National Institute on Drug Abuse

NATIONAL SURVEY RESULTS ON DRUG USE from THE MONITORING THE FUTURE STUDY, 1975-1994

Volume II

College Students and Young Adults

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
National Institutes of Health

NATIONAL SURVEY RESULTS ON DRUG USE
from
THE MONITORING THE FUTURE STUDY, 1975-1994

Volume II

College Students and Young Adults

by

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Chapter 1

INTRODUCTION TO VOLUME II

This is the second volume in a two-volume set reporting the results of all surveys through 1994 from the Monitoring the Future study of American secondary school students and young adults. Monitoring the Future is a long-term research program conducted at the University of Michigan's Institute for Social Research under a series of research grants from the National Institute on Drug Abuse. It is comprised of an ongoing series of annual national surveys of American *high school seniors* begun in 1975—the results of which are presented in Volume I—as well as a series of annual *follow-up surveys* of representative samples of the previous participants from each high school senior class going back to the Class of 1976. In 1991, the study also began to survey eighth and tenth grade students; the results from these surveys are included in Volume I. This second volume presents the results of the 1977 through 1994 follow-up surveys of the graduating high school classes of 1976 through 1993 as these respondents have progressed through young adulthood.

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, Volume I, and provides an overview of the key findings presented in both volumes. Chapter 3, Study Design and Procedures, also draws almost entirely from Volume I, Chapter 3. Therefore, the reader already familiar with Volume I will want 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 from the universe covered. Further, the institution-based samples needed to get accurate national representation of college students must be quite large because there is great heterogeneity in the types of student populations served in those institutions. There also may be problems getting good samples and high response rates within many institutions. 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 the college students to emerge from each graduating cohort, and it does so at very low cost. Further, it has "before" as well as "during" and "after" college measures, which permit the examination of change. For comparison, it also has similar panel data on the high school graduates who do not attend college.

As defined here, the college student population is comprised of 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 will be said about this sample definition in Chapters 3 and 8. Results on the *prevalence* of drug use among college students in 1994 are reported in Chapter 8, and Chapter 9 presents the *trends* in substance use among college students over the past 15 surveys of this population.

SURVEYS OF YOUNG ADULTS

The young adult sample reported here, which includes the college students, is comprised of representative samples from each graduating class since 1980, all surveyed in 1994. Since 18 is the modal age of high school seniors, the young adults covered here correspond to modal ages 19 through 32. Because the study design calls for annual follow-up surveys through age 32, and then less frequent surveys beginning at age 35, the classes of 1976, 1978, and 1979 were not surveyed in 1994; the class of 1977, who were age 35, were sent a special "age 35" questionnaire. The results of the "age 35" survey are not included in the present volume, but will be included in future reports from the study. In this volume we have re-weighted the respondents to correct for the effects of panel attrition on measures such as drug use; however, we are less able to adjust for the absence of high school dropouts who were not included in the original high school senior sample. Because nearly all college students have completed high school, the omission of dropouts should have almost no effect on the college student estimates, but this omission does have an effect on the estimates for entire age groups. 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. Another purpose is to develop knowledge which increases our understanding of why changes in these behaviors, attitudes, etc., are taking place. (In health-related disciplines such work is usually labeled epidemiology.) These two purposes are addressed in the current series of volumes. There are a number of other purposes for the research, however, which are addressed through other types of publications and professional products. They 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 which are associated with drug use and abuse; 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 are interested in determining the life course of the various drug-using behaviors during this period of development; distinguishing such "age effects" from cohort and period effects in determining drug use; determining the effects of social legislation on various types of substance use; and determining the changing connotations of drug use and changing patterns of multiple drug

[1]For a more complete listing and discussion of the study's many objectives, see Johnston, L.D., O'Malley, P.M., Bachman, J.G., and Schulenberg, J. (1993). *The aims, objectives, and rationale of the Monitoring the Future study*. Monitoring the Future Occasional Paper No. 34. Ann Arbor, MI: Institute for Social Research.

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. Readers interested in publications dealing with any of these other areas, or wishing to receive a copy of a brochure listing publications from the study, should write the authors at the Institute for Social Research, The University of Michigan, Ann Arbor, Michigan, 48106-1248.

Chapter 2

OVERVIEW OF KEY FINDINGS

Volumes I and II of this monograph report the findings through 1994 of the ongoing research and reporting series entitled Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth. Over its twenty-year existence, the study has consisted of 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 in 1976, follow-up surveys have been conducted by mail on representative subsamples of the respondents from each previously participating twelfth grade.

Findings on the prevalence and trends in drug use and related factors are presented in this report for secondary school students (Volume I) and also for young adult high school graduates 19-32 years old, as well as college students specifically (in Volume II). Trend data are presented for varying time intervals, covering the past twenty years in the case of the high school senior population. For college students, a particularly important subset of the young adult population for which very little nationally representative data exists, we present detailed prevalence and trend results covering a fourteen year interval (since 1980). The high school dropout segment of the population—about 15%-20% of an age group—is of necessity omitted from the coverage of these populations, though this omission should have a negligible effect on the coverage of college students. Appendix A to this report discusses the likely impact of omitting dropouts from the sample coverage at senior year. Very few students will have left school by eighth grade, of course, and relatively few by the end of tenth grade, so the results of the school surveys at those levels should be generalizable to the great majority of the relevant age cohorts.

A number of important findings emerge from these five national populations—eighth grade students, tenth grade students, twelfth grade students, college students, and all young adults through age 32 who are high school graduates. They have been summarized and integrated in this chapter so that the reader may quickly get an overview of the key results. Because so many populations, drugs, and prevalence intervals are discussed here, a single integrative table (Table 1) showing the 1991-1994 trends for all drugs on all five populations is included in this chapter.

TRENDS IN ILLICIT DRUG USE

- In the previous volume in this series we noted an increase in the use of a number of illicit drugs among the secondary students and some reversals among them in key attitudes and beliefs. (In fact, in the volume reporting 1992 survey results, we noted the beginning of such reversals among eighth graders, the youngest respondents surveyed in this study.) Specifically, the proportions seeing great risk in using drugs began to decline as did the proportions saying they disapproved of use. As predicted earlier, those reversals indeed presaged ". . . an

TABLE 1

Trends in Prevalence of Various Drugs for Five Populations: Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)

(Entries are percentages)

	Lifetime					Annual					30-Day					Daily				
	1991	1992	1993	1994	'93–'94 change	1991	1992	1993	1994	'93–'94 change	1991	1992	1993	1994	'93–94 change	1991	1992	1993	1994	'93–'94 change
Any Illicit Drug[a]																				
8th Grade	18.7	20.6	22.5	25.7	+3.2ss	11.3	12.9	15.1	18.5	+3.4sss	5.7	6.8	8.4	10.9	+2.5sss	—	—	—	—	—
10th Grade	30.6	29.8	32.8	37.4	+4.6sss	21.4	20.4	24.7	30.0	+5.3sss	11.6	11.0	14.0	18.5	+4.5sss	—	—	—	—	—
12th Grade	44.1	40.7	42.9	45.6	+2.7ss	29.4	27.1	31.0	35.8	+4.8sss	16.4	14.4	18.3	21.9	+3.6sss	—	—	—	—	—
College Students	50.4	48.8	45.9	45.5	-0.4	29.2	30.6	30.6	31.4	+0.7	15.2	16.1	15.1	16.0	+0.9	—	—	—	—	—
Young Adults	62.2	60.2	59.6	57.5	-2.2s	27.0	28.3	28.4	28.4	0.0	15.1	14.8	14.9	15.3	+0.4	—	—	—	—	—
Any Illicit Drug[a] Other Than Marijuana																				
8th Grade	14.3	15.6	16.8	17.5	+0.7	8.4	9.3	10.4	11.3	+0.9	3.8	4.7	5.3	5.6	+0.3	—	—	—	—	—
10th Grade	19.1	19.2	20.9	21.7	+0.8	12.2	12.3	13.9	15.2	+1.3	5.5	5.7	6.5	7.1	+0.6	—	—	—	—	—
12th Grade	26.9	25.1	26.7	27.6	+0.9	16.2	14.9	17.1	18.0	+0.9	7.1	6.3	7.9	8.8	+0.9	—	—	—	—	—
College Students	25.8	26.1	24.3	22.0	-2.4	13.2	13.1	12.5	12.2	-0.3	4.3	4.6	5.4	4.6	-0.8	—	—	—	—	—
Young Adults	37.8	37.0	34.6	33.4	-1.2	14.3	14.1	13.0	13.0	+0.1	5.4	5.5	4.9	5.3	+0.4	—	—	—	—	—
Any Illicit Drug[a] Including Inhalants																				
8th Grade	28.5	29.6	32.3	35.1	+2.8ss	16.7	18.2	21.1	24.2	+3.1ss	8.8	10.0	12.0	14.3	+2.3ss	—	—	—	—	—
10th Grade	36.1	36.2	38.7	42.7	+4.0sss	23.9	23.5	27.4	32.5	+5.1sss	13.1	12.6	15.5	20.0	+4.5sss	—	—	—	—	—
12th Grade	47.6	44.4	46.6	49.1	+2.5s	31.2	28.8	32.5	37.6	+5.1sss	17.8	15.5	19.3	23.0	+3.7sss	—	—	—	—	—
College Students	52.0	50.3	49.1	47.0	-2.1	29.8	31.1	31.7	31.9	+0.2	15.1	16.5	15.7	16.4	+0.7	—	—	—	—	—
Young Adults	63.4	61.2	61.2	58.5	-2.7ss	27.8	29.2	28.9	29.2	+0.3	15.4	15.3	15.1	16.1	+1.0	—	—	—	—	—
Marijuana/Hashish																				
8th Grade	10.2	11.2	12.6	16.7	+4.1sss	6.2	7.2	9.2	13.0	+3.8sss	3.2	3.7	5.1	7.8	+2.7sss	0.2	0.2	0.4	0.7	+0.3ss
10th Grade	23.4	21.4	24.4	30.4	+6.0sss	16.5	15.2	19.2	25.2	+6.0sss	8.7	8.1	10.9	15.8	+4.9sss	0.8	0.8	1.0	2.2	+1.2sss
12th Grade	36.7	32.6	35.3	38.2	+2.9s	23.9	21.9	26.0	30.7	+4.7sss	13.8	11.9	15.5	19.0	+3.5sss	2.0	1.9	2.4	3.6	+1.2sss
College Students	46.3	44.1	42.0	42.2	+0.2	26.5	27.7	27.9	29.3	+1.5	14.1	14.6	14.2	15.1	+0.8	1.8	1.6	1.9	1.8	-0.1
Young Adults	58.6	56.4	55.9	53.7	-2.1s	23.8	25.2	25.1	25.5	+0.5	13.5	13.3	13.4	14.1	+0.6	2.3	2.3	2.4	2.8	+0.4
Inhalants[b,c]																				
8th Grade	17.6	17.4	19.4	19.9	+0.5	9.0	9.5	11.0	11.7	+0.7	4.4	4.7	5.4	5.6	+0.2	0.2	0.3	0.3	0.2	-0.1
10th Grade	15.7	16.6	17.5	18.0	+0.5	7.1	7.5	8.4	9.1	+0.7	2.7	2.7	3.3	3.6	+0.3	0.1	0.1	0.2	0.1	0.0
12th Grade	17.6	16.6	17.4	17.7	+0.3	6.6	6.2	7.0	7.7	+0.7	2.4	2.3	2.5	2.7	+0.2	0.2	0.1	0.1	0.1	-0.1
College Students	14.4	14.2	14.8	12.0	-2.8s	3.5	3.1	3.8	3.0	-0.8	0.9	1.1	1.3	0.6	-0.7	—	—	—	—	—
Young Adults	13.4	13.5	14.1	13.2	-0.8	2.0	1.9	2.1	2.1	0.0	0.5	0.6	0.7	0.5	-0.2	*	*	*	*	0.0
Nitrites[d]																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.6	1.5	1.4	1.7	+0.3	0.9	0.5	0.9	1.1	+0.2	0.4	0.3	0.6	0.4	-0.2	0.2	0.1	0.1	0.2	+0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	1.4	1.2	1.3	1.0	-0.4	0.2	0.1	0.4	0.3	-0.2	*	0.1	0.2	0.1	-0.1	*	0.0	0.2	0.0	-0.2

