.4	95.6	93.4	94.7	+1.3
	27-30									89.6	89.5	95.3	94.4	93.3	93.5	93.0	94.0	94.3	96.0	94.3	95.2	93.5	96.8	94.2	-2.5
Try cocaine powder once or twice	18								45.3	51.7	53.8	53.9	53.6	57.1	53.2	55.4	52.0	53.2	51.4	48.5	46.1	47.0	49.0	49.5	+0.5
	19-22								44.0	48.6	51.1	54.5	52.7	56.2	49.7	62.0	55.8	57.1	53.8	53.0	47.9	48.0	47.1	47.9	+0.8
	23-26								41.0	43.6	48.4	48.9	47.4	45.9	45.6	52.5	48.9	57.2	53.6	54.1	53.8	53.2	53.9	52.5	-1.4
	27-30									42.0	45.1	46.2	43.3	42.3	49.9	47.1	48.2	48.9	49.1	49.8	49.7	52.2	53.3	54.4	+1.2
Take cocaine powder occasionally	18								56.8	61.9	65.8	71.1	69.8	70.8	68.6	70.6	69.1	68.8	67.7	65.4	64.2	64.7	63.2	64.4	+1.2
	19-22								58.0	59.0	63.2	70.0	69.9	72.6	70.6	75.4	73.0	77.4	70.7	73.0	69.3	69.3	64.4	68.9	+4.4
	23-26								50.0	53.2	62.2	63.3	67.0	65.8	64.0	68.8	68.8	76.1	72.8	77.0	70.8	76.0	70.5	73.7	+3.2
	27-30									53.6	52.7	60.9	59.2	61.2	64.3	61.0	65.9	68.2	69.7	68.5	70.1	71.3	73.5	71.9	-1.6
Take cocaine powder regularly	18								81.4	82.9	83.9	90.2	88.9	88.4	87.0	88.6	87.8	86.8	86.0	84.1	84.6	85.5	84.4	84.2	-0.2
	19-22								86.6	87.6	91.3	92.5	93.8	92.1	94.0	94.9	93.5	93.8	92.8	91.5	92.4	90.7	89.8	91.0	+1.2
	23-26								82.9	84.1	88.5	92.4	93.8	91.3	92.4	92.8	92.1	94.8	90.8	93.7	93.6	94.2	92.2	93.4	+1.2
	27-30									85.1	86.7	92.7	91.1	91.5	92.5	90.7	92.7	91.7	93.0	92.3	93.1	91.5	94.0	93.3	-0.7
Try heroin once or twice	18	52.1	52.9	51.1	50.8	49.8	47.3	45.8	53.6	54.0	53.8	55.4	55.2	50.9	50.7	52.8	50.9	52.5	56.7	57.8	56.0	54.2	55.6	56.0	+0.5
	19-22	57.8	56.8	54.4	52.5	58.7	51.0	55.5	57.9	58.9	59.6	58.3	59.9	59.8	58.9	60.8	58.9	61.0	63.9	60.7	63.5	63.2	64.0	63.1	-0.9
	23-26					58.2	59.2	60.8	66.6	65.4	62.3	64.1	62.4	63.7	65.0	63.3	64.1	63.5	67.3	67.3	68.0	70.7	71.9	69.8	-2.2
	27-30									66.0	69.7	67.5	66.1	66.5	69.3	69.6	66.4	66.4	67.9	69.7	70.1	67.4	68.2	70.9	+2.7

TABLE 6-1 (cont.)

Trends in Perceived Harmfulness of Drugs
High School Seniors (Age 18) and Young Adults in Modal Age Groups of 19-22, 23-26, and 27-30
(Entries are percentages)

		Percentage saying "great risk"[a]																							
Q. How much do you think people risk harming themselves (physically or in other ways), if they. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Take heroin occasionally	18	70.9	72.2	69.8	71.8	70.7	69.8	68.2	74.6	73.8	75.5	76.6	74.9	74.2	72.0	72.1	71.0	74.8	76.3	76.9	77.3	74.6	75.9	76.6	+0.7
	19-22	77.5	77.8	73.6	74.5	74.9	73.6	77.2	77.6	77.5	79.8	80.8	80.2	81.6	78.8	79.0	77.9	82.1	84.7	80.4	82.5	82.0	83.6	82.2	-1.4
	23-26					81.2	80.7	78.9	84.5	82.4	80.8	83.4	84.4	81.5	82.1	80.8	85.3	82.4	86.5	83.9	88.5	86.6	88.4	90.0	+1.7
	27-30									86.0	86.8	85.3	84.3	84.9	86.2	86.8	83.1	83.8	85.8	86.6	87.1	86.5	86.4	87.9	+1.5
Take heroin regularly	18	86.2	87.5	86.0	86.1	87.2	86.0	87.1	88.7	88.8	89.5	90.2	89.6	89.2	88.3	88.0	87.2	89.5	88.9	89.1	89.9	89.2	88.3	88.5	+0.1
	19-22	87.2	89.9	87.5	88.6	86.8	90.2	90.7	90.2	89.6	90.8	91.2	91.5	92.2	89.2	91.2	89.9	94.0	93.7	92.4	92.8	94.0	91.3	92.6	+1.4
	23-26					92.0	90.1	90.6	92.8	91.5	91.3	91.0	92.6	91.3	91.6	93.0	93.5	92.7	94.4	93.4	93.7	94.8	95.9	96.3	+0.3
	27-30									92.7	93.5	93.0	90.7	91.3	92.6	93.8	92.4	92.1	93.8	95.0	93.7	94.2	94.5	95.9	+1.4
Try amphetamines once or twice	18	29.7	26.4	25.3	24.7	25.4	25.2	25.1	29.1	29.6	32.8	32.2	36.3	32.6	31.3	31.4	28.8	30.8	31.0	35.3	32.2	32.6	34.7	34.4	-0.3
	19-22	24.6	24.6	27.8	24.8	26.9	23.9	27.1	27.4	31.7	28.9	35.6	32.8	34.5	33.3	36.3	32.9	36.8	30.1	31.7	33.7	35.0	34.2	38.1	+3.9
	23-26					29.6	29.4	29.4	34.1	33.2	32.5	35.3	31.0	32.7	32.6	32.9	34.3	34.9	37.8	40.9	41.8	39.9	41.6	38.0	-3.6
	27-30									35.2	37.5	36.9	36.5	36.2	34.0	37.5	36.0	36.2	34.5	37.6	36.3	39.4	38.5	39.0	+0.5
Take amphetamines regularly	18	69.1	66.1	64.7	64.8	67.1	67.2	67.3	69.4	69.8	71.2	71.2	74.1	72.4	69.9	67.0	65.9	66.8	66.0	67.7	66.4	66.3	67.1	64.8	-2.4
	19-22	71.9	69.9	68.3	69.9	68.4	68.5	72.3	72.0	73.9	71.3	74.0	77.1	73.5	73.5	71.6	72.2	75.8	72.3	71.9	72.4	73.4	71.1	72.7	+1.6
	23-26					75.8	77.2	75.6	78.2	77.4	76.7	77.8	79.4	76.4	76.2	73.6	80.5	78.5	79.1	77.5	78.7	79.0	77.7	77.9	+0.2
	27-30									80.6	82.9	83.3	79.4	80.3	79.8	78.4	77.7	75.6	77.4	81.1	82.6	80.8	79.9	79.8	-0.1
Try crystal meth (ice)	18											61.6	61.9	57.5	58.3	54.4	55.3	54.4	52.7	51.2	51.3	52.7	53.8		+1.0
	19-22										57.8	58.6	57.7	57.5	61.4	58.9	61.1	56.4	55.8	50.6	49.2	52.5	56.5		+4.0
	23-26										56.5	56.0	55.6	52.0	61.0	57.8	64.1	60.7	58.2	61.3	60.1	59.2	57.7		-1.4
	27-30										59.6	57.2	52.7	60.3	57.9	58.5	59.1	59.8	59.9	61.0	59.7	66.4	62.5		-3.9
Try sedatives (barbiturates) once or twice	18	30.9	28.4	27.5	27.0	27.4	26.1	25.4	30.9	29.7	32.2	32.4	35.1	32.2	29.2	29.9	26.3	29.1	26.9	29.0	26.1	25.0	25.7	26.2	+0.5
	19-22	27.6	26.4	30.5	25.4	29.9	25.0	30.7	29.6	32.7	30.5	36.4	33.5	33.5	33.4	35.0	30.5	34.1	31.4	27.7	28.5	30.3	30.0	30.7	+0.7
	23-26					32.2	29.9	30.2	35.5	35.8	32.9	37.9	31.8	33.5	32.8	34.0	34.8	35.8	37.3	40.3	39.4	37.0	38.5	34.7	-3.8
	27-30									37.2	38.7	39.0	37.0	38.2	36.5	40.5	36.6	37.2	35.7	36.7	35.2	36.3	40.9	37.3	-3.6
Take sedatives (barbiturates) regularly	18	72.2	69.9	67.6	67.7	68.5	68.3	67.2	69.4	69.6	70.5	70.2	70.5	70.2	66.1	63.3	61.6	60.4	56.8	56.3	54.1	52.3	50.3	49.3	-1.0
	19-22	74.0	73.3	72.7	71.3	71.6	71.7	74.5	73.0	74.0	71.7	75.5	75.5	73.6	71.1	69.4	66.4	70.7	69.5	65.1	64.7	64.6	61.8	64.5	+2.7
	23-26					77.4	77.0	74.9	79.9	79.8	76.6	80.5	77.7	76.3	75.0	74.3	77.6	77.1	75.2	73.9	75.1	73.8	73.1	73.1	+0.1
	27-30									81.5	83.7	84.0	79.6	78.6	80.2	78.3	77.7	74.1	77.1	79.9	80.7	75.5	78.2	75.4	-2.8
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	18	3.8	4.6	3.5	4.2	4.6	5.0	4.6	6.2	6.0	6.0	8.3	9.1	8.6	8.2	7.6	5.9	7.3	6.7	8.0	8.3	6.4	8.7	7.6	-1.1
	19-22	3.0	3.4	3.1	2.3	4.7	3.1	5.4	3.5	3.9	5.9	6.1	5.4	5.8	6.6	6.5	4.5	3.3	3.2	4.2	5.7	5.4	4.8	6.6	+1.8
	23-26					5.5	3.0	6.5	6.6	4.2	5.1	5.7	4.4	5.6	3.2	4.5	4.3	4.8	4.4	4.4	6.6	3.5	5.5	5.1	-0.4
	27-30									5.0	6.3	4.4	6.6	5.6	4.7	4.1	6.7	4.7	4.0	6.2	5.9	4.7	5.5	3.1	-2.4

TABLE 6-1 (cont.)
Trends in Perceived Harmfulness of Drugs
High School Seniors (Age 18) and Young Adults in Modal Age Groups of 19-22, 23-26, and 27-30

(Entries are percentages)

Q. How much do you think people risk harming themselves (physically or in other ways), if they. . .

Percentage saying "great risk"[a]

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Take one or two drinks nearly every day	18	20.3	21.6	21.6	21.6	23.0	24.4	25.1	26.2	27.3	28.5	31.3	32.7	30.6	28.2	27.0	24.8	25.1	24.8	24.3	21.8	21.7	23.4	21.0	-2.4
	19-22	22.7	22.9	23.2	23.2	25.0	26.3	27.3	26.1	26.5	28.1	30.1	29.1	30.2	28.0	27.5	24.0	23.0	24.2	22.1	23.9	22.1	19.6	22.7	+3.1
	23-26					27.8	27.4	26.9	30.2	29.1	27.8	31.1	30.4	31.6	25.9	26.2	26.1	22.0	20.2	21.0	26.0	21.7	23.5	23.4	-0.1
	27-30									27.4	31.7	32.2	31.7	30.9	28.0	27.4	27.2	24.0	24.8	20.8	25.3	22.0	22.7	21.7	-1.0
Take four or five drinks nearly every day	18	65.7	64.5	65.5	66.8	68.4	69.8	66.5	69.7	68.5	69.8	70.9	69.5	70.5	67.8	66.2	62.8	65.6	63.0	62.1	61.1	59.9	60.7	58.8	-1.9
	19-22	71.2	72.7	73.3	72.7	76.2	74.1	74.0	76.4	72.8	75.7	76.1	75.5	71.8	72.1	70.3	72.5	68.5	71.4	70.4	69.9	69.9	64.5	71.1	+6.6 s
	23-26					76.7	77.9	80.1	77.2	81.8	76.9	79.7	80.2	78.0	76.7	77.5	75.2	72.0	75.1	69.3	72.8	71.7	75.8	74.9	-0.9
	27-30									79.3	81.7	84.7	79.1	79.9	79.1	76.6	82.2	76.1	79.3	75.7	75.1	77.4	72.8	76.2	+3.4
Have five or more drinks once or twice each weekend	18	35.9	36.3	36.0	38.6	41.7	43.0	39.1	41.9	42.6	44.0	47.1	48.6	49.0	48.3	46.5	45.2	49.5	43.0	42.8	43.1	42.7	43.6	42.2	-1.4
	19-22	34.2	30.1	33.5	36.6	37.9	40.2	34.6	36.7	36.9	42.4	40.6	40.8	41.8	42.4	41.9	39.9	40.7	36.6	42.0	37.2	38.9	37.2	37.8	+0.5
	23-26					38.4	39.7	39.1	39.8	35.8	37.7	40.2	39.3	37.6	36.2	40.2	37.9	39.1	37.4	41.1	40.2	34.9	39.0	36.8	-2.3
	27-30									41.0	42.3	44.1	42.2	45.1	42.9	43.2	44.6	41.5	40.0	40.2	41.9	37.9	41.6	40.6	-1.1
Smoke one or more packs of cigarettes per day	18	63.7	63.3	60.5	61.2	63.8	66.5	66.0	68.6	68.0	67.2	68.2	69.4	69.2	69.5	67.6	65.6	68.2	68.7	70.8	70.8	73.1	73.3	74.2	+1.0
	19-22	66.5	61.7	64.0	62.1	69.1	71.4	70.4	70.6	71.0	73.4	72.5	77.9	72.6	76.0	71.2	71.6	73.8	76.3	77.2	75.7	77.1	76.6	80.6	+4.0
	23-26					71.1	70.1	75.7	73.6	75.5	71.4	78.5	75.3	76.3	78.4	76.4	76.0	76.0	77.6	76.5	80.9	79.7	83.9	85.1	+1.3
	27-30									72.8	75.2	77.8	75.4	77.6	75.0	75.3	75.6	73.0	80.3	80.9	80.7	78.4	82.7	80.6	-2.2
Use smokeless tobacco regularly	18							25.8	30.0	33.2	32.9	34.2	37.4	35.5	38.9	36.6	33.2	37.4	38.6	40.9	41.1	42.2	45.4	42.6	-2.9
	19-22							29.7	34.1	31.1	37.1	33.5	38.9	40.1	43.3	37.6	42.3	40.9	46.5	47.4	47.0	52.0	48.4	53.6	+5.2
	23-26							37.0	38.5	35.8	37.9	40.1	38.9	41.6	44.6	42.9	46.6	47.2	46.2	48.4	53.1	49.8	59.8	61.4	+1.6
	27-30									42.8	42.8	43.8	44.3	44.1	47.3	46.3	44.2	43.6	50.2	52.6	53.6	49.9	53.2	56.7	+3.5
Approximate Weighted N=	18	3234	3604	3557	3305	3262	3250	3020	3315	3276	2796	2553	2549	2684	2759	2591	2603	2449	2579	2564	2306	2130	2173	2198	
	19-22	590	585	583	585	579	547	581	570	551	565	552	533	527	480	490	500	469	464	431	447	424	430	395	
	23-26					540	512	545	531	527	498	511	505	518	503	465	446	438	420	413	418	400	392	382	
	27-30									513	587	490	486	482	473	443	450	422	434	416	400	377	384	369	

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

'NA' indicates data not available.

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

TABLE 6-2
Trends in Proportions Disapproving of Drug Use
High School Seniors (Age 18) and Young Adults in Modal Age Groups of 19-22, 23-26, and 27-30

(Entries are percentages)

Q. Do you disapprove of people (who are 18 or older) doing each of the following?	Age Group	Percentage disapproving[a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Try marijuana once or twice	18	39.0	40.0	45.5	46.3	49.3	51.4	54.6	56.6	60.8	64.6	67.8	68.7	69.9	63.3	57.6	56.7	52.5	51.0	51.6	48.8	52.5	49.1	51.6	+2.5
	19-22	38.2	36.1	37.0	42.0	44.1	46.6	51.6	52.8	55.8	62.4	59.6	60.4	57.8	60.6	63.5	57.1	55.4	56.2	55.9	54.0	55.2	49.3	48.7	-0.6
	23-26					41.2	38.6	42.6	49.1	48.7	52.5	57.5	58.8	55.0	54.6	52.3	51.9	56.3	54.5	55.3	55.7	54.8	51.2	52.4	+1.2
	27-30									49.0	50.9	53.8	54.6	51.9	56.8	55.7	57.5	54.1	59.0	55.7	52.6	58.0	54.4	56.9	+2.5
Smoke marijuana occasionally	18	49.7	52.6	59.1	60.7	63.5	65.8	69.0	71.6	74.0	77.2	80.5	79.4	79.7	75.5	68.9	66.7	62.9	63.2	64.4	62.5	65.8	63.2	63.4	+0.2
	19-22	49.6	49.1	51.3	56.0	60.4	62.6	66.7	67.2	69.5	77.3	76.3	77.0	74.8	75.8	76.9	70.4	68.9	70.2	67.8	66.4	70.7	64.6	62.3	-2.3
	23-26					54.8	52.8	57.0	64.9	63.4	69.4	73.7	73.3	74.0	71.9	70.9	68.1	72.5	69.2	70.4	71.1	68.6	67.4	64.0	-3.4
	27-30									65.3	67.1	68.9	73.0	67.2	72.2	69.4	72.5	70.5	74.5	72.4	71.5	72.2	70.9	69.1	-1.8
Smoke marijuana regularly	18	74.6	77.4	80.6	82.5	84.7	85.5	86.6	89.2	89.3	89.8	91.0	89.3	90.1	87.6	82.3	81.9	80.0	78.8	81.2	78.6	79.7	79.3	78.3	-1.0
	19-22	74.3	77.2	80.0	81.8	84.9	86.7	89.2	88.7	89.1	91.2	93.1	91.3	89.5	90.2	90.1	86.8	87.7	88.1	85.3	84.5	86.6	84.5	82.8	-1.7
	23-26					80.6	81.3	83.3	87.4	86.9	90.4	91.0	89.6	90.2	92.1	90.3	90.1	88.9	88.1	87.5	86.1	83.9	86.4	81.7	-4.6
	27-30									87.6	87.5	89.7	89.6	87.2	89.4	88.7	91.9	89.9	92.1	89.2	90.0	89.5	89.3	88.8	-0.6
Try LSD once or twice	18	87.3	86.4	88.8	89.1	88.9	89.5	89.2	91.6	89.8	89.7	89.8	90.1	88.1	85.9	82.5	81.1	79.6	80.5	82.1	83.0	82.4	81.8	84.6	+2.8 s
	19-22	87.4	84.8	85.9	88.4	88.1	89.1	90.4	90.0	90.9	89.3	90.5	88.4	84.6	88.5	86.8	84.2	83.0	83.1	80.8	83.2	82.3	81.4	83.7	+2.2
	23-26					87.3	87.1	88.0	89.9	91.4	91.0	90.7	89.1	88.8	86.9	87.3	87.1	86.7	87.9	84.1	84.8	80.3	83.0	79.2	-3.7
	27-30									91.0	87.2	89.7	87.9	85.6	88.8	88.2	87.4	88.7	88.7	87.3	86.6	87.2	85.7	82.7	-3.0
Take LSD regularly	18	96.7	96.8	96.7	97.0	96.8	97.0	96.6	97.8	96.4	96.4	96.3	96.4	95.5	95.8	94.3	92.5	93.2	92.9	93.5	94.3	94.2	94.0	94.0	0.0
	19-22	98.2	97.4	97.7	97.6	97.6	98.8	98.5	98.0	98.1	97.5	99.1	97.5	97.0	97.8	97.7	96.8	97.0	97.4	96.3	97.0	96.8	96.5	96.9	+0.5
	23-26					99.2	98.0	98.5	99.0	98.0	98.4	98.3	98.4	98.3	98.1	97.7	96.7	97.7	96.1	97.6	98.0	97.0	97.1	97.9	+0.7
	27-30									98.8	97.1	98.9	98.9	97.5	98.5	98.7	98.6	98.1	97.5	97.4	97.9	98.6	98.2	98.0	-0.2
Try cocaine once or twice	18	76.3	74.6	76.6	77.0	79.7	79.3	80.2	87.3	89.1	90.5	91.5	93.6	93.0	92.7	91.6	90.3	90.0	88.0	89.5	89.1	88.2	88.1	89.0	+0.9
	19-22	73.0	69.3	69.9	74.1	72.5	77.6	78.9	82.3	85.3	88.8	90.1	91.2	90.6	92.7	93.9	94.2	92.0	91.7	89.9	90.9	89.9	87.7	87.9	+0.2
	23-26					70.2	70.5	72.1	80.0	82.9	85.5	88.3	88.0	87.3	89.2	89.2	91.8	90.7	91.5	89.0	91.3	87.1	90.1	85.8	-4.3
	27-30									82.1	81.0	85.5	86.9	83.9	85.7	86.6	86.6	88.3	89.2	90.3	90.4	89.4	90.3	88.5	-1.8
Take cocaine regularly	18	91.1	90.7	91.5	93.2	94.5	93.8	94.3	96.7	96.2	96.4	96.7	97.3	96.9	97.5	96.6	96.1	95.6	96.0	95.6	94.9	95.5	94.9	95.0	0.0
	19-22	91.6	89.3	91.9	94.6	95.0	96.3	97.0	97.2	97.9	97.4	98.9	97.9	98.4	97.8	98.8	98.2	97.9	98.0	97.8	97.6	98.0	97.2	97.0	-0.1
	23-26					95.7	95.3	97.3	98.1	97.6	98.3	98.4	98.5	98.7	98.4	98.8	97.7	97.8	96.9	98.5	98.3	97.8	97.5	97.5	0.0
	27-30									98.1	97.0	99.3	99.0	97.2	98.7	99.0	98.9	98.5	97.9	97.8	98.8	98.7	98.4	97.8	-0.5
Try heroin once or twice	18	93.5	93.5	94.6	94.3	94.0	94.0	93.3	96.2	95.0	95.4	95.1	96.0	94.9	94.4	93.2	92.8	92.1	92.3	93.7	93.5	93.0	93.1	94.1	+1.1
	19-22	96.3	95.4	95.6	95.2	95.1	96.2	96.8	96.3	97.1	96.4	98.3	95.9	95.9	96.3	96.6	95.6	95.2	95.6	95.1	95.5	94.1	94.2	95.0	+0.8
	23-26					96.7	94.9	96.4	97.1	97.4	96.7	96.8	96.9	96.3	95.4	96.5	95.9	96.1	95.2	94.6	96.3	93.1	95.0	94.8	-0.1
	27-30									97.9	95.8	97.5	96.6	94.8	97.3	94.7	96.3	96.0	96.9	95.9	96.7	95.9	96.4	94.4	-2.0

(Table continued on next page)

TABLE 6-2 (cont.)
Trends in Proportions Disapproving of Drug Use
High School Seniors (Age 18) and Young Adults in Modal Age Groups of 19-22, 23-26, and 27-30
(Entries are percentages)

Q. Do you disapprove of people (who are 18 or older) doing each of the following?	Age Group	Percentage disapproving[a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Take heroin occasionally	18	96.7	97.2	96.9	96.9	97.1	96.8	96.6	97.9	96.9	97.2	96.7	97.3	96.8	97.0	96.2	95.7	95.0	95.4	96.1	95.7	96.0	95.4	95.6	+0.2
	19-22	98.6	97.8	98.3	98.3	98.6	98.7	98.3	98.3	98.3	97.9	99.2	98.2	98.1	98.1	98.3	97.7	97.9	97.8	98.2	97.2	98.0	97.9	97.9	0.0
	23-26					99.2	98.2	98.8	99.1	98.4	98.3	98.1	99.0	98.7	98.4	98.6	97.7	98.7	97.4	97.5	98.5	98.2	97.8	97.5	-0.3
	27-30									99.2	97.3	99.0	98.9	97.0	98.9	98.7	98.9	98.0	98.7	97.6	98.8	98.6	98.4	98.6	+0.2
Take heroin regularly	18	97.6	97.8	97.5	97.7	98.0	97.6	97.6	98.1	97.2	97.4	97.5	97.8	97.2	97.5	97.1	96.4	96.3	96.4	96.6	96.4	96.6	96.2	96.2	0.0
	19-22	99.2	98.5	98.6	98.7	98.7	99.1	98.9	98.6	98.4	98.3	99.5	98.5	98.3	98.4	98.8	98.4	98.3	98.1	98.3	98.2	98.5	98.2	98.3	+0.1
	23-26					99.4	98.8	99.1	99.4	98.7	98.7	98.5	99.3	99.2	98.9	98.8	98.7	98.9	97.6	98.5	98.7	98.8	98.4	98.3	-0.1
	27-30									99.4	97.6	99.4	99.0	97.8	99.0	99.4	99.1	98.6	98.4	98.1	98.8	98.7	98.7	98.4	-0.2
Try amphetamines once or twice	18	75.4	71.1	72.6	72.3	72.8	74.9	76.5	80.7	82.5	83.3	85.3	86.5	86.9	84.2	81.3	82.2	79.9	81.3	82.5	81.9	82.1	82.3	83.8	+1.5
	19-22	74.5	70.5	68.9	74.0	73.0	75.6	78.9	79.9	81.8	85.3	84.4	83.9	83.8	87.2	88.3	85.0	84.4	83.3	84.6	84.9	83.8	82.1	81.4	-0.7
	23-26					74.2	74.2	74.6	80.3	83.5	83.3	84.1	84.8	83.4	84.8	82.7	86.0	86.4	85.7	83.5	84.5	82.4	83.9	83.5	-0.4
	27-30									83.5	81.0	84.3	83.7	80.9	83.5	82.0	83.1	85.8	86.3	85.9	86.4	84.5	86.0	86.4	+0.4
Take amphetamines regularly	18	93.0	91.7	92.0	92.6	93.6	93.3	93.5	95.4	94.2	94.2	95.5	96.0	95.6	96.0	94.1	94.3	93.5	94.3	94.0	93.7	94.1	93.4	93.5	+0.2
	19-22	94.8	93.3	94.3	93.4	94.9	96.6	96.9	95.1	97.5	96.8	97.5	97.7	96.7	97.3	97.9	96.8	97.2	97.8	96.7	97.5	96.1	97.3	96.4	-1.0
	23-26					96.6	95.9	96.6	97.0	97.2	98.1	97.9	97.9	97.7	98.4	97.7	97.0	97.9	97.0	98.0	97.0	97.6	96.8	96.3	-0.5
	27-30									98.1	96.5	98.6	97.8	96.8	97.7	99.0	98.9	98.2	98.1	97.7	98.2	98.5	97.6	97.4	-0.2
Try sedatives (barbiturates) once or twice	18	83.9	82.4	84.4	83.1	84.1	84.9	86.8	89.6	89.4	89.3	90.5	90.6	90.3	89.7	87.5	87.3	84.9	86.4	86.0	86.6	85.9	85.9	86.6	+0.7
	19-22	83.5	82.3	83.8	85.1	85.2	86.1	88.3	87.5	90.1	92.0	91.1	90.4	88.8	90.7	91.1	90.5	89.1	86.6	85.8	86.6	84.2	85.2	84.2	-1.0
	23-26					84	84.5	84.4	89.8	90.7	89.4	88.8	87.9	88.8	88.5	88.0	89.3	88.3	88.3	87.4	87.3	85.2	86.9	86.8	-0.2
	27-30									90.5	88.3	88.4	88.8	86.6	88.9	87.6	88.0	89.4	88.8	88.4	87.6	87.3	88.5	86.9	-1.5
Take sedatives (barbiturates) regularly	18	95.4	94.2	94.4	95.1	95.1	95.5	94.9	96.4	95.3	95.3	96.4	97.1	96.5	97.0	96.1	95.2	94.8	95.3	94.6	94.7	95.2	94.5	94.7	+0.2
	19-22	96.6	95.6	97.3	96.5	96.6	98.1	98.0	97.0	97.9	97.7	98.7	98.0	97.9	98.2	98.7	97.7	97.9	97.7	97.7	97.3	97.4	96.9	97.8	+0.9
	23-26					98.4	98.5	97.7	98.6	98.3	98.3	98.5	98.5	98.6	98.5	98.5	97.4	98.4	97.4	98.5	97.6	97.4	97.0	97.1	+0.1
	27-30									98.4	97.1	99.1	98.5	97.7	98.4	99.1	99.0	98.5	97.9	97.7	98.5	98.1	98.4	97.2	-1.2
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	18	16.0	17.2	18.2	18.4	17.4	20.3	20.9	21.4	22.6	27.3	29.4	29.8	33.0	30.1	28.4	27.3	26.5	26.1	24.5	24.6	25.2	26.6	26.3	-0.3
	19-22	14.8	14.5	13.9	15.5	15.3	15.4	16.9	16.0	18.4	22.4	17.6	22.2	16.9	20.8	22.2	22.0	22.0	18.3	21.5	18.3	18.4	16.3	18.3	+1.9
	23-26					17.4	16.1	13.2	17.7	13.7	17.5	18.6	19.5	17.4	18.1	17.6	16.5	18.0	15.8	18.6	19.1	19.9	15.9	18.1	+2.2
	27-30									19.5	19.1	18.7	18.8	17.9	19.5	18.6	18.2	16.1	17.4	15.2	15.9	14.8	15.9	18.4	+2.5
Take one or two drinks nearly every day	18	69.0	69.1	69.9	68.9	72.9	70.9	72.8	74.2	75.0	76.5	77.9	76.5	75.9	77.8	73.1	73.3	70.8	70.0	69.4	67.2	70.0	69.2	69.1	0.0
	19-22	67.8	69.7	71.3	73.3	74.3	71.3	77.4	75.3	76.5	80.0	79.7	77.1	76.0	75.0	78.0	74.7	73.5	73.2	70.3	67.3	66.7	68.3	63.9	-4.4
	23-26					71.4	73.7	71.6	72.7	74.6	74.4	77.6	76.9	75.5	74.2	73.3	69.7	70.6	68.4	70.2	73.4	66.3	66.5	62.7	-3.8
	27-30									76.0	73.9	73.3	76.1	69.5	73.5	72.4	71.8	71.4	71.8	69.8	67.9	65.9	68.9	70.9	+2.0

TABLE 6-2 (cont.)
Trends in Proportions Disapproving of Drug Use
High School Seniors (Age 18) and Young Adults in Modal Age Groups of 19-22, 23-26, and 27-30

(Entries are percentages)

Q. Do you disapprove of people (who are 18 or older) doing each of the following?	Age Group	Percentage disapproving[a]																							'01-'02 change
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
Take four or five drinks nearly	18	90.8	91.8	90.9	90.0	91.0	92.0	91.4	92.2	92.8	91.6	91.9	90.6	90.8	90.6	89.8	88.8	89.4	88.6	86.7	86.9	88.4	86.4	87.5	+1.1
every day	19-22	95.2	93.4	94.6	94.6	94.6	94.8	94.9	95.7	94.8	96.1	95.8	96.4	95.5	95.1	96.2	95.5	94.2	93.9	92.4	92.4	92.8	94.2	92.6	-1.6
	23-26					96.2	95.0	95.5	96.9	94.3	95.9	96.9	96.1	95.7	95.7	95.7	95.2	96.5	93.8	96.1	95.1	94.3	93.5	93.7	+0.2
	27-30									97.4	94.6	96.1	95.3	94.8	94.8	96.4	96.7	96.4	96.2	95.0	97.2	95.3	96.1	95.4	-0.6
Have five or more drinks once	18	55.6	55.5	58.8	56.6	59.6	60.4	62.4	62.0	65.3	66.5	68.9	67.4	70.7	70.1	65.1	66.7	64.7	65.0	63.8	62.7	65.2	62.9	64.7	+1.8
or twice each weekend	19-22	57.1	56.1	58.2	61.0	59.7	59.4	60.3	61.6	64.1	66.3	67.1	62.4	65.6	63.5	68.1	66.0	69.2	66.5	63.2	63.5	65.1	58.3	57.5	-0.9
	23-26					66.2	68.3	66.5	67.5	65.2	63.2	66.9	64.6	69.6	66.8	66.9	65.3	70.9	66.6	69.5	68.1	66.2	66.0	61.2	-4.8
	27-30									73.9	71.4	73.1	72.1	68.4	73.4	73.5	73.7	72.4	73.0	71.1	73.1	73.1	73.0	70.9	-2.1
Smoke one or more packs of	18	70.8	69.9	69.4	70.8	73.0	72.3	75.4	74.3	73.1	72.4	72.8	71.4	73.5	70.6	69.8	68.2	67.2	67.1	68.8	69.5	70.1	71.6	73.6	+2.0
cigarettes per day	19-22	68.7	68.1	66.3	71.6	69.0	70.5	71.4	72.7	73.8	75.6	73.7	73.2	72.6	72.8	75.3	69.8	72.2	74.3	72.3	70.1	73.1	73.2	73.4	+0.2
	23-26					69.9	68.7	67.5	69.7	66.4	71.1	71.5	77.2	73.6	72.9	70.3	72.2	73.0	71.7	73.9	73.8	72.7	77.3	74.8	-2.4
	27-30									72.8	69.4	73.5	71.2	70.7	73.8	72.3	73.9	72.7	74.3	71.7	71.0	78.6	75.2	78.8	+3.6
Approximate Weighted N=	18	3261	3610	3651	3341	3254	3265	3113	3302	3311	2799	2566	2547	2645	2723	2588	2603	2399	2601	2545	2310	2150	2144	2160	
	19-22	588	573	605	579	586	551	605	587	560	567	569	533	530	489	474	465	480	470	446	449	416	413	402	
	23-26					542	535	560	532	538	516	524	495	538	514	475	466	449	423	401	397	389	404	346	
	27-30									526	509	513	485	512	462	442	450	430	453	449	429	395	368	359	

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

'NA' indicates data not available.

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

Chapter 7

THE SOCIAL MILIEU FOR YOUNG ADULTS

We believe that exposure to drug use of various kinds, perceptions of the relevant norms in the peer group, and perceived availability of the various drugs are all important influences on substance use, at both the individual (micro) level and the aggregate (macro) level. In Volume I, we examined these factors among secondary school students. In this chapter, we examine them for the young adult population, many of whom are in social environments quite different from the ones to which they were exposed during their high school years.

Because each of these question sets is contained in only a single questionnaire form, and because the follow-up samples are much smaller than the in-school samples, the case counts are much lower than those presented in most chapters. Therefore, the prevalence and trend estimates are more subject to fluctuation due to greater sampling error.

PEER NORMS AS PERCEIVED BY YOUNG ADULTS

Table 7-1 provides current levels and trends in perceived friends' disapproval of drug use among high school seniors, 19- to 22-year-olds, 23- to 26-year-olds, and 27- to 30-year-olds. (These are the same age groupings used in chapter 6.) Trend data are available since 1980, 1984, and 1988, respectively, for the three four-year age groupings.

The questions regarding friends' disapproval use the same answer scale (stated in terms of disapproval rates associated with different use levels of the various drugs) as do the questions that ask about the respondents' own attitudes about those behaviors (discussed in chapter 6). The list of drug-using behaviors is shorter here, and the questions appear on a different questionnaire form and therefore have a different set of respondents. However, the results for perceived peer norms are generally quite consistent with those for personal disapproval; that is, the proportion saying that they personally disapprove of a drug-using behavior tends to be similar to the proportion saying that their close friends would disapprove of that same behavior.[41] Exceptions are ***trying marijuana once or twice*** and ***smoking one or more packs of cigarettes per day***, to which respondents have consistently reported their friends' attitudes as *more* disapproving than their own attitudes (especially in the oldest age band), and ***heavy weekend drinking***, to which friends' attitudes are seen as considerably *less* disapproving than their own.

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[41]The question reads, "How do you think your close friends feel (or would feel) about you… [smoking marijuana once or twice?]." The answer categories are "don't disapprove," "disapprove," and "strongly disapprove." Percentages discussed are for the last two categories combined.

Current Perceptions of Friends' Attitudes

Table 7-1 provides trends in the proportions of respondents indicating how their close friends would feel about the respondents engaging in various drug-using behaviors, for each of the age bands. For purposes of simplification, we begin by addressing results across the whole 19- to 30-year age band (tabular data are not presented).

- The peer norms reported by young adults 1 to 12 years past high school are quite similar to those reported by high school seniors. That is, for each of the ***illicit drugs other than marijuana***, the great majority of young adults think that their close friends would disapprove of their even *trying* such drugs once or twice (86% for ***LSD*** and ***amphetamines*** and 90% for ***cocaine***).

- Well over half of the young adults (over 58%) now think their friends would disapprove of their even trying ***marijuana***, while two thirds (67%) think they would disapprove of occasional use and about 84% think they would disapprove of regular use.

- Almost two thirds (65%) of young adults say their friends would disapprove if they were ***daily drinkers***, and 9 out of 10 (90%) if they were ***heavy daily drinkers***, defined as taking four or five drinks nearly every day.

- Friends' disapproval of occasional ***heavy drinking*** is distinctly lower. Only 50% to 63% of any age group think that their friends would disapprove of their having five or more drinks once or twice each weekend. The 19- to 22-year-olds, who comprise the age group that exhibits the highest rate of such drinking, have the lowest level of perceived friends' disapproval; the two older age groups think that their friends would be considerably more disapproving.

- Peer disapproval of ***cigarette smoking*** is reasonably high in all four age bands: 76% of seniors say their friends would disapprove of pack-a-day smoking, as well as 77% of the 19- to 22-year-olds, 75% of the 23- to 26-year-olds, and 86% of the 27- to 30-year-olds. Since the late 1980s, anti-smoking norms have been strongest among the older age bands, but in 2002 this is true only for the oldest of the four age groups.

Trends in Peer Norms

- Important changes in the social acceptability of drug-using behaviors among both seniors' and young adults' peers have occurred over the life of this study. (See Table 7-1 for data on trends in disapproval by friends for all drugs.) Among seniors, the proportion who said that their friends would disapprove of their trying ***marijuana*** rose from 41% in 1979 to 73% in 1992. Friends' disapproval subsequently grew substantially in all of the young adult age bands. For example, among the 19- to 22-year-olds, the proportion thinking their friends would disapprove if they even tried marijuana rose from 41% in 1981 to 65% in 1992. A similar peaking occurred for the 23- to 26-year-olds around 1992, at 66%. In all age groups, disapproval subsequently declined—though the declines were greatest for the younger age

groups. Among the twelfth graders the decline ended in 1997 and began to reverse, but it continued among the 19- to 26-year-olds.

Among those under age 23, friends' disapproval of more frequent use of marijuana also rose until the early 1990s and then declined between 1992 and 1999. The 23- to 30-year-olds have declined a bit further since then.

- There was a more gradual increase in peer disapproval levels of ***amphetamine*** use for all age groups through 1991, followed by definite declines evident among the high school seniors through 1996. But this weakening of norms against use occurred primarily among adolescents.   As of 2002, levels among the 18- to 30-year-olds are about the same as they were about 10 years earlier.

- Through 1991 peer disapproval of trying ***LSD*** showed very little change in any of the age bands, but it fell some in the 1990s, especially among the 18-year-olds and subsequently the 19- to 22-year-olds. These declines bottomed out in a staggered fashion, beginning with the seniors in 1997 (who have since shown a 6 percentage point increase in peer disapproval).

- Perceived peer norms regarding ***cocaine*** use were first measured in 1986. During the next five years, self-reported cocaine use declined substantially as peer norms in all age bands shifted considerably toward disapproval. For example, by 1994, 95% of the 19- to 22-year-olds thought their friends would disapprove of their even trying cocaine. After 1994, peer norms against use continued to strengthen a bit in the upper age bands, perhaps through generational replacement, but weakened slightly in the younger age bands, likely reflecting a new cohort effect.   At present there is very little difference by age in peer norms against cocaine use.

- Peer norms regarding ***occasional heavy drinking*** (five or more drinks once or twice each weekend) have tended to be weakest among the 19- to 22-year-old age stratum (where such behavior is most common) and strongest among the 27- to 30-year-old stratum. Among seniors, friends' attitudes became somewhat more restrictive between 1981 and 1992 but have been level since then. There was a similar upward trend among the various young adult age bands, following a staggered pattern likely reflecting a cohort effect.   However, in recent years the 19- to 22-year-old age group became somewhat less disapproving of occasional binge drinking, at least through 2001.

- Peer norms regarding ***cigarette smoking*** (one or more packs per day) became somewhat more restrictive among high school seniors in the early years of this study; peer disapproval rose from 64% in 1975 to 73% in 1979. There was little further net change through 1992, when friends' disapproval stood at 76%. However, peer disapproval of smoking slipped some in the 1990s, to 69% by 1995, where it remained through 1998 among seniors, before beginning to rise once again. Between 1982 and 1992, peer disapproval among 19- to 22-year-olds rose just a bit, from 75% to 79%, but then it also dropped (to 69% by 1998). It stands at 77% in 2002, following some recent increase in disapproval of smoking. Among 23- to 26-year-olds, peer disapproval increased a bit from 74% in 1984 to 83% by 1991 but had dropped back to 75% by 2002. Despite substantial publicity about changing norms and new laws restricting

smoking, there was rather little change in rates of perceived peer disapproval of cigarette smoking for some years, particularly among those of high school and college ages; and in the 1990s, rates of disapproval actually declined some in all of these age groups. In fact, they reached their lowest levels in 20 years among high school and college-aged respondents by 1995. These peer norms move in a way consistent with an operating cohort effect.

EXPOSURE TO DRUG USE BY FRIENDS AND OTHERS

Exposure to drug use is measured by two sets of questions, each appearing on a (different) single questionnaire form. The first set asks each respondent to estimate what proportion of his or her friends use each drug, while the second asks, "During the LAST TWELVE MONTHS how often were you around people who were using each of the following to get high or for 'kicks'?" The same questions are asked of high school seniors, and their results are included for comparison purposes in Tables 7-2 and 7-3. We continue to deal with four-year age bands to increase the reliability of the measures. (Ages 35 and 40 are, of necessity, included as one-year age bands, but those years have larger numbers of cases than single years at the earlier ages. Both half samples from those two cohorts are surveyed and there is only one questionnaire form being administered to those respondents.) At the bottom of each table is a summary of the weighted numbers of cases upon which each annual estimate is based. (The actual numbers of cases are somewhat higher.)

Exposure to Drug Use Among Adults

- Relatively high proportions of young adults in all of these age bands have at least *some* friends who use *some illicit drug* (Table 7-2). In recent years, the proportion declines considerably with age, although this was not always the case. The differences opened up considerably in the 1990s. In 2002 the proportion is highest for high school seniors (82%), falls to 62% among 27- to 30-year-olds, to 41% among 35-year-olds, and to 36% among 40-year-olds. The proportions who say that *most or all* of their friends use one or more of the illicit drugs fall from 23% for seniors, to 6.9% among 27- to 30-year-olds, to 2.9% among 35-year-olds, and to 2.2% among 40-year-olds—quite a dramatic difference, and one that is consistent with the large differences in their own self-reported use.

- With regard to *illicit drugs other than marijuana*, taken as a whole, considerably fewer report *any* of their friends so involved: 54% for seniors, 57% for 19- to 22-year-olds, 36% for 27- to 30-year-olds, 20% for 35-year-olds, and 21% for 40-year-olds. These age differences are considerably greater than they were throughout the 1980s. During the period of increasing drug use primarily among adolescents, the seniors reported having the highest proportion of friends using drugs. However, as those seniors have aged, it is now the young adults aged 19 to 22 who are showing an increasing proportion of friends using drugs, as well as the highest proportion of any of the age strata. The proportions saying that *most or all* of their friends use *illicit drugs other than marijuana* in 2002 are 6.1%, 5.7%, 2.8%, 2.3%, respectively, for the four youngest age bands, with fewer than 1% of 35- and 40-year-olds reporting such a high proportion of their friends using.

- With respect to individual illicit drugs, exposure among all of the age groups is greatest for *marijuana*, with 79% of the seniors, 77% of the 19- to 22-year-olds, 59% of the 27- to 30-

year-olds, and 31% of the 40-year-olds reporting that at least some of their friends use the drug. The next highest exposures are for ***MDMA*** (38% among seniors and 43% among 19- to 22-year-olds, declining to 21% among 27- to 30-year-olds), ***amphetamines*** (34% among seniors and 29% among 19- to 22-year-olds, declining to 12% among 27- to 30-year-olds), ***hallucinogens other than LSD*** (34% among seniors and among 19- to 22-year-olds, declining to 15% among 27- to 30-year-olds), and ***LSD*** (29% among seniors and 24% among 19- to 22-year-olds, declining to 13% among 27- to 30-year-olds). Because of the dramatic increase in its use during the 1990s and early 2000s, MDMA, or ecstasy, has surpassed a number of the more traditional drugs.

The proportions of young adults who have some friends who use the other illicit drugs exceed 10% in at least one of the young adult age groups for the following drugs: ***narcotics other than heroin*** (12%-22%), ***cocaine*** (16%-28%), ***sedatives*** (***barbiturates***) (7%-17%), ***steroids*** (6%-19%), ***crack cocaine*** (3%-18%), ***tranquilizers*** (11%-18%), and ***quaaludes*** (7%-13%).

- For most illicit drugs, the proportion of young adults having any friends who use decreases with age, consistent with the age differentials in self-reported use. The steepest declines occur with ***inhalants*** (21% of 18-year-olds down to 4.5% of 27- to 30-year-olds). (Inhalant use is not asked of the 35- and 40-year-olds, precisely because of this sharp decline in use with age.)

- For some years, ***cocaine*** was the one illicit drug that showed significantly higher rates of active use among adults than among high school seniors. That is no longer true, although there is rather little drop-off with age in early adulthood; consequently, there is not a great difference associated with age in having friends who use cocaine (16% to 28% for all four age groups). (The 35- and 40-year-olds are asked separately about cocaine powder and crack use, and a fair proportion—about 9% in 2002 for both groups—report having friends who use cocaine powder.)

- For ***crack***, however, the story is different. Reported friends' use of crack now descends sharply with age, although this was not true in the mid-1980s, when measures of crack use were first included in the surveys.

- The proportion reporting that they have any friends who use ***heroin*** or ***narcotics other than heroin*** also decreases sharply with age.

- In general, it appears that some respondents who report that their friends use illicit drugs are not directly exposed to that use themselves, judging by the differences in proportions saying they have some friends who use (Table 7-2) and the proportions who say they have not been around people who were using during the prior year (Table 7-3).

- With respect to ***alcohol*** use, the great majority of young adults have at least *some* friends who ***get drunk at least once a week***, although this differs by age: 78% of the high school seniors, 82% of the 19- to 22-year-olds, 81% of the 23- to 26-year-olds, 69% of the 27- to 30-year-olds, 48% of the 35-year-olds, and 43% of the 40-year-olds. The proportions who say *most*

or all of their friends get drunk once a week differ more substantially by age: 28% of the seniors and 31% of the 19- to 22-year-olds, declining sharply to 8.9% of the 27- to 30-year-olds and 3.8% of the 40-year-olds. Note in particular how high these rates are among the high school and college-aged respondents.

In terms of direct exposure during the past year to people who were drinking alcohol "to get high or for 'kicks,'" having some such exposure is almost universal in the four-year age groups of young adults: 94%, 92%, and 89%, respectively. (See Table 7-3.)

- From ages 18 through 30, nearly all respondents (85%-90%) have at least a few friends who *smoke cigarettes*, with considerable falloff by ages 35 and 40. In fact, about a quarter of the seniors and 19- to 22-year-olds (23% and 26%, respectively) state that *most or all* of their friends smoke. Above those ages the proportions decline sharply, to 13% of the 27- to 30-year-olds, 6.6% among the 35-year-olds, and 5.8% among the 40-year-olds. This increase in the segregation of smokers from nonsmokers may reflect the stratification of young people after high school as a function of educational attainment, which is highly correlated with cigarette smoking. Also, it can be seen in Table 7-2 that there was much less age-related difference in the late 1980s, suggesting that the sharp rise in smoking among high school students during much of the 1990s accentuated the age differentials and that those differentials remain, reflecting lasting cohort effect.

Trends in Exposure to Drug Use by Young Adults

Tables 7-2 and 7-3 also provide *trend* data on the proportions of friends using drugs and the proportions directly exposed to drug use. (Both of these measures of exposure to use will be discussed in this section.) Once again, trends are available for the 19- to 22-year-olds since 1980, for the 23- to 26-year-olds since 1984, and for the 27- to 30-year-olds since 1988. Data for 35- and 40-year-olds are available for friends' use since 1994 and 1998, respectively. Data for high school seniors since 1980 also have been included in these tables for comparison purposes.

- An examination of Table 7-3 shows that exposure to illicit drug use (in the 12 months preceding the survey) declines with age, for *any illicit drug*, *marijuana*, and *any illicit drug other than marijuana*, as well as for nearly all of the specific illicit drugs. In general, these differences replicate across different historical periods, with the exception of cocaine, which began to show a decline in exposure with increasing age after 1996.

- Until 1992, young adults' trends in exposure to use tended to parallel those observed for twelfth graders. Between 1980 and 1992, that meant a decreasing number of respondents were exposed to *any illicit drug* use (Table 7-3) or reported any such use in their own friendship circle (Table 7-2). After 1992, however, an important *divergence* in trends among age groups emerged: twelfth graders showed a substantial increase in both friends' use and exposure to use (and in self-reported use); the 19- to 22-year-olds showed a similar rise, but lagged by a few years; the 23- to 26-year-olds have recently shown a slight rise; while the 27- to 30-year-old age band did not show a rise until 2002. This pattern no doubt reflects the emergence of lasting cohort differences combined with the process of generational replacement.

- *Marijuana* showed a very similar pattern of change. In addition, returning to the measures of friends' use, it is particularly noteworthy that, while 34% of the 19- to 22-year-olds in 1980 said *most or all* of their friends used marijuana, only 8.5% said the same in 1993. Clearly, the number of friendship groupings in which marijuana use was widespread dropped dramatically over that interval. The figure increased to 19% by 1999, where it remains in 2002.

- The proportion exposed to use of *any illicit drugs other than marijuana* began to decline after 1982. By 1991 there had been a considerable drop in such exposure in all four age groups. This drop appears to be due to decreases in exposure to the use of *cocaine* and *amphetamines* particularly, although there were decreases for *sedatives* (*barbiturates*) and *tranquilizers*, as well. The levels then began to rise in the two youngest age bands, while at the same time they continued to decline in the two oldest age bands, opening up a large age-related difference in exposure to use.

- Between 1987 and about 1992, there was a considerable drop in the proportion of all four age groups who said they had any friends who used *crack*. (Self-reported use declined in the same period.) Since then the rates of friends' use have increased some in the two youngest age bands and decreased some in the four oldest ones, resulting in a large age difference in the proportion of friends using crack. Of course, some of that apparent age difference could be due to a greater amount of cumulative attrition of the most drug-prone members of our panels, and crack users would certainly be among the most drug-prone.

- It is noteworthy that there has been a substantial increase since the early 1990s in the proportion of seniors and 19- to 22-year-olds reporting that they have friends using *narcotics other than heroin* (though the increase was even greater among the seniors). Increases among the 23- to 30-year-olds have been more modest, but unlike the case with the younger strata, they are still underway.

- The proportions of all of the age groups for which data are available on friends' use of *ecstasy* (*MDMA*) increased sharply in recent years, though in a staggered fashion. Seniors showed the first sharp increase beginning after 1992, 19- to 22-year-olds after 1994, 23- to 26-year-olds after 1999, and 27- to 30-year-olds after 2000. These sharp increases ended among seniors in 2001 and among 19- to 22-year-olds a year later; but they still continue in the older age bands.

- For all four age groups there were modest declines between 1987 and 1992 in the proportion saying that most or all of their friends drink *alcohol*. Since 1992, there has been very little change in the lower four age bands, though a drop among seniors in 2002 begins to open a difference. The 35- and 40-year-olds report fewer friends who drink and substantially fewer who get drunk on a weekly basis.

- Among high school seniors, the proportion who said most or all of their friends smoked *cigarettes* declined appreciably between 1975 and 1981, during the same period that self-reported use declined, after which neither measure showed much change until about 1992. Thereafter, substantial increases in both measures occurred. By 1997 fully one third (34%) of

high school seniors reported that most or all of their friends smoked cigarettes, up from 21% in 1992. (Both measures have shown some decline since.) Among 19- to 22-year-olds a decline in friends' use occurred between 1980 (or possibly earlier) and 1985, followed by a leveling through 1994. The percentage saying most friends smoke increased from 22% in 1994 to 29% in 2000, before beginning to decline. Among 23- to 26-year-olds, a downturn was evident between at least 1984 (the first year for which data are available) and 1988, and then reported friends' use leveled. Since about 2000, some slight decline is evident. These staggered changes illustrate that the "cohort effects" are moving up the age spectrum along with the cohorts.

- Nearly all of these changes across the various drugs parallel changes in self-reported use by these four age groups. This pattern reinforces our trust in the validity of the self-report data, because there would presumably be less motivation to distort answers about the proportion of an unnamed set of friends who use a drug than about one's own use of it. Also reassuring is the systematic nature of the patterns of change across age strata (whether in terms of parallel trends consistent with a secular trend or staggered ones consistent with a cohort-related trend).

PERCEIVED AVAILABILITY OF DRUGS BY YOUNG ADULTS

Young adults participating in the follow-up survey receive identical questions to those asked of high school seniors regarding how difficult they think it would be to get each of the various drugs if they wanted them. The questions are contained in only one of the six questionnaire forms, yielding a weighted sample size for each four-year age band of about 400 to 600 cases per year. The data for the follow-up samples, which are grouped into the same four-year age bands, are presented in Table 7-4, along with the data for the twelfth graders and the 35- and 40-year-olds. Sample sizes are presented at the bottom of Table 7-4.

Perceived Availability

As is true with the high school seniors, substantial proportions of the American young adult population have access to various illicit drugs. (We do not ask about access to alcohol and cigarettes, because we assume access to be universal.) *Marijuana* is the most available illicit drug, with 84%-89% of the young adult age strata saying it would be "fairly easy" or "very easy" to get. Access generally decreases with age after age 26, but it is still 72% by age 40.

- *Ecstasy* (*MDMA*) is now the most widely available of all of the illicit drugs other than marijuana. Its availability is greatest for high school seniors and 19- to 22-year-olds, at 59% and 60%, respectively, but only slightly lower among 23- to 26-year-olds (53%). However, availability then falls off considerably among 27- to 30-year-olds (to 41%). (The question is not asked of 35- or 40-year-olds.)

- *Amphetamines* are the next most available illicit drug (46%-54% among young adults and 39% among 35- and 40-year-olds), with access declining with ascending age in most recent years.

- *Cocaine* ranks next among young adults, with 46%-48% saying it would be fairly easy to get. *Powdered cocaine* availability does not differ by age (41%-44%). *Crack* is available to somewhat smaller proportions than powdered cocaine—33%-36% for all three post-high school age strata and 39%-40% for 35- and 40-year-olds. Cocaine was considerably more available to the older age groups in the 1980s (up through age 30, at least) but is now about equally available across all four lower age bands.

- *Hallucinogens other than LSD* are reported as available by 48%-49% of twelfth graders and 19- to 22-year-olds. Availability is lower among the 23- to 30-year-olds at 33%-40%.

- *LSD* shows a fairly high degree of availability among high school seniors through 26-year-olds (37%-40%), then decreases with age to 27% for the 40-year-olds. This decrease with age (at least up through age 30) was generally not true in the early to mid-1980s.

- *Sedatives* (*barbiturates*) and *tranquilizers* are reported as available by sizeable proportions of young adults. Some 35%-41% say they could get sedatives (barbiturates) compared to 37% of seniors; and 34%-38% say they could get tranquilizers compared to 33% of seniors. The availability of tranquilizers has generally tended to increase some with age over most of the life of the study.

- More than a third of young adults (39%-40%) say they can get *other narcotics* fairly easily (versus 44% of high school seniors). Availability declines some with age.

- *Steroids* show some declines in perceived availability with increasing age, as has generally been the case, ranging from 46% among high school seniors down to 33% among the 23- to 30-year-olds.

- Over a quarter of young adults (26%-27%) say that they could get *heroin* fairly easily (versus 29% of twelfth graders). The seniors have slightly higher availability than the other age groups, but there is little difference among the latter.

- *Crystal methamphetamine* (*ice*) is perceived to be available by about a quarter to a third of each age group (25%-31%).

Trends in Perceived Availability

- *Marijuana* has been almost universally available to all these age groups throughout the historical periods covered by the data (since 1975 in the case of high school seniors). There was a slight decrease through 1991 among high school seniors since the peak year of 1979 and a slightly larger decrease from 1980 through 1991 among 19- to 22-year-olds. Availability has risen some in nearly all strata since 1993, though by very little among the adults. Perceived availability is now a bit higher for the younger age groups (87% for seniors and 84% for 27- to 30-year-olds versus 72% for those aged 40).

- *Cocaine* availability increased among all three younger age strata over the 1984-1988 interval, reaching historic highs in 1988 and 1989. (High school seniors showed a rise in availability in earlier years—from 1975 to 1980—followed by a leveling between 1980 and 1985. Availability was level during the latter period among 19- to 22-year-olds, also.) From a policy perspective, it is worth noting that in all three age bands for which we have data, the perceived availability of cocaine increased in 1987—the same year that use actually dropped sharply. Between 1988 and 1989, in the two younger age strata (aged 18, and 19 to 22) the proportions reporting that they could get cocaine fairly easily were still increasing, whereas in the older age strata the proportions were beginning to decrease. In 1990 and 1991, all four groups reported decreased availability—quite parallel to the number who had friends who were users and to personal use, both of which dropped substantially in these years and then leveled in 1992. Perceived availability of cocaine dropped to between 49% and 57% for all four age groups in 1993, with the absolute declines ranging from 4 to 7 percentage points. Since then there has been some falloff in perceived availability in all age strata through age 30, and an increasing convergence.

- *Crack* availability peaked in 1988-1989 for all age groups (it was first assessed in 1987) and declined through 1992, with little further change until 1995. Since 1995, crack availability has declined in all strata. In the late 1980s, crack was most available to the older age strata, while in 2002 crack is most widely available to 35- and 40-year-olds and high school seniors, but a little less so among the young adults.

- The trends in *LSD* availability among young adults have some parallels to those for twelfth graders. Among twelfth graders, there was a drop of about 10 percentage points in the mid-1970s and a later drop in the interval 1980 to 1986. The latter drop, at least, was paralleled in the data from 19- to 22-year-olds. After 1986, availability increased considerably in all age bands, reaching its peak levels (the highest we have recorded since these questions were introduced) by 1995; since 1995, availability has fallen some in the youngest two age strata, narrowing the differences among these and the next two older age groups. Indeed, the drop-off in availability of LSD to seniors and 19- to 22-year-olds was quite sharp in 2002, possibly contributing to the steep decline in use that year. Availability among 35- and 40-year-olds is the lowest, decreasing slightly since data were first available.

- In the early 1980s, there was a fair decline among all age groups in the availability of *hallucinogens other than LSD*; there was little additional change through 1992. From 1992

to 1995 the three youngest age groups all showed an increase in availability, with seniors showing the largest increase. From 1996 to 2000, availability was fairly steady. All age groups showed substantial increases in 2001, but this was presumably due to the changed question wording in which, among other things, "shrooms" was added to the examples of hallucinogens.

- The availability of **MDMA** (*ecstasy*) rose very substantially in all of these age groups during the 1990s and 2000s. (The questions were first introduced in 1989 and 1990.) Among the high school seniors, reported availability nearly tripled, from 22% in 1989 to 62% in 2001. All four age groupings showed sharp increases in 2000 and 2001, with the oldest groups continuing to increase through 2002. The 27- to 30-year-olds are the least likely to say that they have ecstasy readily available; still, 41% of them say it would be fairly easy to get. Only one of the four age strata showed any further increase in 2002.

- **Heroin** availability varied within a fairly narrow range from 1980 to 1986 but then showed a fair-sized increase among both high school seniors and young adults through 1990. It then rose further among seniors and 19- to 22-year-olds through 1995 before declining a bit. In the older two of the four age groups, heroin availability remained fairly flat from 1990 to 1995, then increased some through 1999, declining thereafter. What is clear is that heroin was much more available to all of these age groups in the 1990s than it was in the 1980s. Further, all age groups have shown some decline in heroin availability over the last several years.

- The availability of **narcotics other than heroin** slowly rose among all age groups between 1980 and 1989, followed by considerable stability from 1989 through 1994. Since 1994 availability has increased somewhat, as use has been rising steadily.

- The reported availability of **amphetamines** peaked in 1982 for both twelfth graders and 19- to 22-year-olds; since then it has fallen by 13 percentage points among twelfth graders and 20 percentage points among the 19- to 22-year-olds. Since 1984, when data were first available, there has been a decline of 18 percentage points among the 23- to 26-year-olds, as well. For the 27- to 30-year-olds, reported availability decreased by 9 percentage points between 1988 and 2002. Decreases among the 35- and 40-year-olds have been smaller since data first became available (6 and 2 percentage points, respectively.)

- By way of contrast, **crystal methamphetamine** or "ice" exhibited an increase in availability in the 1990s, rising for all four age strata from 1991 to 1998 or 1999, before stabilizing.

- **Sedatives** (**barbiturates**) have exhibited a long-term decline in availability since about 1981 or 1982 in the two younger groups—by 19 percentage points among high school seniors and 20 percentage points among 19- to 22-year-olds. Since 1984, when data were first available for 23- to 26-year-olds, availability has declined by 16 percentage points. There also has been a decline for 27- to 30-year-olds of about 8 percentage points since 1988.

- **Tranquilizer** availability has declined long term by more than half among high school seniors, from 72% in 1975 to 33% in 2002. Since 1980, when data were first available for 19- to 22-

year-olds, availability declined more sharply and from a higher level (from 67% to 35% in 2002) than among seniors, such that previous differences in availability between them were eliminated by 1992. The older age groups also showed a considerable decline in the availability of tranquilizers through 2002. In general, the trend lines for the different age groups have been quite parallel—as was true for sedatives (barbiturates).

- Data on *steroid* availability were first gathered in 1990, and although there has not been much change in availability since then, availability did appear to peak in 1992 in all age strata. This was followed by a modest decline in all age groups. Seniors showed some increase between 1996 and 2002, and 19- to 22-year-olds showed a very modest increase between 1998 and 2002.

TABLE 7-1
Trends in Proportions of Friends Who Disapprove of Drug Use
High School Seniors (Age 18) and Young Adults in Modal Age Groups of 19-22, 23-26, and 27-30
(Entries are percentages)

Q. How do you think your close friends feel (or would feel) about you...

Percentage saying friends disapprove[a]

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Trying marijuana once or twice	18	42.6	46.4	50.3	52.0	54.1	54.7	56.7	58.0	62.9	63.7	70.3	69.7	73.1	66.6	62.7	58.1	55.8	53.0	53.8	55.1	58.1	57.6	54.1	-3.5
	19-22	41.0	40.6	46.9	47.1	51.6	54.5	55.2	54.7	58.7	63.0	63.6	64.7	64.7	63.4	63.7	58.5	64.3	58.4	57.0	56.5	56.0	54.2	53.4	-0.8
	23-26					47.7	47.0	49.1	53.9	58.2	62.6	61.3	64.5	65.6	65.5	63.2	63.8	61.2	59.3	66.5	62.6	64.6	55.2	53.8	-1.5
	27-30									58.6	58.7	61.4	64.6	63.5	64.4	66.3	66.1	65.8	65.0	65.4	61.8	63.9	64.9	67.1	+2.2
Smoking marijuana occasionally	18	50.6	55.9	57.4	59.9	62.9	64.2	64.4	67.0	72.1	71.1	76.4	75.8	79.2	73.8	69.1	65.4	63.1	59.9	60.4	61.6	63.9	64.3	60.3	-3.9
	19-22	50.9	49.2	54.0	57.9	59.4	64.6	64.4	65.1	69.8	71.5	74.1	73.9	74.3	73.1	73.0	66.6	71.3	65.1	65.1	64.6	61.8	61.0	62.6	+1.7
	23-26					54.3	56.4	57.1	63.1	68.1	73.2	71.8	72.5	75.3	73.5	72.2	70.7	70.8	68.5	73.6	70.2	70.9	63.9	64.5	+0.7
	27-30									67.8	69.4	71.9	73.7	76.0	75.1	76.4	73.8	75.6	72.4	74.9	74.5	75.0	74.2	72.9	-1.2
Smoking marijuana regularly	18	72.0	75.0	74.7	77.6	79.2	81.0	82.3	82.9	85.5	84.9	86.7	85.9	88.0	83.5	80.6	78.9	76.1	74.1	74.7	74.5	76.1	77.8	75.3	-2.5
	19-22	70.3	75.2	75.7	79.5	80.0	82.7	83.5	84.8	86.9	87.5	89.1	88.4	89.1	87.6	85.9	83.9	84.5	83.3	81.1	78.2	78.5	80.0	80.5	+0.5
	23-26					77.8	78.4	80.9	82.0	85.8	89.2	88.1	87.9	90.3	89.1	88.8	84.9	89.5	85.6	87.1	86.8	86.9	83.7	82.8	-1.0
	27-30									85.4	86.0	88.4	89.2	88.7	88.2	88.9	89.7	89.6	87.8	90.8	89.2	91.6	90.1	87.9	-2.2
Trying LSD once or twice	18	87.4	86.5	87.8	87.8	87.6	88.6	89.0	87.9	89.5	88.4	87.9	87.9	87.3	83.5	83.4	82.6	80.8	79.3	81.7	83.2	84.7	85.5	84.9	-0.6
	19-22	87.4	90.5	88.0	89.3	89.3	91.1	90.5	91.8	90.8	91.2	89.1	89.9	87.2	87.7	87.9	84.6	85.3	83.6	81.7	82.0	82.1	85.2	86.9	+1.7
	23-26					87.4	90.8	88.6	89.8	88.9	91.0	90.1	92.4	88.9	87.7	86.3	85.3	88.5	85.4	87.6	84.5	85.3	82.8	83.6	+0.8
	27-30									88.8	89.7	92.3	91.1	91.4	89.9	91.2	89.7	89.3	88.5	88.7	88.4	85.6	87.4	86.3	-1.2
Trying cocaine once or twice	18							79.6	83.9	88.1	88.9	90.5	91.8	92.2	91.1	91.4	91.1	89.2	87.3	88.8	88.7	90.2	89.3	89.1	-0.2
	19-22							76.4	NA	84.8	87.7	89.2	92.3	91.9	92.4	94.7	91.7	91.5	91.8	90.0	91.2	89.4	89.1	91.7	+2.6
	23-26							70.8	NA	81.4	84.5	84.1	86.7	87.4	87.7	87.9	90.4	90.0	91.1	92.0	89.6	90.5	88.0	88.5	+0.6
	27-30									81.8	81.1	83.7	83.5	84.4	86.1	87.8	87.5	88.7	89.4	89.3	90.5	90.4	89.3	88.8	-0.5
Taking cocaine occasionally	18							87.3	89.7	92.1	92.1	94.2	94.7	94.4	93.7	93.9	93.8	92.5	90.8	92.2	91.8	92.8	92.2	92.2	0.0
	19-22							84.9	NA	91.0	93.8	94.2	95.6	95.9	95.6	97.5	95.6	95.7	96.6	93.1	95.7	94.7	94.5	95.6	+1.1
	23-26							81.7	NA	88.2	91.5	92.4	94.1	93.8	93.5	94.3	94.6	95.4	95.1	95.2	95.2	96.7	94.7	93.2	-1.5
	27-30									87.7	89.5	90.0	92.2	92.3	92.8	94.6	94.1	94.6	94.2	96.1	95.4	95.9	94.2	94.0	-0.1
Trying an amphetamine once or twice	18	78.9	74.4	75.7	76.8	77.0	77.0	79.4	80.0	82.3	84.1	84.2	85.3	85.7	83.2	84.5	81.9	80.6	80.4	82.6	83.0	84.1	83.8	83.3	-0.4
	19-22	75.8	76.7	75.3	74.3	77.0	79.7	81.5	81.3	83.0	83.5	84.5	86.5	83.8	85.0	87.2	83.1	86.0	84.5	84.0	85.8	81.6	84.5	87.6	+3.1
	23-26					78.4	79.1	76.7	81.7	83.0	85.6	84.3	85.0	83.6	84.2	84.7	87.6	86.5	83.3	87.0	85.9	85.1	83.1	83.9	+0.8
	27-30									82.7	84.1	84.9	84.6	84.7	84.1	85.9	85.5	85.6	85.9	85.8	87.2	87.8	86.4	86.0	-0.4
Taking one or two drinks nearly every day	18	70.5	69.5	71.9	71.7	73.6	75.4	75.9	71.8	74.9	76.4	79.0	76.6	77.9	76.8	75.8	72.6	72.9	71.5	72.3	71.7	71.6	73.4	71.6	-1.8
	19-22	71.9	72.1	68.6	73.5	71.6	72.2	72.7	70.2	73.9	77.1	73.3	73.7	74.0	71.2	73.0	68.3	68.9	73.5	67.3	68.6	66.6	64.9	68.5	+3.6
	23-26					63.6	66.8	67.7	68.3	69.2	70.8	72.7	72.5	72.1	67.6	71.5	68.2	72.8	68.1	66.9	66.1	65.4	64.4	61.6	-2.8
	27-30									71.0	68.0	70.4	71.9	68.8	73.2	70.9	68.8	65.7	67.3	66.7	64.3	67.3	67.1	64.0	-3.1

(Table continued on next page)

TABLE 7-1 (cont.)

Trends in Proportions of Friends Who Disapprove of Drug Use
High School Seniors (Age 18) and Young Adults in Modal Age Groups of 19-22, 23-26, and 27-30
(Entries are percentages)

Q. How do you think your close friends feel (or would feel) about you...	Age Group	Percentage saying friends disapprove[a]																							'01-'02 change
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
Taking four or five drinks nearly every day	18	87.9	86.4	86.6	86.0	86.1	88.2	87.4	85.6	87.1	87.2	88.2	86.4	87.4	87.2	85.2	84.1	82.6	82.5	82.8	82.2	82.8	84.4	80.1	-4.4
	19-22	93.7	91.7	89.9	91.9	91.7	92.5	91.5	90.8	90.4	92.5	89.9	91.7	92.6	89.6	90.1	88.8	88.1	90.0	85.9	87.9	86.6	84.6	87.7	+3.1
	23-26					90.8	90.2	92.5	92.8	93.7	92.1	92.1	92.4	91.1	93.1	92.1	92.2	92.6	90.7	93.7	89.9	92.5	91.1	88.1	-3.0
	27-30									92.8	92.0	92.9	92.7	92.7	93.9	94.0	92.9	91.9	93.8	92.1	95.3	92.4	91.2	92.7	+1.6
Having five or more drinks once or twice each weekend	18	50.6	50.3	51.2	50.6	51.3	55.9	54.9	52.4	54.0	56.4	59.0	58.1	60.8	58.5	59.1	58.0	57.8	56.4	55.5	57.6	57.7	57.8	55.6	-2.2
	19-22	53.5	51.7	51.7	53.3	50.8	53.3	47.0	49.4	50.5	56.8	53.1	51.4	53.6	51.9	54.4	55.5	52.1	56.4	52.8	51.8	45.2	47.4	50.4	+3.0
	23-26					53.8	57.3	61.0	57.2	58.8	57.5	55.1	56.8	58.4	57.6	61.4	58.9	58.4	55.6	60.0	54.5	56.6	56.9	52.9	-4.0
	27-30									61.9	65.1	66.3	68.2	66.2	66.7	63.7	64.6	61.6	64.0	63.0	57.7	65.8	58.8	63.3	+4.5
Smoking one or more packs of cigarettes per day	18	74.4	73.8	70.3	72.2	73.9	73.7	76.2	74.2	76.4	74.4	75.3	74.0	76.2	71.8	72.4	69.2	69.3	68.5	69.0	71.2	72.6	74.5	75.7	+1.2
	19-22	75.6	75.1	75.4	78.5	76.2	79.7	77.7	78.6	80.2	78.4	77.5	78.3	79.0	76.0	73.8	70.9	73.9	76.5	69.2	73.9	71.1	74.3	77.3	+3.0
	23-26					73.9	77.3	80.3	80.5	79.5	80.5	78.5	83.3	82.3	77.4	80.1	78.8	78.3	75.8	76.5	78.0	79.9	77.0	75.4	-1.6
	27-30									81.2	80.9	82.9	84.5	83.1	86.8	82.5	83.4	81.9	80.5	81.9	82.6	84.0	83.6	86.1	+2.6
Approximate Weighted N=	18	2766	3120	3024	2722	2721	2688	2639	2815	2778	2400	2184	2160	2229	2220	2149	2177	2030	2095	2037	1945	1775	1862	1820	
	19-22	569	597	580	577	582	556	577	595	584	555	559	537	520	510	470	480	471	466	436	430	379	402	361	
	23-26					510	548	549	540	510	513	516	516	507	481	463	445	436	419	425	394	398	378	366	
	27-30									483	518	479	480	451	451	457	439	439	422	440	397	394	374	364	

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

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

TABLE 7-2
Trends in Proportions of Friends Using Drugs
High School Seniors (Age 18) and Adults in Modal Age Groups of 19-22, 23-26, 27-30, 35, and 40
(Entries are percentages)

Q. How many of your friends would you estimate...	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Take any illicit drug[a]																									
% saying any friends	18	87.5	85.4	86.3	82.6	81.0	82.4	82.2	81.7	79.1	76.9	71.0	69.1	67.3	71.0	78.3	78.6	80.6	83.4	84.6	82.0	82.0	82.8	81.8	-1.0
	19-22	90.2	88.0	86.8	85.0	82.3	82.9	80.5	76.7	77.2	78.4	72.7	71.5	66.8	71.7	71.6	71.6	76.2	77.2	79.8	77.3	83.1	81.1	78.3	-2.8
	23-26					83.6	82.7	80.3	80.9	74.4	73.8	65.8	63.0	67.3	64.6	66.7	65.3	64.6	67.0	67.6	67.9	67.8	66.9	73.4	+6.5
	27-30									74.8	72.9	69.6	67.1	61.5	60.2	57.1	58.5	59.1	60.9	58.3	59.6	55.6	57.2	61.8	+4.6
	35															38.1	37.4	39.7	39.2	38.4	36.3	37.7	39.1	40.9	+1.8
	40																			39.2	38.2	38.0	38.4	36.2	-2.3
% saying most or all	18	32.5	29.8	26.5	23.8	20.9	22.7	21.5	18.6	15.8	15.7	11.6	11.7	12.0	15.5	20.3	21.7	23.8	23.7	25.9	25.5	24.5	25.2	23.1	-2.1
	19-22	34.9	32.8	28.1	22.4	21.9	18.2	16.2	14.0	13.5	10.9	10.5	8.8	9.0	10.4	14.9	13.1	17.3	16.2	16.8	20.6	18.9	20.3	20.2	-0.1
	23-26					19.6	15.4	16.2	11.7	9.5	9.7	9.5	7.4	6.2	6.4	8.7	7.6	8.8	10.5	9.6	8.4	9.7	10.4	10.3	-0.1
	27-30									8.6	6.4	5.9	2.9	5.8	5.0	5.6	6.1	3.6	4.5	5.3	5.7	5.3	7.1	6.9	-0.1
	35															2.1	1.9	2.0	3.0	3.1	2.8	3.1	3.2	2.9	-0.3
	40																			2.3	2.0	2.0	1.6	2.2	+0.6
Take any illicit drug[a] other than marijuana																									
% saying any friends	18	62.4	63.3	64.7	61.2	61.3	61.8	63.3	62.4	56.5	56.2	50.1	46.3	47.1	48.7	53.7	53.7	54.5	55.1	55.6	51.2	52.5	55.0	54.3	-0.8
	19-22	67.9	67.8	66.7	65.2	60.8	62.1	61.0	57.3	53.5	60.8	53.4	51.5	45.3	51.4	46.3	46.4	46.5	49.7	53.3	54.8	56.1	60.0	57.2	-2.8
	23-26					63.7	64.0	59.0	61.1	55.1	54.2	47.8	41.8	46.1	42.3	39.4	40.3	32.8	35.1	35.4	41.1	42.5	42.6	49.4	+6.8
	27-30									55.9	55.0	49.7	47.2	37.7	38.5	33.9	37.7	36.4	33.9	34.1	35.2	31.7	33.5	36.0	+2.5
	35															21.4	21.6	22.1	19.2	19.3	19.0	17.9	18.7	20.4	+1.7
	40																			20.9	21.0	21.9	21.4	21.0	-0.4
% saying most or all	18	11.1	11.9	10.9	11.0	10.3	10.4	10.3	9.2	6.9	7.7	5.1	4.6	5.3	7.1	7.1	7.7	8.9	7.0	8.9	7.4	7.4	7.0	6.1	-0.9
	19-22	9.8	12.9	11.8	9.8	9.3	8.6	7.6	5.0	5.3	4.0	3.2	2.6	3.3	4.0	4.4	3.5	6.2	4.1	4.3	5.1	7.7	8.0	5.7	-2.3
	23-26					10.6	6.6	8.6	5.2	3.9	4.2	3.4	1.6	1.8	2.8	2.5	1.9	1.9	2.6	2.8	2.2	3.8	3.7	2.8	-0.9
	27-30									4.6	3.0	2.8	1.0	1.4	1.5	1.5	1.5	0.9	1.2	0.9	1.3	1.5	2.6	2.3	-0.4
	35															0.8	0.5	0.7	0.5	0.7	0.9	1.0	0.9	0.6	-0.2
	40																			0.4	0.8	0.7	0.5	0.3	-0.2
Smoke marijuana																									
% saying any friends	18	86.4	83.0	84.4	80.3	77.7	79.5	79.2	78.4	75.3	72.5	68.3	65.8	63.1	67.4	75.6	76.1	78.0	81.4	83.2	80.7	80.5	81.2	79.4	-1.8
	19-22	88.8	86.4	85.2	83.8	81.6	81.1	78.5	75.3	75.1	73.8	67.6	68.0	63.5	67.6	67.4	68.8	74.9	74.7	77.2	73.9	81.2	78.4	77.2	-1.1
	23-26					82.0	80.8	77.7	79.4	71.6	69.8	61.8	59.6	61.3	61.2	62.6	63.2	62.6	63.5	65.0	64.4	64.8	64.5	68.8	+4.2
	27-30									71.8	68.2	65.1	62.6	58.0	57.4	52.3	55.7	55.1	58.3	55.5	57.0	51.7	56.5	59.0	+2.5
	35															36.9	36.3	36.3	35.0	34.6	33.3	34.9	35.6	37.4	+1.8
	40																			34.6	32.5	32.3	31.8	31.4	-0.4
% saying most or all	18	31.3	27.7	23.8	21.7	18.3	19.8	18.2	15.8	13.6	13.4	10.1	10.0	10.3	13.9	18.9	20.7	22.2	22.5	23.8	24.2	23.2	24.0	21.4	-2.7
	19-22	34.1	30.6	25.6	20.6	19.4	16.0	13.3	12.5	12.2	9.0	9.2	8.3	8.2	8.5	13.0	12.5	16.3	16.2	16.4	19.4	16.6	18.5	18.6	+0.1
	23-26					17.0	14.3	13.7	10.4	7.8	8.6	8.3	6.9	5.6	5.6	7.5	6.6	8.2	9.8	9.0	8.5	8.2	9.0	8.7	-0.3
	27-30									6.8	4.4	4.0	2.8	5.1	5.2	5.0	5.6	3.5	3.9	4.8	5.5	4.9	6.3	6.2	-0.2
	35															3.0	2.5	2.9	2.9	2.8	2.6	2.8	2.6	2.7	+0.1
	40																			2.1	1.4	1.9	1.2	2.0	+0.9