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

(Table continued on next page)

TABLE 1 (cont.)

Trends in Prevalence of Various Drugs for Five Populations: Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)

	Lifetime					Annual					30-Day					Daily				
	1991	1992	1993	1994	'93–'94 change	1991	1992	1993	1994	'93–'94 change	1991	1992	1993	1994	'93–'94 change	1991	1992	1993	1994	'93–'94 change
Hallucinogens[c]																				
8th Grade	3.2	3.8	3.9	4.3	+0.4	1.9	2.5	2.6	2.7	+0.1	0.8	1.1	1.2	1.3	+0.1	0.1	0.1	0.1	0.1	0.0
10th Grade	6.1	6.4	6.8	8.1	+1.3s	4.0	4.3	4.7	5.8	+1.1s	1.6	1.8	1.9	2.4	+0.5	*	0.1	0.1	0.1	0.0
12th Grade	9.6	9.2	10.9	11.4	+0.5	5.8	5.9	7.4	7.6	+0.2	2.2	2.1	2.7	3.1	+0.4	0.1	0.1	0.1	0.1	0.0
College Students	11.3	12.0	11.8	10.0	-1.8	6.3	6.8	6.0	6.2	+0.2	1.2	2.3	2.5	2.1	-0.4	—	—	—	—	—
Young Adults	15.7	15.7	15.4	15.4	0.0	4.5	5.0	4.5	4.8	+0.3	1.1	1.5	1.2	1.4	+0.3	0.0	0.0	*	0.0	0.0
LSD																				
8th Grade	2.7	3.2	3.5	3.7	+0.2	1.7	2.1	2.3	2.4	+0.1	0.6	0.9	1.0	1.1	+0.1	*	*	*	*	0.0
10th Grade	5.6	5.8	6.2	7.2	+1.0	3.7	4.0	4.2	5.2	+1.0s	1.5	1.6	1.6	2.0	+0.4	*	0.1	*	*	0.0
12th Grade	8.8	8.6	10.3	10.5	+0.2	5.2	5.6	6.8	6.9	+0.1	1.9	2.0	2.4	2.6	+0.2	0.1	0.1	0.1	0.1	0.0
College Students	9.6	10.6	10.6	9.2	-1.4	5.1	5.7	5.1	5.2	+0.1	0.8	1.8	1.6	1.8	+0.2	—	—	—	—	—
Young Adults	13.5	13.8	13.6	13.8	+0.3	3.8	4.3	3.8	4.0	+0.2	0.8	1.1	0.8	1.1	+0.3	0.0	0.0	0.0	0.0	0.0
PCP[d]																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	2.9	2.4	2.9	2.8	-0.1	1.4	1.4	1.4	1.6	+0.2	0.5	0.6	1.0	0.7	-0.3	0.1	0.1	0.1	0.3	+0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	3.1	2.0	1.9	2.0	+0.1	0.3	0.3	0.2	0.3	+0.1	0.1	0.2	0.2	0.1	-0.1	*	0.0	0.1	0.0	-0.1
Hallucinogens Other than LSD																				
8th Grade	1.4	1.7	1.7	2.2	+0.5ss	0.7	1.1	1.0	1.3	+0.3s	0.3	0.4	0.5	0.7	+0.2s	*	*	*	*	0.0
10th Grade	2.2	2.5	2.8	3.8	+1.0ss	1.3	1.4	1.9	2.4	+0.5s	0.4	0.5	0.7	1.0	+0.3s	*	*	*	*	0.0
12th Grade	3.7	3.3	3.9	4.9	+1.0s	2.0	1.7	2.2	3.1	+0.9ss	0.7	0.5	0.8	1.2	+0.4s	*	*	*	*	0.0
College Students	6.0	5.7	5.4	4.4	-0.9	3.1	2.6	2.7	2.8	0.0	0.6	0.7	1.1	0.8	-0.3	—	—	—	—	—
Young Adults	8.4	8.0	7.6	7.4	-0.2	1.7	1.9	1.9	2.0	+0.1	0.3	0.5	0.6	0.6	0.0	0.0	0.0	*	0.0	0.0
Cocaine																				
8th Grade	2.3	2.9	2.9	3.6	+0.7s	1.1	1.5	1.7	2.1	+0.4	0.5	0.7	0.7	1.0	+0.3s	0.1	*	0.1	0.1	0.0
10th Grade	4.1	3.3	3.6	4.3	+0.7s	2.2	1.9	2.1	2.8	+0.7ss	0.7	0.7	0.9	1.2	+0.3	0.1	*	0.1	0.1	0.0
12th Grade	7.8	6.1	6.1	5.9	-0.2	3.5	3.1	3.3	3.6	+0.3	1.4	1.3	1.3	1.5	+0.2	0.1	0.1	0.1	0.1	0.0
College Students	9.4	7.9	6.3	5.0	-1.4	3.6	3.0	2.7	2.0	-0.7	1.0	1.0	0.7	0.6	-0.2	*	0.0	0.0	0.1	+0.1
Young Adults	21.0	19.5	16.9	15.2	-1.8ss	6.2	5.7	4.7	4.3	-0.4	2.0	1.8	1.4	1.3	0.0	0.1	*	0.1	*	0.0
Crack																				
8th Grade	1.3	1.6	1.7	2.4	+0.7sss	0.7	0.9	1.0	1.3	+0.3s	0.3	0.5	0.4	0.7	+0.3ss	*	*	0.1	*	0.0
10th Grade	1.7	1.5	1.8	2.1	+0.3	0.9	0.9	1.1	1.4	+0.3s	0.3	0.4	0.5	0.6	+0.1	*	*	*	*	0.0
12th Grade	3.1	2.6	2.6	3.0	+0.4	1.5	1.5	1.5	1.9	+0.4	0.7	0.6	0.7	0.8	+0.1	0.1	0.1	0.1	0.1	0.0
College Students	1.5	1.7	1.3	1.0	-0.4	0.5	0.4	0.6	0.5	-0.2	0.3	0.1	0.1	0.1	0.0	—	—	—	—	—
Young Adults	4.8	5.1	4.3	4.4	+0.1	1.2	1.4	1.3	1.1	-0.1	0.4	0.4	0.4	0.3	-0.1	*	*	0.1	*	0.0
Other Cocaine[e]																				
8th Grade	2.0	2.4	2.4	3.0	+0.6s	1.0	1.2	1.3	1.7	+0.4	0.5	0.5	0.6	0.9	+0.3s	*	*	*	*	0.0
10th Grade	3.8	3.0	3.3	3.8	+0.5	2.1	1.7	1.8	2.4	+0.6s	0.6	0.6	0.7	1.0	+0.3s	*	*	*	*	0.0
12th Grade	7.0	5.3	5.4	5.2	-0.2	3.2	2.6	2.9	3.0	+0.1	1.2	1.0	1.2	1.3	+0.1	0.1	*	0.1	0.1	0.0
College Students	9.0	7.6	6.3	4.6	-1.7	3.2	2.4	2.5	1.8	-0.7	1.0	0.9	0.6	0.3	-0.3	—	—	—	—	—
Young Adults	19.8	18.4	15.1	13.9	-1.2	5.4	5.1	3.9	3.6	-0.3	1.8	1.7	1.1	1.0	-0.1	0.1	*	*	*	0.0

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

(Table continued on next page)

TABLE 1 (cont.)