(Table continued on next page)

TABLE 7-2 (cont.)
Trends in Proportions of Friends Using Drugs
High School Seniors (Age 18) and Adults in Modal Age Groups of 19-22, 23-26, 27-30, 35, and 40
(Entries are percentages)

Q. How many of your friends would you estimate...	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Use inhalants																									
% saying any friends	18	17.8	16.5	18.4	16.1	19.3	21.2	22.4	24.7	20.8	22.1	20.0	19.2	22.2	23.7	26.5	27.5	27.2	27.4	25.9	21.6	23.5	22.2	21.0	-1.3
	19-22	11.9	13.2	13.8	12.3	11.7	9.6	10.9	12.7	10.9	11.7	13.0	12.2	12.6	13.8	14.0	14.2	16.2	13.7	16.2	16.3	13.7	13.7	10.4	-3.3
	23-26					7.7	6.7	7.2	6.1	6.2	5.9	6.1	4.4	5.1	6.3	7.0	9.3	5.6	7.5	6.2	7.9	6.9	7.5	7.4	-0.1
	27-30									4.6	3.5	2.9	2.5	3.3	2.9	3.5	4.0	4.1	3.6	3.8	4.2	3.6	6.0	4.5	-1.4
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
% saying most or all	18	1.2	0.9	1.3	1.1	1.1	1.5	2.0	1.9	1.2	1.9	1.0	0.7	1.8	1.8	2.0	2.0	2.4	1.9	2.7	1.8	1.4	1.4	1.2	-0.2
	19-22	0.5	0.4	0.7	0.3	0.5	0.6	0.7	0.7	0.7	0.4	0.6	0.2	0.8	0.7	0.7	0.6	1.1	0.7	1.3	0.8	0.6	1.2	0.4	-0.8
	23-26					0.6	0.2	0.6	0.1	0.2	0.4	0.4	0.1	0.0	0.1	0.2	0.7	0.5	0.8	0.0	0.1	0.7	0.1	0.4	+0.3
	27-30									0.3	0.0	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Use nitrites																									
% saying any friends	18	19.0	17.4	17.5	14.5	15.0	15.6	18.0	18.3	13.6	13.3	10.4	8.9	9.0	10.7	10.0	10.7	11.2	11.9	12.9	10.9	11.0	11.9	11.2	-0.7
	19-22	18.4	16.0	14.2	13.8	8.9	9.9	11.7	13.2	10.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	23-26					10.8	7.8	8.0	7.9	5.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	27-30									6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
% saying most or all	18	1.3	1.2	0.9	0.7	1.2	1.0	1.2	1.3	0.7	0.9	0.6	0.4	0.7	0.7	0.8	0.8	0.8	0.7	1.0	0.7	1.0	0.6	0.8	+0.1
	19-22	0.3	0.4	0.9	0.6	0.6	0.6	0.4	0.4	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	23-26					0.8	0.3	0.4	0.3	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	27-30									0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Take LSD																									
% saying any friends	18	28.1	28.5	27.8	24.0	23.9	24.4	24.5	25.3	24.1	25.2	25.0	23.4	28.1	31.3	34.1	36.9	37.9	36.5	36.8	32.2	31.9	32.2	28.6	-3.6
	19-22	30.9	25.9	26.5	22.6	21.6	18.8	18.7	18.2	19.0	20.1	20.1	22.0	22.2	28.8	23.8	26.9	28.6	24.7	29.4	28.2	27.8	28.4	24.0	-4.3
	23-26					21.5	17.2	15.4	15.9	13.3	14.1	12.3	12.5	15.0	17.2	17.3	21.5	15.3	18.2	15.2	18.1	19.3	16.8	15.8	-1.0
	27-30									10.4	7.7	9.1	8.6	10.9	8.7	8.1	12.0	11.6	12.3	12.6	13.4	11.8	12.5	13.1	+0.7
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
% saying most or all	18	1.8	2.2	2.4	1.4	2.0	1.5	1.8	1.6	1.5	2.4	1.9	1.7	2.4	3.8	4.2	4.8	5.0	3.7	4.7	3.9	3.1	2.9	1.7	-1.2 s
	19-22	1.2	0.8	0.9	1.0	0.6	0.8	0.9	0.6	1.3	0.4	1.2	1.4	1.9	2.1	2.5	2.3	3.8	1.4	2.5	1.8	2.1	2.7	1.6	-1.1
	23-26					0.8	0.5	1.0	0.2	0.6	0.5	0.6	0.2	0.4	0.7	1.1	0.7	0.7	0.6	1.0	1.5	0.9	0.3	0.4	+0.2
	27-30									0.3	0.2	0.3	0.3	0.0	0.3	0.4	0.3	0.4	0.4	0.1	0.6	0.4	0.4	0.3	-0.1
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—

(Table continued on next page)

TABLE 7-2 (cont.)
Trends in Proportions of Friends Using Drugs
High School Seniors (Age 18) and Adults in Modal Age Groups of 19-22, 23-26, 27-30, 35, and 40
(Entries are percentages)

Q. How many of your friends would you estimate...

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Take other hallucinogens[b]																									
% saying any friends	18	28.2	26.3	25.6	22.1	21.3	22.0	22.3	21.7	17.8	18.1	15.9	15.1	17.0	19.3	21.4	23.8	26.4	26.3	27.4	22.5	24.0	35.4	33.6	-1.8
	19-22	33.4	25.5	25.1	21.0	20.2	16.6	15.8	15.0	16.1	13.9	15.3	14.2	12.0	15.0	13.8	14.9	17.2	17.2	19.1	18.9	20.9	33.6	33.5	-0.1
	23-26					20.0	16.7	13.2	13.2	11.7	9.6	8.7	8.5	9.8	9.4	10.3	11.7	10.4	13.0	11.7	9.6	11.3	18.6	22.4	+3.8
	27-30									10.6	7.4	7.1	6.8	7.9	7.1	6.6	7.9	7.5	6.8	7.8	9.4	8.0	14.6	14.9	+0.4
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
% saying most or all	18	2.2	2.1	1.9	1.6	1.9	1.4	1.3	1.2	0.9	1.4	1.0	0.8	1.0	1.7	2.2	2.2	2.3	2.6	3.1	2.4	2.4	2.9	2.3	-0.7
	19-22	1.5	0.9	1.1	1.2	0.7	1.0	0.7	0.6	0.9	0.2	0.5	0.8	0.7	0.9	1.6	1.5	1.0	1.1	1.7	0.8	2.0	2.3	2.2	-0.1
	23-26					0.8	0.3	0.5	0.3	0.2	0.3	0.8	0.1	0.4	0.7	0.6	0.8	0.1	0.8	0.7	0.8	0.3	0.6	0.7	+0.1
	27-30									0.2	0.1	0.3	0.2	0.0	0.2	0.3	0.1	0.2	0.3	0.2	0.2	0.4	0.6	1.0	+0.4
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Use PCP																									
% saying any friends	18	22.2	17.2	17.3	14.2	14.2	15.9	16.1	15.5	13.5	14.7	13.0	12.0	12.7	15.6	15.5	18.3	20.3	19.7	20.2	16.8	17.5	19.1	17.2	-1.9
	19-22	24.1	15.3	15.3	12.6	9.5	8.9	10.1	9.7	10.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	23-26					11.6	6.8	7.4	6.9	5.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	27-30									6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
% saying most or all	18	1.6	0.9	0.9	1.1	1.1	1.2	1.2	1.1	0.8	1.2	0.5	0.5	0.9	1.9	1.2	1.2	1.3	1.4	1.6	1.5	1.7	1.3	1.0	-0.3
	19-22	0.5	0.3	0.3	0.5	0.7	0.7	0.2	0.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	23-26					0.6	0.0	0.4	0.0	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	27-30									0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Take MDMA (ecstasy)																									
% saying any friends	18											12.4	11.9	10.7	12.8	15.9	20.7	24.2	27.7	24.5	26.7	37.3	41.9	38.0	-3.9 s
	19-22										16.3	14.3	12.0	12.9	13.7	11.3	17.2	20.7	21.4	26.0	30.7	42.4	43.3	43.4	+0.1
	23-26										7.6	9.0	9.5	11.0	9.8	11.4	11.2	11.3	15.1	13.7	15.2	25.9	29.4	36.8	+7.4 s
	27-30										5.6	6.3	5.4	4.6	6.6	5.8	6.9	10.1	7.4	8.5	12.4	13.1	17.8	20.6	+2.8
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
% saying most or all	18											2.2	1.7	2.1	1.2	1.7	2.8	3.0	2.6	2.5	2.7	4.8	5.2	3.7	-1.6
	19-22										0.4	0.7	0.2	0.7	0.7	0.5	0.5	0.8	1.7	2.0	2.9	4.9	5.8	2.7	-3.1 s
	23-26										0.5	0.2	0.1	0.1	0.5	0.1	0.4	0.1	0.8	0.8	0.4	2.9	1.7	1.2	-0.5
	27-30										0.5	0.3	0.0	0.1	0.3	0.2	0.5	0.1	0.3	0.0	0.8	0.4	0.3	0.9	+0.6
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—

(Table continued on next page)

TABLE 7-2 (cont.)

Trends in Proportions of Friends Using Drugs
High School Seniors (Age 18) and Adults in Modal Age Groups of 19-22, 23-26, 27-30, 35, and 40

(Entries are percentages)

Q. How many of your friends would you estimate...	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Take cocaine																									
% saying any friends	18	41.6	40.1	40.7	37.6	38.9	43.8	45.6	43.7	37.7	37.4	31.7	26.8	26.3	24.5	26.1	24.8	28.1	28.2	31.2	27.8	27.2	27.1	26.8	-0.3
	19-22	51.0	48.9	49.8	46.5	47.6	45.9	48.3	45.7	42.0	42.7	33.2	29.7	22.8	24.3	21.5	22.0	19.4	22.2	26.8	25.7	24.8	27.4	28.2	+0.7
	23-26					52.4	53.2	51.6	50.7	47.1	40.8	34.8	29.0	28.8	27.1	22.3	24.4	18.1	19.7	18.7	20.1	20.3	19.4	23.7	+4.3
	27-30									47.9	43.3	38.3	35.7	29.9	27.6	22.6	26.2	20.8	21.5	18.6	20.7	16.5	19.7	16.0	-3.7
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
% saying most or all	18	6.1	6.3	4.9	5.1	5.1	5.8	6.2	5.1	3.4	3.7	2.1	1.5	1.5	2.1	1.5	2.0	2.2	2.0	3.2	2.9	2.0	1.7	1.7	-0.1
	19-22	7.0	8.6	7.8	6.1	6.3	6.1	6.1	3.3	3.5	2.1	1.2	1.1	1.0	0.5	1.5	0.9	1.0	0.8	1.5	1.1	1.0	1.8	1.0	-0.8
	23-26					9.1	5.3	7.0	4.1	3.1	2.7	2.1	0.6	0.9	0.8	1.0	0.3	0.4	1.1	0.9	0.5	0.8	1.6	1.0	-0.6
	27-30									3.8	2.0	2.3	0.9	1.2	0.8	0.8	0.4	0.4	0.6	0.1	0.4	0.4	0.5	0.6	+0.1
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Take crack																									
% saying any friends	18								27.4	25.4	26.1	19.2	17.6	17.8	17.9	20.0	19.2	21.6	22.2	24.4	19.0	21.4	23.4	21.5	-1.9
	19-22								23.8	21.8	20.6	14.6	14.3	11.8	13.6	13.8	14.0	9.4	13.1	16.4	15.7	16.5	17.4	18.0	+0.5
	23-26								26.4	22.4	19.8	14.4	10.8	10.8	8.8	8.8	11.1	8.2	8.3	8.3	8.8	7.9	8.6	10.1	+1.5
	27-30									22.1	18.4	16.6	11.6	10.3	10.2	10.4	10.3	8.6	6.3	6.4	8.7	6.0	7.1	6.4	-0.6
	35															4.5	5.1	4.4	3.1	2.8	3.2	3.9	2.8	3.2	+0.4
	40																			3.8	3.0	2.9	3.5	2.6	-1.0
% saying most or all	18								2.2	1.1	2.1	0.6	0.6	0.7	0.9	1.0	1.1	0.9	1.1	1.7	1.5	1.4	0.8	0.8	0.0
	19-22								0.7	0.8	1.0	0.6	0.2	0.1	0.3	0.4	0.3	0.5	0.3	0.9	0.9	0.5	0.3	0.2	-0.1
	23-26								0.8	0.9	0.8	0.5	0.1	0.1	0.5	0.2	0.0	0.3	0.5	0.4	0.0	0.5	0.3	0.0	-0.3
	27-30									1.2	0.9	0.9	0.3	0.0	0.6	0.3	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.3	+0.3
	35															0.6	0.3	0.4	*	0.1	0.3	0.5	0.2	0.3	+0.1
	40																			*	0.2	0.2	0.1	*	-0.1
Take cocaine powder																									
% saying any friends	18								NA	NA	25.3	24.6	19.8	19.7	18.1	20.7	19.2	22.8	24.8	22.9	22.0	21.3	20.1	22.4	+2.3
	19-22								NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	23-26								NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	27-30									NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	35															14.2	12.9	15.4	11.1	10.4	10.0	10.3	9.4	9.4	0.0
	40																			10.8	8.9	8.8	8.8	8.5	-0.4
% saying most or all	18								NA	NA	2.3	2.5	1.8	2.0	1.6	1.9	1.7	1.9	2.0	1.9	1.9	1.8	1.5	1.9	+0.4
	19-22								NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	23-26								NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	27-30									NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	35															0.8	0.3	0.6	0.4	0.4	0.6	0.7	0.4	0.4	0.0
	40																			0.2	0.2	*	0.2	0.1	-0.1

(Table continued on next page)

TABLE 7-2 (cont.)
Trends in Proportions of Friends Using Drugs
High School Seniors (Age 18) and Adults in Modal Age Groups of 19-22, 23-26, 27-30, 35, and 40
(Entries are percentages)

Q. How many of your friends would you estimate...	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Take heroin																									
% saying any friends	18	13.0	12.5	13.2	12.0	13.0	14.5	15.3	13.9	12.4	14.0	11.4	11.4	13.2	13.3	14.3	14.5	15.6	15.6	16.5	12.7	14.9	13.1	12.9	-0.2
	19-22	11.0	8.1	9.4	7.5	7.1	6.5	8.5	8.5	7.8	6.8	6.5	6.1	4.7	7.0	8.1	10.4	6.7	7.4	9.4	9.7	7.7	8.7	8.9	+0.2
	23-26					6.1	4.4	4.3	6.5	3.6	5.2	4.2	3.6	3.8	4.5	4.9	5.8	4.0	6.2	5.8	4.8	4.7	5.0	5.2	+0.2
	27-30									3.8	2.8	4.5	2.7	3.1	3.6	4.2	3.6	4.4	4.2	3.5	3.8	2.8	4.3	3.9	-0.4
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
% saying most or all	18	1.0	0.5	0.7	0.8	0.8	0.9	1.1	0.9	0.7	1.1	0.4	0.4	0.7	1.1	1.0	1.1	0.9	0.8	1.3	1.0	1.1	0.9	0.7	-0.1
	19-22	0.3	0.5	0.1	0.2	0.4	0.6	0.2	0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.4	0.4	0.4	0.2	0.5	0.1	0.3	0.6	0.0	-0.6
	23-26					0.4	0.2	0.2	0.0	0.2	0.4	0.2	0.3	0.4	0.1	0.2	0.2	0.0	0.7	0.0	0.0	0.3	0.0	0.1	+0.1
	27-30									0.2	0.1	0.2	0.2	0.0	0.2	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3	+0.3
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Take other narcotics																									
% saying any friends	18	22.4	23.1	23.9	20.8	21.4	22.8	21.8	23.2	19.2	19.2	17.2	13.7	14.9	16.1	18.5	19.5	21.8	22.2	24.8	22.9	23.1	24.0	27.5	+3.5 s
	19-22	22.8	20.4	21.9	17.9	17.4	16.9	14.6	15.4	14.1	15.0	12.9	14.1	10.8	13.2	10.5	15.9	13.4	13.2	15.2	19.8	23.2	23.0	21.8	-1.2
	23-26					16.0	14.9	14.0	13.0	10.6	10.8	10.5	8.5	8.4	8.7	8.0	10.5	8.9	9.9	9.4	10.4	11.2	13.5	14.6	+1.1
	27-30									12.1	8.6	9.1	9.3	7.5	8.2	8.0	7.7	9.5	7.9	8.3	7.2	8.4	11.2	11.8	+0.6
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
% saying most or all	18	1.7	1.5	1.4	1.4	1.6	1.4	1.8	1.4	1.2	1.4	0.9	0.5	1.1	1.2	1.0	1.6	1.5	1.4	2.9	1.8	2.0	2.0	2.1	+0.1
	19-22	0.9	0.7	0.6	0.5	0.8	1.0	0.5	0.4	0.9	0.1	0.6	0.4	0.5	0.6	0.6	0.6	0.4	0.4	0.8	0.4	1.2	1.8	1.3	-0.4
	23-26					0.4	0.3	0.7	0.0	0.3	0.2	0.2	0.0	0.0	0.0	0.3	0.2	0.0	0.6	0.3	0.0	0.4	0.5	0.6	+0.1
	27-30									0.3	0.0	0.2	0.2	0.1	0.2	0.2	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.3	+0.3
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Take amphetamines																									
% saying any friends	18	43.9	48.8	50.6	46.1	45.1	43.3	41.8	39.5	33.4	33.5	28.7	24.3	24.3	27.5	28.1	30.3	32.2	32.7	33.8	30.8	32.9	33.2	34.4	+1.2
	19-22	54.1	52.2	51.3	49.7	46.1	42.1	38.5	34.5	26.8	29.6	23.3	26.2	19.5	21.0	20.9	21.7	21.6	21.1	24.4	25.5	28.4	28.0	28.6	+0.6
	23-26					45.6	40.1	33.5	32.1	28.4	23.1	20.6	17.1	15.1	16.8	16.2	18.2	12.5	14.4	14.1	14.2	14.5	17.5	18.4	+0.9
	27-30									26.1	21.6	19.3	17.0	15.3	14.0	13.1	13.7	15.5	12.9	11.0	11.8	11.9	12.9	12.3	-0.7
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
% saying most or all	18	4.8	6.4	5.4	5.1	4.5	3.4	3.4	2.6	1.9	2.6	1.9	1.3	1.3	2.0	1.8	2.0	2.8	2.4	3.4	2.8	3.1	2.2	2.4	+0.1
	19-22	3.8	5.7	4.6	3.8	3.3	2.9	1.3	1.9	1.4	0.7	1.0	0.6	0.9	0.2	1.1	1.2	0.7	0.7	1.2	0.7	1.7	1.6	1.3	-0.2
	23-26					1.9	1.8	1.7	1.2	0.3	0.6	0.7	0.8	0.4	1.5	0.9	0.5	0.2	0.8	0.5	0.6	0.3	0.5	0.3	-0.3
	27-30									0.6	0.4	0.5	0.5	0.1	0.5	0.5	0.3	0.3	0.1	0.3	0.6	0.1	0.5	0.9	+0.4
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—

(Table continued on next page)

TABLE 7-2 (cont.)
Trends in Proportions of Friends Using Drugs
High School Seniors (Age 18) and Adults in Modal Age Groups of 19-22, 23-26, 27-30, 35, and 40

(Entries are percentages)

Q. How many of your friends would you estimate...

Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Take sedatives (barbiturates)																								
% saying any friends																								
18	30.5	31.1	31.3	28.3	26.6	27.1	25.6	24.3	19.7	20.3	17.4	14.8	16.4	17.8	18.2	17.8	21.6	20.4	22.8	20.9	21.6	22.1	25.3	+3.2
19-22	33.2	27.9	27.7	23.6	22.0	17.2	18.8	15.5	14.0	14.1	11.9	12.8	10.7	11.7	9.7	13.3	11.6	12.1	14.8	16.0	15.2	18.6	17.1	-1.6
23-26					22.2	18.7	16.3	14.1	11.2	10.4	8.9	8.3	8.7	8.2	7.6	9.6	6.9	8.4	7.9	8.3	6.6	11.1	10.9	-0.1
27-30									12.0	8.5	8.8	7.1	6.6	6.7	7.4	7.2	6.7	6.5	6.1	5.7	6.4	7.9	7.4	-0.5
35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
40																			NA	NA	NA	NA	NA	—
% saying most or all																								
18	2.6	2.1	1.8	1.7	1.7	1.6	1.4	1.1	1.1	1.4	0.6	0.5	0.6	1.0	1.1	1.4	1.6	1.1	2.5	1.4	1.7	1.1	1.7	+0.5
19-22	1.1	1.3	1.0	0.8	0.8	0.5	0.3	0.4	0.8	0.1	0.2	0.3	0.1	0.1	0.3	0.8	0.2	0.7	0.4	0.4	1.0	0.9	0.8	-0.1
23-26					0.4	0.3	0.3	0.3	0.1	0.2	0.2	0.1	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	-0.4
27-30									0.2	0.0	0.4	0.2	0.2	0.2	0.0	0.0	0.3	0.0	0.0	0.2	0.0	0.3	0.6	+0.3
35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
40																			NA	NA	NA	NA	NA	—
Take quaaludes																								
% saying any friends																								
18	32.5	35.0	35.5	29.7	26.1	26.0	23.5	22.0	17.1	16.6	14.3	12.0	13.1	14.2	14.2	15.5	18.1	16.1	17.4	15.5	16.2	17.8	18.0	+0.2
19-22	38.3	36.2	35.4	30.5	24.6	19.9	20.3	16.9	12.5	10.9	10.0	10.6	9.2	10.0	7.8	11.5	10.1	9.3	10.6	11.4	13.1	14.6	13.0	-1.6
23-26					25.7	21.0	17.4	15.0	12.1	10.3	8.6	5.9	6.4	7.6	7.7	9.0	6.3	6.5	6.6	6.4	4.9	7.7	8.5	+0.8
27-30									11.8	7.9	8.2	7.0	7.1	6.5	6.6	4.5	6.9	4.9	4.1	5.1	5.0	4.9	6.6	+1.7
35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
40																			NA	NA	NA	NA	NA	—
% saying most or all																								
18	3.6	3.6	2.6	2.6	1.7	1.3	1.6	1.0	1.0	1.3	0.8	0.5	0.8	1.1	1.1	1.3	1.7	1.1	2.0	1.4	1.4	1.2	1.2	-0.1
19-22	1.9	2.7	1.2	1.3	1.2	0.6	0.2	0.4	0.4	0.2	0.6	0.2	0.1	0.1	0.2	0.7	0.1	0.6	0.5	0.4	0.9	0.8	0.1	-0.7
23-26					0.6	0.3	0.7	0.2	0.2	0.4	0.2	0.1	0.2	0.6	0.2	0.2	0.0	0.8	0.0	0.0	0.2	0.3	0.1	-0.1
27-30									0.5	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.2	0.3	0.0	0.3	+0.3
35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
40																			NA	NA	NA	NA	NA	—
Take tranquilizers																								
% saying any friends																								
18	29.7	29.5	29.9	26.7	26.6	25.8	24.2	23.3	19.9	18.0	14.9	13.5	14.6	15.5	16.5	15.8	18.1	17.9	19.7	16.4	19.4	18.6	21.2	+2.6
19-22	37.5	33.9	28.7	22.9	22.0	19.7	20.6	18.0	16.4	14.8	13.4	13.0	11.3	11.9	9.5	13.6	10.5	11.7	13.7	16.2	16.7	21.3	18.1	-3.1
23-26					29.3	26.3	22.3	20.8	15.5	13.1	14.8	12.1	12.5	11.0	13.4	10.4	10.7	9.6	8.5	9.8	11.2	12.4	14.9	+2.5
27-30									20.1	16.6	16.9	14.9	12.0	12.5	13.9	11.9	11.0	10.8	12.6	10.4	10.6	9.6	10.6	+1.0
35															14.3	12.2	13.1	10.8	10.7	11.4	10.8	12.2	12.5	+0.3
40																			13.7	14.8	15.2	15.1	15.6	+0.5
% saying most or all																								
18	1.9	1.4	1.1	1.2	1.5	1.2	1.3	1.0	0.7	1.5	0.5	0.4	0.7	0.9	0.9	1.1	1.4	0.8	2.3	1.3	2.1	1.3	1.6	+0.3
19-22	0.7	0.9	0.5	0.8	0.3	0.7	0.3	0.6	0.4	0.1	0.4	0.5	0.1	0.1	0.2	0.7	0.7	0.8	0.6	0.3	0.6	0.9	0.4	-0.5
23-26					0.4	0.3	0.5	0.0	0.3	0.4	0.2	0.3	0.1	0.4	0.2	0.0	0.0	1.1	0.1	0.0	0.5	0.8	0.1	-0.6
27-30									0.5	0.3	0.4	0.2	0.1	0.2	0.4	0.0	0.2	0.0	0.0	0.4	0.0	0.4	0.6	+0.2
35															0.5	0.3	0.3	0.1	0.2	0.6	0.6	0.2	0.1	-0.1
40																			0.0	0.4	0.1	0.3	0.2	-0.1

(Table continued on next page)

TABLE 7-2 (cont.)
Trends in Proportions of Friends Using Drugs
High School Seniors (Age 18) and Adults in Modal Age Groups of 19-22, 23-26, 27-30, 35, and 40
(Entries are percentages)

Q. How many of your friends would you estimate...

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Drink alcoholic beverages																									
% saying any friends	18	96.1	94.7	95.7	95.5	94.6	94.6	95.6	95.4	95.7	95.1	92.0	91.2	90.5	88.9	90.1	90.9	89.6	90.7	91.2	90.2	89.8	89.2	88.0	-1.1
	19-22	96.3	96.7	96.6	97.3	96.8	95.8	96.9	95.6	97.0	97.6	96.1	95.2	93.1	95.1	92.5	94.8	93.7	94.5	94.5	92.8	95.2	93.4	94.5	+1.1
	23-26					96.8	96.8	96.2	95.9	95.3	95.4	94.7	93.9	95.1	94.4	94.0	94.1	92.7	95.4	95.5	93.3	94.5	93.1	95.3	+2.2
	27-30									96.1	96.0	95.2	94.4	95.6	93.4	93.3	93.3	93.1	95.1	93.1	94.4	92.7	91.4	92.8	+1.4
	35															89.6	89.9	90.3	89.5	88.1	88.7	89.6	89.3	90.1	+0.9
	40																			88.4	88.9	90.7	89.6	90.5	+0.9
% saying most or all	18	68.9	67.7	69.7	69.0	66.6	66.0	68.0	71.8	68.1	67.1	60.5	58.6	56.9	57.0	59.6	56.4	56.4	60.9	61.0	58.2	57.2	59.2	53.7	-5.5 ss
	19-22	76.6	77.6	75.2	75.1	74.9	71.9	74.2	71.3	73.4	74.1	70.0	71.4	67.4	66.5	68.7	63.9	67.0	63.8	69.4	67.8	70.1	65.4	68.8	+3.4
	23-26					73.2	74.4	69.5	74.9	68.9	69.8	67.1	69.3	68.8	68.7	70.7	67.0	68.9	66.6	67.4	63.6	70.8	65.7	73.4	+7.8 s
	27-30									66.7	67.8	62.0	62.7	63.3	61.3	63.2	62.6	64.1	66.6	62.9	64.4	64.8	64.9	66.3	+1.5
	35															43.8	45.1	49.5	46.6	47.1	46.0	49.1	48.4	52.9	+4.5
	40																			37.7	41.4	42.5	44.7	44.8	+0.1
Get drunk at least once a week																									
% saying any friends	18	83.1	81.8	83.1	83.9	81.5	82.5	84.7	85.6	84.4	82.8	79.2	79.8	79.9	79.2	81.4	78.9	78.5	82.4	81.1	81.5	79.5	79.6	78.3	-1.3
	19-22	80.9	79.9	80.0	80.4	79.8	76.7	82.0	81.1	80.6	80.4	80.1	80.8	76.5	81.1	79.6	83.2	80.9	79.2	82.3	82.8	82.2	81.9	81.5	-0.3
	23-26					73.1	72.7	73.5	73.7	72.1	73.1	72.2	74.0	73.1	74.3	72.1	73.1	74.5	71.9	74.1	71.0	76.5	74.7	81.0	+6.3 s
	27-30									66.3	61.8	65.4	65.2	65.5	64.5	62.7	67.1	66.7	65.4	65.5	65.9	64.3	64.7	68.9	+4.2
	35															44.3	43.2	44.9	42.9	46.1	44.5	46.9	47.6	48.3	+0.7
	40																			41.6	40.6	42.2	41.3	42.6	+1.3
% saying most or all	18	30.1	29.4	29.9	31.0	29.6	29.9	31.8	31.3	29.6	31.1	27.5	29.7	28.6	27.6	28.4	27.4	29.0	30.9	31.7	30.1	32.4	32.7	28.3	-4.4 s
	19-22	21.9	23.3	22.0	20.2	22.7	21.7	20.8	21.3	24.0	22.6	23.6	24.9	22.6	28.8	26.3	28.2	26.0	26.6	29.8	29.3	28.1	30.2	31.0	+0.8
	23-26					11.4	11.6	12.5	11.9	12.8	12.0	13.9	11.6	14.6	13.2	15.2	15.2	14.0	17.0	16.0	16.8	17.4	19.1	19.2	+0.1
	27-30									5.2	6.3	6.7	6.6	5.9	6.7	6.4	7.9	8.6	7.7	9.3	12.1	9.8	11.7	8.9	-2.8
	35															3.6	3.6	5.4	3.2	4.4	4.9	4.6	4.8	4.5	-0.3
	40																			2.8	3.0	2.5	2.9	3.8	+1.0
Smoke cigarettes																									
% saying any friends	18	90.6	88.5	88.3	87.0	86.0	87.0	87.8	88.3	87.7	86.5	84.9	85.7	84.4	84.8	88.1	87.9	88.3	89.9	89.5	89.3	87.2	86.8	85.4	-1.4
	19-22	94.4	94.3	93.4	93.1	91.9	91.6	91.1	90.3	89.3	90.0	86.1	86.1	86.7	86.7	86.1	88.8	89.2	91.3	92.6	91.0	90.9	90.9	89.7	-1.2
	23-26					93.9	95.0	91.6	92.1	89.8	90.1	88.7	89.6	85.6	88.3	86.4	86.8	85.3	85.4	88.7	84.1	86.5	86.7	86.4	-0.3
	27-30									92.6	89.8	90.7	90.4	88.0	85.8	84.8	84.9	85.4	84.1	81.1	86.3	85.1	84.9	87.0	+2.1
	35															72.7	71.7	71.7	72.4	71.8	69.9	70.8	69.2	66.6	-2.6
	40																			70.2	70.0	67.8	64.3	65.5	+1.2
% saying most or all	18	23.3	22.4	24.1	22.4	19.2	22.8	21.5	21.0	20.2	23.1	21.4	21.8	21.4	25.0	25.3	27.5	30.4	34.4	33.9	31.1	28.2	25.0	23.0	-2.1
	19-22	31.8	27.6	25.6	25.2	25.6	22.7	21.9	22.5	19.3	19.9	19.2	20.2	20.3	22.2	21.7	28.4	24.0	25.1	28.8	26.8	29.4	27.0	25.7	-1.2
	23-26					25.6	22.7	19.7	18.5	16.5	20.5	16.9	18.1	16.0	15.5	16.6	13.9	17.6	17.0	16.8	17.5	17.0	15.5	15.1	-0.5
	27-30									15.8	14.2	11.6	12.9	11.9	14.3	10.9	12.3	10.4	12.1	12.3	13.4	11.7	10.2	12.9	+2.6
	35															7.9	7.2	9.3	7.2	8.0	9.0	6.7	8.8	6.6	-2.2
	40																			8.1	7.4	6.8	5.7	5.8	+0.1

(Table continued on next page)

TABLE 7-2 (cont.)
Trends in Proportions of Friends Using Drugs
High School Seniors (Age 18) and Adults in Modal Age Groups of 19-22, 23-26, 27-30, 35, and 40
(Entries are percentages)

Q. How many of your friends would you estimate...	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Take steroids																									
% saying any friends	18											25.9	24.7	21.5	19.0	18.1	19.5	17.9	18.9	18.3	20.0	19.8	21.7	21.6	-0.1
	19-22										23.4	21.5	22.2	19.7	20.7	16.8	16.6	16.1	16.8	20.0	20.6	18.9	20.0	19.3	-0.7
	23-26										15.3	15.0	12.3	14.5	11.1	10.5	12.4	7.3	13.0	9.2	15.0	12.2	13.6	14.3	+0.7
	27-30										9.9	10.5	7.5	8.0	8.0	8.0	8.0	10.2	9.1	7.0	11.2	9.3	10.7	6.4	-4.3 s
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
% saying most or all	18											1.8	1.0	1.7	0.9	1.2	1.3	0.8	1.7	1.4	0.9	1.9	1.2	1.5	+0.3
	19-22										0.2	0.6	0.0	0.1	0.4	0.2	0.1	0.0	0.1	0.3	0.1	0.3	0.7	0.7	-0.1
	23-26										0.4	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.5	0.0	0.1	0.3	0.2	0.1	-0.1
	27-30										0.5	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	+0.3
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Approximate Weighted N=	18	2987	3307	3303	3095	2945	2971	2798	2948	2961	2587	2361	2339	2373	2410	2337	2379	2156	2292	2313	2060	1838	1923	1968	
	19-22	576	592	564	579	543	554	579	572	562	579	556	526	510	468	435	470	469	467	437	426	402	402	375	
	23-26					527	534	546	528	528	506	510	507	516	495	449	456	416	419	394	414	387	403	358	
	27-30									516	507	499	476	478	461	419	450	464	454	428	424	363	359	348	
	35															1200	1187	1187	1209	1067	1071	1033	1005	918	
	40																			1098	1156	1144	1119	1083	

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

'NA' indicates data not available.
'*' indicates a prevalence rate of less than 0.05% but greater than true zero.

[a]These estimates were derived from responses to the questions listed above. For the young adult sample, "any illicit drug" includes all of the drugs listed except cigarettes and alcohol. For the 35- and 40-year-olds, "any illicit drug" includes marijuana, tranquilizers, crack, cocaine powder, and "other illicit drugs."

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

TABLE 7-3
Trends in Exposure to Drug Use
High School Seniors (Age 18) and Young Adults in Modal Age Groups of 19-22, 23-26, and 27-30
(Entries are percentages)

Q. During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Any illicit drug[a]																									
% saying any exposure	18	84.3	82.7	81.4	79.4	77.9	77.7	75.5	73.9	71.3	68.6	67.6	64.2	61.3	66.1	70.8	75.3	78.0	78.8	77.2	77.9	76.0	76.5	76.5	0.0
	19-22	80.6	81.0	81.5	76.5	76.3	77.4	74.6	72.7	69.5	61.5	60.8	58.9	58.6	58.4	60.7	66.4	67.2	65.3	69.1	65.8	64.7	69.7	65.7	-4.0
	23-26					68.9	70.2	68.0	62.4	62.7	58.3	54.6	52.1	48.2	49.9	47.1	54.2	50.3	55.4	50.6	50.5	55.1	56.4	56.5	+0.1
	27-30									52.4	50.2	47.0	39.6	41.7	38.9	45.6	42.4	44.9	41.6	37.5	41.1	40.8	42.2	47.0	+4.9
% saying often exposed	18	36.3	36.1	31.4	29.8	28.3	27.2	26.3	23.3	20.8	22.0	20.7	18.2	18.0	24.0	29.3	32.3	33.8	34.7	33.2	35.6	32.6	33.6	32.6	-1.0
	19-22	34.6	34.0	32.1	24.4	24.4	23.7	21.1	18.9	19.9	16.2	16.4	17.6	21.4	16.1	18.1	23.7	20.4	25.3	24.2	24.0	21.3	26.1	25.2	-0.9
	23-26					20.7	23.3	18.5	17.4	18.2	13.8	13.7	13.3	12.2	11.1	11.1	12.5	12.8	14.3	14.2	15.0	15.9	16.4	15.9	-0.5
	27-30									13.7	12.0	10.8	8.2	10.5	9.0	12.5	8.5	10.1	10.3	8.5	9.6	9.4	10.4	13.8	+3.4
Any illicit drug[a] other than marijuana																									
% saying any exposure	18	58.5	62.6	62.5	59.4	59.8	59.3	55.3	51.7	47.8	47.1	45.4	40.0	41.6	42.6	45.3	47.2	49.7	47.9	47.3	46.5	47.2	49.9	49.3	-0.6
	19-22	56.9	58.4	61.6	54.9	57.1	53.3	53.4	48.5	46.4	36.5	39.4	33.8	37.1	29.4	33.9	36.8	36.5	39.4	40.0	36.4	38.1	39.2	38.0	-1.2
	23-26					51.5	51.9	51.5	43.6	42.9	36.8	34.0	30.0	27.3	27.8	24.9	26.8	23.2	25.6	27.1	28.0	31.0	31.4	31.5	+0.1
	27-30									35.8	33.7	31.5	25.8	26.6	24.2	25.8	21.1	21.8	21.4	15.4	19.5	17.2	22.2	23.1	+0.9
% saying often exposed	18	14.1	17.1	16.6	14.2	14.6	12.9	12.1	10.2	9.6	10.7	9.2	7.9	7.5	9.6	9.4	11.1	12.1	11.7	9.9	11.7	10.5	11.9	12.6	+0.7
	19-22	11.8	15.6	13.5	11.1	10.7	10.2	8.2	8.1	7.5	6.7	4.5	4.4	5.5	4.1	5.1	7.7	3.9	7.6	7.0	4.8	6.4	7.8	8.6	+0.8
	23-26					9.0	10.4	9.3	8.5	6.7	5.0	5.1	3.5	2.6	3.0	2.2	3.5	3.4	3.1	3.1	4.3	3.5	3.4	5.0	+1.5
	27-30									6.0	4.7	4.1	3.2	3.7	2.4	3.4	2.9	3.4	3.2	1.0	2.5	1.6	3.7	4.7	+1.0
Marijuana																									
% saying any exposure	18	82.0	80.2	77.9	76.2	74.4	73.5	72.0	70.4	67.0	64.8	63.4	59.6	56.8	61.0	67.2	72.7	75.6	76.8	75.5	75.8	73.8	74.9	74.2	-0.7
	19-22	79.8	79.8	78.7	72.7	74.1	75.5	72.4	70.5	66.3	59.3	57.5	55.0	56.4	55.4	56.8	64.0	64.8	63.4	67.1	63.5	63.9	68.0	64.6	-3.4
	23-26					65.3	66.0	64.1	59.0	57.6	55.0	50.6	47.9	44.6	45.9	44.4	51.0	47.8	53.1	48.8	48.1	51.8	54.2	53.5	-0.7
	27-30									49.1	47.4	42.1	36.0	38.2	35.3	41.9	38.3	41.8	39.1	35.7	38.7	38.8	37.0	44.6	+7.6 s
% saying often exposed	18	33.8	33.1	28.0	26.1	24.8	24.2	24.0	20.6	17.9	19.5	17.8	16.0	15.6	20.9	27.6	30.7	31.8	32.9	31.4	34.4	30.3	30.8	30.7	-0.1
	19-22	32.6	30.5	30.3	21.1	21.9	20.3	18.6	16.4	18.3	14.2	14.7	15.9	19.9	14.7	17.0	22.1	20.3	23.7	22.8	23.0	20.4	24.5	24.8	+0.3
	23-26					17.5	20.6	14.6	14.8	15.6	11.6	11.2	11.6	10.9	10.4	10.4	11.1	11.5	12.9	13.6	13.2	15.2	15.6	14.9	-0.7
	27-30									10.9	9.8	8.5	6.7	8.9	7.6	10.7	7.4	9.1	8.9	8.1	8.8	8.6	8.4	11.7	+3.3

(Table continued on next page)

TABLE 7-3 (cont.)

Trends in Exposure to Drug Use

High School Seniors (Age 18) and Young Adults in Modal Age Groups of 19-22, 23-26, and 27-30

(Entries are percentages)

Q. During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
LSD																									
% saying any exposure	18	17.2	17.4	16.1	13.8	12.5	13.2	13.1	12.9	13.4	15.0	14.9	15.7	17.8	21.0	24.2	26.1	27.6	25.9	23.1	23.6	22.0	21.6	17.2	-4.4 ss
	19-22	17.4	15.8	16.0	13.5	12.8	12.7	10.8	10.9	12.0	12.0	12.1	13.1	19.3	13.4	16.5	18.6	20.7	22.3	21.0	20.1	15.9	15.2	13.6	-1.6
	23-26					8.3	9.3	8.8	7.3	6.3	6.7	8.4	8.6	8.8	7.8	8.4	9.9	8.6	7.6	9.8	9.4	9.8	11.1	9.3	-1.8
	27-30									3.6	3.2	3.3	3.6	3.9	4.9	5.3	5.5	4.3	3.9	3.2	3.7	3.2	4.3	4.8	+0.6
% saying often exposed	18	1.4	2.0	1.9	1.4	1.5	1.3	1.6	1.8	1.6	2.2	2.6	2.9	3.0	3.9	4.2	6.1	4.7	5.1	3.2	4.1	3.3	2.8	2.6	-0.3
	19-22	1.4	1.5	1.4	0.6	0.8	0.7	0.5	1.2	0.6	1.1	1.2	1.0	2.0	1.1	0.4	3.6	1.4	1.8	2.0	1.7	1.4	2.4	0.9	-1.5
	23-26					0.3	0.4	0.4	0.7	0.6	0.3	0.5	0.2	0.8	0.3	0.5	0.5	0.4	0.2	0.1	0.3	0.2	0.0	0.3	+0.3
	27-30									0.3	0.2	0.5	0.2	0.2	0.5	0.5	0.2	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Other hallucinogens[b]																									
% saying any exposure	18	20.4	17.6	16.8	13.1	12.7	12.5	11.8	10.0	9.0	8.8	9.4	9.4	9.7	12.1	14.0	15.8	16.6	17.8	15.9	17.7	16.3	28.1	26.4	-1.7
	19-22	18.3	16.3	16.3	12.5	10.5	11.0	9.2	9.1	7.7	8.4	8.3	8.9	10.6	6.7	8.3	12.8	13.1	15.0	15.0	12.4	11.8	22.8	23.4	+0.6
	23-26					8.4	8.9	9.1	6.0	5.1	4.8	5.7	5.5	5.1	5.7	5.2	5.5	6.9	5.6	8.7	5.8	8.9	14.8	14.7	-0.1
	27-30									5.0	3.4	3.4	3.4	2.1	3.7	3.4	4.2	3.2	2.9	2.6	3.0	3.0	6.4	7.7	+1.3
% saying often exposed	18	2.2	2.0	2.6	1.1	1.7	1.4	1.5	1.2	1.1	1.3	1.2	1.3	1.1	1.9	2.3	2.5	2.7	2.8	1.7	2.7	2.1	3.6	4.5	+0.9
	19-22	1.1	0.9	0.9	0.7	0.8	0.8	0.2	0.8	0.3	0.4	0.4	0.5	0.7	0.4	0.2	1.6	0.7	0.7	0.5	0.6	0.8	2.6	2.4	-0.2
	23-26					0.1	0.3	0.5	0.6	0.8	0.1	0.4	0.4	0.0	0.2	0.4	0.3	0.3	0.2	0.0	0.4	0.2	0.4	+0.2	
	27-30									0.2	0.4	0.5	0.3	0.1	0.5	0.2	0.3	0.2	0.5	0.0	0.1	0.0	0.4	0.0	-0.4
Cocaine																									
% saying any exposure	18	37.7	36.3	34.9	33.3	35.6	38.3	37.4	34.9	30.2	30.2	27.7	21.3	19.8	19.2	18.8	21.6	25.0	25.6	26.6	25.8	24.2	24.5	24.9	+0.4
	19-22	37.6	42.3	43.6	36.6	38.9	39.4	41.5	37.0	36.2	26.6	24.0	18.5	19.8	13.5	14.7	14.1	19.3	18.8	21.6	18.5	19.1	20.6	22.5	+1.9
	23-26					38.5	40.6	42.0	34.5	35.9	28.0	24.0	19.9	16.7	14.6	14.3	14.1	12.5	14.0	16.0	18.2	16.4	16.9	18.3	+1.4
	27-30									28.9	28.3	24.2	18.6	19.4	16.6	14.3	11.4	12.1	11.4	8.6	11.6	10.2	11.6	12.2	+0.5
% saying often exposed	18	5.9	6.6	6.6	5.2	6.7	7.1	7.8	5.9	5.1	5.4	4.7	3.4	2.7	2.9	2.5	3.2	4.0	4.2	3.7	4.6	4.6	4.5	5.3	+0.8
	19-22	5.8	7.6	6.5	4.3	6.5	7.0	5.4	5.2	4.8	4.3	2.2	1.6	1.7	1.7	1.8	1.7	1.2	2.4	3.2	1.4	3.8	3.0	4.1	+1.1
	23-26					5.3	8.5	7.0	6.0	5.4	3.5	2.5	1.7	1.4	1.7	1.0	1.7	1.3	1.8	1.5	2.2	1.8	1.0	2.5	+1.5
	27-30									4.4	3.9	2.9	2.2	2.0	1.2	1.5	1.4	1.9	1.6	0.8	1.5	0.3	1.6	2.4	+0.8

(Table continued on next page)

TABLE 7-3 (cont.)

Trends in Exposure to Drug Use

High School Seniors (Age 18) and Young Adults in Modal Age Groups of 19-22, 23-26, and 27-30

(Entries are percentages)

Q. During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Heroin																									
% saying any exposure	18	7.4	6.6	7.1	5.1	6.0	5.5	6.0	5.8	5.7	6.5	5.4	5.1	5.4	5.7	7.3	7.9	8.6	9.1	8.7	8.1	9.1	8.7	8.3	-0.3
	19-22	4.4	3.3	4.1	2.9	3.1	4.8	2.9	2.9	2.9	2.9	2.5	3.0	2.7	2.0	3.7	3.8	3.6	3.7	6.4	3.2	5.2	3.2	5.3	+2.1
	23-26					2.3	3.3	3.2	2.9	1.7	2.3	2.3	1.8	1.7	1.5	1.9	2.8	2.9	2.7	3.1	2.9	2.6	2.4	3.8	+1.4
	27-30									2.1	1.4	1.5	0.9	1.0	2.0	2.0	1.7	1.5	1.3	1.4	1.9	1.9	2.3	2.7	+0.4
% saying often exposed	18	0.4	0.6	1.0	0.7	1.1	0.5	1.0	0.9	0.8	1.0	0.5	0.9	0.7	1.1	0.7	1.2	1.6	1.2	0.9	1.3	1.5	0.7	1.3	+0.7
	19-22	0.2	0.3	0.3	0.1	0.2	0.5	0.2	0.1	0.2	0.1	0.2	0.4	0.6	0.4	0.6	1.2	0.2	0.4	0.7	0.8	0.7	0.8	0.6	-0.2
	23-26					0.0	0.7	0.3	0.6	0.4	0.3	0.6	0.3	0.0	0.0	0.0	0.2	0.2	0.3	0.5	1.0	0.0	0.0	0.8	+0.8
	27-30									0.3	0.3	0.5	0.2	0.2	0.9	0.3	0.6	0.6	0.0	0.0	0.2	0.0	0.0	0.7	+0.7
Other narcotics																									
% saying any exposure	18	19.6	17.5	18.5	17.3	18.0	18.4	15.6	14.4	14.8	13.8	14.2	11.3	11.1	12.4	14.9	15.5	18.5	20.4	20.7	21.9	21.1	21.6	22.5	+1.0
	19-22	14.4	14.4	15.2	10.9	12.4	13.7	9.8	12.2	11.2	9.0	9.4	9.2	8.5	6.8	10.1	12.1	11.5	14.5	15.3	13.9	17.0	18.3	18.7	+0.4
	23-26					9.0	12.3	9.2	9.7	7.4	8.0	5.9	8.3	7.0	4.6	6.9	7.8	7.4	6.5	8.1	9.4	10.9	12.2	12.0	-0.2
	27-30									6.5	6.5	5.8	5.5	3.7	5.6	5.9	5.7	4.7	4.9	3.6	5.2	6.5	9.0	7.9	-1.1
% saying often exposed	18	1.7	1.7	2.4	2.2	2.0	1.8	2.1	1.7	1.7	1.7	1.6	1.4	1.3	1.7	1.7	2.1	3.4	2.5	2.8	3.9	2.9	3.0	3.8	+0.8
	19-22	0.7	0.5	0.5	0.9	0.7	1.0	0.5	0.4	0.9	0.3	0.2	1.0	0.9	0.6	0.8	1.4	0.7	1.5	1.7	1.1	2.4	1.6	3.0	+1.4
	23-26					0.4	0.5	1.3	0.8	0.8	0.5	1.6	0.7	0.1	0.3	0.1	0.1	0.3	0.7	0.5	1.1	0.7	1.0	0.9	-0.2
	27-30									0.7	0.5	1.0	0.3	0.8	1.2	0.8	0.8	0.7	0.5	0.0	0.2	1.1	1.0	0.7	-0.4
Amphetamines																									
% saying any exposure	18	40.8	49.5	50.2	46.1	45.0	41.0	36.5	31.7	27.9	27.4	28.3	23.6	24.5	24.7	28.2	28.1	31.5	31.0	29.9	30.1	29.5	31.5	30.6	-0.8
	19-22	42.3	48.6	48.4	39.7	41.3	35.9	31.3	26.7	21.2	18.5	19.5	17.4	21.3	15.1	20.3	21.0	22.3	24.6	24.8	21.2	24.8	23.3	25.5	+2.2
	23-26					32.3	30.5	29.1	20.9	18.8	14.0	16.8	14.6	11.8	13.2	11.2	13.0	11.1	11.7	14.6	12.3	18.5	18.2	17.9	-0.3
	27-30									15.6	14.3	13.5	10.7	11.4	11.3	11.0	10.6	7.6	9.1	6.6	10.4	7.4	11.1	11.5	+0.3
% saying often exposed	18	8.3	12.1	12.3	10.1	9.0	6.5	5.8	4.5	4.1	4.7	4.1	3.1	3.0	3.9	4.1	4.5	5.6	5.2	4.7	6.3	4.4	6.0	6.4	+0.4
	19-22	7.4	9.9	7.7	6.9	5.4	4.4	3.1	3.3	2.2	1.5	1.1	1.9	2.6	1.5	3.3	5.0	1.3	4.1	2.9	2.2	2.4	2.6	5.6	+3.0 s
	23-26					3.9	3.2	2.2	3.3	1.9	0.7	2.0	1.3	0.2	0.8	0.9	1.6	1.3	1.4	2.2	1.7	1.4	2.2	0.7	-1.5
	27-30									2.0	2.0	1.2	0.8	0.8	1.3	0.7	1.6	1.8	1.0	0.2	1.1	0.4	0.6	1.5	+0.9

TABLE 7-3 (cont.)
Trends in Exposure to Drug Use
High School Seniors (Age 18) and Young Adults in Modal Age Groups of 19-22, 23-26, and 27-30
(Entries are percentages)

Q. During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?

Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Sedatives (barbiturates)																								
% saying any exposure																								
18	25.2	25.9	25.7	22.5	21.2	18.9	15.8	13.1	12.4	11.8	13.3	10.0	10.2	11.9	13.0	14.5	15.5	16.1	16.1	17.1	16.3	17.1	17.7	+0.6
19-22	25.6	23.1	21.8	18.3	15.7	14.7	12.8	12.0	8.2	8.3	6.5	7.9	7.3	7.2	7.4	10.1	8.8	11.7	13.4	11.6	13.1	13.1	16.0	+2.9
23-26					16.1	13.1	11.0	7.1	7.1	6.6	6.9	5.9	6.5	3.8	4.2	5.7	6.6	4.9	8.5	7.1	9.3	9.0	9.8	+0.8
27-30									8.0	6.8	5.9	5.4	5.2	5.7	4.5	5.2	3.5	3.8	2.7	4.1	2.9	5.3	6.0	+0.6
% saying often exposed																								
18	3.4	4.0	4.3	3.0	2.7	1.7	2.1	1.5	1.4	1.7	1.7	1.2	1.1	1.6	1.7	2.0	2.9	2.5	2.7	3.8	2.7	2.7	4.6	+1.9 ss
19-22	2.5	2.8	1.1	1.4	0.7	1.3	0.5	0.7	0.7	0.3	0.7	0.4	0.7	0.7	1.3	1.3	0.4	0.9	1.4	0.9	1.6	1.2	1.8	+0.5
23-26					0.7	0.9	1.7	0.8	0.6	0.3	1.1	0.3	0.3	0.0	0.0	0.2	0.3	0.8	0.5	0.9	0.7	0.2	0.3	+0.1
27-30									0.7	0.4	0.6	0.2	0.4	1.2	0.2	0.6	0.5	0.2	0.0	0.6	0.2	0.9	0.4	-0.4
Tranquilizers[b]																								
% saying any exposure																								
18	29.1	29.0	26.6	23.5	23.1	23.4	19.6	18.4	18.2	15.1	16.3	14.2	12.7	13.8	16.5	15.7	17.9	18.9	17.3	18.2	17.7	23.8	22.7	-1.2
19-22	29.6	26.9	28.5	19.5	21.2	19.5	16.4	18.5	13.8	12.0	12.7	12.6	11.0	10.0	12.0	11.8	10.7	15.6	16.9	14.3	18.5	21.3	23.6	+2.2
23-26					23.1	21.0	16.9	15.9	13.4	12.9	12.0	10.4	9.7	10.9	9.8	10.3	10.1	9.4	10.9	10.8	12.3	16.4	20.1	+3.8
27-30									15.0	11.6	11.1	9.7	10.3	10.4	9.0	11.2	9.6	9.6	6.1	8.8	7.6	12.6	13.6	+1.0
% saying often exposed																								
18	3.2	4.2	3.5	2.9	2.9	2.2	2.5	2.6	2.2	2.1	1.9	1.4	1.9	1.7	1.8	2.3	3.5	3.2	2.8	3.7	3.5	4.9	5.8	+0.9
19-22	3.2	2.6	1.8	2.1	1.5	1.7	0.9	1.1	1.8	1.0	1.1	1.1	1.5	1.1	1.3	1.5	0.5	1.3	1.6	1.5	1.7	3.1	3.6	+0.5
23-26					2.0	1.6	2.6	1.8	1.2	0.8	0.5	1.0	0.6	0.7	0.1	1.1	1.5	0.7	1.1	1.5	1.7	1.3	2.1	+0.8
27-30									1.4	0.3	1.7	0.8	1.3	1.3	1.0	1.1	0.8	1.2	0.2	0.9	0.4	1.6	1.6	0.0
Alcoholic beverages																								
% saying any exposure																								
18	94.7	94.0	94.0	94.0	94.0	94.0	94.1	93.9	93.1	92.3	93.6	91.7	90.6	91.8	90.0	91.2	91.5	91.4	92.2	91.8	90.7	90.8	89.5	-1.4
19-22	94.3	93.8	94.5	93.4	94.2	92.7	93.6	94.4	92.5	91.8	92.4	94.0	93.3	92.9	93.7	93.1	93.7	93.1	91.8	91.0	93.3	94.3	93.7	-0.6
23-26					90.3	92.7	91.4	90.6	91.1	92.9	91.3	91.0	91.4	90.3	89.5	91.9	89.6	93.1	89.1	91.5	92.1	90.1	91.9	+1.8
27-30									87.1	88.4	86.2	87.7	87.3	86.6	86.2	89.3	89.2	86.4	88.4	88.7	89.8	91.2	89.0	-2.2
% saying often exposed																								
18	60.2	61.0	59.3	60.2	58.7	59.5	58.0	58.7	56.4	55.5	56.1	54.5	53.1	51.9	54.0	54.0	54.5	53.9	54.5	53.5	50.2	52.7	50.8	-2.0
19-22	59.6	61.2	62.5	56.6	59.3	61.8	59.9	61.4	55.4	53.8	56.0	53.9	56.1	56.8	57.0	56.3	52.3	54.2	57.9	54.7	54.3	53.4	54.9	+1.6
23-26					52.1	54.8	51.4	53.0	48.1	50.9	49.7	48.4	45.4	45.4	43.3	47.5	44.8	49.8	44.6	45.7	49.6	48.8	46.3	-2.5
27-30									39.9	39.5	38.7	38.0	39.9	38.1	39.3	38.0	34.7	37.1	36.6	38.3	34.4	40.0	39.6	-0.4
Approximate Weighted N=																								
18	3259	3608	3645	3334	3238	3252	3078	3296	3300	2795	2556	2525	2630	2730	2581	2608	2407	2595	2541	2312	2153	2147	2162	
19-22	582	574	601	569	578	549	591	582	556	567	567	532	528	489	460	464	485	471	445	450	415	412	403	
23-26					533	532	557	529	531	514	523	494	532	513	471	467	447	424	400	398	389	406	345	
27-30									522	507	506	478	502	457	425	452	432	455	449	430	395	369	359	

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change and prevalence estimates for the two most recent years is due to rounding.

[a]These estimates were derived from responses to the questions listed above. For the young adult sample, "any illicit drug" includes all of the drugs listed except cigarettes and alcohol.

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

TABLE 7-4
Trends in Reported Availability of Drugs
High School Seniors (Age 18) and Adults in Modal Age Groups of 19-22, 23-26, 27-30, 35, and 40
(Entries are percentages)

Percentage saying "fairly easy" or "very easy" to get[a]

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Marijuana	18	89.0	89.2	88.5	86.2	84.6	85.5	85.2	84.8	85.0	84.3	84.4	83.3	82.7	83.0	85.5	88.5	88.7	89.6	90.4	88.9	88.5	88.5	87.2	-1.3
	19-22	95.6	91.1	92.4	89.7	88.3	89.5	87.2	85.9	87.1	87.1	86.2	86.0	87.8	85.6	87.2	87.9	89.3	90.6	89.9	87.4	89.6	91.7	88.1	-3.6
	23-26					92.5	88.8	88.8	90.3	86.9	88.7	83.3	82.5	83.8	84.6	87.1	86.2	85.3	84.4	87.5	85.9	88.4	87.0	89.1	+2.1
	27-30									89.3	86.0	83.1	83.8	80.7	82.8	80.3	83.3	82.6	84.5	82.1	83.0	81.5	84.8	83.6	-1.3
	35															75.7	75.6	73.0	77.1	76.0	74.9	77.1	75.3	76.5	+1.2
	40																			73.4	71.7	73.1	70.4	72.1	+1.7
Amyl & butyl nitrites	18	NA	NA	NA	NA	NA	NA	NA	23.9	25.9	26.8	24.4	22.7	25.9	25.9	26.7	26.0	23.9	23.8	25.1	21.4	23.3	22.5	22.3	-0.2
	19-22	NA	NA	NA	NA	NA	NA	NA	22.8	26.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	23-26					NA	NA	NA	23.1	28.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	27-30									26.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
LSD	18	35.3	35.0	34.2	30.9	30.6	30.5	28.5	31.4	33.3	38.3	40.7	39.5	44.5	49.2	50.8	53.8	51.3	50.7	48.8	44.7	46.9	44.7	39.6	-5.1 ss
	19-22	39.6	38.4	35.1	31.8	32.7	29.6	30.5	29.9	33.9	36.4	36.6	37.8	42.5	44.9	43.7	50.5	50.8	47.7	51.1	43.8	47.1	42.5	37.9	-4.5
	23-26					32.7	29.1	30.0	27.5	32.7	32.6	30.2	32.8	33.5	33.4	40.1	41.0	43.6	39.2	40.4	41.2	40.4	38.3	37.2	-1.0
	27-30									29.4	29.9	32.3	27.0	30.9	30.5	27.2	35.6	33.6	35.2	32.9	35.7	35.6	38.3	32.3	-6.0
	35															33.8	32.4	28.4	32.9	31.2	27.7	32.2	28.7	29.1	+0.4
	40																			31.1	31.0	28.5	25.7	27.4	+1.6
Some hallucinogen other than LSD[b]	18	35.0	32.7	30.6	26.6	26.6	26.1	24.9	25.0	26.2	28.2	28.3	28.0	29.9	33.5	33.8	35.8	33.9	33.9	35.1	29.5	34.5	48.5	47.7	-0.8
	19-22	42.1	37.7	33.5	31.0	28.9	28.7	26.3	27.5	28.7	28.1	28.9	26.6	28.3	29.5	28.6	31.5	31.5	33.4	34.1	31.1	33.4	45.9	48.8	+2.9
	23-26					31.8	29.6	26.4	25.6	29.6	28.7	27.0	25.7	27.7	25.3	28.3	29.2	32.6	31.0	32.4	31.5	28.5	38.3	39.7	+1.4
	27-30									28.6	29.6	30.8	24.9	24.8	25.4	24.7	29.3	25.9	28.0	25.2	30.3	25.0	38.6	33.3	-5.3
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
PCP	18	NA	NA	NA	NA	NA	NA	NA	22.8	24.9	28.9	27.7	27.6	31.7	31.7	31.4	31.0	30.5	30.0	30.7	26.7	28.8	27.2	25.8	-1.4
	19-22	NA	NA	NA	NA	NA	NA	NA	21.7	24.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	23-26					NA	NA	NA	21.2	27.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	27-30									24.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—

(Table continued on next page)

TABLE 7-4 (cont.)
Trends in Reported Availability of Drugs
High School Seniors (Age 18) and Adults in Modal Age Groups of 19-22, 23-26, 27-30, 35, and 40
(Entries are percentages)

Percentage saying "fairly easy" or "very easy" to get[a]

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

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
MDMA (ecstasy)	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.7	22.0	22.1	24.2	28.1	31.2	34.2	36.9	38.8	38.2	40.1	51.4	61.5	59.1	-2.4
	19-22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.6	24.9	27.1	23.9	27.0	29.3	33.4	35.6	39.4	43.2	49.9	55.5	59.7	+4.2
	23-26					NA	NA	NA	NA	NA	NA	21.4	23.1	26.4	24.0	26.0	27.8	28.7	31.1	30.1	34.9	41.8	51.5	52.9	+1.4
	27-30									NA	NA	27.1	20.8	22.2	22.8	21.9	27.1	29.3	24.3	26.4	30.0	35.5	40.6	41.2	+0.6
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Cocaine	18	47.9	47.5	47.4	43.1	45.0	48.9	51.5	54.2	55.0	58.7	54.5	51.0	52.7	48.5	46.6	47.7	48.1	48.5	51.3	47.6	47.8	46.2	44.6	-1.6
	19-22	55.7	56.2	57.1	55.2	56.2	56.9	60.4	65.0	64.9	66.8	61.7	54.3	54.5	49.2	49.9	49.4	44.4	49.7	47.7	52.6	52.1	49.6	47.6	-2.0
	23-26					63.7	67.2	65.8	69.0	71.7	70.0	65.6	58.0	61.1	53.8	54.4	54.7	50.2	46.9	51.8	45.7	45.0	44.6	47.8	+3.3
	27-30									68.6	68.2	64.0	60.0	63.1	56.8	53.1	57.0	53.0	50.4	46.9	50.0	44.6	45.5	46.3	+0.7
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Crack	18	NA	NA	NA	NA	NA	NA	NA	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	42.6	40.2	38.5	-1.7
	19-22	NA	NA	NA	NA	NA	NA	NA	41.9	47.3	47.2	46.9	42.1	42.1	38.4	41.6	40.7	32.9	39.9	40.0	40.8	40.2	37.3	35.7	-1.6
	23-26					NA	NA	NA	44.5	53.0	49.9	46.9	42.0	42.6	42.5	42.4	42.3	37.9	37.2	38.4	35.0	31.9	37.1	33.9	-3.2
	27-30									46.5	46.8	46.8	43.1	45.2	45.8	41.1	44.7	39.9	36.5	33.3	38.8	35.9	36.9	33.4	-3.6
	35															49.6	48.2	43.1	44.3	45.0	41.6	45.0	41.2	38.9	-2.3
	40																			43.3	44.3	42.0	38.7	39.5	+0.8
Cocaine powder	18	NA	NA	NA	NA	NA	NA	NA	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	44.6	40.7	40.2	-0.5
	19-22	NA	NA	NA	NA	NA	NA	NA	58.7	60.2	61.7	56.5	52.5	48.9	45.7	47.8	45.5	41.3	46.0	47.1	45.2	45.2	43.3	43.9	+0.7
	23-26					NA	NA	NA	64.9	69.1	60.1	58.6	53.2	56.4	50.5	49.7	49.6	45.9	43.6	44.4	44.3	41.8	44.4	40.7	-3.7
	27-30									63.5	62.8	57.9	55.8	56.8	55.0	48.9	52.9	48.4	45.1	43.9	46.5	43.9	42.7	42.4	-0.3
	35															53.9	52.1	46.7	48.3	47.0	43.4	47.9	43.1	41.7	-1.5
	40																			46.0	46.7	44.7	41.5	41.5	0.0
Heroin	18	21.2	19.2	20.8	19.3	19.9	21.0	22.0	23.7	28.0	31.4	31.9	30.6	34.9	33.7	34.1	35.1	32.2	33.8	35.6	32.1	33.5	32.3	29.0	-3.3
	19-22	18.9	19.4	19.3	16.4	17.2	20.8	21.2	24.4	28.5	31.6	30.7	25.3	30.2	30.0	33.2	35.2	29.1	31.4	32.1	32.7	29.4	30.2	26.4	-3.7
	23-26					18.6	18.1	21.0	22.3	28.4	31.2	28.1	25.6	25.7	25.7	29.2	29.3	32.3	30.5	35.1	31.9	25.7	26.6	27.2	+0.5
	27-30									23.6	27.4	29.5	22.1	25.6	28.5	24.4	30.7	29.5	30.0	28.3	33.0	29.3	29.9	27.0	-2.9
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—

(Table continued on next page)

TABLE 7-4 (cont.)

Trends in Reported Availability of Drugs

High School Seniors (Age 18) and Adults in Modal Age Groups of 19-22, 23-26, 27-30, 35, and 40

(Entries are percentages)

Percentage saying "fairly easy" or "very easy" to get[a]

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

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Some other narcotic	18	29.4	29.6	30.4	30.0	32.1	33.1	32.2	33.0	35.8	38.3	38.1	34.6	37.1	37.5	38.0	39.8	40.0	38.9	42.8	40.8	43.9	40.5	44.0	+3.5
	19-22	32.7	32.4	30.8	31.0	28.7	34.3	32.6	33.8	37.9	37.9	35.6	35.4	35.2	33.5	35.1	38.7	37.3	38.3	38.9	39.5	41.1	44.1	40.4	-3.8
	23-26					32.8	32.1	33.6	32.2	35.9	36.4	34.7	33.2	33.9	33.1	35.8	32.6	36.7	35.7	39.9	38.2	38.1	35.8	40.0	+4.2
	27-30									31.6	36.2	36.1	29.0	31.8	33.0	34.8	36.9	37.2	35.2	32.2	36.9	32.4	39.4	38.5	-0.8
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Amphetamines	18	61.3	69.5	70.8	68.5	68.2	66.4	64.3	64.5	63.9	64.3	59.7	57.3	58.8	61.5	62.0	62.8	59.4	59.8	60.8	58.1	57.1	57.1	57.4	+0.3
	19-22	71.7	72.6	73.5	69.7	69.1	69.1	63.1	61.8	61.3	62.2	57.7	58.3	56.3	56.0	56.6	60.3	56.9	55.5	56.3	57.6	60.2	56.5	53.7	-2.8
	23-26					65.8	66.0	64.5	65.3	62.2	60.1	55.8	54.8	54.5	52.6	52.9	56.0	52.8	51.2	53.2	49.1	51.1	49.4	48.2	-1.3
	27-30									54.3	58.6	55.3	54.4	50.4	52.9	48.3	53.7	51.7	48.1	41.4	48.2	47.6	49.3	45.6	-3.7
	35															45.6	43.5	39.1	40.9	39.4	38.5	42.2	39.6	39.2	-0.4
	40																			41.0	41.9	39.4	37.5	39.4	+1.9
Crystal meth. (ice)	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.0	24.3	26.0	26.6	25.6	27.0	26.9	27.6	29.8	27.6	27.8	28.3	28.3	0.0
	19-22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.0	21.8	22.5	20.9	24.7	25.5	25.4	29.3	31.0	31.8	27.4	28.4	31.2	+2.8
	23-26					NA	NA	NA	NA	NA	NA	22.3	20.0	21.3	22.9	24.5	24.7	24.7	25.8	30.2	28.5	25.8	26.4	25.1	-1.4
	27-30									NA	NA	27.3	19.7	22.0	21.2	21.7	25.8	26.1	25.1	22.6	29.1	25.3	27.6	29.5	+1.9
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Sedatives (barbiturates)	18	49.1	54.9	55.2	52.5	51.9	51.3	48.3	48.2	47.8	48.4	45.9	42.4	44.0	44.5	43.3	42.3	41.4	40.0	40.7	37.9	37.4	35.7	36.6	+0.9
	19-22	59.5	61.1	56.8	54.2	48.1	52.7	46.8	44.6	45.5	47.7	44.2	41.7	43.4	41.9	40.6	42.9	41.1	39.8	39.2	42.3	40.6	39.3	40.8	+1.5
	23-26					52.7	47.7	46.4	45.9	47.4	44.8	41.6	39.6	42.0	38.8	40.3	42.1	40.6	39.1	42.6	39.7	37.6	36.1	36.4	+0.4
	27-30									43.2	44.5	44.2	38.5	37.8	39.7	37.4	39.9	41.2	39.1	33.9	38.4	36.1	38.1	34.8	-3.3
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Tranquilizers	18	59.1	60.8	58.9	55.3	54.5	54.7	51.2	48.6	49.1	45.3	44.7	40.8	40.9	41.1	39.2	37.8	36.0	35.4	36.2	32.7	33.8	33.1	32.9	-0.2
	19-22	67.4	62.8	62.0	62.3	52.5	55.6	52.9	50.3	50.0	49.4	45.4	44.8	40.7	40.9	41.0	40.2	37.6	37.8	36.8	37.1	36.5	34.9	34.6	-0.3
	23-26					60.2	54.3	54.1	56.3	52.8	51.4	47.8	45.1	48.1	43.2	45.9	44.3	42.3	36.4	39.4	38.3	37.6	38.7	33.7	-5.0
	27-30									55.3	54.4	54.9	47.5	47.8	47.4	44.4	44.8	46.2	41.9	39.9	41.5	36.7	42.9	38.1	-4.8
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—

(Table continued on next page)

TABLE 7-4 (cont.)
Trends in Reported Availability of Drugs
High School Seniors (Age 18) and Adults in Modal Age Groups of 19-22, 23-26, 27-30, 35, and 40
(Entries are percentages)

Percentage saying "fairly easy" or "very easy" to get[a]

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Steroids	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	46.7	46.8	44.8	42.9	45.5	40.3	41.7	44.5	44.6	44.8	44.4	45.5	+1.1
	19-22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	44.1	44.8	46.3	41.7	40.9	41.8	40.8	39.2	39.2	40.5	40.3	38.1	41.4	+3.4
	23-26					NA	NA	NA	NA	NA	NA	37.6	35.8	39.3	35.8	37.0	37.4	33.9	35.5	34.9	37.1	34.0	34.7	33.1	-1.6
	27-30									NA	NA	36.4	30.6	35.0	31.6	30.5	33.1	35.6	32.5	30.5	34.5	36.2	34.6	33.0	-1.6
	35															NA	NA	NA	NA	NA	NA	NA	NA	NA	—
	40																			NA	NA	NA	NA	NA	—
Approximate Weighted N=	*18*	*3240*	*3578*	*3602*	*3385*	*3269*	*3274*	*3077*	*3271*	*3231*	*2806*	*2549*	*2476*	*2586*	*2670*	*2526*	*2552*	*2340*	*2517*	*2520*	*2215*	*2095*	*1850*	*2138*	
	19-22	*582*	*601*	*582*	*588*	*559*	*571*	*592*	*581*	*568*	*572*	*571*	*534*	*512*	*480*	*459*	*470*	*467*	*463*	*433*	*425*	*400*	*398*	*375*	
	23-26					*540*	*541*	*548*	*539*	*526*	*514*	*532*	*511*	*523*	*500*	*463*	*449*	*418*	*419*	*395*	*415*	*388*	*401*	*362*	
	27-30									*519*	*513*	*510*	*487*	*475*	*473*	*437*	*446*	*468*	*459*	*425*	*424*	*365*	*357*	*349*	
	35															*1142*	*1141*	*1146*	*1150*	*1032*	*1022*	*981*	*977*	*890*	
	40																			*1029*	*1093*	*1096*	*1065*	*1037*	

Source: The Monitoring the Future Study, the University of Michigan

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

'NA' indicates data not available

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

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

Chapter 8

PREVALENCE OF DRUG USE
AMONG COLLEGE STUDENTS

One of the more important functions of the Monitoring the Future study over the past nearly quarter of a century has been to track various forms of substance use among the nation's college students. For a number of reasons college students are an important segment of the general population in almost any nation. They often are the harbingers of social and political changes that will spread eventually to all segments of the population. This was certainly the case for the epidemic of illicit drug use that emerged in the American population in the late 1960s and continues today.

The Monitoring the Future study has generated an excellent national sample of college students every year since 1980. The 2002 survey is thus the twenty-third such survey of this population. (The absence of dropouts in the original high school senior samples should have practically no effect on the college sample, since very few dropouts go on to college.)

Perhaps the major limitation of the present design for the purpose of characterizing college students is that it limits the age range of the college sample. For trend estimation purposes, we decided to limit the age band to the most typical one for college attendance, that is, one to four years past high school, which corresponds to the modal ages of 19 to 22. According to statistics from the United States Bureau of the Census,[42] this age band should encompass about 77% of all undergraduate college students enrolled full-time in 2000, down some from the 79% covered in 1989. Although expanding the age band to be covered by an additional two years would cover 84% of all enrolled college students, it would also reduce by two years the interval over which we could report trend data. Some special analyses conducted in 1985 indicated that the differences in *prevalence of use* estimates under the two definitions were extremely small. The annual prevalence of all drugs except cocaine shifted only about one or two tenths of a percent, based on comparisons made in 1985. Cocaine, which has the greatest amount of age-related change, would have had an annual prevalence rate only 0.8% higher if the six-year age span were included rather than the four-year age span. A replication of these analyses in 1997 yielded virtually the same results. Thus, for purposes of estimating all prevalence rates except lifetime prevalence, the four-year and six-year intervals are nearly interchangeable.

On the positive side, controlling the age band may be desirable for trend estimation purposes because it controls for changes in the age composition of college students over the years. Otherwise, college students characterized in one year might represent a noncomparable segment of the larger population when compared to college students surveyed in another year.

College students are defined here as those follow-up respondents one to four years past high school who say they were registered as full-time students in a two- or four-year undergraduate college at the beginning of March in the year in question. Note that students at two-year colleges,

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[42]U.S. Bureau of the Census, October 2000. Available on Internet: http://www.census.gov.

such as community colleges, are included. The definition excludes those who previously may have been college students or may have completed college.