Trends in Prevalence of Various Drugs for Five Populations: Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)

	Lifetime					Annual					30-Day					Daily				
	1991	1992	1993	1994	'93–'94 change	1991	1992	1993	1994	'93–'94 change	1991	1992	1993	1994	'93–'94 change	1991	1992	1993	1994	'93–'94 change
Ecstasy[f]																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	2.0	2.9	2.3	2.1	-0.2	0.9	2.0	0.8	0.5	-0.3	0.2	0.4	0.3	0.2	-0.1	—	—	—	—	—
Young Adults	3.2	3.9	3.8	3.8	+0.1	0.8	1.0	0.8	0.7	-0.1	0.1	0.3	0.3	0.2	-0.1	0.0	0.0	*	0.0	0.0
Heroin																				
8th Grade	1.2	1.4	1.4	2.0	+0.6sss	0.7	0.7	0.7	1.2	+0.5sss	0.3	0.4	0.4	0.6	+0.2s	*	*	*	0.1	0.0
10th Grade	1.2	1.2	1.3	1.5	+0.2	0.5	0.6	0.7	0.9	+0.2	0.2	0.2	0.3	0.4	+0.1	*	*	*	*	0.0
12th Grade	0.9	1.2	1.1	1.2	+0.1	0.4	0.6	0.5	0.6	+0.1	0.2	0.3	0.2	0.3	+0.1	*	*	*	*	0.0
College Students	0.5	0.5	0.6	0.1	-0.5s	0.1	0.1	0.1	0.1	0.0	0.1	0.0	*	0.0	0.0	—	—	—	—	—
Young Adults	0.9	0.9	0.9	0.8	0.0	0.1	0.2	0.2	0.1	0.0	*	0.1	0.1	0.1	0.0	0.0	*	*	*	0.0
Other Opiates[g]																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.6	6.1	6.4	6.6	+0.2	3.5	3.3	3.6	3.8	+0.2	1.1	1.2	1.3	1.5	+0.2	0.1	*	*	0.1	0.0
College Students	7.3	7.3	6.2	5.1	-1.1	2.7	2.7	2.5	2.4	-0.1	0.6	1.0	0.7	0.4	-0.3	—	—	—	—	—
Young Adults	9.3	8.9	8.1	8.2	+0.1	2.5	2.5	2.2	2.5	+0.3	0.6	0.7	0.7	0.6	-0.1	*	*	*	*	0.0
Stimulants[g]																				
8th Grade	10.5	10.8	11.8	12.3	+0.5	6.2	6.5	7.2	7.9	+0.7	2.6	3.3	3.6	3.6	0.0	0.1	0.1	0.1	0.1	0.0
10th Grade	13.2	13.1	14.9	15.1	+0.2	8.2	8.2	9.6	10.2	+0.6	3.3	3.6	4.3	4.5	+0.2	0.1	0.1	0.3	0.1	-0.2
12th Grade	15.4	13.9	15.1	15.7	+0.6	8.2	7.1	8.4	9.4	+1.0	3.2	2.8	3.7	4.0	+0.3	0.2	0.2	0.2	0.2	0.0
College Students	13.0	10.5	10.1	9.2	-0.9	3.9	3.6	4.2	4.2	0.0	1.0	1.1	1.5	1.5	-0.1	0.1	0.0	0.1	0.1	0.0
Young Adults	22.4	20.2	18.7	17.1	-1.6s	4.3	4.1	4.0	4.5	+0.5	1.5	1.5	1.5	1.7	+0.3	0.1	0.1	0.1	0.1	0.0
Ice[f]																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.3	2.9	3.1	3.4	+0.3	1.4	1.3	1.7	1.8	+0.1	0.6	0.5	0.6	0.7	+0.1	0.1	0.1	0.1	*	0.0
College Students	1.3	0.6	1.6	1.3	-0.4	0.1	0.2	0.7	0.8	+0.1	0.0	0.0	0.3	0.5	+0.2	—	—	—	—	—
Young Adults	2.9	2.2	2.7	2.5	-0.2	0.3	0.4	0.8	0.9	+0.1	*	0.1	0.3	0.5	+0.2	0.0	0.0	0.0	0.1	+0.1
Barbiturates[g]																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.2	5.5	6.3	7.0	+0.7	3.4	2.8	3.4	4.1	+0.7s	1.4	1.1	1.3	1.7	+0.4s	0.1	*	0.1	*	0.0
College Students	3.5	3.8	3.5	3.2	-0.3	1.2	1.4	1.5	1.2	-0.3	0.3	0.7	0.4	0.4	0.0	—	—	—	—	—
Young Adults	8.2	7.4	6.5	6.4	0.0	1.8	1.6	1.9	1.8	-0.1	0.5	0.5	0.6	0.6	0.0	0.0	*	0.0	*	0.0
Tranquilizers[g]																				
8th Grade	3.8	4.1	4.4	4.6	+0.2	1.8	2.0	2.1	2.4	+0.3	0.8	0.8	0.9	1.1	+0.2	*	*	0.1	0.1	0.0
10th Grade	5.8	5.9	5.7	5.4	-0.3	3.2	3.5	3.3	3.3	0.0	1.2	1.5	1.1	1.5	+0.4s	*	*	*	*	0.0
12th Grade	7.2	6.0	6.4	6.6	+0.2	3.6	2.8	3.5	3.7	+0.2	1.4	1.0	1.2	1.4	+0.2	0.1	*	*	0.1	0.0
College Students	6.8	6.9	6.3	4.4	-1.9s	2.4	2.9	2.4	1.8	-0.6	0.6	0.6	0.4	0.4	0.0	—	—	—	—	—
Young Adults	11.8	11.3	10.5	9.9	-0.6	3.5	3.4	3.1	2.9	-0.2	0.9	1.0	1.0	0.8	-0.2	0.0	*	*	*	0.0

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

(Table continued on next page)

TABLE 1 (cont.)

Trends in Prevalence of Various Drugs for Five Populations: Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)

	Lifetime					Annual					30-Day					Daily				
	1991	1992	1993	1994	'93–'94 change	1991	1992	1993	1994	'93–'94 change	1991	1992	1993	1994	'93–'94 change	1991	1992	1993	1994	'93–'94 change
Alcohol[h]																				
Any use																				
8th Grade	70.1	69.3	67.1	—		54.0	53.7	51.6	—		25.1	26.1	26.2	—		0.5	0.6	0.8	—	
			55.7	55.8	+0.1			45.4	46.8	+1.4			24.3	25.5	+1.2			1.0	1.0	0.0
10th Grade	83.8	82.3	80.8	—		72.3	70.2	69.3	—		42.8	39.9	41.5	—		1.3	1.2	1.6	—	
			71.6	71.1	-0.5			63.4	63.9	+0.5			38.2	39.2	+1.0			1.8	1.7	-0.1
12th Grade	88.0	87.5	87.0	—		77.7	76.8	76.0	—		64.0	51.3	51.0	—		3.6	3.4	2.5	—	
			80.0	80.4	+0.4			72.7	73.0	+0.3			48.6	50.1	+1.5			3.4	2.9	-0.5
College Students	93.6	91.8	89.3	88.1	-1.2	88.3	86.9	85.1	82.7	-2.4	74.7	71.4	70.1	67.5	-2.6	4.1	3.7	3.9	3.6	-0.3
Young Adults	94.1	93.4	92.1	91.2	-0.9	86.9	86.2	85.3	83.7	-1.6s	70.6	69.0	68.3	67.7	-0.6	4.9	4.5	4.5	3.8	-0.7s
5+ drinks in last 2 weeks																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.9	13.4	13.5	14.5	+1.0
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22.9	21.1	23.0	23.6	+0.6
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29.8	27.9	27.5	28.2	+0.7
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42.8	41.4	40.2	40.0	-0.2
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.7	34.2	34.4	33.7	-0.7
Been Drunk[f]																				
8th Grade	26.7	26.8	26.4	25.9	-0.5	17.5	18.3	18.2	18.2	0.0	7.6	7.5	7.8	8.7	+0.9	0.1	0.1	0.2	0.3	+0.1
10th Grade	50.0	47.7	47.9	47.2	-0.7	40.1	37.0	37.8	38.0	+0.2	20.5	18.1	19.8	20.3	+0.5	0.2	0.3	0.4	0.4	0.0
12th Grade	65.4	63.4	62.5	62.9	+0.4	52.7	50.3	49.6	51.7	+2.1	31.6	29.9	28.9	30.8	+1.9	0.9	0.8	0.9	1.2	+0.3
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes																				
Any use																				
8th Grade	44.0	45.2	45.3	46.1	+0.8	—	—	—	—	—	14.3	15.5	16.7	18.6	+1.9s	7.2	7.0	8.3	8.8	+0.5
10th Grade	55.1	53.5	56.3	56.9	+0.6	—	—	—	—	—	20.8	21.5	24.7	26.4	+0.7	12.6	12.3	14.2	14.6	+0.4
12th Grade	63.1	61.8	61.9	62.0	+0.1	—	—	—	—	—	28.3	27.8	29.9	31.2	+1.3	18.5	17.2	19.0	19.4	+0.4
College Students	—	—	—	—	—	35.6	37.3	38.8	37.6	-1.1	23.2	23.5	24.5	23.5	-1.0	13.8	14.1	15.2	13.2	-2.0
Young Adults	—	—	—	—	—	37.7	37.9	37.8	38.3	+0.5	28.2	28.3	28.0	27.9	0.0	21.7	20.9	20.8	20.7	0.0
1/2 pack+/day																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.1	2.9	3.5	3.6	+0.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.5	6.0	7.0	7.6	+0.6
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.7	10.0	10.9	11.2	+0.3
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.0	8.9	8.9	8.0	-0.9
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.0	15.7	15.5	15.3	-0.2
Smokeless Tobacco[d]																				
8th Grade	22.2	20.7	18.7	19.9	+1.2	—	—	—	—	—	6.9	7.0	6.6	7.7	+1.1	1.6	1.8	1.5	1.9	+0.4
10th Grade	28.2	26.6	28.1	29.2	+1.1	—	—	—	—	—	10.0	9.6	10.4	10.5	+0.1	3.3	3.0	3.3	3.0	-0.3
12th Grade	—	32.4	31.0	30.7	-0.3	—	—	—	—	—	—	11.4	10.7	11.1	+0.4	—	4.3	3.3	3.9	+0.6s
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[i]																				
8th Grade	1.9	1.7	1.6	2.0	+0.4ss	1.0	1.1	0.9	1.2	+0.3ss	0.4	0.5	0.5	0.5	0.0	*	*	0.1	*	-0.1
10th Grade	1.8	1.7	1.7	1.8	+0.1	1.1	1.1	1.0	1.1	+0.1	0.6	0.6	0.5	0.6	+0.1	0.1	*	*	0.1	0.0
12th Grade	2.1	2.1	2.0	2.4	+0.4	1.4	1.1	1.2	1.3	+0.1	0.8	0.6	0.7	0.9	+0.2	0.1	0.1	0.1	0.4	+0.3
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	1.7	1.9	1.5	1.3	-0.2	0.5	0.4	0.3	0.4	+0.1	0.2	0.1	0.0	0.1	+0.1	0.0	0.1	0.0	0.0	0.0