Prevalence of use rates for college students, as well as their same-age peers who are also high school graduates, are provided in Tables 8-1 to 8-5. Having statistics for both groups makes it possible to see whether college students are above or below their age peers (19- to 22-year-olds not currently in college) in terms of their usage rates. The college-enrolled sample now constitutes over half (59%) of the entire follow-up sample one to four years past high school. The differences reported here pertain to differences between those who are in college versus those who are not, *among high school graduates.* If data from the missing high school dropout segment were available for inclusion as part of the noncollege segment, any difference between the two groups likely would be enlarged; therefore, any differences observed here are only an indication of the direction and relative size of differences between the college and the *entire* noncollege-enrolled population, not an absolute estimate of them.

PREVALENCE OF DRUG USE: COLLEGE STUDENTS VERSUS THOSE NOT IN COLLEGE

In the year 2002, lifetime prevalence of use among college students is lower for all drugs than among their age peers, but the degree of difference varies considerably by drug, as Table 8-1 shows. However, there is much less difference between the two groups on annual or 30-day prevalence of use rates. (See Tables 8-2 and 8-3.) Alcohol and Ritalin are the substances that stand apart from the others as being higher among college students than among those not enrolled in college.

- In 2002, annual prevalence for the use of ***any illicit drug*** among college students stands at 37%, compared to 40% among those high school graduates not in college. A similar difference exists for the annual prevalence of ***any illicit drug other than marijuana*** (17% versus 23%).

- Annual ***marijuana*** use is very similar among college students and high school graduates of the same age (35% versus 36%). However, the rate of current ***daily marijuana*** use is considerably lower among college students (4.1% versus 8.7%). (See Table 8-4 for the prevalence of current daily use.)

- Among those drugs for which annual prevalence is lower among the college students, ***Vicodin***, ***cocaine***, ***methamphetamine***, ***tranquilizers***, and ***sedatives*** (***barbiturates***) show the largest absolute difference in annual prevalence: 6.9% for college students versus 12.9% for those not in college for Vicodin, 4.8% versus 9.6% for cocaine, 1.2% versus 5.4% for methamphetamine, 6.7% versus 10.8% for tranquilizers, and 3.7% versus 6.7% for sedatives (barbiturates).

- Smaller absolute differences occur for ***crystal methamphetamine*** (***ice***), with 0.8% of the college students versus 3.5% of the others reporting use in the past year; ***amphetamines***, at 7.0% versus 9.6%; ***narcotics other than heroin***, at 5.9% versus 7.4%;[43] ***ecstasy***, at 6.8% versus 9.3%; and ***crack***, at 0.4% versus 2.6%.

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[43]As discussed in chapters 4 and 5, because the questions about narcotics other than heroin were changed in 2002, the prevalence figures are adjusted

- Annual use of *OxyContin*, *marijuana*, and *LSD* is also less prevalent (though not statistically significantly) among college students than among their noncollege age peers, at 1.5% versus 3.3%, respectively, for OxyContin, 35% versus 36% for marijuana, and 2.1% versus 3.3% for LSD.

- The annual prevalences of *inhalants*, *hallucinogens*, *GHB*, *Rohypnol*, and *heroin* are slightly lower (not significantly) among college students than among their noncollege-student peers (2.0% and 2.8% for inhalants, 6.3% and 7.1% for hallucinogens, 0.6% and 1.2% for GHB, and 0.1% and 0.4% for heroin, respectively).

- *Ritalin*, a drug in the amphetamine class and newly added in 2002, shows quite a different pattern, with use being considerably higher among college students (5.7% annual prevalence) than among those not in college (2.5%). Use of *ketamine* is equivalent in the two groups at 1.3% annual prevalence.

- In 2002, college students were not significantly different in prevalence of lifetime or annual use of *alcohol* but were higher than their age peers in monthly use (69% versus 60%).

- College students also had a somewhat higher prevalence of *occasions of heavy drinking* (five or more drinks in a row in the past two weeks)—40% versus 35% among their age peers. Contrary to the typical pattern to date, in 2002 college students reported slightly higher rates of daily drinking than their age peers (5.0% versus 4.3%).

- Among all substances studied, both licit and illicit, the largest absolute difference between the two groups occurs for *cigarette smoking*. For example, the college student prevalence of daily smoking is "only" 16% versus 32% for high school graduates who are of the same age and currently not full-time college students. Smoking at the rate of a half-pack per day stands at 8% versus 22% for these two groups, respectively. Recall that the high school senior data show the college-bound to have much lower smoking rates in high school than the noncollege-bound; thus, these substantial differences observed at college age actually preceded college attendance.[44] The smoking differences would be even greater if dropouts were included in the noncollege groups since they have an exceptionally high rate of smoking.

- In sum, college students are less likely than their age peers to use nearly all illicit drugs (except Ritalin, Rohypnol, and ketamine), much less likely to smoke cigarettes, but more likely to drink alcohol.

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estimates. See the earlier discussion for details.

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

GENDER DIFFERENCES IN PREVALENCE OF USE AMONG COLLEGE STUDENTS

Tabular data are provided separately in Tables 8-1 to 8-5 for male and female college students and their same-age peers.

- Most of the gender differences among college students replicate those discussed earlier for all young adults 1 to 14 years past high school, and they in turn replicate gender differences among secondary school students for the most part. That means that among college students, males have higher annual prevalence rates for most of the illicit drugs. The rates for use of *any illicit drug* are 40% versus 35%; for *any illicit drug other than marijuana*, 19% versus 15%; for *marijuana*, 37% versus 33%; for *hallucinogens*, 8.8% versus 4.8%; and for *LSD* specifically, 2.8% versus 1.6%.

- *Daily marijuana* use is higher among male college students (5.7%) than among females (3.0%).

- Male college students have significantly higher rates of *occasional heavy drinking* compared to their male counterparts who are not in college (51% versus 44%), while female college students have only slightly higher rates than their noncollege peers (33% versus 29%).

- *Cigarette smoking* is one substance-using behavior for which the gender differences are dissimilar between the college students and their age peers not in college. The noncollege segment has a slightly higher rate of smoking among females than among males (for example, in 2002, 33% of noncollege females smoked daily compared to 30% of noncollege males). But college men are slightly more likely to be daily smokers than college women (17% versus 15%). Smoking a half-pack or more per day is slightly higher among noncollege women than noncollege men (23% versus 21%), while the rates for college men were slightly higher than for college women (8.7% versus 7.3%). However, as Figure 9-15b in the next chapter shows, there has not been a consistent gender difference among college students in their smoking rates for the past several years.

- For a number of drugs in which college students have lower annual prevalence overall, those differences are caused largely or exclusively by the differences between college and noncollege males. (Put another way, the females from these two groups are not nearly as different in their use of these drugs as are the males. See Table 8-2.) These drugs include *inhalants*, *LSD*, *cocaine*, *crack*, *ecstasy*, *narcotics other than heroin*, *OxyContin* specifically, *ice*, *tranquilizers*, and *GHB*.

- On the other hand, it is the noncollege females who account for a disproportionately large part of the overall college versus noncollege differences in the use of *marijuana*, *hallucinogens other than LSD*, *Vicodin*, *methamphetamine*, and *sedatives (barbiturates)*.

- College females also are more different from their non-college age peers than are the college males in relation to their *cigarette smoking* rates. While both genders have lower 30-day smoking rates than their non-college counterparts, the college females have much lower rates

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(39% versus 25%), while the college males have only moderately lower rates (36% versus 30%).

In sum, the noncollege segment is generally more drug-experienced than the college student segment. This pattern is a continuation of the high school scenario in which those without college plans are more likely to use drugs. The only instances in which college students are more likely to use a particular drug are with alcohol (including binge drinking), Ritalin, and Rohypnol. The gender differences observed among college students generally parallel those observed among high school students.

TABLE 8-1
Lifetime Prevalence of Use for Various Types of Drugs, 2002:
Full-Time College Students vs. Others
Among Respondents 1-4 Years Beyond High School
(Entries are percentages)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Any Illicit Drug[a]	51.8	62.3	54.3	58.4	50.2	65.3
Any Illicit Drug[a] Other Than Marijuana	26.9	39.0	30.4	37.6	24.6	40.0
Marijuana	49.5	59.6	51.5	56.4	48.2	62.0
Inhalants[b,c]	7.7	15.6	9.3	17.0	6.6	14.6
Hallucinogens[c]	13.6	22.2	17.1	22.8	11.3	21.8
LSD	8.6	17.5	9.8	18.0	7.9	17.2
Cocaine	8.2	17.4	9.9	19.2	7.1	16.0
Crack[d]	1.9	6.5	1.4	8.3	2.1	5.2
MDMA (Ecstasy)[b]	12.7	18.7	13.0	19.0	12.6	18.5
Heroin	1.0	2.3	0.9	2.7	1.0	1.9
Other Narcotics[e,h]	10.6	15.5	11.7	18.8	9.9	13.1
Amphetamines, Adjusted[e,f]	11.9	18.6	12.1	17.9	11.7	19.2
Ice[g]	2.0	6.7	1.8	9.6	2.1	4.4
Sedatives (Barbiturates)[e]	5.9	11.7	7.1	12.8	5.1	10.8
Tranquilizers[e]	10.7	18.3	11.9	20.0	9.9	17.1
Alcohol	86.0	86.4	85.9	84.2	86.1	88.1
Cigarettes	NA	NA	NA	NA	NA	NA
Approximate Weighted N =	*1260*	*880*	*490*	*380*	*770*	*500*

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

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

[b]This drug was asked about in three of the six questionnaire forms. Total N in 2002 for college students is approximately 630.

[c]Unadjusted for known underreporting of certain drugs. See text for details.

[d]This drug was asked about in five of the six questionnaire forms. Total N in 2002 for college students is approximately 1050.

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

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

[g]This drug was asked about in two of the six questionnaire forms. Total N in 2002 for college students is approximately 420.

[h]In 2002, the question text was changed in half of the quetionnaire forms. The list of narcotics other than heroin was updated. Talwin, laudanum, and paregoric - all of which had negligible rates of use in 2001 - were replaced with Vicodin, Oxycontin, and Percocet. The 2002 estimates are based on the 2001 prevalence of use rate plus the increase observed from 2001 to 2002 in the half-sample in which the question did not change.

TABLE 8-2

Annual Prevalence of Use for Various Types of Drugs, 2002:
Full-Time College Students vs. Others
Among Respondents 1-4 Years Beyond High School
(Entries are percentages)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Any Illicit Drug[a]	37.0	39.6	39.5	39.7	35.4	39.6
Any Illicit Drug[a]						
Other Than Marijuana	16.6	23.0	19.2	24.1	15.0	22.2
Marijuana	34.7	36.3	37.1	37.1	33.1	35.8
Inhalants[b,c]	2.0	2.8	2.5	4.1	1.7	1.9
Hallucinogens[c]	6.3	7.1	8.8	8.8	4.8	5.8
LSD	2.1	3.3	2.8	4.3	1.6	2.6
Cocaine	4.8	9.6	5.7	12.0	4.2	7.8
Crack[d]	0.4	2.6	0.2	3.7	0.6	1.8
MDMA (Ecstasy)[b]	6.8	9.3	6.4	10.3	7.1	8.5
Heroin	0.1	0.4	0.3	0.5	0.1	0.3
Other Narcotics[e,h]	5.9	7.4	5.9	9.6	6.1	5.4
OxyContin[f]	1.5	3.3	1.3	4.3	1.6	2.5
Vicodin[f]	6.9	12.9	8.6	13.1	5.7	12.8
Amphetamines, Adjusted[e,g]	7.0	9.6	7.4	9.6	6.7	9.5
Ritalin[f]	5.7	2.5	8.4	2.1	3.9	2.8
Methamphetamine[f]	1.2	5.4	1.8	4.2	0.9	6.5
Ice[f]	0.8	3.5	0.6	4.5	0.9	2.8
Sedatives (Barbiturates)[e]	3.7	6.7	4.6	6.9	3.0	6.5
Tranquilizers[e]	6.7	10.8	7.0	12.0	6.5	9.9
Rohypnol[f]	0.7	0.2	0.5	0.4	0.7	0.0
GHB[f]	0.6	1.2	0.3	1.3	0.8	1.1
Ketamine[f]	1.3	1.3	1.0	1.5	1.4	1.1
Alcohol	82.9	80.1	83.6	80.8	82.4	79.6
Cigarettes	38.3	47.7	42.7	47.8	35.5	47.6
Approximate Weighted N =	*1260*	*880*	*490*	*380*	*770*	*500*

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

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

[b]This drug was asked about in three of the six questionnaire forms. Total N in 2002 for college students is approximately 630.

[c]Unadjusted for known underreporting of certain drugs. See text for details.

[d]This drug was asked about in five of the six questionnaire forms. Total N in 2002 for college students is approximately 1050.

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

[f]This drug was asked about in two of the six questionnaire forms. Total N in 2002 for college students is approximately 420.

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

[h]In 2002, the question text was changed in half of the quetionnaire forms. The list of narcotics other than heroin was updated. Talwin, laudanum, and paregoric - all of which had negligible rates of use in 2001 - were replaced with Vicodin, Oxycontin, and Percocet. The 2002 estimates are based on the 2001 prevalence of use rate plus the increase observed from 2001 to 2002 in the half-sample in which the question did not change.

TABLE 8-3
Thirty-Day Prevalence of Use for Various Types of Drugs, 2002:
Full-Time College Students vs. Others
Among Respondents 1-4 Years Beyond High School
(Entries are percentages)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Any Illicit Drug[a]	21.5	26.2	25.1	27.3	19.3	25.4
Any Illicit Drug[a] Other Than Marijuana	7.8	12.1	8.4	11.7	7.4	12.4
Marijuana	19.7	23.1	23.7	25.2	17.2	21.4
Inhalants[b,c]	0.7	1.1	0.5	2.2	0.9	0.3
Hallucinogens[c]	1.2	1.6	2.0	2.4	0.7	1.0
LSD	0.2	0.5	0.4	0.9	0.1	0.2
Cocaine	1.6	3.6	2.2	5.3	1.2	2.4
Crack[d]	0.3	0.9	0.1	1.3	0.4	0.6
MDMA (Ecstasy)[b]	0.7	1.9	0.9	2.0	0.7	1.8
Heroin	0.0	*	0.0	0.1	0.0	0.0
Other Narcotics[e,h]	1.6	2.7	1.4	4.7	1.8	1.2
Amphetamines, Adjusted[e,f]	3.0	3.8	3.2	2.5	2.8	4.7
Ice[g]	0.0	1.8	0.0	2.5	0.0	1.3
Sedatives (Barbiturates)[e]	1.7	2.8	2.2	3.0	1.4	2.7
Tranquilizers[e]	3.0	4.8	3.1	4.7	2.9	4.8
Alcohol	68.9	60.1	70.2	65.5	68.0	56.1
Cigarettes	26.7	37.6	30.0	36.3	24.6	38.6
Approximate Weighted N =	*1260*	*880*	*490*	*380*	*770*	*500*

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

'*' indicates a percentage of less than 0.05% but greater than true zero.

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

[b]This drug was asked about in three of the six questionnaire forms. Total N in 2002 for college students is approximately 630.

[c]Unadjusted for known underreporting of certain drugs. See text for details.

[d]This drug was asked about in five of the six questionnaire forms. Total N in 2002 for college students is approximately 1050.

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

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

[g]This drug was asked about in two of the six questionnaire forms. Total N in 2002 for college students is approximately 420.

[h]In 2002, the question text was changed in half of the quetionnaire forms. The list of narcotics other than heroin was updated. Talwin, laudanum, and paregoric - all of which had negligible rates of use in 2001 - were replaced with Vicodin, Oxycontin, and Percocet. The 2002 estimates are based on the 2001 prevalence of use rate plus the increase observed from 2001 to 2002 in the half-sample in which the question did not change.

TABLE 8-4

Thirty-Day Prevalence of <u>Daily</u> Use for Various Types of Drugs, 2002:
Full-Time College Students vs. Others
Among Respondents 1-4 Years Beyond High School

(Entries are percentages)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Marijuana	4.1	8.7	5.7	10.7	3.0	7.2
Cocaine	0.0	*	0.0	0.1	0.0	0.0
Amphetamines, Adjusted[a,b]	0.1	0.3	0.2	0.0	0.1	0.5
Alcohol						
Daily	5.0	4.3	7.0	5.3	3.7	3.5
5+ Drinks in a Row in Past 2 Weeks	40.1	35.4	50.7	43.8	33.4	29.0
Cigarettes						
Daily	15.9	31.5	16.6	29.5	15.4	33.0
Half-Pack or More per Day	7.9	21.9	8.7	20.5	7.3	22.8
Approximate Weighted N =	*1260*	*880*	*490*	*380*	*770*	*500*

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

'*' indicates a prevalence rate of less than 0.05% but greater than true zero.

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

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

TABLE 8-5

Lifetime, Annual, and 30-Day Prevalence of an Illicit Drug Use Index,[a] 2002:
Full-Time College Students vs. Others
Among Respondents 1-4 Years Beyond High School

(Entries are percentages)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
	Percentage Reporting Use in Lifetime					
Any Illicit Drug	51.8	62.3	54.3	58.4	50.2	65.3
Any Illicit Drug Other Than Marijuana	26.9	39.0	30.4	37.6	24.6	40.0
	Percentage Reporting Use in Last 12 Months					
Any Illicit Drug	37.0	39.6	39.5	39.7	35.4	39.6
Any Illicit Drug Other Than Marijuana	16.6	23.0	19.2	24.1	15.0	22.2
	Percentage Reporting Use in Last 30 Days					
Any Illicit Drug	21.5	26.2	25.1	27.3	19.3	25.4
Any Illicit Drug Other Than Marijuana	7.8	12.1	8.4	11.7	7.4	12.4
Approximate Weighted N =	*1260*	*880*	*490*	*380*	*770*	*500*

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

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

Chapter 9

TRENDS IN DRUG USE AMONG COLLEGE STUDENTS

Beginning in the mid-1960s, illicit drug use increased dramatically among American college students, then spread quickly to their noncollege age peers and eventually down the age spectrum to high school students and even to middle school students. College students were thus the leading edge of social change in illicit drug use. As we shall see in this chapter, the diffusion process seems to have reversed during the "relapse" of the epidemic in the 1990s, as use first increased among those in early adolescence and then radiated *up* the age spectrum as those cohorts aged.

In this chapter we continue to use the same definition of college students described in chapter 8: high school graduates one to four years past high school who are enrolled full-time in a two-year or four-year college at the beginning of March in the year in question. For comparison purposes, trend data are provided on the remaining follow-up respondents who are also one to four years past high school. (See Figures 9-1 through 9-15.) Because the rate of college enrollment declines steadily with number of years beyond high school, the comparison group is slightly older on average than the college-enrolled group. It is also worth noting that the proportion of young adult high school graduates one to four years beyond high school who are enrolled full-time in college has increased considerably over the past 23 surveys. In 2002, about 59% of the weighted number of follow-up respondents one to four years past high school met our definition of college students, compared with only 38% in the 1980 survey. That represents a substantial increase over little more than two decades in the proportion of high school graduates attending college. The reader is reminded that the difference between the enrolled group and the other group estimates the degree to which college students are above or below average for other high school *graduates* in this age band. Were we able to include the high school dropout segment in the calculation for the noncollege group, many of the differences with the college-enrolled likely would be accentuated.

For each year given, there are approximately 1,100-1,500 weighted respondents constituting the college student sample (see Table 9-5 for Ns per year) and roughly 900-1,700 respondents constituting the "other" group one to four years past high school. Comparisons of the trends for these two groups are provided in this chapter. Because it was not until 1980 that enough follow-up years had accrued to characterize young people one to four years past high school, the comparisons begin with that year.

TRENDS IN PREVALENCE 1980-2002: COLLEGE STUDENTS VERSUS THOSE NOT IN COLLEGE

- The proportion of college students using ***any illicit drug*** in the 12 months prior to the survey (i.e., the annual prevalence rate) dropped fairly steadily between 1980 and 1991 (from 56% to 29%). (See Table 9-2.) In other words, illicit drug use fell by nearly half over the 11-year period 1980-1991. After 1991, annual (and also 30-day) prevalence held fairly steady for a couple of years before beginning to rise, reaching 38% in 1998—still well below the peak of

56% in 1980. There has been little change since (37% in 2002). The noncollege group moved similarly from 1980 to 1998. High school seniors also showed a similar trajectory in the decline phase through 1991, but their rise in use after 1992 was distinctly sharper, as Figure 9-1 illustrates. All three groups showed a leveling after 1998. However, in 2000, the noncollege group exhibited a four percentage point increase that was due largely to their sharper increase in ecstasy use in that year, and their level remains above the college student sector.

- Use of ***any illicit drugs other than marijuana*** declined fairly steadily among college students between 1980 and 1994, with annual prevalence dropping by nearly two thirds from 32% to 12% (Table 9-2). This generally paralleled the trend for the noncollege group as well as for high school seniors. All three groups showed some increase in use during the 1990s: the high school seniors after 1992, the noncollege group after 1993, and the college students after 1994. However, the rise in use of illicit drugs other than marijuana was not as sharp among college students as it was in either of the two other groups (Figure 9-2). Since 1999 the college students and noncollege segment have shown some further increase (particularly the noncollege group), whereas use among the high school seniors has held steady. This most likely reflects some cohort effects working their way up the age spectrum.

    In general, among those enrolled in college, the trends during the 1980s for most individual classes of illicit drugs tended to parallel those for the noncollege group and those observed among seniors. During the 1990s, however, there was more divergence in the trends, with the college students usually showing less increase than the high school seniors and, for some drugs, less increase than their age-mates not in college.

- The annual prevalence of ***marijuana*** use among college students decreased steadily from 1981 through 1991, dropping by nearly half from 51% to 27% (Figure 9-3a). Their noncollege peers showed a comparable decline over the same time interval (Figure 9-3a). Use among high school seniors rose sharply after 1992, while use among college students and their age peers rose more gradually. From 1991 through 1998, annual prevalence rose by nearly 10 percentage points among college students, by 7 percentage points among other young adults, and by 14 percentage points among twelfth graders. The twelfth graders were the first to show a leveling off in marijuana use (in 1998), followed by the college students in 1999, and the noncollege group in 2002. All three groups have very similar rates of use in 2002.

- ***Daily marijuana*** use among college students (Figure 9-3b) fell appreciably between 1980 and 1986, from 7.2% to 2.1%, as it did for those not in college and among high school seniors. (The latter two groups were able to show sharper declines because they started higher than the college students in 1980.) After 1986, the decline decelerated, and by 1991 the rate stood at 1.8%. In sum, the proportion of American college students who actively smoked marijuana on a daily basis dropped by about three fourths between 1980 and 1991. Daily use then leveled until 1994 and began increasing thereafter, reaching 4.6% in 2000. Since then, daily use has leveled or perhaps even begun to decline. The other two groups showed considerably larger increases after 1993 than did college students, with high school seniors' daily use rates leveling after 2000. The non-college segment showed further increase in 2001, before leveling at a rate above college students in 2002.

- An appreciable and ongoing decline occurred for ***amphetamine*** use between 1981 and 1991 (Figure 9-11). Annual prevalence among college students dropped by more than eight tenths, from 22% in 1981 to 4% in 1991. Proportionately, this was a larger drop than among high school seniors but fairly parallel to the overall change among age peers not in college. Amphetamine use among college students and their noncollege age peers leveled for a year before beginning to increase in both groups after 1992 and 1993, respectively, through 2001, with a leveling in 2002. Over the years, those not in college consistently have reported a higher rate of amphetamine use than the college students, and since the mid-1980s high school seniors have reported higher rates still.

- During the early 1980s, one of the largest proportional declines observed among college students was for ***LSD*** (see Figure 9-6). Annual prevalence fell from 6.3% in 1982 to 2.2% in 1985. After 1985, use began to increase, reaching 6.9% by 1995. Since then use has declined among college students, their age-mates, and high school seniors, with 2002 showing a significant decrease in all groups. College students have remained at lower levels of use than the other two groups since the mid-1990s.

- After 1997 there was a sharp increase in the use of ***ecstasy*** (***MDMA***) by American college students (Figure 9-8). Their annual prevalence rose three- to fourfold in just three years, from 2.4% in 1997 to 9.2% in 2001, before it began to decrease in 2002 to 6.8%. The trends among college students have run fairly parallel to those for the noncollege segment and high school seniors through 2002. The noncollege segment showed the highest rate of ecstasy use—reaching 14% in 2001—when use among the college students and twelfth graders was at 9%. All three groups declined in 2002.

- When the college data were first available in 1980, ***sedative*** (***barbiturate***) use already was quite low among college students (at 2.9% annual prevalence), but it fell by more than half to 1.3% by 1985. This proportional decline was, once again, sharper than among high school seniors and less sharp than among the young adults not in college, both of whom started at a higher level of use. Annual prevalence remained essentially unchanged between 1985 and 1993 among all three groups (see Figure 9-12). The groups then showed a gradual increase in use between 1993 (or 1994 in the case of the college students) and 2001, with seniors showing a significant increase in 2002 and use in the other two groups leveling off.

- Figure 9-13 shows that the annual prevalence of ***tranquilizer*** use among college students dropped by half in the period 1980-1984, from 6.9% to 3.5%, and again fell by half between 1984 and 1994, to 1.8%.[45] After this long period of gradual decline, tranquilizer use began to increase gradually, reaching 6.7% by 2002. Use in the noncollege segment dropped more sharply in the early 1980s, reducing the differences among the three groups. Tranquilizer use also dropped steadily among seniors, from 10.8% in 1977 to 2.8% in 1992, before rising to 7.7% by 2002. In fact, use rose in all three groups after 1994; in 2002 tranquilizer use is at or

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[45]The use of sedatives (barbiturates) and tranquilizers very likely dropped during the latter half of the 1970s, as well, judging by the trends among high school seniors.

near its recent high in all three groups. In the past two years the increase in use has been particularly sharp among the noncollege segment, making them the highest using group.

The overall trends in the use of ***narcotics other than heroin***[46] have been quite parallel to those for sedatives (barbiturates) and tranquilizers. By 1994 the use of narcotics other than heroin (Figure 9-10) by college students was about half what it was in 1980 (2.4% in 1994 versus 5.1% in 1980) as a result of a gradual decline over the interval. This trend closely parallels use among noncollege young adults and high school seniors. As with a number of other drugs, use among seniors began to rise after 1992, but use among college students did not begin to increase until after 1994, likely due to a cohort effect. In 2002, annual prevalence among college students reached an historic high point of 5.9%, but following several years of increase, there was a decline among their noncollege age peers, to 7.4% (still higher than the college group). Among seniors use has leveled since 2000 at 7.0%.

- While trend data are not yet available, it is clear from the 2002 results that ***OxyContin*** and ***Vicodin*** help to explain the difference between the college and noncollege segments in their use of narcotics other than heroin. The latter group has prevalence rates approximately twice that for the college students in the use of both drugs (Table 8-2).

- Like the high school seniors, college students showed a relatively stable pattern of ***cocaine*** use between 1980 and 1986, when their usage levels (and those of their age peers) were considerably higher than those observed among twelfth graders. (See Figure 9-9). This level period was followed by a dramatic drop of nearly nine tenths in annual prevalence among college students, from 17.1% in 1986 to 2.0% in 1994. Their noncollege counterparts also showed a large decline from 18.9% in 1986 to 5.1% in 1994. Use among college students dropped more sharply than among their age peers or among high school seniors, however, resulting in little or no difference between high school seniors and college students in annual prevalence rates for cocaine between 1990 and 1995. Since then, cocaine use rose least among the college students, creating a reversal of the previous gap. Between 1994 and 1998 annual cocaine prevalence for college students increased significantly, from a 14-year low of 2.0% in 1994 to 4.5% in 1998, roughly where it has stayed since. High school seniors and noncollege students also exhibited an increase in annual prevalence of cocaine use after 1992 and 1993, respectively. Use has been level among twelfth graders since 2000 but continued to increase among those not in college through 2001, considerably widening the gap between the noncollege segment and the other two groups.

- College students have shown some shifts in ***alcohol*** use that are different from those observed either among their age peers not in college or among high school seniors. As can be seen in Figure 9-14d, both the noncollege segment and the high school seniors showed fairly substantial declines from 1981 through 1990 in the prevalence of having ***five or more drinks in a row*** during the prior two weeks. (The high school seniors then showed further decline for three more years.) In contrast, the college students showed no decline in binge drinking from 1981 to 1986, and then only a modest decline of 5 percentage points from 1986 through 1993.

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[46]As discussed in the text in chapters 4 and 5, because the questions about narcotics other than heroin were changed in 2002, the prevalence figures are adjusted estimates. See the earlier discussion for details.

In the 11-year period between 1981 (when all three populations were very close in use) and 1992, this measure of heavy drinking dropped by 14 percentage points among high school seniors, by 11 percentage points among the noncollege 19- to 22-year-olds, but by only 2 percentage points among college students. After 1992, binge drinking began to rise among twelfth graders while it still was declining some among college students, narrowing the gap somewhat. Binge drinking also then began to increase among the noncollege segment after 1995 and by less among college students after 1996—increases that continued into 2001 before both groups showed some decline in 2002 (not significant). Meanwhile, among twelfth graders, binge drinking started a gradual decline after 1998, enlarging the difference between them and the other two groups in which this behavior was still rising. Once again there is evidence of cohort effects at work here since the beginning of the 1990s, with the inflection points being later for the older strata.

It is interesting to conjecture why college students did not show much decline in heavy drinking for a decade (1981-1991) while their noncollege peers and high school seniors did. One possibility is that campuses provided some insulation to the effects of changes in the drinking age laws. Also, individuals who are under the legal drinking age in college are mixed in with peers who are of legal age to purchase alcohol in a way that is no longer true in high schools and less true, perhaps, for those 19 to 22 who are not in college. Finally, much alcohol advertising was directed specifically at the college student population.

On the other hand, college students generally have had slightly lower rates of ***daily drinking*** than their age group taken as a whole, though by the early 1990s such differences nearly disappeared (Figure 9-14c) and in 2002 had actually reversed. Daily drinking among the young adults (1-4 years past high school) not enrolled in college declined from 8.7% in 1981 to 6.5% in 1984, remained essentially unchanged through 1988, declined further (to 3.2%) by 1994, then increased to 5.8% by 2000, with some decline since. College students' daily drinking estimates—which appear a little less stable, perhaps due to smaller sample sizes in the 1980s—showed little or no decline between 1980 (6.5%) and 1984 (6.6%) but a considerable decline through 1995 (to 3.0%), followed by some increase to 5.0% in 2002. High school seniors also showed a similar pattern of daily drinking with a long period of decline, followed by a somewhat earlier reversal, beginning in 1994. After 1998 their daily drinking rate actually declined a little.

- ***Cigarette smoking*** among American college students (Figure 9-15a) declined modestly in the first half of the 1980s. Thirty-day prevalence fell from 26% to 22% between 1980 and 1985, remained fairly stable through 1990 (22%), then increased gradually but substantially, reaching 31% in 1999. It was not until 2000 that the first evidence of a decline in smoking among college students began to appear, two years after smoking had begun to decline among high school seniors. This lag no doubt reflects a cohort effect operating through generational replacement. (The decline in smoking among college students did not appear to continue in 2002, however.) The noncollege group showed the first evidence of a decline in their smoking rate in 2002—considerably later than the college students.

  The ***daily smoking*** rate for college students (Figure 9-15b) fell from 18% in 1980 to 13% in 1986, as the cohorts who had lower initiation rates by senior year replaced the earlier, heavier smoking cohorts. It remained fairly level through 1990 (12%) but by 1999 rose to 19%, the

highest level of daily smoking we have recorded among American college students since we began tracking them in 1980. (The 1999 30-day prevalence rate is also the highest we have recorded.) After 1999, both statistics began to decline among college students.

While smoking rates have consistently been lower among college students than among those who were of the same age and were not in college, the trends for these two groups diverged some after 1984, as smoking rates more or less stabilized among college students but continued to decline among young adults not in college (see Figure 9-15a). In fact, between 1989 and 1991 use began to rise among college students while continuing to decline among their peers. Both groups showed fairly parallel increases in smoking between about 1991 and 1999, after which use continued to increase among the noncollege segment but began to decline among college students. (High school seniors exhibited an increase from 1992 to 1997, and their use has declined significantly since.) The popularity of Camel cigarettes among the college-bound, which we have reported elsewhere, may help to explain some of the narrowing of the gap between college students and their age peers.[47] The Joe Camel advertising and promotion campaign, commenced in the late 1980s and ended in the late 1990s, may have succeeded in initiating more college students (particularly male students) to smoking than had been the case previously or since.

- For many drugs—***amphetamines***, ***sedatives*** (***barbiturates***), and ***tranquilizers***—differences between college students and their noncollege age peers narrowed over the years. Much of this is due to general overall declines in usage rates during the 1980s, but some may also reflect the increasing proportion of the age group going to college.

The overall drug use trends among college students also are parallel, for the most part, to the trends among high school seniors, although declines in many drugs over the decade of 1980 to 1990 were proportionately larger among college students, and for that matter among all young adults of college age, than among high school seniors. Despite parallel trends to the early 1990s, the high school seniors have shown a larger, and often earlier, increase in the use of a number of drugs in the years since; and as indicated in Volume I, the eighth and tenth graders in secondary school showed increases a year earlier than the seniors. It is clear that this most recent upsurge, or what we have called a "relapse phase" in the illicit drug epidemic, did not originate on the nation's campuses, as did the original epidemic. It originated among secondary school children—and the younger ones at that—and has been carried up the age spectrum through generational replacement, at least in part. Put another way, there is evidence of some important cohort effects at work here.

GENDER DIFFERENCES IN TRENDS AMONG COLLEGE STUDENTS

One trend that is not obvious from the figures included here is the slow rise in the proportion of college students who are female. Females constituted 50% of our 1980 sample of college students compared to 61% of our 2002 sample. Given that substantial gender differences exist in the use of some drugs, we have been concerned all along that apparent long-term trends in the levels of drug use

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[47]Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (1999). *Cigarette brand preferences among adolescents.* (Monitoring the Future Occasional Paper No. 45.) Ann Arbor, MI: Institute for Social Research.

among college students might actually be attributable to changes in the gender composition of that population. For that reason, in particular, we have consistently presented separate trend lines for the male and female segments of the college student population. Differences in the trends observed for the two genders are illustrated in the lower panels of Figures 9-1 through 9-15 and are discussed next.

In general, trends in the use of the various drugs and in the overall drug use indexes have been highly parallel for male and female college students, as an examination of the relevant figures will show. The most noteworthy exceptions are mentioned below.

- Certain drug use measures showed a convergence of usage levels between the genders, mainly because they were converging toward zero. *Daily marijuana* use is one such example, with the decline among males between 1980 and 1986 narrowing the gap between the genders. Between 1986 and 1993 there was no further narrowing; but as use began to rise in the mid-1990s, a greater increase among males widened the gap. Use among males held fairly steady in the late 1990s while use among females rose, once again narrowing the gender gap somewhat. In 2002 the rates were 5.7% versus 3.0% for male and female college students, respectively. (See Figure 9-3b.)

- *LSD* use dropped steeply among males over the past three years and less steeply among females, bringing the genders closer together at quite low prevalence rates (Figure 9-6).

- After 1986, *cocaine* use dropped more steeply for males than for females in general and among male college students in particular, considerably narrowing the sizable gap between the genders (see Figure 9-9). Since 1991 both genders moved closely parallel, with males reporting somewhat higher usage rates (5.7% versus 4.2% for females in 2002).

- Like a number of other drugs, *methaqualone* also showed a convergence in use through 1989, with use among males declining more than among females (no figure given).

- *Amphetamine* use (Figure 9-11) also showed some convergence in the early 1980s due to a greater decline among males. In fact, male and female college student use has been essentially equal since 1989.

- The annual prevalence of *alcohol* use has been virtually identical for the two genders throughout the duration of the study (Figure 9-14a), but college males have consistently had higher rates of *daily drinking* and *binge drinking* (Figures 9-14c and 9-14d). From 1988 through 1994, binge drinking among college females decreased some (from 37% to 31%); but heavy drinking among college males declined more, from a high point in 1986 of 58% to a low of 47% in 1995 (see Figure 9-14d). There has been rather little systematic change in binge drinking for either gender since the mid-1990s.

- Between 1980 and 1992, the 30-day prevalence of *cigarette smoking* was consistently higher among college females than males, despite decreases for both genders during the first half of the decade and increases for both genders from 1989 to 1993 (Figures 9-15a, 9-15b, and 9-15c). However, the gap in 30-day prevalence narrowed because use by female college

students declined some between 1980 and 1989, while use by male college students did not. After 1989, the gap remained quite small and the genders reversed position, with males catching up to, and passing, females in their rate of smoking by 1994. (A similar reversal had occurred among seniors a few years earlier.) Both genders have exhibited some decrease in smoking since 1999, though not yet as sharp a decrease as has occurred among high school seniors.

While the rise in smoking among college students was longer-term and more gradual than in the other two groups, it nevertheless was substantial, rising by nearly half between 1989 (21%) and 1999 (31%). Note also that the increase in smoking after 1988 was sharper among college males than among college females, consistent with the notion that Camel cigarettes—considerably more popular among males—may have played a role in the overall increase.

TABLE 9-1
Trends in Lifetime Prevalence of Various Types of Drugs
Among College Students 1-4 Years Beyond High School

Percentage who used in lifetime

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Approx. Wtd. N =	*1040*	*1130*	*1150*	*1170*	*1110*	*1080*	*1190*	*1220*	*1310*	*1300*	*1400*	*1410*	*1490*	*1490*	*1410*	*1450*	*1450*	*1480*	*1440*	*1440*	*1350*	*1340*	*1260*	
Any Illicit Drug[a]	69.4	66.8	64.6	66.9	62.7	65.2	61.8	60.0	58.4	55.6	54.0	50.4	48.8	45.9	45.5	45.5	47.4	49.0	52.9	53.2	53.7	53.6	51.8	-1.8
Any Illicit Drug[a] Other Than Marijuana	42.2	41.3	39.6	41.7	38.6	40.0	37.5	35.7	33.4	30.5	28.4	25.8	26.1	24.3	22.0	24.5	22.7	24.4	24.8	25.5	25.8	26.3	26.9	+0.6
Marijuana	65.0	63.3	60.5	63.1	59.0	60.6	57.9	55.8	54.3	51.3	49.1	46.3	44.1	42.0	42.2	41.7	45.1	46.1	49.9	50.8	51.2	51.0	49.5	-1.5
Inhalants[b,c]	10.2	8.8	10.6	11.0	10.4	10.6	11.0	13.2	12.6	15.0	13.9	14.4	14.2	14.8	12.0	13.8	11.4	12.4	12.8	12.4	12.9	9.6	7.7	-1.9
Hallucinogens[c,d]	15.0	12.0	15.0	12.2	12.9	11.4	11.2	10.9	10.2	10.7	11.2	11.3	12.0	11.8	10.0	13.0	12.6	13.8	15.2	14.8	14.4	14.8	13.6	-1.2
LSD	10.3	8.5	11.5	8.8	9.4	7.4	7.7	8.0	7.5	7.8	9.1	9.6	10.6	10.6	9.2	11.5	10.8	11.7	13.1	12.7	11.8	12.2	8.6	-3.5 ss
MDMA (Ecstasy)[e]	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.8	3.9	2.0	2.9	2.3	2.1	3.1	4.3	4.6	6.8	8.4	13.1	14.7	12.7	-1.9
Cocaine	22.0	21.5	22.4	23.1	21.7	22.9	23.3	20.6	15.8	14.6	11.4	9.4	7.9	6.3	5.0	5.5	5.0	5.6	8.1	8.4	9.1	8.6	8.2	-0.4
Crack[f]	NA	NA	NA	NA	NA	NA	NA	3.3	3.4	2.4	1.4	1.5	1.7	1.3	1.0	1.8	1.2	1.4	2.2	2.4	2.5	2.0	1.9	-0.2
Heroin	0.9	0.6	0.5	0.3	0.5	0.4	0.4	0.6	0.3	0.7	0.3	0.5	0.5	0.6	0.1	0.6	0.7	0.9	1.7	0.9	1.7	1.2	1.0	-0.3
Other Narcotics[g,h]	8.9	8.3	8.1	8.4	8.9	6.3	8.8	7.6	6.3	7.6	6.8	7.3	7.3	6.2	5.1	7.2	5.7	8.2	8.7	8.7	8.9	11.0	10.6	-0.4
Amphetamines[g]	29.5	29.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
Amphetamines, Adj.[e,i]	NA	NA	30.1	27.8	27.8	25.4	22.3	19.8	17.7	14.6	13.2	13.0	10.5	10.1	9.2	10.7	9.5	10.6	10.6	11.9	12.3	12.4	11.9	-0.5
Crystal Meth. (Ice)[j]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0	1.3	0.6	1.6	1.3	1.0	0.8	1.6	2.2	2.8	1.3	2.3	2.0	-0.2
Sedatives[g]	13.7	14.2	14.1	12.2	10.8	9.3	8.0	6.1	4.7	4.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
Barbiturates[g]	8.1	7.8	8.2	6.6	6.4	4.9	5.4	3.5	3.6	3.2	3.8	3.5	3.8	3.5	3.2	4.0	4.6	5.2	5.7	6.7	6.9	6.0	5.9	-0.1
Methaqualone[g]	10.3	10.4	11.1	9.2	9.0	7.2	5.8	4.1	2.2	2.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
Tranquilizers[d,g]	15.2	11.4	11.7	10.8	10.8	9.8	10.7	8.7	8.0	8.0	7.1	6.8	6.9	6.3	4.4	5.4	5.4	6.9	7.7	8.2	8.8	9.7	10.7	+1.0
Alcohol[k]	94.3	95.2	95.2	95.0	94.2	95.3	94.9	94.1	94.9	93.7	93.1	93.6	91.8	89.3	88.2	88.5	88.4	87.3	88.5	88.0	86.6	86.1	86.0	-0.1
Cigarettes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. 'NA' indicates data not available.

See footnotes on next page.

FOOTNOTES FOR TABLES 9-1 THROUGH 9-3

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

[b] This drug was asked about in four of the five questionnaire forms in 1980-1989, in five of the six forms in 1990-1998, and in three of the six forms in 2000-2001. Total N in 2002 (for college students) is 630.

[c] Unadjusted for known underreporting of certain drugs. See text for details.

[d] In 2001, the question text was changed on half the questionnaire forms, and in 2002 it was changed on the remainder of the forms. For hallucinogens, "psychedelics" was changed to 'hallucinogens," and "shrooms" was added to the list of examples. For tranquilizers, "Miltown" was replaced with "Xanax" in the list of examples. These changes are partially responsible for any discontinuity in the 2001 data.

[e] This drug was asked about in two of the five questionnaire forms in 1989, in two of the six questionnaire forms in 1990-2001, and in three of the six questionnaire forms in 2002. Total N in 2002 (for college students) is 630.

[f] This drug was asked about in two of the five questionnaire forms in 1987-1989, in all six questionnaire forms in 1990-2001, and in five of the six questionnaire forms in 2002. Total N in 2002 (for college students) is 1050.

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

[h] In 2002, the question text was changed on half of the questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric--all of which had negligible rates of use by 2001--were replaced by Vicodin, OxyContin, and Percocet. The 2001 data presented here are based on all forms. The 2002 estimates are based on the 2001 prevalence of use rate plus the observed difference between the data from 2001 to 2002 in the half-sample in which the question did not change. Thus, the change score given in the right-hand column is the difference between the data from the unchanged forms only in both 2001 and 2002.

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

[j] This drug was asked about in two of the six questionnaire forms. Total N in 2002 (for college students) is 420.

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

TABLE 9-2
Trends in Annual Prevalence of Various Types of Drugs
Among College Students 1-4 Years Beyond High School

Percentage who used in past year

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Approx. Wtd. N =	*1040*	*1130*	*1150*	*1170*	*1110*	*1080*	*1190*	*1220*	*1310*	*1300*	*1400*	*1410*	*1490*	*1490*	*1410*	*1450*	*1450*	*1480*	*1440*	*1440*	*1350*	*1340*	*1260*	
Any Illicit Drug[a]	56.2	55.0	49.5	49.8	45.1	46.3	45.0	40.1	37.4	36.7	33.3	29.2	30.6	30.6	31.4	33.5	34.2	34.1	37.8	36.9	36.1	37.9	37.0	-0.9
Any Illicit Drug[a]																								
Other Than Marijuana	32.3	31.7	29.9	29.9	27.2	26.7	25.0	21.3	19.2	16.4	15.2	13.2	13.1	12.5	12.2	15.9	12.8	15.8	14.0	15.4	15.6	16.4	16.6	+0.3
Marijuana	51.2	51.3	44.7	45.2	40.7	41.7	40.9	37.0	34.6	33.6	29.4	26.5	27.7	27.9	29.3	31.2	33.1	31.6	35.9	35.2	34.0	35.6	34.7	-0.9
Inhalants[b,c]	3.0	2.5	2.5	2.8	2.4	3.1	3.9	3.7	4.1	3.7	3.9	3.5	3.1	3.8	3.0	3.9	3.6	4.1	3.0	3.2	2.9	2.8	2.0	-0.7
Hallucinogens[c,d]	8.5	7.0	8.7	6.5	6.2	5.0	6.0	5.9	5.3	5.1	5.4	6.3	6.8	6.0	6.2	8.2	6.9	7.7	7.2	7.8	6.7	7.5	6.3	-1.2
LSD	6.0	4.6	6.3	4.3	3.7	2.2	3.9	4.0	3.6	3.4	4.3	5.1	5.7	5.1	5.2	6.9	5.2	5.0	4.4	5.4	4.3	4.0	2.1	-2.0 ss
MDMA (Ecstasy)[e]	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.3	2.3	0.9	2.0	0.8	0.5	2.4	2.8	2.4	3.9	5.5	9.1	9.2	6.8	-2.4
Cocaine	16.8	16.0	17.2	17.3	16.3	17.3	17.1	13.7	10.0	8.2	5.6	3.6	3.0	2.7	2.0	3.6	2.9	3.4	4.6	4.6	4.8	4.7	4.8	+0.1
Crack[f]	NA	NA	NA	NA	NA	NA	1.3	2.0	1.4	1.5	0.6	0.5	0.4	0.6	0.5	1.1	0.6	0.4	1.0	0.9	0.9	0.9	0.4	-0.4
Heroin	0.4	0.2	0.1	*	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.6	0.2	0.5	0.4	0.1	-0.2
Other Narcotics[g,h]	5.1	4.3	3.8	3.8	3.8	2.4	4.0	3.1	3.1	3.2	2.9	2.7	2.7	2.5	2.4	3.8	3.1	4.2	4.2	4.3	4.5	5.7	5.9	+0.2
OxyContin[j]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.5	—
Vicodin[j]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.9	—
Amphetamines[g]	22.4	22.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
Amphetamines, Adj.[g,i]	NA	NA	21.1	17.3	15.7	11.9	10.3	7.2	6.2	4.6	4.5	3.9	3.6	4.2	4.2	5.4	4.2	5.7	5.1	5.8	6.6	7.2	7.0	-0.2
Ritalin[j]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.7	—
Methamphetamine[j]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.3	1.6	2.4	1.2	-1.2
Crystal Meth. (Ice)[j]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1	0.1	0.2	0.7	0.8	1.1	0.4	0.8	1.0	0.5	0.5	0.6	0.8	+0.2
Sedatives[g]	8.3	8.0	8.0	4.5	3.5	2.5	2.6	1.7	1.5	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
Barbiturates[g]	2.9	2.8	3.2	2.2	1.9	1.3	2.0	1.2	1.1	1.0	1.4	1.2	1.4	1.5	1.2	2.0	2.3	3.0	2.5	3.2	3.7	3.8	3.7	-0.2
Methaqualone[g]	7.2	6.5	6.6	3.1	2.5	1.4	1.2	0.8	0.5	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
Tranquilizers[d,g]	6.9	4.8	4.7	4.6	3.5	3.6	4.4	3.8	3.1	2.6	3.0	2.4	2.9	2.4	1.8	2.9	2.8	3.8	3.9	3.8	4.2	5.1	6.7	+1.5
Rohypnol[j]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.7	—
GHB[j]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.6	—
Ketamine[j]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.3	—
Alcohol[k]	90.5	92.5	92.2	91.6	90.0	92.0	91.5	90.9	89.6	89.6	89.0	88.3	86.9	85.1	82.7	83.2	83.0	82.4	84.6	83.6	83.2	83.0	82.9	-0.1
Cigarettes	36.2	37.6	34.3	36.1	33.2	35.0	35.3	38.0	36.6	34.2	35.5	35.6	37.3	38.8	37.6	39.3	41.4	43.6	44.3	44.5	41.3	39.0	38.3	-0.7

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. 'NA' indicates data not available.

See footnotes at end of Table 9-1.

TABLE 9-3
Trends in 30-Day Prevalence of Various Types of Drugs
Among College Students 1-4 Years Beyond High School
Percentage who used in last 30 days

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Approx. Wtd. N =	*1040*	*1130*	*1150*	*1170*	*1110*	*1080*	*1190*	*1220*	*1310*	*1300*	*1400*	*1410*	*1490*	*1490*	*1410*	*1450*	*1450*	*1480*	*1440*	*1440*	*1350*	*1340*	*1260*	
Any Illicit Drug[a]	38.4	37.6	31.3	29.3	27.0	26.1	25.9	22.4	18.5	18.2	15.2	15.2	16.1	15.1	16.0	19.1	17.6	19.2	19.7	21.6	21.5	21.9	21.5	-0.4
Any Illicit Drug[a] Other Than Marijuana	20.7	18.6	17.1	13.9	13.8	11.8	11.6	8.8	8.5	6.9	4.4	4.3	4.6	5.4	4.6	6.3	4.5	6.8	6.1	6.4	6.9	7.5	7.8	+0.3
Marijuana	34.0	33.2	26.8	26.2	23.0	23.6	22.3	20.3	16.8	16.3	14.0	14.1	14.6	14.2	15.1	18.6	17.5	17.7	18.6	20.7	20.0	20.2	19.7	-0.5
Inhalants[b,c]	1.5	0.9	0.8	0.7	0.7	1.0	1.1	0.9	1.3	0.8	1.0	0.9	1.1	1.3	0.6	1.6	0.8	0.7	0.6	1.5	0.9	0.4	0.7	+0.3
Hallucinogens[c,d]	2.7	2.3	2.6	1.8	1.8	1.3	2.2	2.0	1.7	2.3	1.4	1.2	2.3	2.5	2.1	3.3	1.9	2.1	2.1	2.0	1.4	1.8	1.2	-0.6
LSD	1.4	1.4	1.7	0.9	0.8	0.7	1.4	1.4	1.1	1.4	1.1	0.8	1.8	1.6	1.8	2.5	0.9	1.1	1.5	1.2	0.9	1.0	0.2	-0.8 ss
MDMA (Ecstasy)[e]	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.3	0.6	0.2	0.4	0.3	0.2	0.7	0.7	0.8	0.8	2.1	2.5	1.5	0.7	-0.8
Cocaine	6.9	7.3	7.9	6.5	7.6	6.9	7.0	4.6	4.2	2.8	1.2	1.0	1.0	0.7	0.6	0.7	0.8	1.6	1.6	1.2	1.4	1.9	1.6	-0.3
Crack[f]	NA	NA	NA	NA	NA	NA	NA	0.4	0.5	0.2	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.1	0.3	+0.2
Heroin	0.3	0.0	0.0	0.0	*	*	0.0	0.1	0.1	0.1	0.0	0.1	0.0	*	0.0	0.1	*	0.2	0.1	0.1	0.2	0.1	0.0	-0.1
Other Narcotics[g,h]	1.8	1.1	0.9	1.1	1.4	0.7	0.6	0.8	0.8	0.7	0.5	0.6	1.0	0.7	0.4	1.2	0.7	1.3	1.1	1.0	1.7	1.7	1.6	-0.1
Amphetamines[g]	13.4	12.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
Amphetamines, Adj.[g,i]	NA	NA	9.9	7.0	5.5	4.2	3.7	2.3	1.8	1.3	1.4	1.0	1.1	1.5	1.5	2.2	0.9	2.1	1.7	2.3	2.9	3.3	3.0	-0.4
Crystal Meth. (Ice)[j]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	0.3	0.5	0.3	0.1	0.2	0.3	0.0	0.0	0.1	0.0	-0.1
Sedatives[g]	3.8	3.4	2.5	1.1	1.0	0.7	0.6	0.6	0.6	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
Barbiturates[g]	0.9	0.8	1.0	0.5	0.7	0.4	0.6	0.5	0.5	0.2	0.2	0.3	0.7	0.4	0.4	0.5	0.8	1.2	1.1	1.1	1.1	1.5	1.7	+0.2
Methaqualone[g]	3.1	3.0	1.9	0.7	0.5	0.3	0.1	0.2	0.1	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
Tranquilizers[d,g]	2.0	1.4	1.4	1.2	1.1	1.4	1.9	1.0	1.1	0.8	0.5	0.6	0.6	0.4	0.4	0.5	0.7	1.2	1.3	1.1	2.0	1.5	3.0	+1.5 ss
Alcohol[k]	81.8	81.9	82.8	80.3	79.1	80.3	79.7	78.4	77.0	76.2	74.5	74.7	71.4	70.1	67.8	67.5	67.0	65.8	68.1	69.6	67.4	67.0	68.9	+1.9
Cigarettes	25.8	25.9	24.4	24.7	21.5	22.4	22.4	24.0	22.6	21.1	21.5	23.2	23.5	24.5	23.5	26.8	27.9	28.3	30.0	30.6	28.2	25.7	26.7	+0.9

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. 'NA' indicates data not available.

See footnotes at end of Table 9-1.

TABLE 9-4
Trends in 30-Day Prevalence of <u>Daily</u> Use of Various Types of Drugs
Among College Students 1-4 Years Beyond High School

Percentage who used daily in last 30 days

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
Approx. Wtd. N =	*1040*	*1130*	*1150*	*1170*	*1110*	*1080*	*1190*	*1220*	*1310*	*1300*	*1400*	*1410*	*1490*	*1490*	*1410*	*1450*	*1450*	*1480*	*1440*	*1440*	*1350*	*1340*	*1260*	
Marijuana	7.2	5.6	4.2	3.8	3.6	3.1	2.1	2.3	1.8	2.6	1.7	1.8	1.6	1.9	1.8	3.7	2.8	3.7	4.0	4.0	4.6	4.5	4.1	-0.4
Cocaine	0.2	0.0	0.3	0.1	0.4	0.1	0.1	0.1	0.1	*	0.0	*	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amphetamines[a]	0.5	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
Amphetamines, Adj.[a,b]	NA	NA	0.3	0.2	0.2	*	0.1	0.1	*	*	0.0	0.1	0.0	0.1	0.1	0.1	*	0.2	0.1	0.1	0.1	0.2	0.1	-0.1
Alcohol[c]																								
Daily	6.5	5.5	6.1	6.1	6.6	5.0	4.6	6.0	4.9	4.0	3.8	4.1	3.7	3.9	3.7	3.0	3.2	4.5	3.9	4.5	3.6	4.7	5.0	+0.3
5+ Drinks in a Row in Last 2 Weeks	43.9	43.6	44.0	43.1	45.4	44.6	45.0	42.8	43.2	41.7	41.0	42.8	41.4	40.2	40.2	38.6	38.3	40.7	38.9	40.0	39.3	40.9	40.1	-0.8
Cigarettes																								
Daily	18.3	17.1	16.2	15.3	14.7	14.2	12.7	13.9	12.4	12.2	12.1	13.8	14.1	15.2	13.2	15.8	15.9	15.2	18.0	19.3	17.8	15.0	15.9	+0.8
Half-Pack or More per Day	12.7	11.9	10.5	9.6	10.2	9.4	8.3	8.2	7.3	6.7	8.2	8.0	8.9	8.9	8.0	10.2	8.5	9.1	11.3	11.0	10.1	7.8	7.9	+0.1

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. '*' indicates a percentage of less than 0.05% but greater than true zero. 'NA' indicates data not available.

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

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

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

TABLE 9-5

Trends in Lifetime, Annual, and 30-Day Prevalence of an Illicit Drug Use Index[a] Among College Students 1-4 Years Beyond High School, by Gender

	1980[b]	1981[b]	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	'01-'02 change
										Percentage reporting use in lifetime														
Any Illicit Drug	69.4	66.8	64.6	66.9	62.7	65.2	61.8	60.0	58.4	55.6	54.0	50.4	48.8	45.9	45.5	45.5	47.4	49.0	52.9	53.2	53.7	53.6	51.8	-1.8
Males	71.0	67.5	68.1	71.3	66.4	69.8	64.7	63.5	56.0	56.5	52.5	51.3	50.8	45.7	49.5	47.3	50.3	52.1	54.4	58.4	54.4	53.9	54.3	+0.4
Females	67.5	66.3	61.5	63.0	59.2	61.6	59.4	57.4	60.2	54.9	55.1	49.7	47.1	46.0	42.6	44.3	45.6	46.7	52.0	49.6	53.2	53.5	50.2	-3.2
Any Illicit Drug Other Than Marijuana	42.2	41.3	39.6	41.7	38.6	40.0	37.5	35.7	33.4	30.5	28.4	25.8	26.1	24.3	22.0	24.5	22.7	24.4	24.8	25.5	25.8	26.3	26.9	+0.6
Males	42.8	39.8	45.1	44.6	40.9	42.1	38.2	37.2	31.8	30.6	26.2	27.6	26.3	24.3	24.6	26.6	25.0	27.3	27.3	29.4	28.9	27.0	30.4	+3.4
Females	41.6	42.6	34.7	39.2	36.4	38.3	37.0	34.6	34.6	30.4	30.1	24.3	26.1	24.3	20.1	22.9	21.2	22.2	23.3	22.8	23.5	25.9	24.6	-1.3
										Percentage reporting use in last 12 months														
Any Illicit Drug	56.2	55.0	49.5	49.8	45.1	46.3	45.0	40.1	37.4	36.7	33.3	29.2	30.6	30.6	31.4	33.5	34.2	34.1	37.8	36.9	36.1	37.9	37.0	-0.9
Males	58.9	56.2	54.6	53.4	48.4	50.9	49.8	43.3	37.0	38.2	34.2	30.2	32.8	32.6	33.9	36.1	36.6	38.3	40.1	42.5	38.0	38.8	39.5	+0.7
Females	53.3	54.0	44.9	46.7	41.9	42.7	41.1	37.7	37.6	35.4	32.5	28.4	28.7	29.1	29.5	31.7	32.7	31.1	36.4	33.2	34.7	37.3	35.4	-1.9
Any Illicit Drug Other Than Marijuana	32.3	31.7	29.9	29.9	27.2	26.7	25.0	21.3	19.2	16.4	15.2	13.2	13.1	12.5	12.2	15.9	12.8	15.8	14.0	15.4	15.6	16.4	16.6	+0.3
Males	33.7	32.8	33.4	33.5	29.2	29.7	28.6	23.5	19.4	18.7	15.7	14.4	13.8	15.0	14.9	19.5	15.1	18.1	17.0	19.0	18.6	17.2	19.2	+2.0
Females	31.1	30.8	26.9	26.8	25.2	24.4	22.1	19.6	19.0	14.6	14.8	12.1	12.6	10.5	10.2	13.3	11.3	14.1	12.1	12.8	13.5	15.8	15.0	-0.9
										Percentage reporting use in last 30 days														
Any Illicit Drug	38.4	37.6	31.3	29.3	27.0	26.1	25.9	22.4	18.5	18.2	15.2	15.2	16.1	15.1	16.0	19.1	17.6	19.2	19.7	21.6	21.5	21.9	21.5	-0.4
Males	42.9	40.6	37.7	33.8	30.4	29.9	31.0	24.0	18.8	20.0	18.2	16.0	18.0	16.0	20.5	23.7	20.6	23.4	23.1	26.7	24.0	25.0	25.1	+0.1
Females	34.0	34.8	25.6	25.5	23.7	23.2	21.7	21.1	18.3	16.7	12.7	14.6	14.5	14.5	12.7	15.7	15.8	16.2	17.6	18.1	19.6	19.8	19.3	-0.5
Any Illicit Drug Other Than Marijuana	20.7	18.6	17.1	13.9	13.8	11.8	11.6	8.8	8.5	6.9	4.4	4.3	4.6	5.4	4.6	6.3	4.5	6.8	6.1	6.4	6.9	7.5	7.8	+0.3
Males	22.8	18.6	20.2	16.0	16.1	12.6	14.4	9.0	8.2	8.0	4.9	4.8	5.1	7.3	6.2	8.8	6.1	7.8	8.6	7.5	8.2	9.0	8.4	-0.6
Females	18.7	18.5	14.2	12.1	11.5	11.2	9.3	8.5	8.8	6.0	4.0	3.9	4.2	3.8	3.4	4.5	3.4	6.1	4.6	5.6	6.0	6.4	7.4	+1.0
										Approximate Weighted N														
All Respondents	1040	1130	1150	1170	1110	1080	1190	1220	1310	1300	1400	1410	1490	1490	1410	1450	1450	1480	1440	1440	1350	1340	1260	
Males	520	530	550	550	540	490	540	520	560	580	620	640	680	660	590	610	560	630	570	590	560	540	490	
Females	520	600	610	620	570	600	650	700	750	720	780	770	810	830	820	840	890	860	880	850	790	800	770	

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

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change and prevalence estimates for the two most recent years is due to rounding.

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

[b] Revised questions about amphetamine use were introduced in 1982 to exclude more completely inappropriate reporting of nonprescription amphetamines. The data in italics are therefore not strictly comparable to the other data.

FIGURE 9-1

**Any Illicit Drug: Trends in Annual Prevalence
Among College Students vs. Others**
1-4 Years Beyond High School
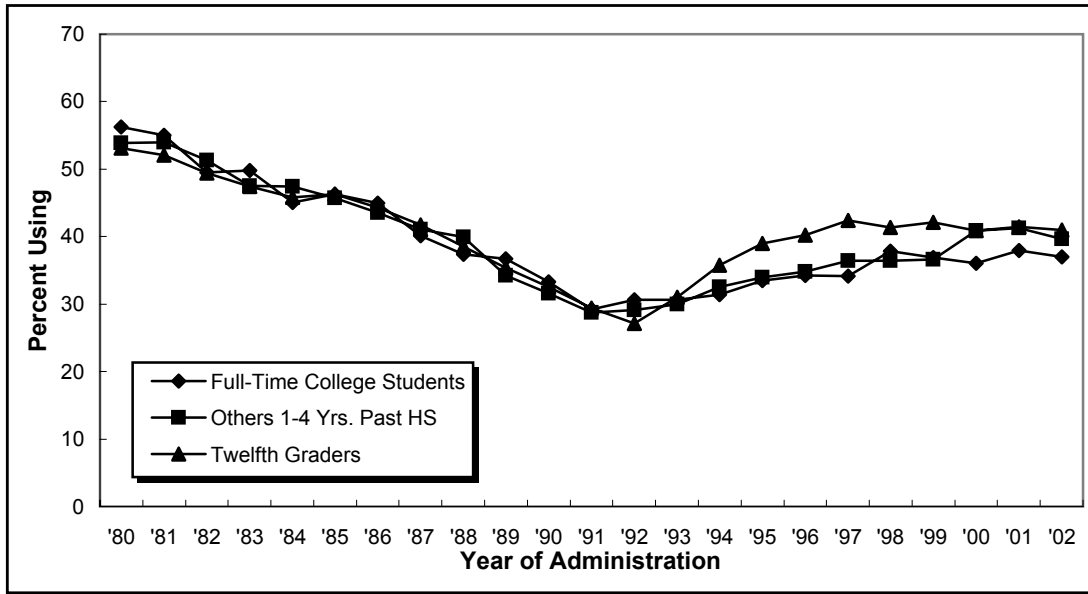
**Any Illicit Drug: Trends in Annual Prevalence
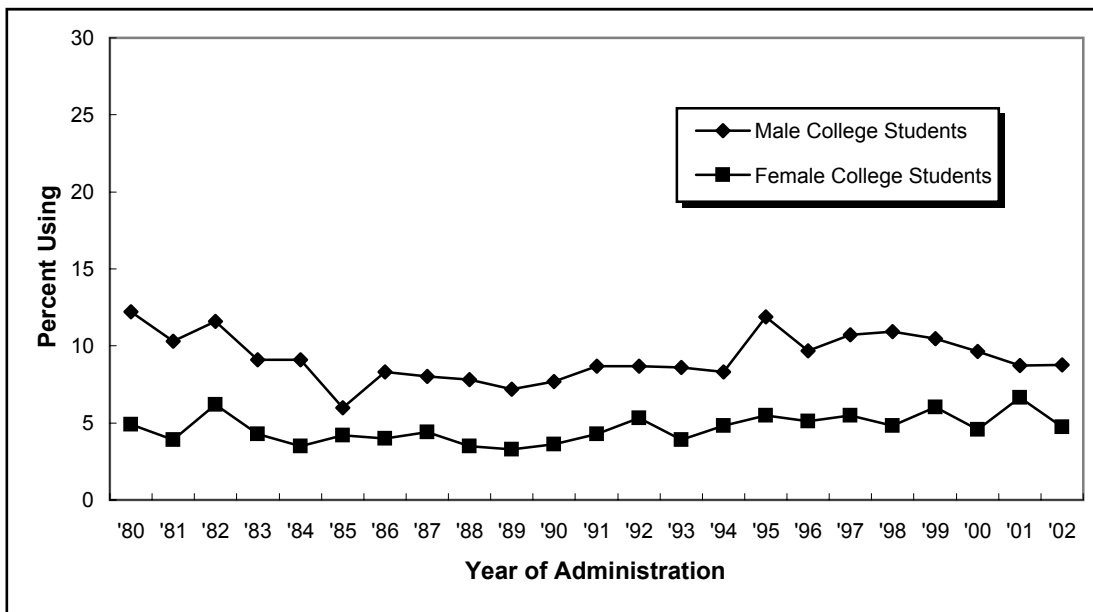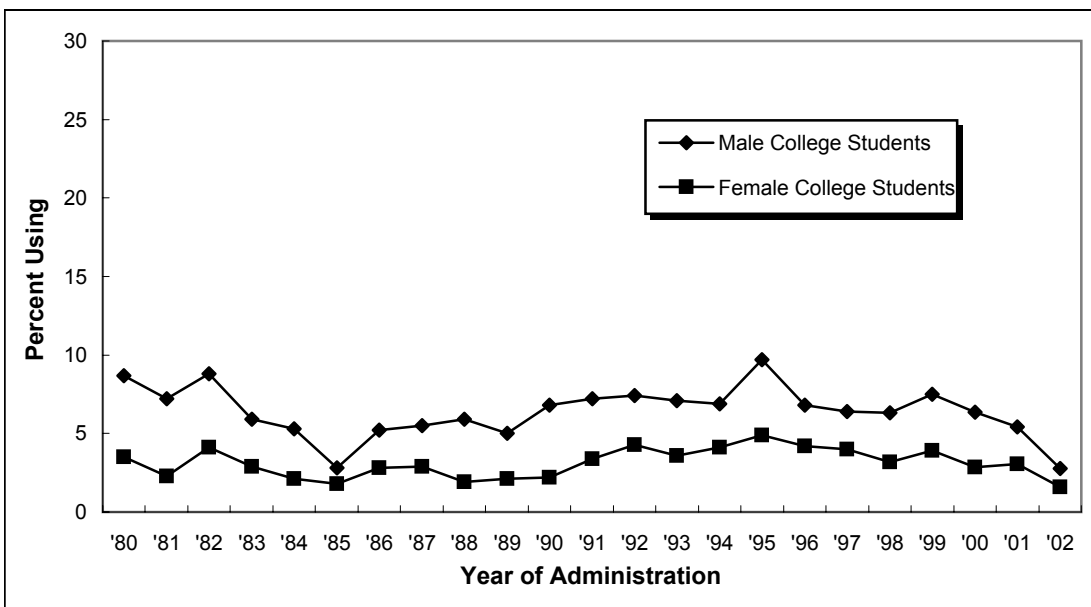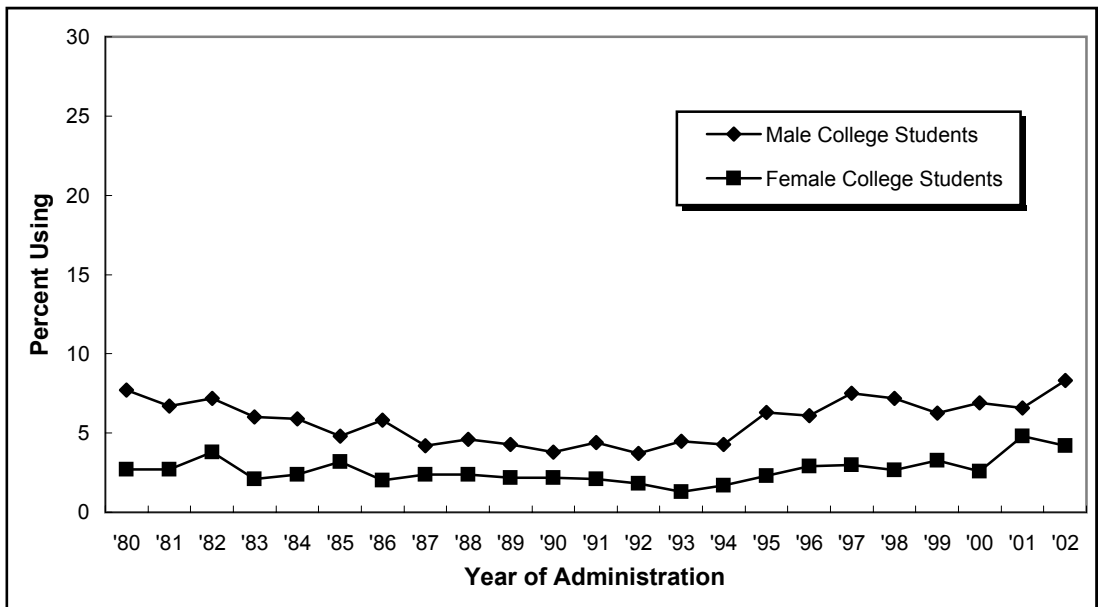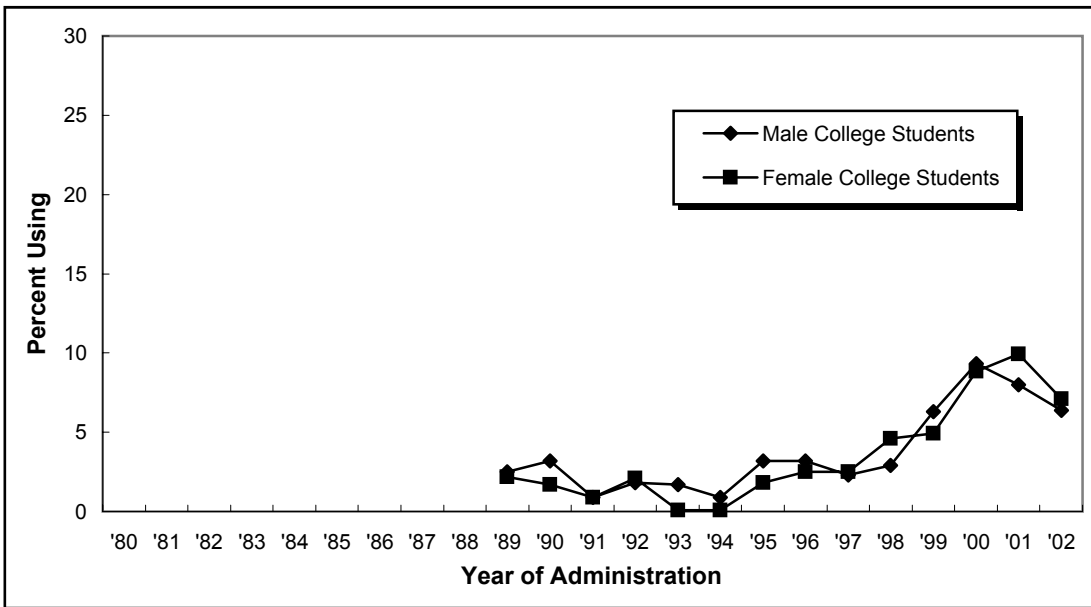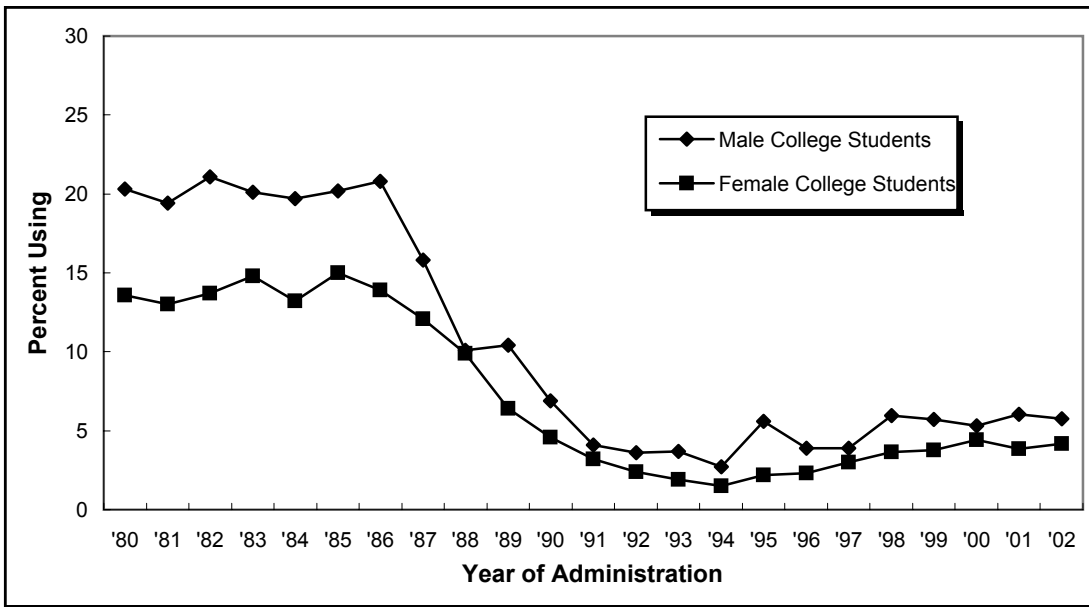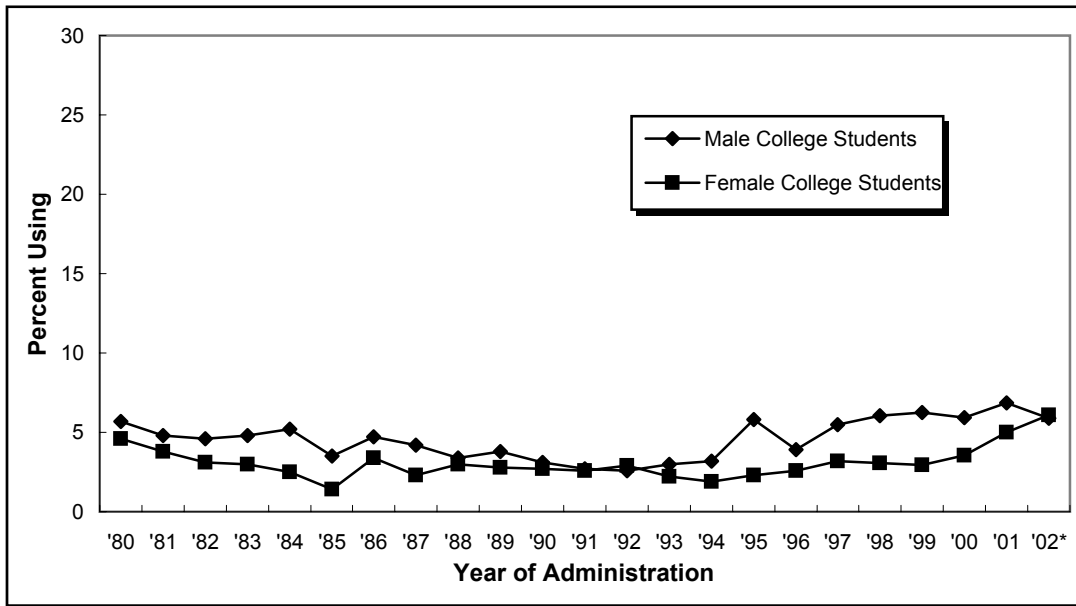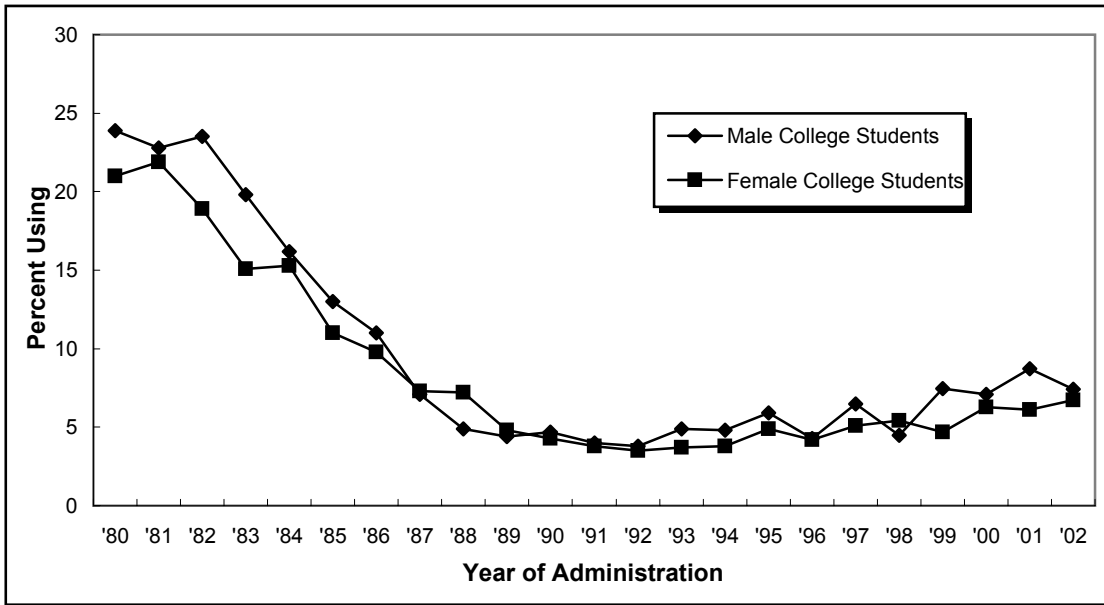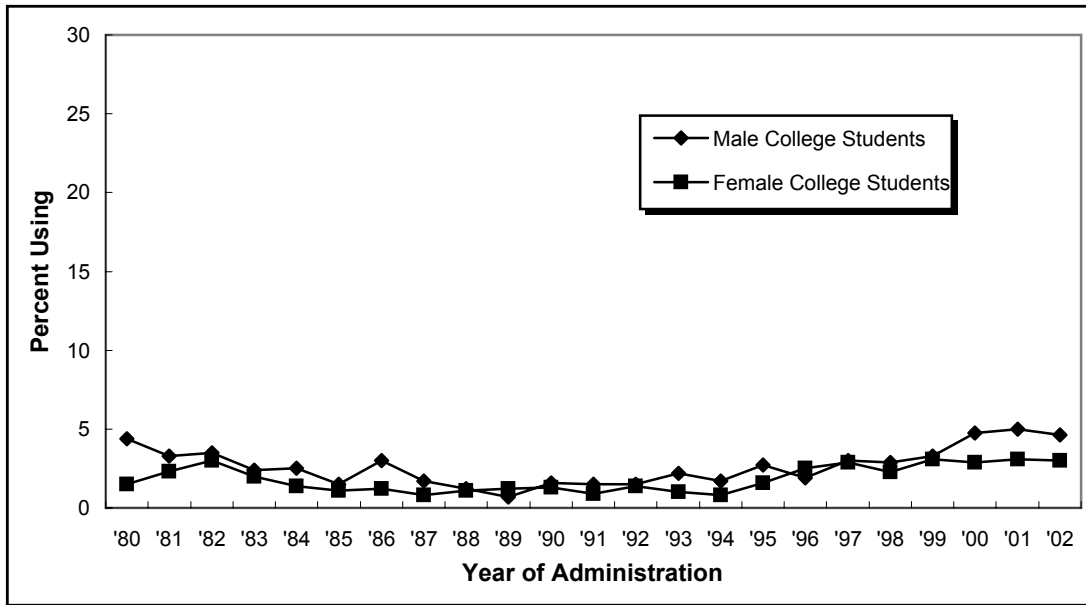Among Male vs. Female College Students**
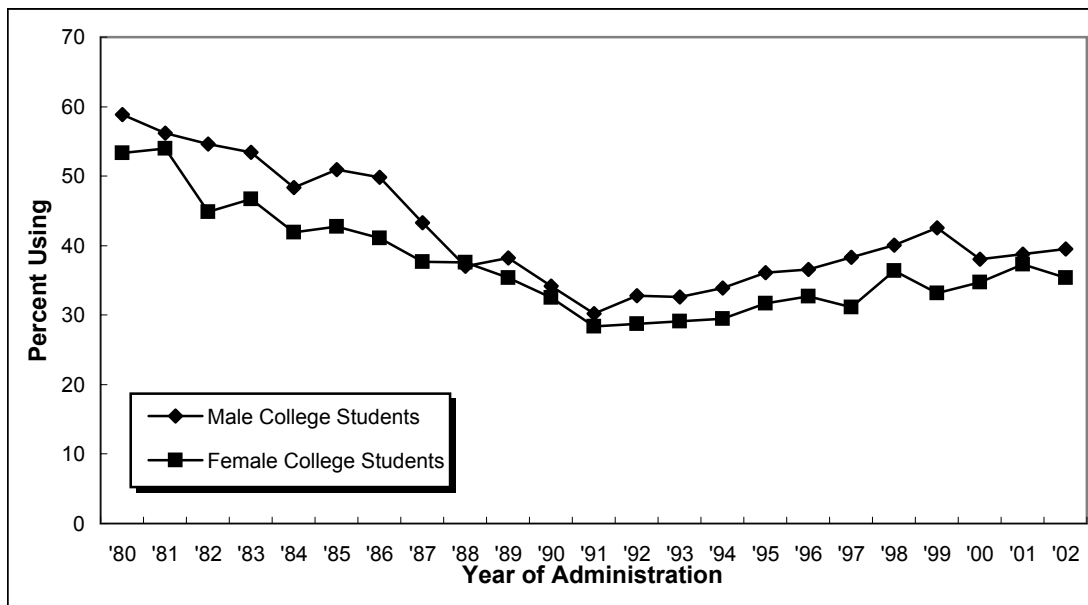
NOTE: "Others" refers to high school graduates 1-4 years beyond high school not currently enrolled full-time in college.