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

(Footnotes are on next page)

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

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

Approximate Weighted Ns	1991	1992	1993	1994
8th Graders	17,500	18,600	18,300	17,300
10th Graders	14,800	14,800	15,300	15,800
12th Graders	15,000	15,800	16,300	15,400
College Students	1,410	1,490	1,490	1,410
Young Adults	6,600	6,800	6,700	6,500

[a]For 12th graders: Use of "any illicit drugs" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use of other opiates, stimulants, barbiturates, or tranquilizers not under a doctor's orders. For 8th and 10th graders: The use of other opiates 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]For 12th graders, college students, and young adults only: Data based on five questionnaire forms; N is five-sixths of N indicated for 12th graders. In 1994, N for college students is 1,200 and N for young adults is 5,300.

[c]Inhalants are unadjusted for underreporting of amyl and butyl nitrites; hallucinogens are unadjusted for underreporting of PCP.

[d]For 8th, 10th, and 12th graders, and young adults only: Data based on a single questionnaire form; N for 12th graders is one-sixth of N indicated. N for 8th and 10th graders is one-half of N indicated. In 1994, N for young adults is 1,200.

[e]For 12th graders, college students, and young adults only: Data based on four questionnaire forms; N is four-sixths of N indicated for 12th graders. In 1994, N for college students is 1,000 and N for young adults is 4,200.

[f]For 12th graders, college students, and young adults only: Data based on two questionnaire forms; N is one-third of N indicated for 12th graders. In 1994, N for college students is 500 and N for young adults is 2,400.

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

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

[i]For 12th graders only: Data based on two questionnaire forms; N is one-third of N indicated. For young adults only: Data based on one questionnaire form. In 1994, N is 1,200.

end to the improvements in the drug situation that the nation may be taking for granted" (page 7). The use of illicit drugs again rose sharply in 1994 in all three grade levels as negative attitudes and beliefs about them eroded further.

- ***Marijuana*** use rose sharply in all three grade levels in 1994, the third year of increase for eighth graders and the second for tenth and twelfth graders. Over these intervals the annual use of marijuana (i.e., any use during the prior twelve months) doubled among eighth graders (to 13%), increased by two-thirds among tenth graders (to 25%), and grew by two-fifths among twelfth graders (to 31%). Among college students and young adults, the increase from 1991 or 1992 has been much more gradual.

  Daily marijuana use rose significantly in all three grade levels in 1994, reaching 3.6% among seniors; that is one in every 28 students or more than one per average classroom. Still, this rate is far below the 10.7% peak figure reached in 1978.

- Among seniors, the proportions using ***any illicit drug other than marijuana*** in the past year rose from 17% to 18%, a rate still substantially below the 34% peak rate in 1981. There was little change for college students (12%) or young adults (13%).

- In 1989-1991 we noted an increase among college students and young adults in the use of ***LSD***, a drug most popular in the late 1960s and early 1970s. In 1992, all five populations showed an increase in annual prevalence of LSD, but since then increases have persisted only among the secondary school students and they have been modest. The 1989-1992 increase for college students (from 3.4% to 5.7%), and for young adults (from 2.7% to 4.3%) ended in 1993.

  Prior to the significant increase in use among seniors in 1993, there was a significant 4.3% decline, then a continued, nonsignificant, decline through 1994 in the proportion seeing great risk associated with trying LSD. The decline beginning in 1992 in the proportion disapproving LSD also continued through 1994. The change in disapproval between 1993 and 1994 was significant. Since LSD was one of the earliest drugs 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. This type of "generational forgetting" could set the stage for a whole new epidemic of use. There has, in fact, been a decline in the perceived harmfulness of LSD, which began after 1989 among seniors. These measures were first introduced

for eighth and tenth graders in 1993, but they showed a sharp drop in 1994.

- Prescription-controlled ***stimulants***—one of the most widely used classes of drugs taken illicitly (i.e., outside of medical regimen)—also showed evidence of a continued increase in 1994, with annual and 30-day prevalence rates gradually increasing among the three secondary school samples. Annual prevalence had fallen from 20% in 1982 to 7% in 1992 among seniors and from 21% to 4% among college students over the same interval. The increase in use among seniors beginning in 1993 followed a sharp drop in perceived risk a year earlier. In 1994, perceived risk and disapproval of amphetamine use continued to decline. This pattern of change is consistent with our theoretical position that perceived risk can drive both use and disapproval.

- The ***inhalants*** constitute another class of abusable substance where a troublesome increase continued in 1994. Inhalants are defined as fumes or gases which are inhaled to get high, including 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, annual prevalence among twelfth grade students was 6.5% in 1979 but 1.1% in 1994.

  When the nitrites are removed from consideration it appears that all other inhalants taken together have had an upward trend in use, from 3.0% among seniors in 1976 to 7.7% in 1994. The three secondary school populations showed a modest increase in inhalant use in 1994. Some 12% of the 1994 eighth graders and 9% of the tenth graders indicated 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 stimulants) for the tenth graders. Inhalants can and do cause death, and tragically, this often occurs among youngsters in their early teens.

- The overall prevalence of ***crack*** cocaine levelled in 1987 at relatively low prevalence rates, at least within these populations, even though crack use continued to spread to new communities. In 1994, annual prevalence rose slightly (not significantly) to 1.9% for seniors (down from 3.9% in 1987). A similar increase among eighth and tenth grade students did reach statistical significance. Among young adults one to ten years past high school, annual prevalence was 1.1%, but only 0.5% among college students–both relatively unchanged since 1991. In high school, annual crack prevalence among the college-bound is lower than among those not bound for college (1.4% vs. 3.3%). There is now rather little regional variation in crack use.

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. While 3.0% of seniors report ever having tried crack, only 0.8% report use in the past month, indicating noncontinuation by 73% of those who try it. The longer-term downward trend can be explained by lower initiation rates among students and by higher noncontinuation rates.

While crack use did not increase in 1993, perceived risk and disapproval dropped in all three grade levels, predicting the modest rise in use in all three grades in 1994.

- ***Cocaine***[2] in general began to decline a year earlier than crack. Between 1986 and 1987 the annual prevalence rate dropped dramatically, by roughly four-tenths in all three populations then studied–seniors, college students, and young adults. The decline occurred when young people began to view experimental and occasional use–the type of use they are most likely to engage in–as more dangerous. This change had occurred by 1987, probably partly because the hazards of cocaine use received extensive media coverage in the preceding year, but almost surely in part because of the cocaine-related deaths in 1986 of sports stars Len Bias and Don Rogers.

  In 1992, this broad decline continued, with annual prevalence falling by nonstatistically significant amounts in all populations *except* eighth graders, who actually showed a statistically significant increase in use. Annual prevalence of cocaine use fell by about two-thirds among the three populations for which long-term data are available. In 1993, cocaine use remained stable in all five populations except the young adults, where use continued to decline. In 1994, annual use rose among eighth, tenth, and twelfth graders while use among college students and young adults continued to decline. Again, the story regarding attitudes and beliefs is more troubling.

  Having risen substantially since 1986, the perceived risk of using cocaine actually showed some (nonsignificant) decline in 1992 among seniors. In 1993, perceived risk for cocaine other than crack fell sharply in all grades and disapproval began to decline in all grades, though not as sharply as perceived risk. In 1994, perceived risk continued to decline among eighth and tenth graders (significantly among eighth graders); however it rose slightly among seniors. Disapproval continued its decline among eighth and tenth graders (significantly in both cases). Again, seniors did not follow.

[2]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; in fact, it rose steadily after 1984 suggesting that availability played no role in bringing about the substantial downturn in use. After 1989, however, perceived availability has fallen some among seniors; the decline may be explained by the greatly reduced proportions of seniors who say they have any friends who use, because friendship circles are an important part of the supply system. In 1992 there was a significant increase in eighth and tenth grade reports of the availability of crack and other cocaine, but no significant change thereafter. Among seniors, on the other hand, reported availability continued to decline.

As with all the illicit drugs, lifetime cocaine prevalence climbs with age, exceeding 25% by age 28. Unlike all of the other illicit drugs, active use–i.e., annual prevalence or monthly prevalence–also climbs after high school.

- ***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 and stands at 1.6% in 1994. For the young adults, the annual prevalence rate is now only 0.3%.

- The annual prevalence of ***heroin*** use has been very steady since 1979 among seniors at 0.4% to 0.6%, down from 1.0% in 1975. It stands at 0.6% in 1994. Heroin statistics for young adults and college students have also remained quite stable at low rates (about 0.1% to 0.2%). Eighth and tenth graders have an annual prevalence of 1.2% and 0.9% respectively, slightly higher than twelfth graders (0.6%); the highter rates probably reflect the eventual dropouts, who are captured in the lower grades but not in twelfth grade. Eighth graders show a significant increase in the annual prevalence of heroin, from 0.7% in 1993 to 1.2% in 1994.

- The use of ***opiates other than heroin*** had been fairly level over most of the life of the study. Seniors had an annual prevalence rate of 4% to 6% from 1975 to 1990. In 1991, however, a significant decline (from 4.5% to 3.5%) was observed, though no further changes have occurred. Young adults in their twenties have generally shown a very gradual decline from 3.1% in 1986 to 2.5% in 1994; college students have likewise shown a slow decrease, from 3.8% in 1982-1984 to 2.4% in 1994. Data are not reported for younger grade levels because we believe the students are not accurately discriminating among the drugs which should be included or excluded from this class.

- A long and substantial decline, which began in 1977, occurred for ***tranquilizer*** use among high school seniors. By 1992 annual prevalence reached 2.8% compared to 11% in 1977, but there was a significant increase in 1993 to 3.5%, and a slight further increase to 3.7% in 1994. Reported tranquilizer use also has shown some recent,

modest increase among eighth graders, from 1.8% in 1991 to 2.4% in 1994, but not among tenth graders, whose annual prevalence stands at 3.3% in 1994. For the young adult sample, annual prevalence has now declined to 2.9% and for the college student sample to 1.8%.

- The long-term gradual decline in ***barbiturate*** use, which began at least as early as 1975, when the study began, halted in 1988. Annual prevalence among seniors fell from 10.7% in 1975 to 3.2% in 1988, and then hovered around 3.4% through 1991 before dropping further to 2.8% in 1992. It has since risen significantly to 4.1% in 1994. Annual prevalence of this class of sedative drugs is lower among the young adult sample (1.8%), and lower still among college students specifically (1.2%). For these groups there has been little further change since 1988. Again, data are not included here for lower grades because we believe the younger students have more problems with the proper classification of relevant drugs.

- ***Methaqualone***, another sedative drug, has shown quite a different trend pattern than barbiturates. Its use rose steadily among seniors from 1975 to 1981, when annual prevalence reached 8%. It then fell rather sharply to 0.2% by 1993 and rose significantly to 0.8% in 1994. Use also fell among all young adults and among college students, which had annual prevalence rates of only 0.3% and 0.2%, respectively in 1989–the last year in which they were asked about this drug. In the late eighties, shrinking availability may well have played a role in this drop, as legal manufacture and distribution of the drug ceased. Because of its very low usage rates, only the seniors are now asked about their use of this drug.

- In sum, five classes of illicitly used drugs, ***marijuana***, ***cocaine***, ***stimulants***, ***LSD***, and ***inhalants*** have had an impact on appreciable proportions of young Americans in their late teens and twenties. In 1994, high school seniors showed annual prevalence rates of 31%, 4%, 9%, 7%, and 8%, respectively. Among college students in 1994, the comparable annual prevalence rates are 29%, 2%, 4%, 5%, and 3%; and for all high school graduates one to ten years past high school (young adults) the rates are 26%, 4%, 5%, 4%, and 2%. It is worth noting that LSD has climbed in the rankings because its use has not declined, or in some cases has increased, during a period in which use of cocaine, amphetamines, and other drugs has declined appreciably. The inhalants have become relatively more important for similar reasons.

  Clearly, cocaine is relatively more important in the older age group and inhalants are relatively more important in the younger ones. In fact, in eighth grade inhalants are second to marijuana as the most widely used of the illicit drugs.

Because of their importance among the younger adolescents, a new index of illicit drug use including inhalants was introduced in Table 1. Certainly the use of inhalants reflects a form of illicit, psychoactive drug use; its inclusion makes relatively little difference in the illicit drug index prevalence rates for the older age groups, but considerable difference for the younger ones. For example, the proportion of eighth graders reporting any illicit drug used in their lifetime, exclusive of inhalants, in 1994 is 26%, whereas 35% have such experience if inhalants are included.

- The annual prevalence among seniors 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%. Since 1990 this statistic has fallen slightly to 21% in 1994. Increases also occurred among the college-age young adult population (ages 19-22), where annual prevalence was 26% in 1989, but is now down to 18% in 1994.

  The other two classes of nonprescription stimulants–the ***look-alikes*** and the over-the-counter ***diet pills***–have also shown some fall-off among both seniors and young adults in recent years. Still, among seniors some 24% of the females have tried diet pills by the end of senior year, 15% have used them in the past year, and 6% in just the past month. These numbers reflect some increase in 1994.

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 a number of drugs which are about average for their age group, including ***any illicit drug***, ***marijuana*** specifically (although their rate of ***daily marijuana use*** is about one-half what it is for the rest of their age group, i.e., 1.8% vs. 4.0%), ***hallucinogens***, ***heroin***, ***LSD***, and ***opiates other than heroin***. For several categories of drugs, however, college students have rates of use which are below those of their age peers, including ***any illicit drug other than marijuana***, ***cocaine***, ***crack*** cocaine specifically, ***MDMA***, ***tranquilizers***, and ***barbiturates***.

  Since college-bound seniors had below average rates of use on all of these illicit drugs while they were in high school, the eventual attainment of parity on many of them reflects some closure of the gap. As results from the study published elsewhere have shown, this college effect of "catching up" is largely explainable in terms of differential rates of leaving the parental home 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.

- In general, the trends since 1980 in illicit substance use among American college students have parallelled those of their age peers not in college. Most drugs have shown a decline in use since then. Further, all young adult high school graduates through age 28, as well as college students taken separately, show trends which are highly parallel for the most part to the trends among high school seniors, although declines in the active use of many of the drugs have been proportionately larger in these two older populations. In 1993 and 1994, this general parallel in trends was not evident, however; the upturn seen among the secondary school students has not been replicated in the post-high school population.

Male-Female Differences in Illicit Drug Use

- Regarding sex differences in three populations (seniors, college students, and young adults), males are more likely to use ***most illicit drugs***, and the differences tend to be largest at the higher frequency levels. ***Daily marijuana use*** among high school seniors in 1994, for example, is reported by 5.1% of males vs. 2.0% of females; among all young adults by 4.5% of males vs. 1.4% of females; and among college students, specifically, by 3.3% of males vs. 0.8% of females. The only significant exception to the rule that males are more frequently users of illicit drugs than females occurs for ***stimulant*** use in high school, where females are at the same level or slightly higher.

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

TRENDS IN ALCOHOL USE

- Several findings about ***alcohol*** use in these age groups are noteworthy. First, despite the fact that it is illegal for virtually all secondary school students and most college students to purchase alcoholic beverages, experience with alcohol is almost universal among them. That is, 56% of eighth graders have tried it, 71% of tenth graders, 80% of twelfth graders, and 88% of college students, and active use is widespread. Most important, perhaps, is the widespread occurrence of occasions of heavy drinking—measured by the percent reporting five or more drinks in a row at least once in the prior two-week period. Among eighth graders this statistic stands at 15%, among tenth graders at 24%, among twelfth graders at 28%, and among college students at 40%. After the early twenties this behavior recedes somewhat, reflected by the 34% found in the entire young adult sample.

- Alcohol use did not increase as use of other illicit drugs decreased among seniors, although it was common to hear such a "displacement hypothesis" asserted. If anything, the opposite seems to be true. Since 1980, the monthly prevalence of alcohol use among seniors has gradually declined, from 72% in 1980 to 51% in 1993. ***Daily use*** declined from a peak of 6.9% in 1979 to 2.5% in 1993; and the prevalence of drinking ***five or more drinks in a row*** (binge drinking) during the prior two-week interval fell from 41% in 1983 to 28% in 1993–nearly a one-third decline. Now that illicit drug use is starting up again, there is evidence that alcohol use may be starting up, as well.

  In 1994 there were no statistically significant changes in any of the populations in the prevalence of drinking. All grades showed a positive change on annual, 30-day, and binge drinking prevalence rates, however.