FIGURE 9-2

**Any Illicit Drug Other than Marijuana: Trends in Annual Prevalence
Among College Students vs. Others**
1-4 Years Beyond High School
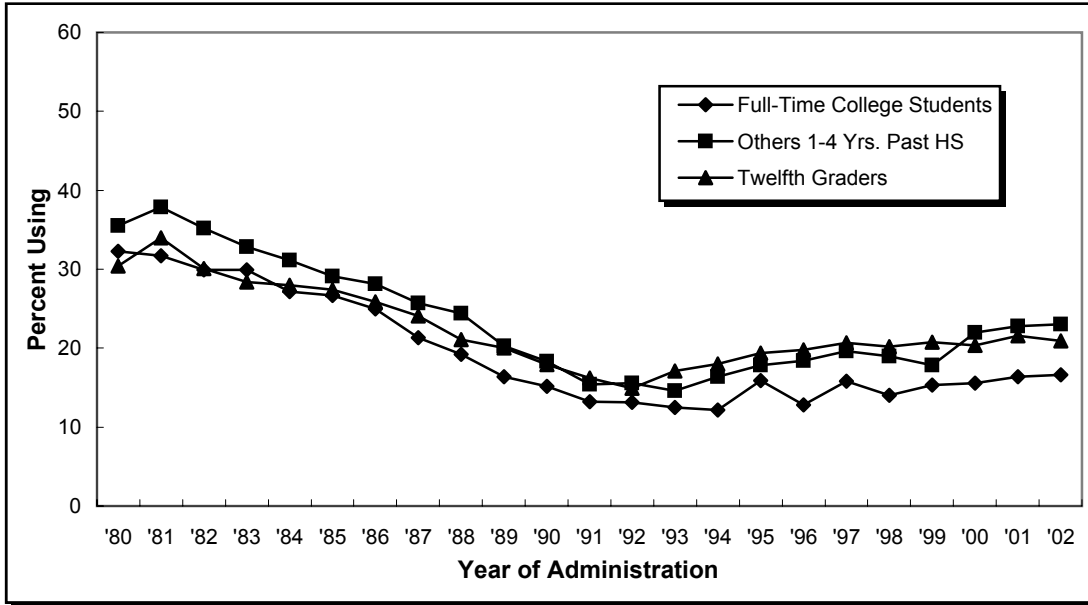
**Any Illicit Drug Other than Marijuana: Trends in Annual Prevalence
Among Male vs. Female College Students**
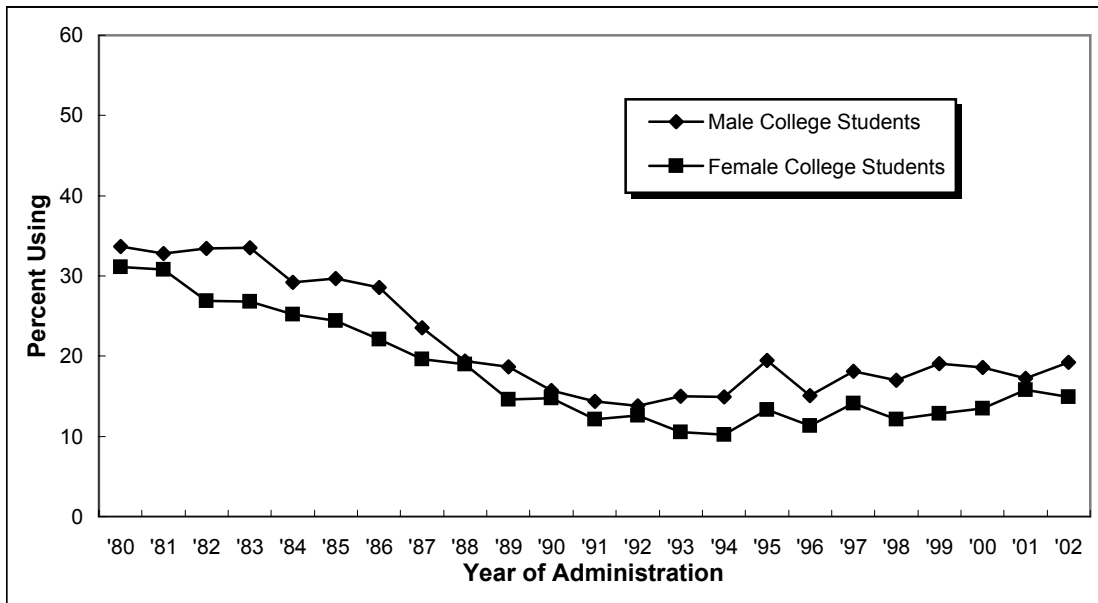
FIGURE 9-3a

Marijuana: Trends in Annual Prevalence
Among College Students vs. Others
1-4 Years Beyond High School
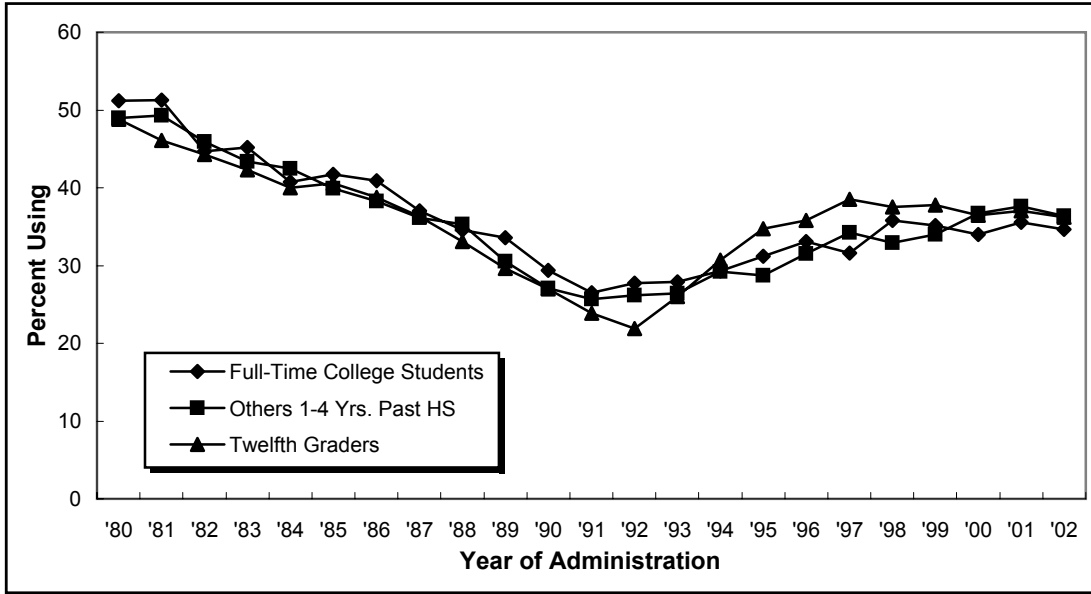
Marijuana: Trends in Annual Prevalence
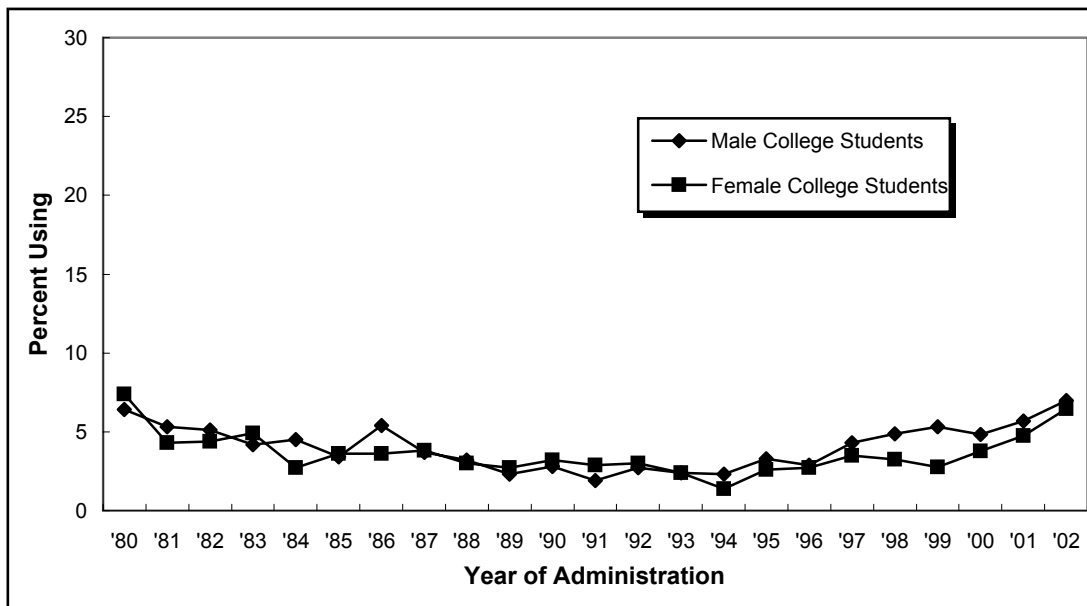### Among Male vs. Female College Students
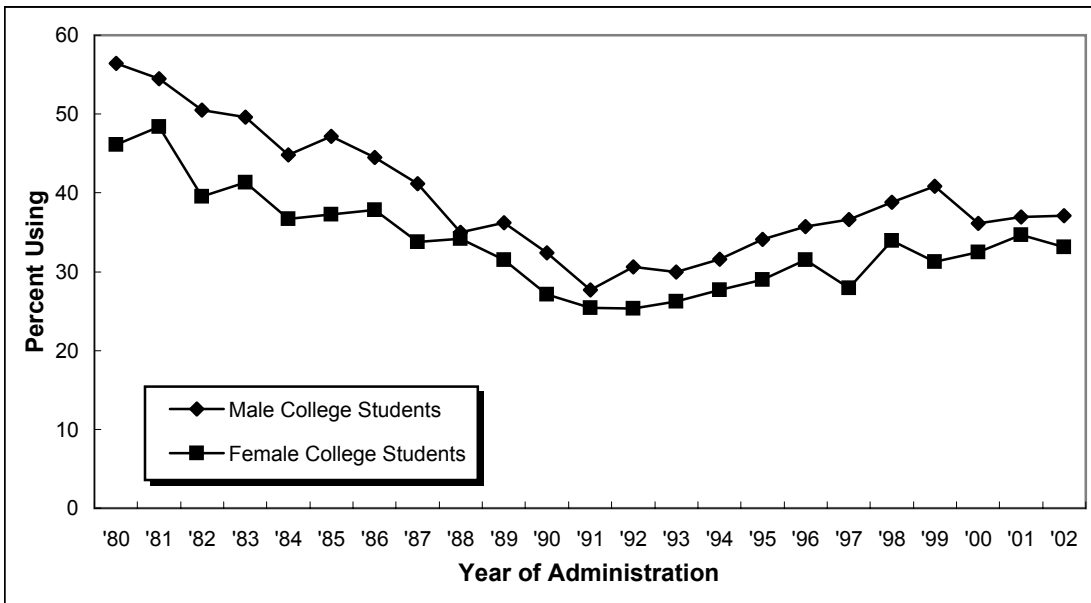
FIGURE 9-3b

**Marijuana: Trends in 30-Day Prevalence of <u>Daily</u> Use
Among College Students vs. Others**
1-4 Years Beyond High School
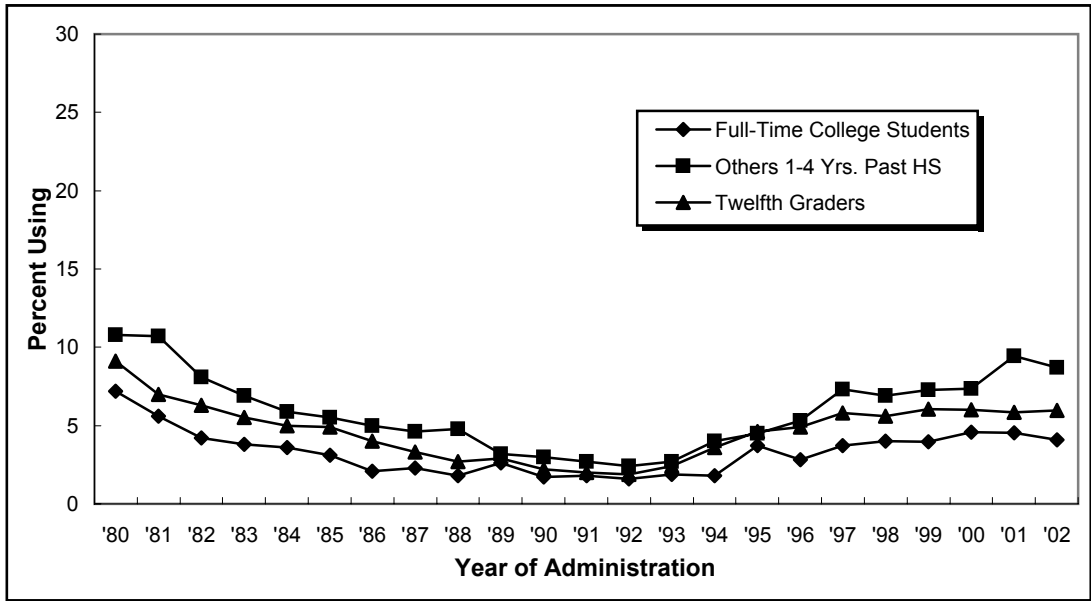
**Marijuana: Trends in 30-Day Prevalence of <u>Daily</u> Use
Among Male vs. Female College Students**
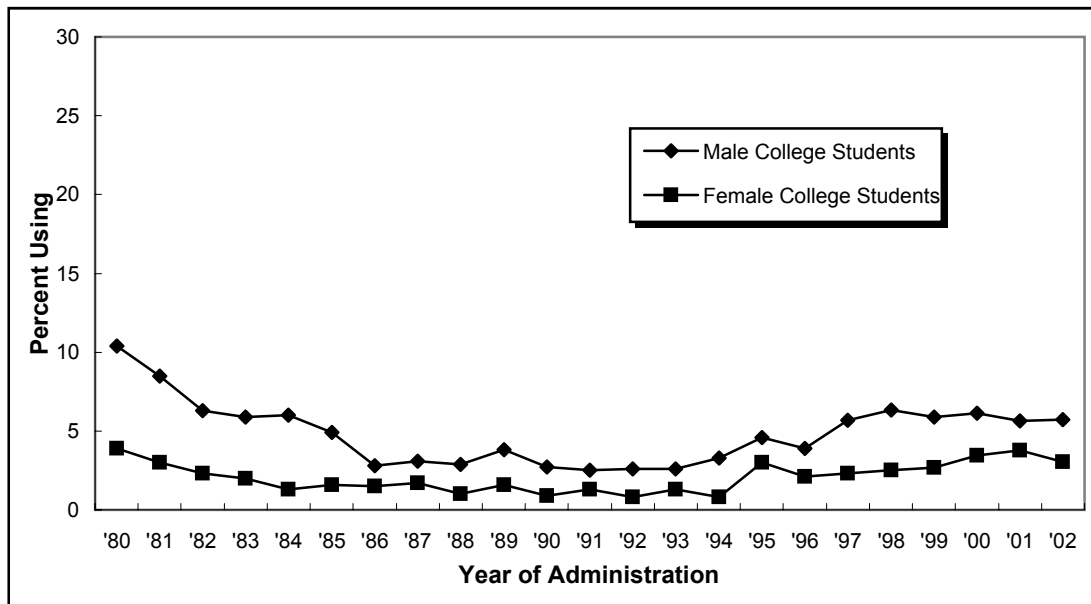
FIGURE 9-4

**Inhalants:* Trends in Annual Prevalence
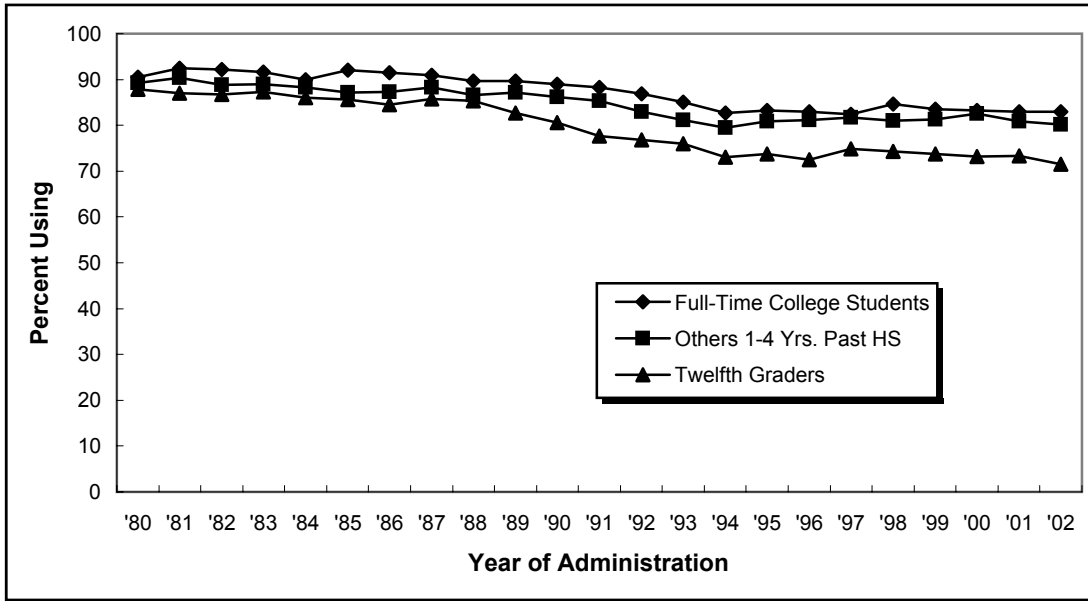Among College Students vs. Others**
1-4 Years Beyond High School
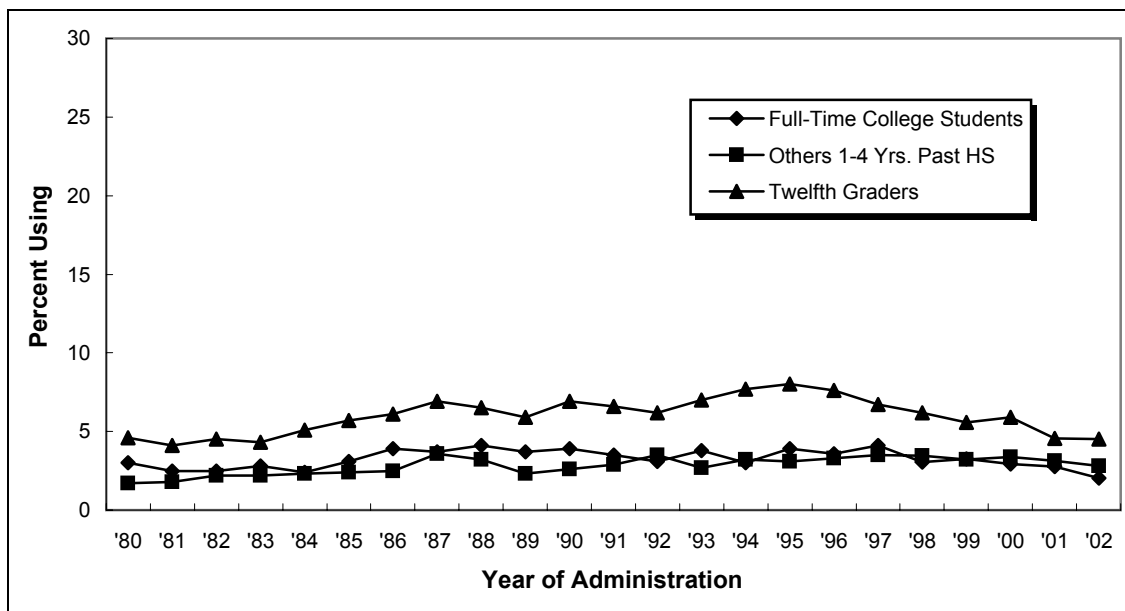
**Inhalants:* Trends in Annual Prevalence
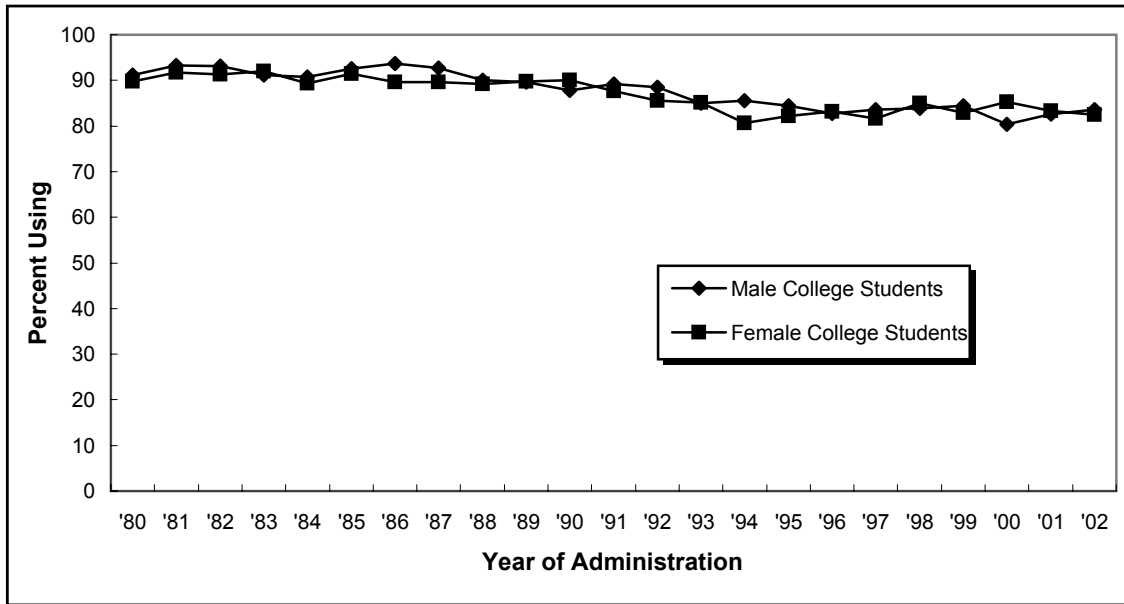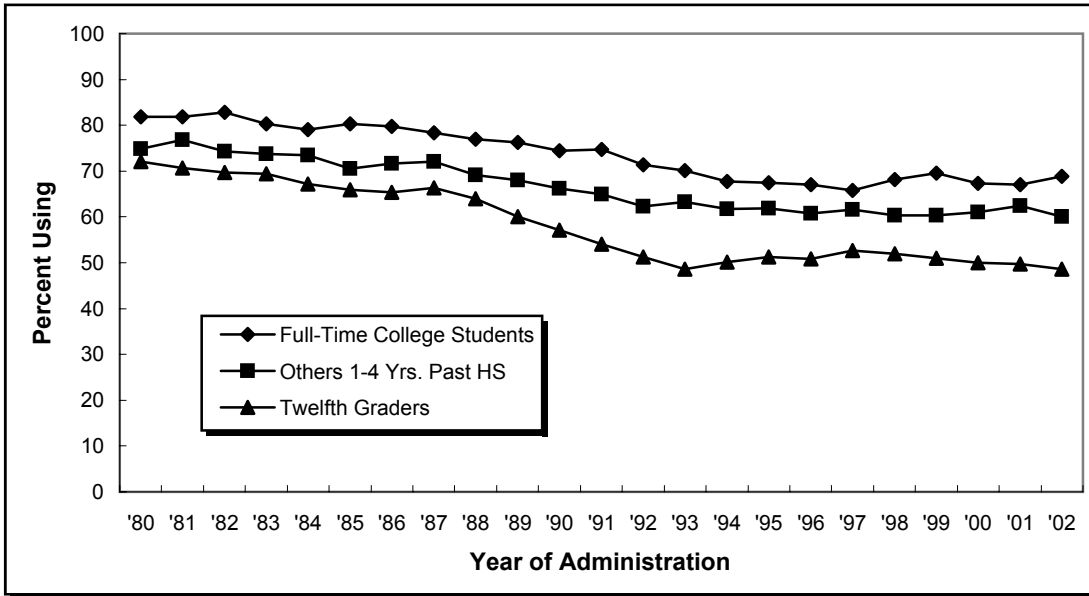Among Male vs. Female College Students**
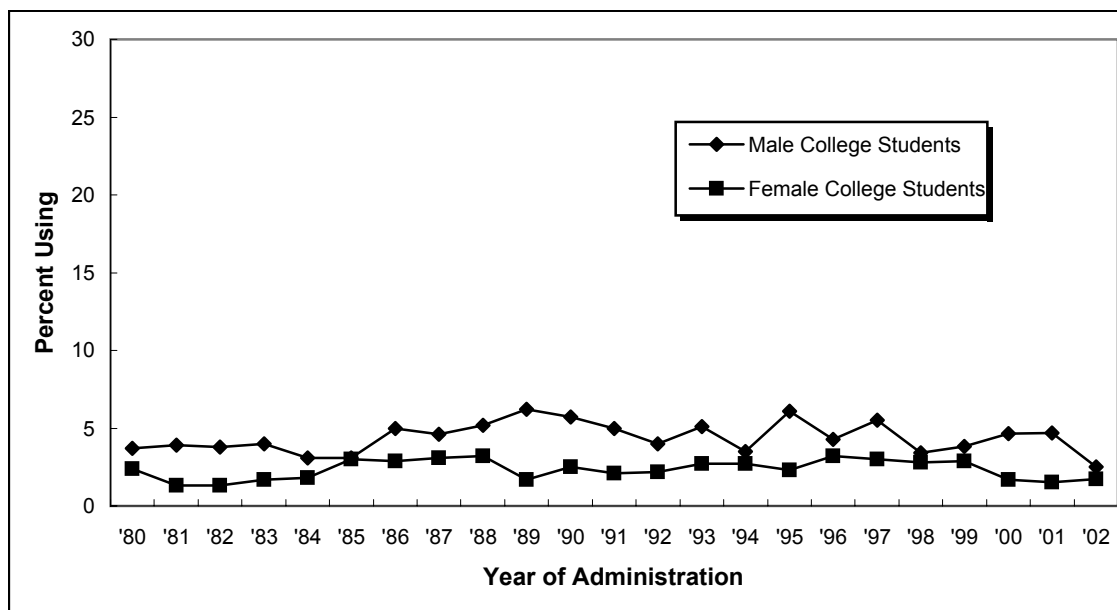
*Unadjusted for the possible underreporting of amyl and butyl nitrites.

FIGURE 9-5

**Hallucinogens:* Trends in Annual Prevalence
Among College Students vs. Others**
1-4 Years Beyond High School
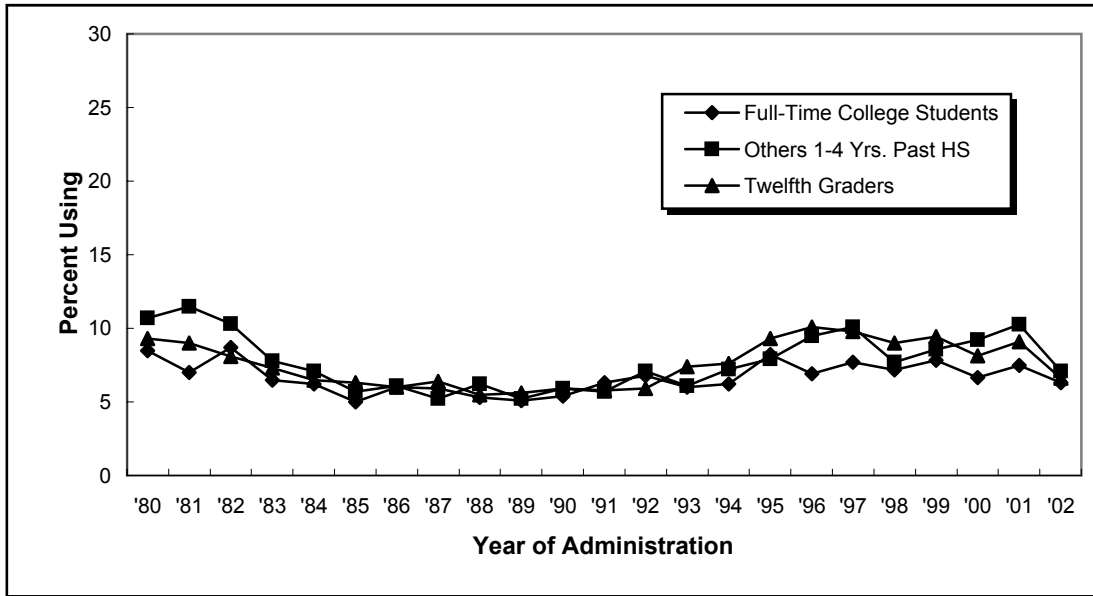
**Hallucinogens:* Trends in Annual Prevalence
Among Male vs. Female College Students**

*Unadjusted for the possible underreporting of PCP.