College-Noncollege Differences in Alcohol Use

- The data from college students show a quite different pattern in relation to alcohol use. They show less drop-off in monthly prevalence since 1980 (82% to 72% in 1993) and slightly less decline in ***daily use*** (6.5% in 1980 to 3.2% in 1993). There has also been little change in ***occasions of heavy drinking***, which was at 40% in 1993—considerably higher than the 28% among high school seniors. Since both their noncollege-age peers and high school students have been showing a net decrease in occasions of heavy drinking since 1980, the college students stand out as having maintained a very high rate of binge or party drinking. Since the college-bound seniors in high school are consistently less likely to report occasions of heavy drinking than the noncollege-bound, this indicates that they are "catching up and passing" their peers in binge drinking after high school.

- In most surveys from 1980 onward, college students have had a ***daily drinking*** rate which was slightly lower than that of their age peers (though this was not true in 1994), suggesting that they were more likely to confine their drinking to weekends, when they tend to drink a lot. Again, college men have much higher rates of daily drinking than college women: 5.6% vs. 2.1% in 1994. The rate of daily drinking has fallen considerably among the noncollege group, from 8.7% in 1981 to 3.2% in 1994.

Male-Female Differences in Alcohol Use

- There is a substantial sex difference among high school seniors in the prevalence of ***occasions of heavy drinking*** (20% for females vs. 37% for males in 1994); this difference generally had been diminishing very gradually since the study began, though it expanded slightly in 1994.

- There are also substantial sex differences in alcohol use among college students, and young adults generally, with males drinking more. For example, 52% of college males report having ***five or more drinks in a row*** over the previous two weeks vs. 31% of college females. There has been little change in this gender difference between 1980 and 1994.

TRENDS IN CIGARETTE SMOKING

- A number of important findings about ***cigarette smoking*** among American adolescents and young adults have emerged from the study. Despite the demonstrated health risks associated with smoking, sizeable proportions of young people still are establishing regular cigarette habits during late adolescence. In fact, since the study began in 1975, cigarettes have consistently comprised the class of substance most frequently used on a daily basis by high school students.

- At present we are in a period of clear and continuing increase in cigarette smoking among teens. Twelfth graders have shown an increase in smoking which began in 1992, while eighth and tenth graders have shown a steady increase since they were first surveyed in 1991. Their rates of current smoking–that is, smoking any cigarettes in the prior 30 days–rose among eighth graders by 30% between 1991 and 1994, from 14.3% to 18.6%. Tenth graders' current smoking rates incresed by more than two-tenths over the same interval, from 20.8% to 25.4%. Among seniors the current smoking rate has risen one-eighth since 1992, from 27.8% to 31.2%. (All three changes are highly statistically significant.)

- For seniors, this upturn follows a substantial decline in smoking during the period from 1977 to 1981, 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. Only two-thirds of the seniors (67.6%) report that a pack-a-day smokers run a great risk of harming themselves and only half (50.8%) of the eighth graders say the same. All three grades showed a nonsignificant decrease in perceived risk in 1994. Disapproval of cigarette smoking has been in decline longer: since 1991 among eighth and tenth graders and since 1992 among twelfth graders.

Age and Cohort-Related Differences in Cigarette Smoking

- Initiation of daily smoking most often occurs in grades 6 through 9 (i.e., at modal ages 11-12 to 14-15), with rather little further initiation after high school, although a number of light smokers make the transition to heavy smoking in the first two years after high school. Analyses

presented in this volume and elsewhere have shown that cigarette smoking shows a clear "cohort effect." That is, if a class (or birth) cohort establishes an unusually high rate of smoking at an early age relative to other cohorts, it is likely to remain high throughout the life cycle.

- 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. (The figure was 56% in 1994.) Of those who were daily smokers in high school, nearly three-quarters were daily smokers 7 to 9 years later (based on the 1985 survey), despite the fact that in high school only 5% of them thought they would "definitely" be smoking 5 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 added to the study more recently, show us that younger children are even more likely than older ones to underestimate the dangers of smoking.

- The surveys of eighth and tenth graders also show that cigarettes are almost universally available to teens. Three-quarters of eighth graders and 90% of tenth graders say that cigarettes are "fairly easy" or "very easy" for them to get, if they want them.

College-Noncollege Differences in Cigarette Smoking

- A striking difference in smoking rates exists between college-bound and noncollege-bound high school seniors. For example, smoking half-pack or more a day is more than twice as prevalent among the noncollege-bound seniors (20% vs. 8%). Among respondents one to four years past high school, those not in college show the same dramatically higher rate of smoking compared to that found among those who are in college, with half-pack-a-day smoking standing at 22% and 8%, respectively.

Male-Female Differences in Cigarette Smoking

- Since 1980, among college students, females have had slightly higher probabilities of being daily smokers. This long-standing sex difference has not been true of their age peers who are not in college.

  In the 1970s, among high school seniors, females caught up to, and passed, males in their rates of ***current smoking***. Both sexes then showed a decline in use followed by a long, fairly level period with use by females consistently higher. In 1990 there was another crossover due to a rising rate among males (from 1987 to 1994) and a falling rate among females (from 1987 to 1992) resulting in males having a higher

rate from 1991 to 1994. Both sexes have shown increasing use since 1992.

RACIAL/ETHNIC COMPARISONS

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

- Black seniors have consistently shown lower usage rates on most drugs, licit and illicit, than white students; this also is true at the lower grade levels. In some cases, the differences are quite large.

- Black students have a much lower prevalence of ***daily cigarette smoking*** than white students (5% vs. 23% in senior year, in 1994) because their smoking rate continued to decline after 1983, while the rate for whites stabilized.

- In twelfth grade, ***binge drinking*** is much less likely to be reported by black students (14%) than by white (32%) or Hispanic students (24%).

- In twelfth grade, of the three racial/ethnic groups, whites have the highest rates of use on a number of drugs, including ***marijuana, inhalants, hallucinogens, LSD*** specifically, ***barbiturates, amphetamines, tranquilizers, opiates other than heroin, alcohol, cigarettes***, and ***smokeless tobacco***.

- However, in senior year, Hispanics have the highest usage rate for a number of the most dangerous drugs: ***cocaine, crack,*** and ***other cocaine***; and they tie whites on ***heroin*** use. Further, in eighth grade, Hispanics have the highest rates not only on these drugs, but on many of the others, as well. For example, in eighth grade, the lifetime prevalence for Hispanics is 23%, and for whites and blacks 13% for ***marijuana***; 6%, 4%, and 1% for ***hallucinogens***; 54%, 46%, and 37% for ***cigarettes***; 22%, 13%, and 12% for ***binge drinking***; etc. In other words, Hispanics have the highest rates of use for nearly all drugs in eighth grade, but not in twelfth, which suggests that their considerably higher dropout rate (compared to whites and blacks) may change their relative ranking by twelfth grade.

- With regard to trends, seniors in all three racial/ethnic groups exhibited the recent decline in ***cocaine*** use through 1992, although the decline was less steep among black seniors because the earlier increase in use was not as large as that among whites and Hispanics.

- 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 ***stimulants, barbiturates, methaqualone***, and ***tranquilizers***—they also had the largest declines; blacks have had the lowest rates, and therefore, the smallest declines.

- During the life of the study, important racial/ethnic differences in ***cigarette smoking*** have emerged among seniors. The three groups were fairly similar in their smoking rates during the late 1970s and all three mirrored the general decline in smoking from 1977-1981. Since 1981, however, a considerable divergence has emerged: Through 1992, smoking rates declined very little, if at all, for whites and Hispanics, but the rates for blacks continued to decline steadily. As a result, by 1992 the daily smoking rate for blacks was one-fifth that for whites. By 1994, both blacks and whites showed an increase in smoking, however, and in all three grade levels. Hispanics also showed an increase in eighth grade, but not in tenth and twelfth grades by 1994.

DRUG USE IN EIGHTH GRADE

It may be useful to focus specifically on the youngest age group in the study–the eighth graders–who are about 13 to 14 years old, because the exceptional level of use that they already have attained helps illustrate the urgent need for the nation to continue to address the problems of substance abuse among its young.

- By eighth grade 56% of youngsters report having tried ***alcohol*** (more than just a few sips) and more than a quarter (26%) say they have already been drunk at least once.

- Nearly half of the eighth graders (46%) have tried ***cigarettes***, and 19%, or nearly one in five, say they have smoked in the prior month. Only 51% say they think there is great risk associated with being a pack-a-day smoker.

- ***Smokeless tobacco*** has been tried by 30% of the male eighth graders, is used currently by 13% of them, and is used daily by 3.2%. Rates are far lower among the female eighth graders.

- Among eighth graders, one in five (20%) have used ***inhalants***, and 6% say they have used 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 one in every six eighth graders (17%), and has been used in the prior month by 7.8%, and these numbers are rising rapidly.

- A surprisingly large number of eighth grade students say they have tried prescription-type ***stimulants*** (12%); 3.6% say they have used them in the prior 30 days.

- Relatively few eighth graders say they have tried most of the other illicit drugs yet. (This is consistent with the retrospective reports from seniors.) But the proportions having at least some experience with them still is not inconsequential when one considers the fact that a 3.3% prevalence rate represent one child in every 30-student classroom on average: ***tranquilizers*** (4.6%), ***LSD*** (3.7%), ***other hallucinogens*** (2.2%), ***crack*** (2.4%), ***other cocaine*** (3.0%), ***heroin*** (2.0%), and ***steroids*** (2.0% overall, and 2.8% among males.)

- The very large numbers who have already begun use of the so-called "gateway drugs" (***tobacco***, ***alcohol***, ***inhalants***, and ***marijuana***) suggests that a substantial number of eighth grade students are already at risk of proceeding further to such drugs as LSD, cocaine, amphetamines, and heroin.

SUMMARY AND CONCLUSIONS

To summarize the findings on trends, over the decade of the eighties there were appreciable declines in the use of a number of the ***illicit drugs*** among seniors, 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, beliefs about risk of drugs, and peer norms against drug use–have some extremely important policy implications. One is that the nation does have the capacity to deal quite effectively with the drug problem. It has done it before. The second is that demand-side factors appear to have been pivotal in bringing about those changes. The availability of marijuana, as reported by high school seniors, has held fairly steady throughout the life of the study. (Moreover, abstainers and quitters rank availability and price very low on their list of reasons for not using.) And the perceived availability of cocaine actually was rising during the beginning of the sharp decline in cocaine and crack use.

However, as we have previously warned, the stall in these favorable trends in all three populations in 1985, as well as an increase in active ***cocaine*** use that year, should have served as a reminder that the improvements were not inevitable and should not be taken for granted. Further, during the 1980s, the use of ***inhalants*** other than the nitrites continued to rise.

While the general decline resumed in 1986 and, most importantly, was joined by the start of a decline in ***cocaine*** use in 1987 and ***crack*** use in 1988, in 1992 a number of alarm bells sounded. While the seniors continued to show improvement on a number of measures in 1992, the college students and young adults did not. Further, the attitudes and beliefs of seniors regarding drug use began to soften. Perhaps of greatest importance, the eighth graders exhibited a significant increase in use of ***marijuana, cocaine, LSD***, and ***hallucinogens other than LSD*** that year, as well as a not-quite significant increase in

inhalant use. (In fact, all five populations showed some increase on ***LSD***, continuing a longer term trend for college students and young adults.)

In 1993 and again in 1994, still more alarm bells sounded. Eighth graders continued to show an increase in their use of a number of drugs, and the tenth graders and twelfth graders joined them, fulfilling predictions based on eroding beliefs and attitudes. Increases occurred in a number of the so-called "gateway drugs"–***marijuana, cigarettes,*** and ***inhalants***—which may bode ill for the use of later drugs in the usual sequence of drug-use involvement. The softening attitudes about ***crack*** and other forms of ***cocaine*** also provided a basis for concern.

This study has demonstrated over the years that changes in perceived risk and disapproval have been important causes of change in the use of a number of drugs. These beliefs and attitudes surely are influenced by the amount and nature of the public attention being paid to the drug issue. A substantial decline in attention to this issue in the past few years may help explain why the increases in perceived risk and disapproval among students ceased, and backsliding began.

We seem to be seeing the beginning of a turnaround in the drug abuse situation more generally among our youngest cohorts–perhaps because they have 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 considerably, newer cohorts would have far less opportunity to learn through informal means about the dangers of drugs. This may mean that the nation must redouble its efforts to be sure that they learn these lessons through more formal means–from schools, parents, and focused messages in the media, for example–and that this more formalized prevention effort become 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 have access to them. That means that each new generation of young people must learn why they should not use drugs. Otherwise their natural curiosity and desires for new experiences will lead a great many of them to use.

The following facts help to put into perspective the magnitude and variety of substance use problems which remain among American young people at the present time:

- By the end of eighth grade, one-third (35%) of American secondary school students have tried an ***illicit drug*** (if inhalants are included as an illicit drug). More than two-fifths of tenth graders have done so (43%), and about one-half of twelfth graders (49%).

- By their late twenties, over 70% of today's American young adults today have tried an ***illicit drug***, including nearly half (47%) who have tried some ***illicit drug other than*** (usually in addition to) ***marijuana***. (These figures do not include inhalants.)

- About one-third of young Americans have tried ***cocaine*** by the age of 30, and 6% have tried it by age eighteen, their senior year of high school. One in every thirty-three seniors (3.0%) have tried the

particularly dangerous form of cocaine called ***crack***: in the young adult sample one in twenty-three (4.4%) have tried it.

- Roughly one in thirty (3.6%) high school seniors in 1994 smoked ***marijuana daily***. Among young adults aged 19 to 28, the percent is slightly less (2.8%). Among seniors in 1994, one in nine (11.3%) had ever been daily marijuana smokers at some time for at least a month, and among young adults the comparable figure is 12.4%.

- Some 28% of seniors had consumed ***five or more drinks in a row*** at least once in the two weeks prior to the survey, and such behavior tends to increase among young adults one to four years past high school. The prevalence of such behavior among male college students reaches 52%.

- Some 31% of seniors in 1994 were current ***cigarette*** smokers and 19% already were current daily smokers; these numbers are rising among seniors, and rising even faster among the youger students. In addition, many of the lighter smokers will convert to heavy smoking after high school.

- Despite the improvements between 1979 and 1991, it is still true that this nation's secondary school students and young adults show a level of involvement with illicit drugs which is greater than has been documented in any other industrialized nation in the world. Even by longer-term historical standards in this country, these rates remain extremely high. Heavy drinking also remains widespread and troublesome; and certainly the continuing initiation of a large and growing proportion of young people to cigarette smoking is a matter of the greatest public health concern.

- Finally, we note the seemingly unending capacity of pharmacological experts and amateurs to discover new substances with abuse potential that can be used to alter mood and consciousness, as well the potential for our young people to "discover" the abuse potential of existing products, like Robitussin™, and to "rediscover" older drugs, such as LSD. 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 re-emergence of trouble on older ones. The recent rise in illicit drug use and in cigarette smoking, both of which began in the early 1980s, certainly suggests that we have not been sufficiently vigilant and/or effective.

- The drug problem is not an enemy which can be vanquished, as in a war. It is more a recurring and relapsing problem which must be contained to the extent possible on a long term, ongoing basis; and, therefore, it is a problem which requires an ongoing, dynamic response from our society–one which takes into account the continuing

generational replacement of our children and the generational forgetting which can occur with that replacement.

Chapter 3

STUDY DESIGN AND PROCEDURES

This chapter presents the research design, sampling plans, and field procedures used in both the in-school surveys of the eighth, tenth, and twelfth grade students, and the follow-up surveys of young adults. Related methodological issues such as response rates, population coverage, and the validity of the measures will also be discussed. We begin with a description of the design which has been used consistently over 20 years to survey high school seniors; then the much more recently instituted design for eighth and tenth graders is described. Finally, the designs for the *follow-up* surveys of former twelfth graders, and former eighth and tenth graders, are covered.[3]

RESEARCH DESIGN AND PROCEDURES FOR THE SURVEYS OF SENIORS

The universe to be represented by each year's sample consists of all seniors enrolled in a public or private high school in the coterminous United States at the time of data collection. The data from high school seniors are collected during the spring of each year; data collection began with the class of 1975. Each year's data collection takes place in approximately 125 to 140 public and private high schools selected to provide an accurate representative cross-section of high school seniors throughout the coterminous United States.

The population under study. There are several reasons for choosing the senior year of high school as an optimal point for monitoring the drug use and related attitudes of youth. First, the completion of high school represents the end of an important developmental stage in this society, since it demarcates both the end of universal public 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, the completion of high school represents the jumping-off point from which young people diverge into widely differing social environments and experiences so senior year represents a good time at which to take a "before" measure upon which to calculate changes which may be attributable to the many environmental and role transitions which occur in young adulthood. Finally, there are some important practical advantages to building a system of data collections around samples of high school seniors. The need for systematically repeated, large-scale samples from which to make reliable estimates of change requires that considerable stress be laid on cost efficiency as well as feasibility. The last year of high school constitutes the final point at which a reasonably good national sample of an age-specific cohort can be drawn and studied economically.

The omission of dropouts. One limitation in the design to date has been that it did not include in the target population those young men and women who drop out of high school

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[3]For a more detailed description of the study design, See Bachman, J.G., Johnston, L.D., & O'Malley, P.M. (1991). *Monitoring the Future project after seventeen years: Design and procedures.* (Monitoring the Future Occasional Paper 33.) Ann Arbor, MI: Institute for Social Research.

before graduation–between 15 and 20 percent of each age cohort nationally, according to U.S. Census statistics. The omission of high school dropouts does introduce 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 1 in Volume I addresses the likely effects of the exclusion of dropouts on estimates of prevalence of drug use and trends in drug use among the entire age cohort; the reader is referred to it for a more detailed discussion of this issue. In the future, as the eighth and tenth grade follow-up surveys actually gather data from prospectively defined panels of dropouts, we hope to be able to make direct estimates of the extent to which their omission from the senior samples causes an underestimate for the age group as a whole.

Sampling procedures. A multi-stage random sampling procedure is used for securing each nationwide sample of high school seniors. Stage 1 is the selection of particular geographic areas, Stage 2 the selection (with probability proportionate to size) of one or more high schools in each area, and Stage 3 the selection of seniors within each high school. This three-stage sampling procedure has yielded the numbers of participating schools and students shown in Table 2 of Volume I. Sample weights, scaled to sum to the actual sample size, are then used in all analyses; these adjust for any differential selection probabilities that may have occurred at any stage.

Questionnaire administration. About ten days before the administration, the seniors are given flyers explaining the study. The actual questionnaire administrations are conducted by the local Institute for Social Research representatives and their assistants, following standardized procedures 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. Eighth and tenth graders are surveyed between mid-February and mid-May, while twelfth graders are surveyed between mid-March and the end of May.