FIGURE 9-6

**LSD: Trends in Annual Prevalence
Among College Students vs. Others**
1-4 Years Beyond High School
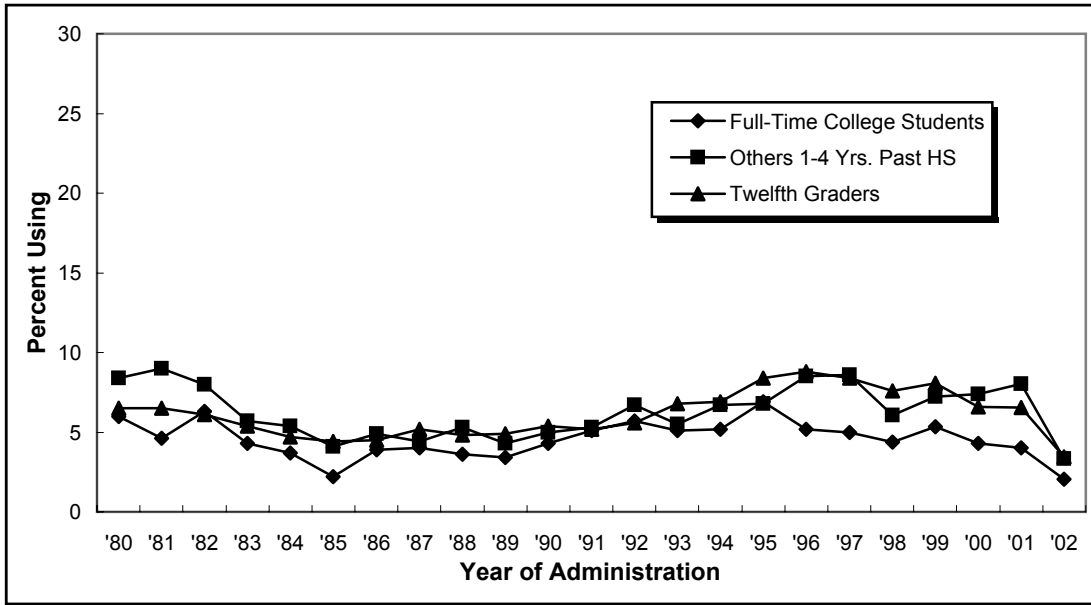
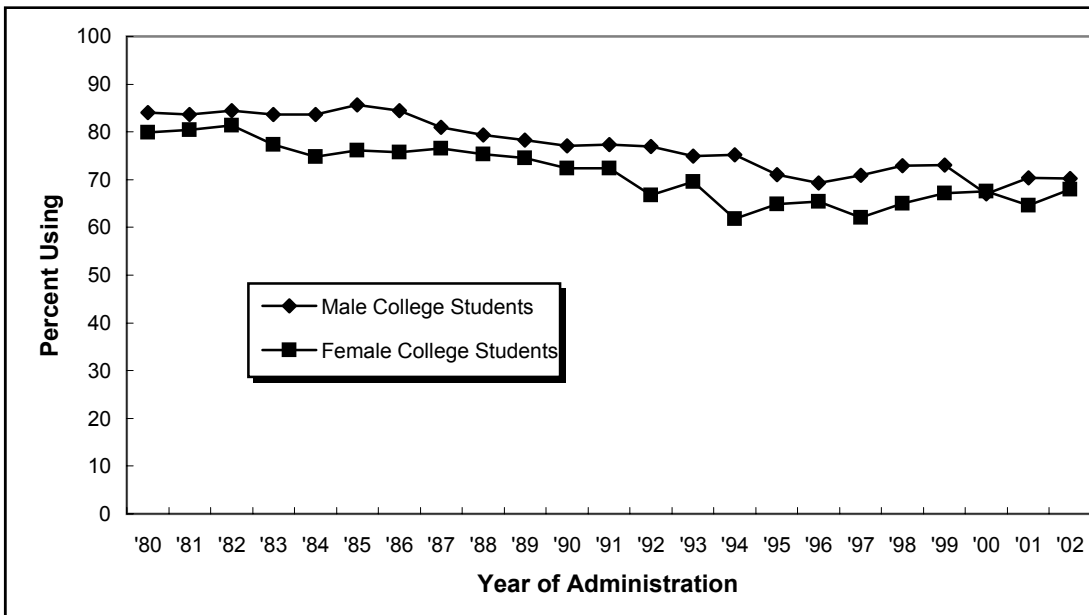**LSD: Trends in Annual Prevalence
Among Male vs. Female College Students**

FIGURE 9-7

**Hallucinogens Other than LSD: Trends in Annual Prevalence
Among College Students vs. Others**
1-4 Years Beyond High School
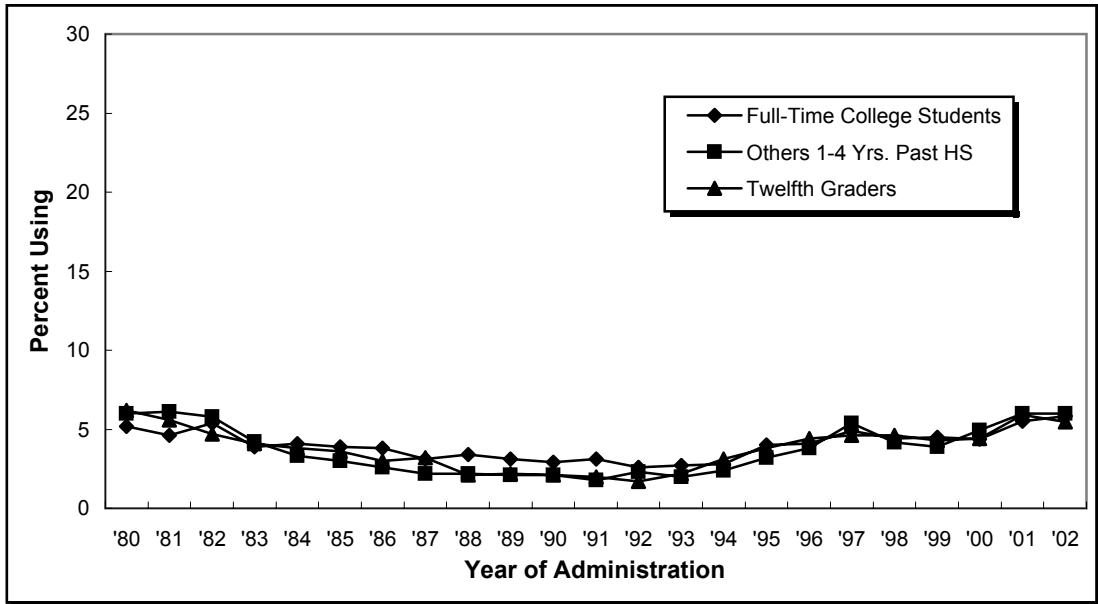
**Hallucinogens Other than LSD: Trends in Annual Prevalence
Among Male vs. Female College Students**

FIGURE 9-8

**MDMA (Ecstasy): Trends in Annual Prevalence
Among College Students vs. Others**
1-4 Years Beyond High School
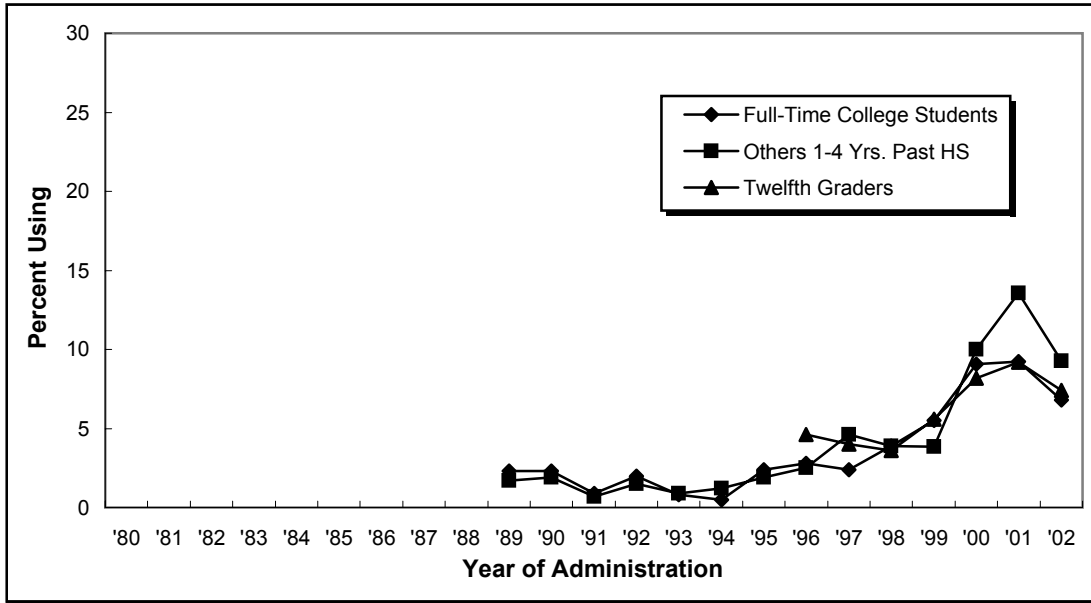
**MDMA (Ecstasy): Trends in Annual Prevalence
Among Male vs. Female College Students**

FIGURE 9-9

Cocaine: Trends in Annual Prevalence
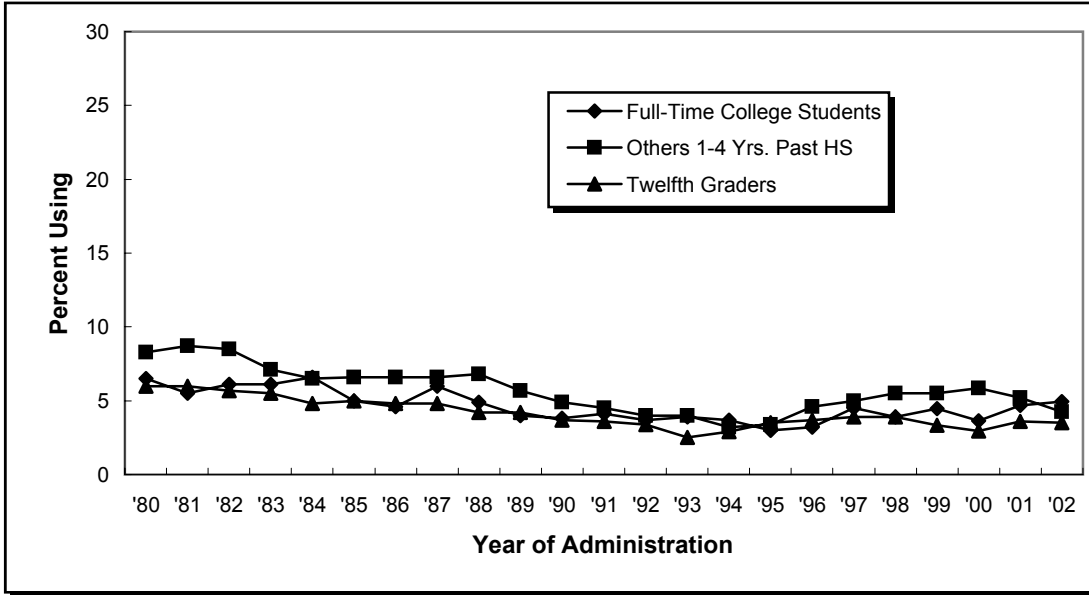### Among College Students vs. Others
1-4 Years Beyond High School
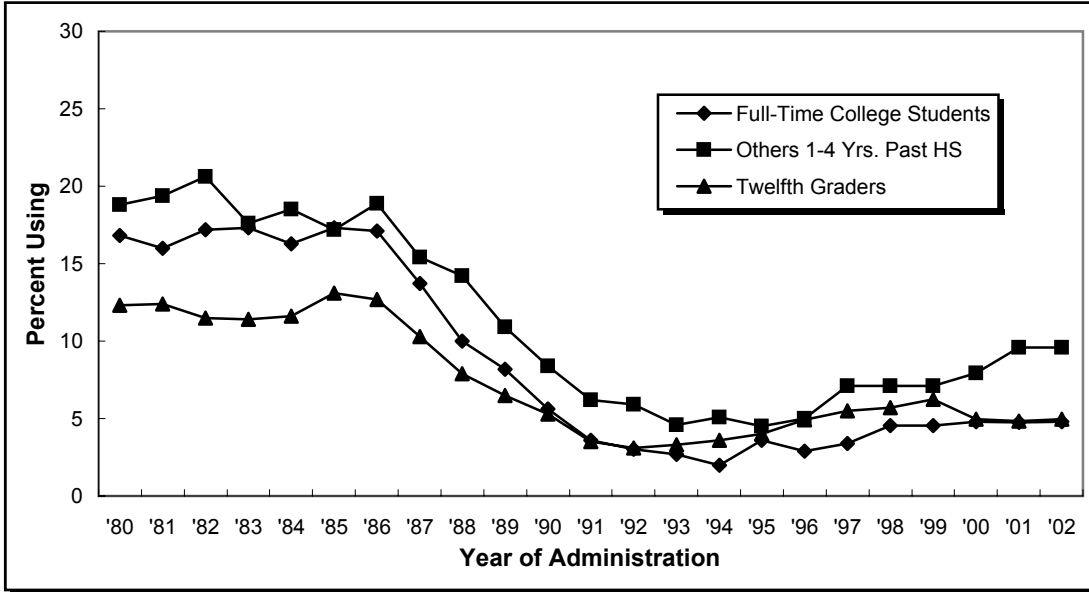
Cocaine: Trends in Annual Prevalence
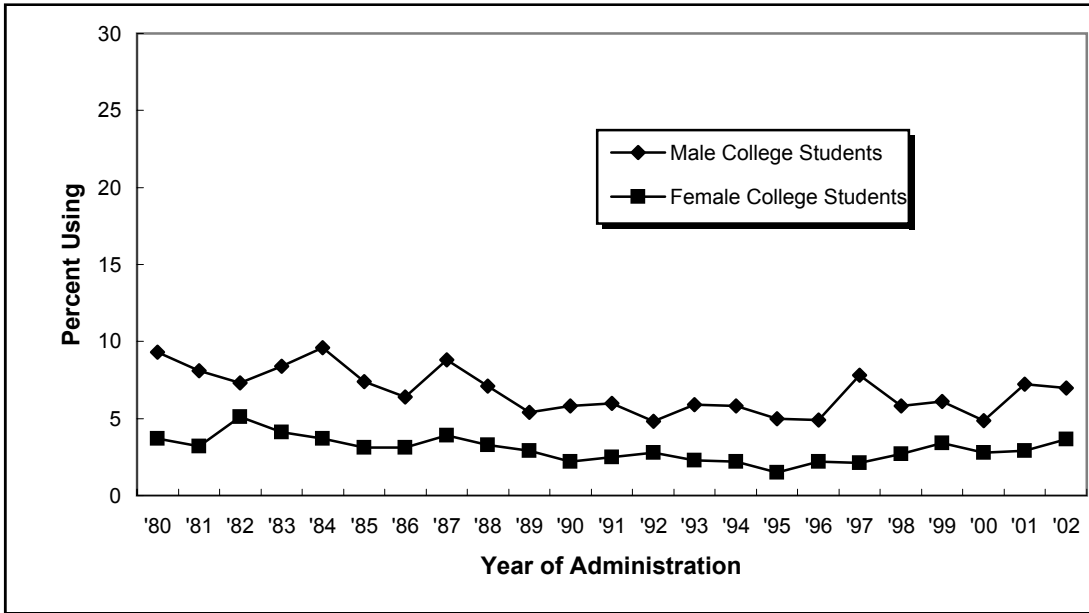### Among Male vs. Female College Students

FIGURE 9-10

Narcotics Other than Heroin: Trends in Annual Prevalence
Among College Students vs. Others
1-4 Years Beyond High School
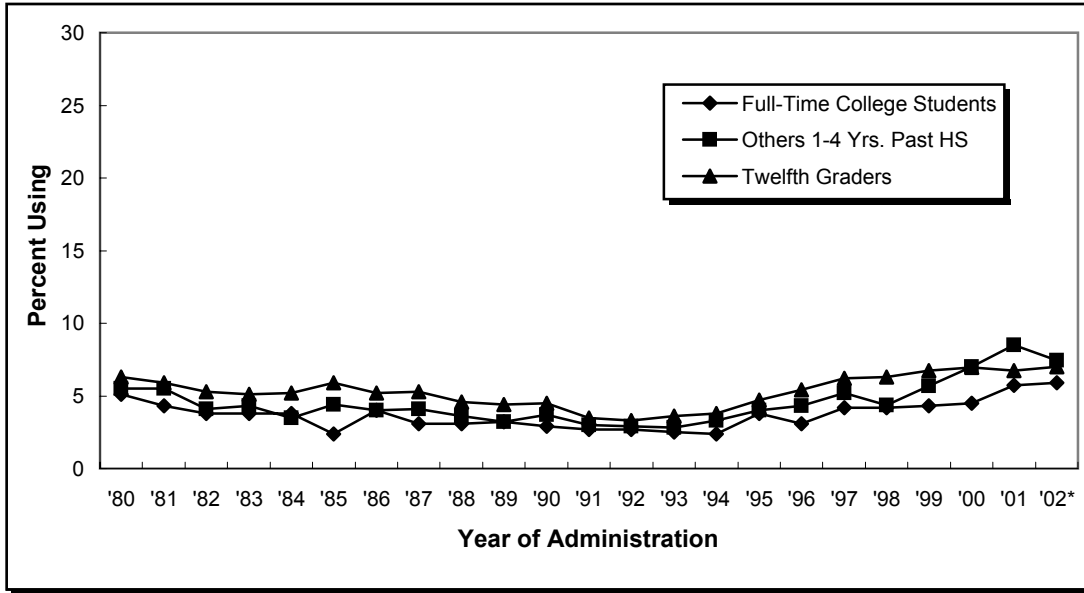
Narcotics Other Than Heroin: Trends in Annual Prevalence
Among Male vs. Female College Students

*In 2002, the question text was changed on half of the questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric--all of which had negligible rates of use by 2001--were replaced by Vicodin, OxyContin, and Percocet. The 2001 data presented here are based on all forms. The 2002 estimates are based on the 2001 prevalence of use rate plus the observed difference between the data from 2001 to 2002 in the half-sample in which the question did not change.

FIGURE 9-11

**Amphetamines: Trends in Annual Prevalence
Among College Students vs. Others**
1-4 Years Beyond High School
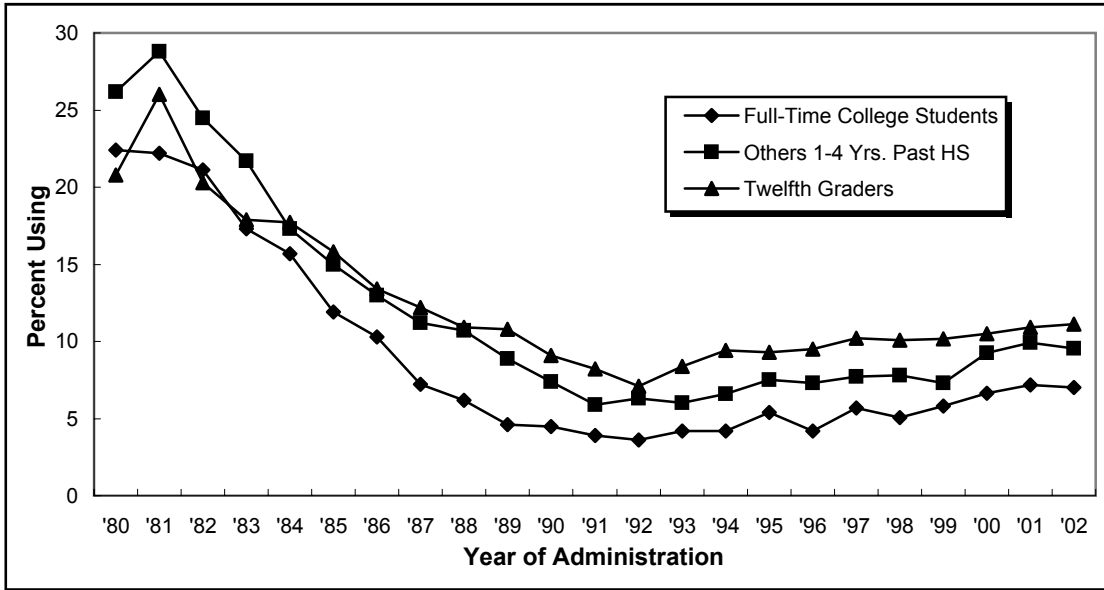
**Amphetamines: Trends in Annual Prevalence
Among Male vs. Female College Students**

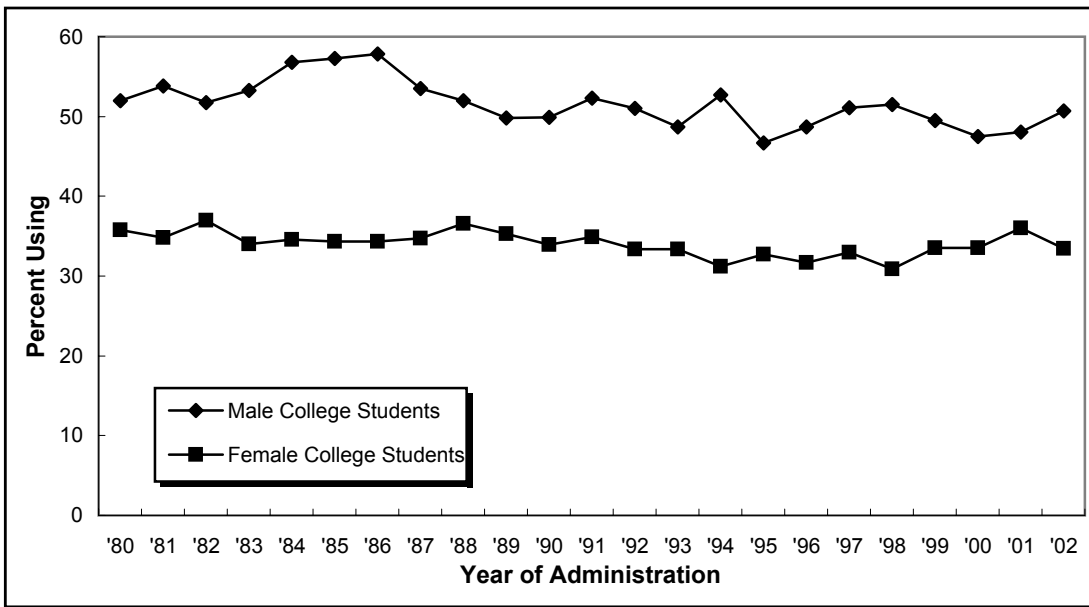# FIGURE 9-12

**Sedatives (Barbiturates): Trends in Annual Prevalence
Among College Students vs. Others**
1-4 Years Beyond High School
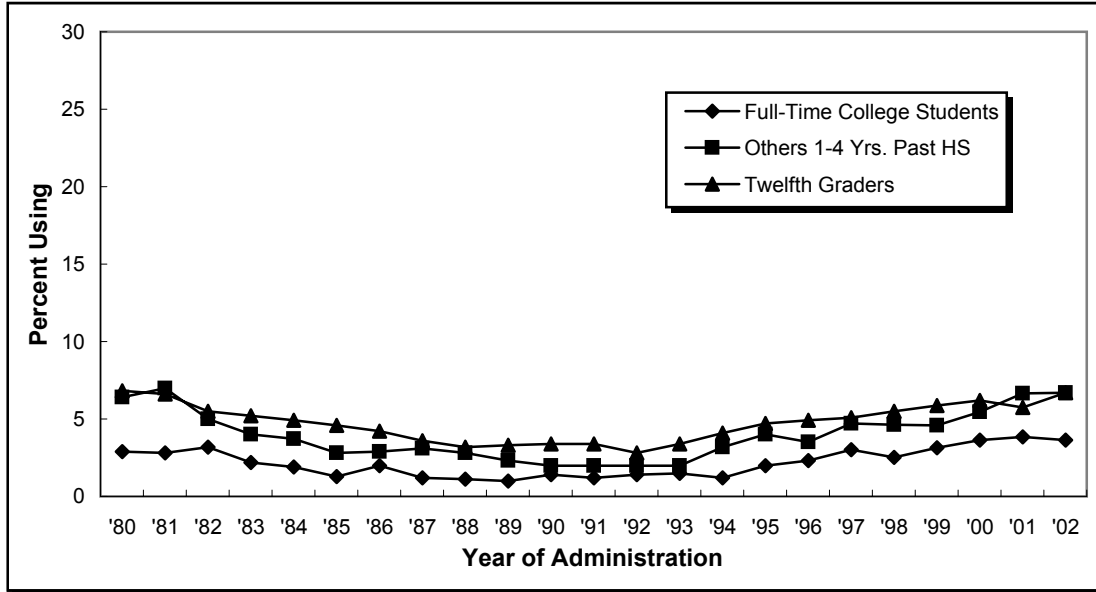
**Sedatives (Barbiturates): Trends in Annual Prevalence
Among Male vs. Female College Students**

FIGURE 9-13

**Tranquilizers: Trends in Annual Prevalence
Among College Students vs. Others**
1-4 Years Beyond High School
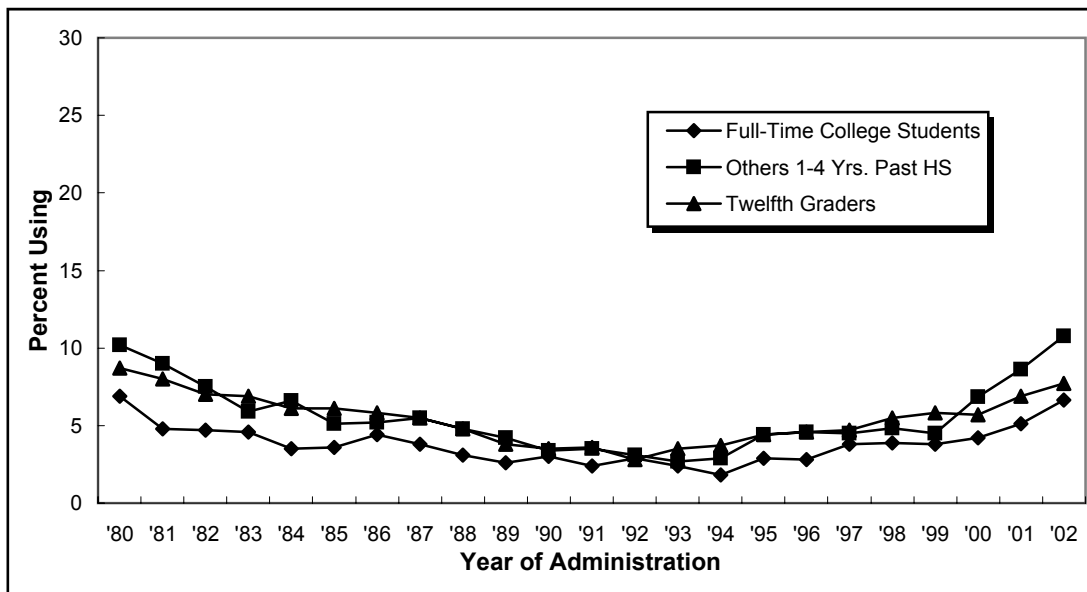
**Tranquilizers: Trends in Annual Prevalence
Among Male vs. Female College Students**

FIGURE 9-14a

Alcohol: Trends in Annual Prevalence
Among College Students vs. Others
1-4 Years Beyond High School

Alcohol: Trends in Annual Prevalence
Among Male vs. Female College Students

FIGURE 9-14b

**Alcohol: Trends in 30-Day Prevalence
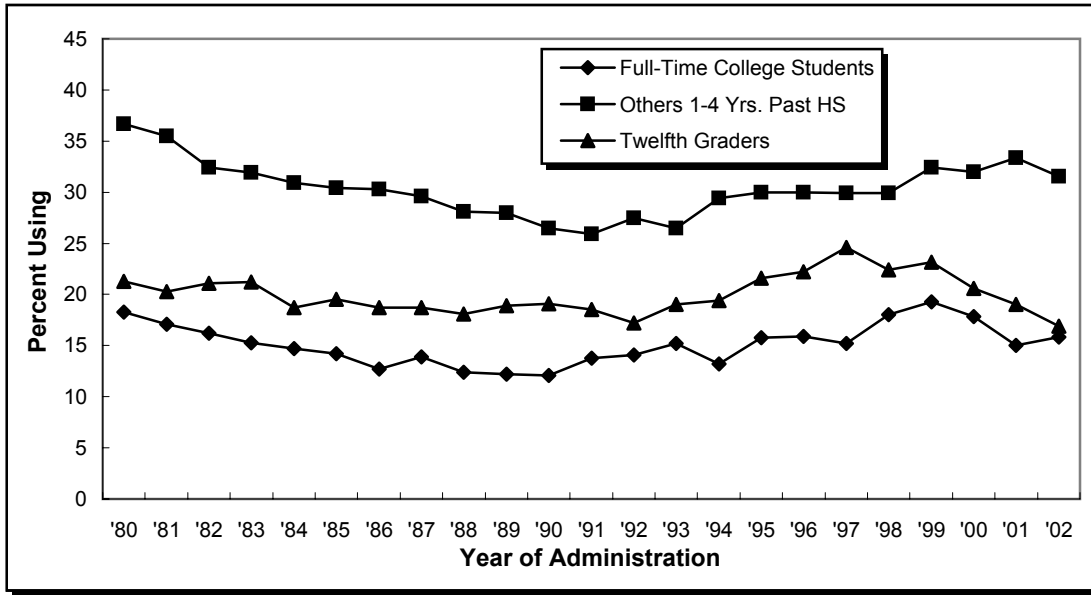Among College Students vs. Others**
1-4 Years Beyond High School

**Alcohol: Trends in 30-Day Prevalence
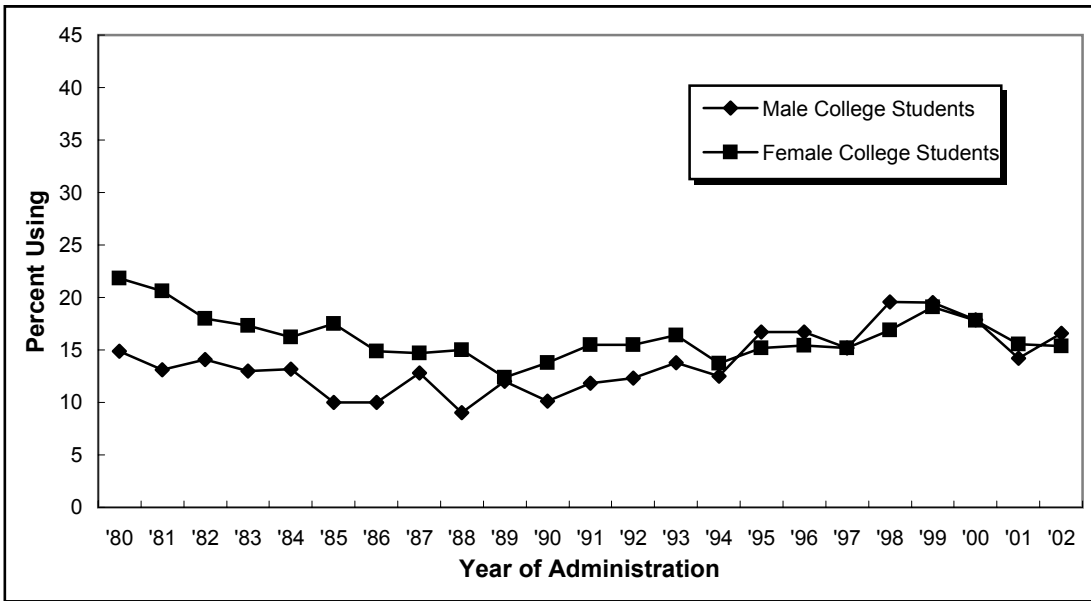Among Male vs. Female College Students**

FIGURE 9-14c

Alcohol: Trends in 30-Day Prevalence of <u>Daily</u> Use
Among College Students vs. Others
1-4 Years Beyond High School

Alcohol: Trends in 30-Day Prevalence of <u>Daily</u> Use
Among Male vs. Female College Students

FIGURE 9-14d

**Alcohol: Trends in Two-Week Prevalence of Five or More Drinks in a Row
Among College Students vs. Others**

1-4 Years Beyond High School
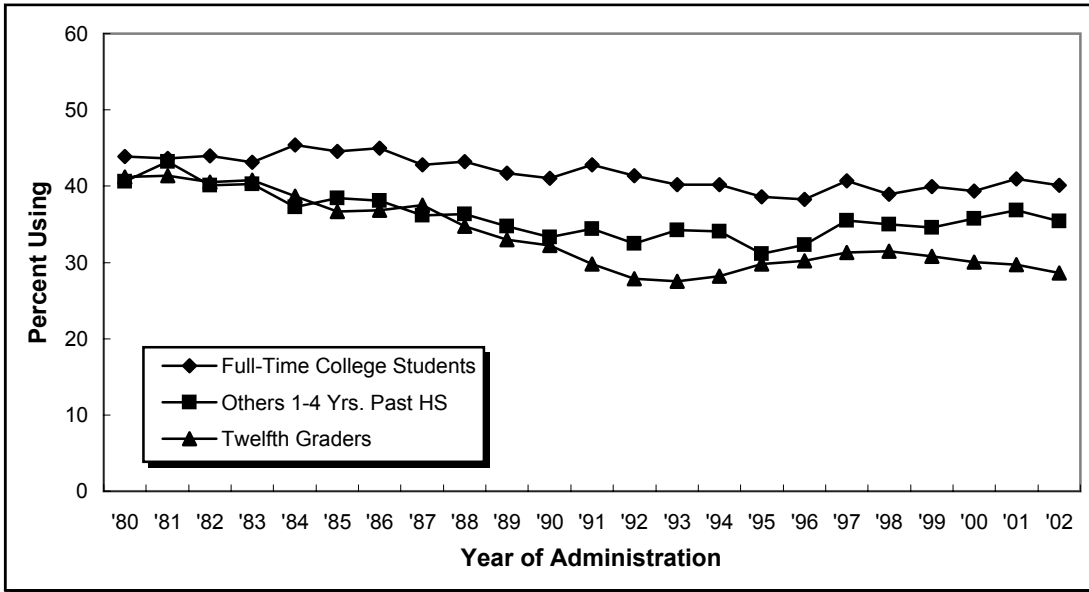
**Alcohol: Trends in Two-Week Prevalence of Five or More Drinks in a Row
Among Male vs. Female College Students**

FIGURE 9-15a

Cigarettes: Trends in 30-Day Prevalence
Among College Students vs. Others
1-4 Years Beyond High School
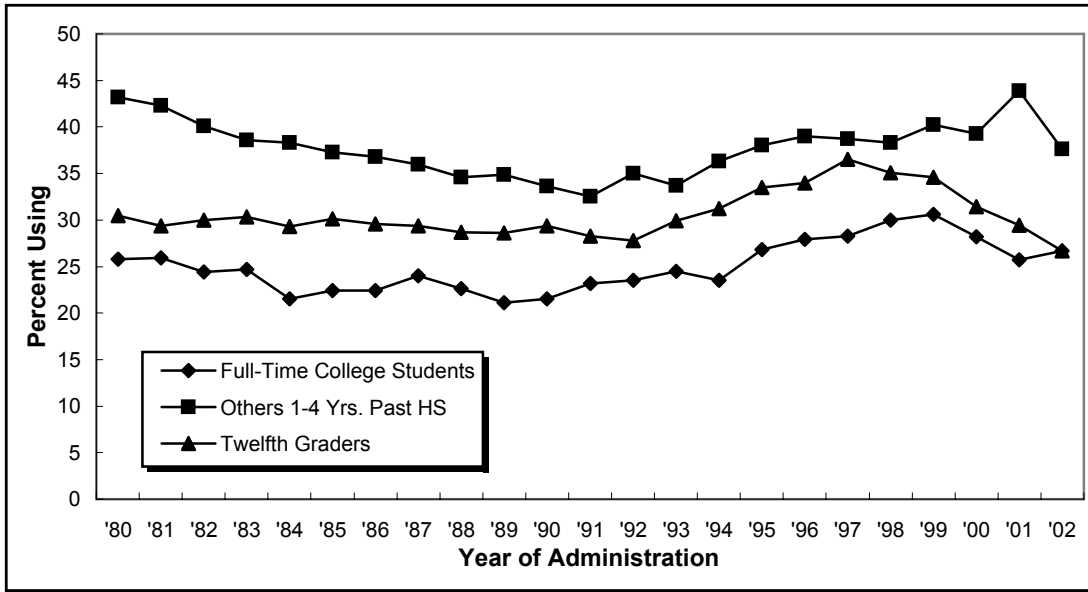
Cigarettes: Trends in 30-Day Prevalence
Among Male vs. Female College Students
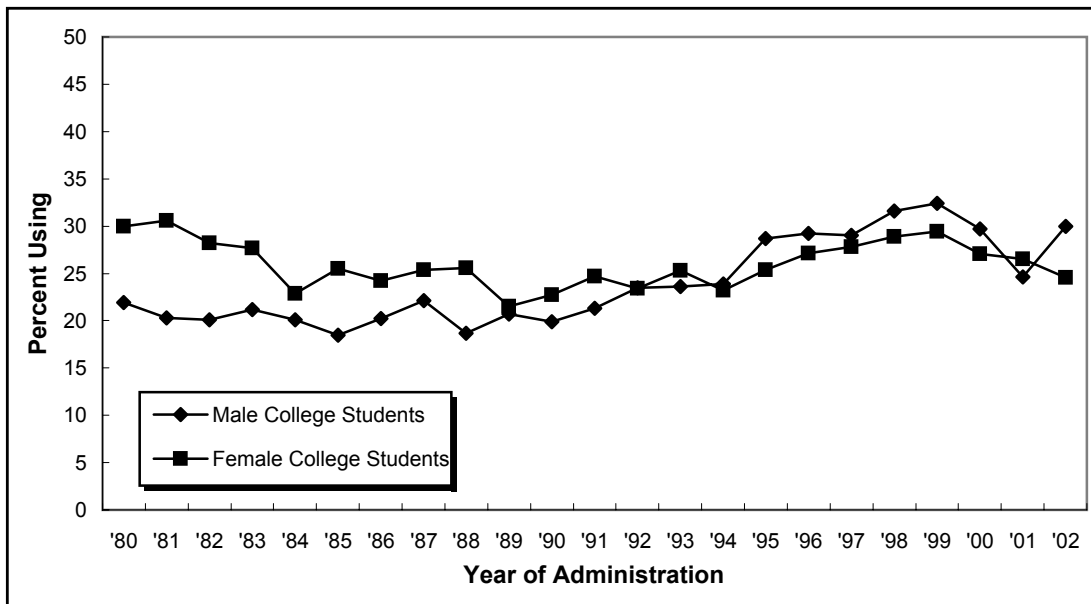
FIGURE 9-15b

Cigarettes: Trends in 30-Day Prevalence of <u>Daily</u> Use
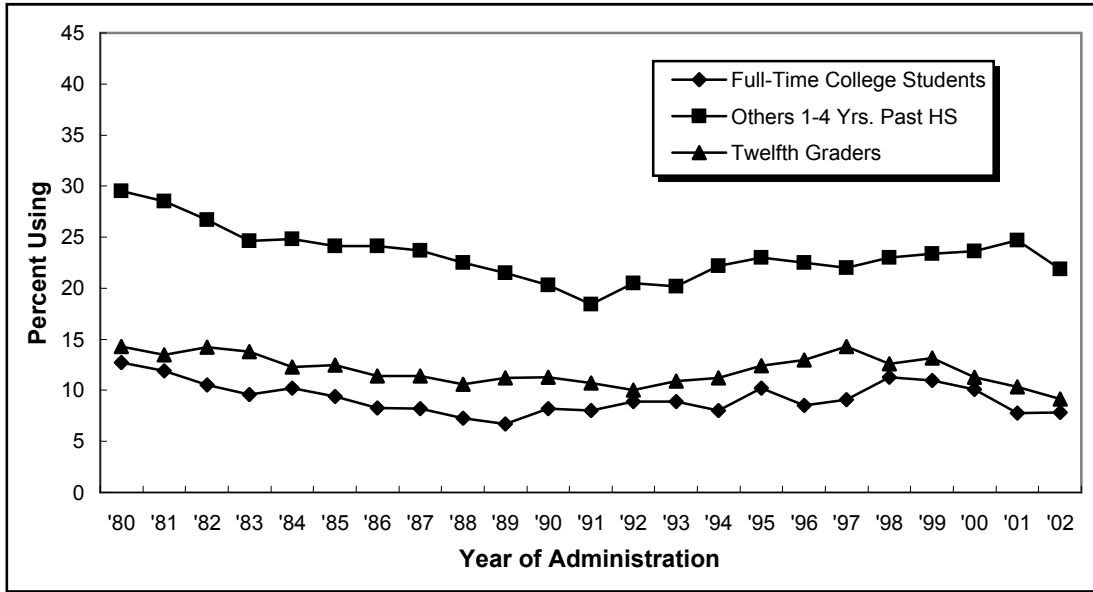**Among College Students vs. Others**
1-4 Years Beyond High School

Cigarettes: Trends in 30-Day Prevalence of <u>Daily</u> Use
Among Male vs. Female College Students

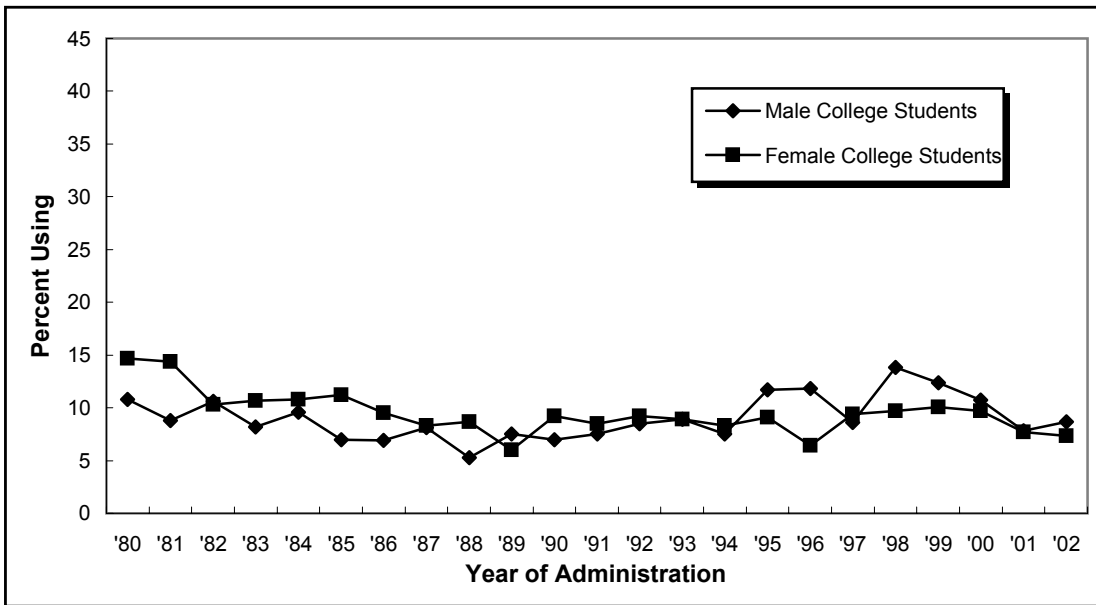# FIGURE 9-15c

Cigarettes: Trends in 30-Day Prevalence of Smoking a Half-Pack or More per Day Among College Students vs. Others
1-4 Years Beyond High School

Cigarettes: Trends in 30-Day Prevalence of Smoking a Half-Pack or More per Day Among Male vs. Female College Students

Study Web site address:
http://www.monitoringthefuture.org