Questionnaire format. Because many questions are needed to cover all of the topic areas in the study, much of the questionnaire content intended for seniors is divided into six different questionnaire forms which are distributed to participants in an ordered sequence that ensures six virtually identical subsamples. (Five questionnaire forms were used between 1975 and 1988.) About one-third of each questionnaire form consists of key or "core" variables which are common to all forms. All demographic variables, and nearly all of the drug *use* variables included in this report, are contained in this core set of measures. Many of the questions dealing with attitudes, beliefs, and perceptions of relevant features of the social environment are included in a single form only, and are thus based on one-sixth as many cases (approximately 2,600) in 1989-1994 or one-fifth as many cases in 1975-1988 (approximately 3,300). All tables in this report give the sample sizes upon which the statistics are based, stated in terms of weighted numbers of cases (which are roughly equivalent to the actual numbers of cases for the in-school samples).

RESEARCH DESIGN AND PROCEDURES FOR THE SURVEYS OF LOWER GRADES

Beginning in 1991 the study was expanded to include nationally representative samples of eighth and tenth grade students. Our intention was to conduct similar surveys on an annual basis and to conduct follow-up surveys of representative sub-samples from each year's sample. The first such follow-ups were implemented in 1993.

In general, the procedures used for the annual surveys of eighth and tenth grade students closely parallel those used for high school seniors, including the procedures for selecting schools and students, questionnaire administrations, and questionnaire formats. A major exception is that only two different questionnaire forms are used, rather than the six used with seniors. Identical forms are used for both eighth and tenth grades, and, for the most part, questionnaire content is drawn from the twelfth grade questionnaires. Thus, key demographic variables and measures of drug use and related attitudes and beliefs are generally identical for all three grades. The two forms used in both eighth and tenth grades have a common core (Parts B and C) that parallels the core used in twelfth grade, and each form has somewhat different questions in Parts A and D. Many fewer questions about lifestyles and values are included in these forms than in the twelfth grade forms, in part because we think that many of these attitudes are more likely to be formed by twelfth grade, and therefore are best monitored there. For the national survey of eighth graders, approximately 160 schools are sampled, and approximately 18,000 to 19,000 students are surveyed. For the tenth graders, approximately 125 schools are sampled, and approximately 15,000 students are surveyed.

The research design calls for follow-up surveys of subsamples of the eighth and tenth graders participating in the study, carried out at two-year intervals, similar to the senior follow-up samples. To date, this plan has influenced the design of the cross-sectional studies of eighth and tenth graders in two important ways. First, in order to "capture" 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 first drawing a sample of high schools and then selecting a sample of their feeder schools which contain 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 with no additional cost. However, after the 1993 data collection, we concluded that the savings in follow-up costs did not justify the complexities in sampling, administration, and interpretation. Therefore, we return to a more simplified design, beginning in 1995, in which eighth grade schools are drawn independently of the tenth grade school sample, and *all* follow-ups of eighth graders are completed by mail.

Because these samples now are drawn completely independently of each other, and of the twelfth grade samples, there are really three independent in-school surveys. To the extent that they yield similar results (in drug use trends, for example), they amount to independent replications of one another's findings.

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

Beginning with the graduating class of 1976, each senior class has been followed up annually after high school on a continuing basis, for seven follow-up data collections, which corresponds to their reaching a modal age of 32.[4] From the roughly 15,000 to 17,000 seniors originally participating in a given 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, those fitting certain criteria of current drug use (that is, those reporting 20 or more uses of marijuana, or any use of any of the other illicit drugs, in the previous 30 days) are selected with higher probability (by a factor of 3.0) than the remaining seniors. Differential weighting then has been used in all follow-up analyses to compensate for the differential sampling probabilities. Because those in the drug-using stratum receive a weight of only .33 in the calculation of all statistics to compensate for their overrepresentation, the actual numbers of follow-up cases are somewhat larger than the weighted numbers reported in the tables.

The 2,400 target respondents selected from each class are randomly assigned to one of two matching groups of 1,200 each; one group is surveyed on even-numbered calendar years, while the other group is surveyed on odd-numbered years. This two-year cycle is intended to reduce respondent burden, and thus yield a better retention rate across the years. After the seventh follow-up, which occurs at age 31 or 32, respondents are sent questionnaires at five-year intervals, starting at age 35. The first of these "age 35" follow-ups occured in 1993 for all the respondents in the Class of 1976 (no distinction is made between the two half-samples), and the second occurred in 1994 for the Class of 1977.

Follow-up procedures. Using information provided by respondents at the time of the senior survey (name, address, phone number, and the name and address of someone who would always know how to reach them), mail contacts are maintained with those selected for inclusion in the follow-up panels. Newsletters are sent each year, and name and address corrections are requested. Follow-up questionnaires are sent by certified mail in the spring of each year to one of the two alternating half-samples. A check made payable to the respondent is attached to the front of each questionnaire. Prior to 1992, the checks were for $5.00; in 1992, the payment was changed to $10.00 to compensate for the effects of inflation. (A controlled experiment indicated that the increased payment was justified based on the increased panel retention that was achieved.) Reminder letters and postcards go out at fixed intervals thereafter; finally, those not responding receive a prompting phone call from the Survey Research Center's phone interviewing facility in Ann Arbor. If requested, a second copy of the questionnaire is sent; but no questionnaire content is administered by phone.

Panel retention rates. To date the panel retention rates have remained quite high. In the first follow-up after high school, about 79% of the original panel have returned questionnaires. The retention rate for each panel reduces with time, as would be expected. The 1994 panel retention from the class of 1980–the oldest of the panels discussed here, and now aged 32 (14 years past their first data collection in high school)—is 67%.

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[4]Further follow-ups occur at half-decade intervals, beginning with age 35.

Corrections for panel attrition. Since attrition is modestly associated with drug use, we have introduced corrections into the prevalence estimates presented here for the follow-up panels. These raise the prevalence estimates from what they would be uncorrected, but only slightly. We believe the resulting estimates to be the most accurate obtainable for the population of high school senior graduates but still low for the age group as a whole, due to the omission of dropouts and absentees from the population covered by the original panels.[5]

Follow-up questionnaire format. The questionnaires used in the follow-up surveys are very much like those used in the senior year. They are optically scanned; they contain a core section on drug use and background and demographic factors common to all forms; and they have questions about a wide range of topics at the beginning and ending sections, many of which are unique to each questionnaire form. Many of the questions asked of seniors are retained in the follow-up questionnaires, and respondents are consistently mailed the same version 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 statuses and experiences are added. Thus, there are questions about college, military service, civilian employment, marriage, parenthood, and so on.

For most follow-up cohorts, the numbers of cases on single-form questions are only one-fifth the size of the total follow-up sample. The core questions are based on the full sample. Beginning with the Class of 1989, a sixth form was introduced in senior year, so single-form data from the more recent classes have N's one-sixth the total follow-up sample size. In the follow-up studies, single-form samples from a single cohort are too small to make reliable estimates; therefore, in those cases where they are reported, the data from several adjacent cohorts (and, therefore, age groups) are combined.

REPRESENTATIVENESS AND VALIDITY

School participation. Schools are invited to participate in the study for a two-year period. With very few exceptions, each school from the original sample participating in the first year has agreed to participate for the second. Each year thus far, from 58% to 80% of the high schools invited to participate initially have agreed to do so; for each school refusal, a similar school (in terms of size, geographic area, urbanicity, etc.) is recruited as a replacement.[6] The

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

[6]Until 1994, the response rates for the junior high and middle schools which produce the eighth grade samples were a little more complicated to calculate. Calculation of the response rates for Monitoring the Future eighth grade schools for 1991 and 1992 is complicated by the fact that they are sampled by "network" (or cluster), based on the high school into which they fed.

selection of replacement schools 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, that would seriously bias the sample. And if any other single factor were dominant in most refusals, that also might suggest a source of serious bias. In fact, however, the reasons for a school refusing to participate are varied and are often a function of happenstance events specific to that particular year; only a very small proportion specifically object to the drug content of the survey. Thus we feel quite confident that school refusals have not seriously biased the surveys.

Schools are selected in such a way that half of each year's sample in each grade level is comprised of schools which participated the previous year, and half is comprised of schools which will participate the next year. This staggered half-sample design is used to check on possible errors due to school turnover in the year-to-year trend estimates. For example, separate sets of one-year trend estimates are computed for seniors using first that half-sample of schools which participated in both 1990 *and* 1991, then the half-sample which participated in both 1991 *and* 1992, and so on. Thus, each one-year trend estimate derived in this way is based on a constant set of at least 65 schools. When the resulting trend data (examined separately for each class of drugs) are compared with trends based on the total samples of schools, the results are highly similar, indicating that the trend estimates are little affected by turnover or shifting refusal rates in the school samples. The absolute prevalence estimates for a given year are not as accurate using just the half-sample, however.

Student participation. In 1994, completed questionnaires were obtained from 89% of all sampled students in eighth grade, 88% in tenth grade, and 84% in twelfth grade. The single most important reason that students are missed is absence from class at the time of data collection; in most cases, it is not workable to schedule a special follow-up data collection for absent students. Students with fairly high rates of absenteeism also report above-average rates of drug use; therefore, there is some degree of bias 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 of one of our earlier reports[7] provides a discussion of this point, and Appendix A of Volume I shows trend and prevalence estimates which would result if corrections for absentees had been included.

We first drew a representative sample of tenth grade schools, then sampled eighth grade schools from the set of feeder schools to each high school. If there were more than two eighth grade schools feeding into a selected high school, we sampled two schools. If either of those schools declined, we replaced that school with another school in the same network of feeder schools. If no school in the network agreed to participate, then we counted that as a refusal; if only one school in a network agreed to participate, but failed to meet a minimum size criterion of approximately one-third of combined enrollment of the chosen schools, that was also counted as a refusal. If only one of the schools agreed to participate, and that one represented at least one-third the combined enrollment of the chosen schools, then we accepted that school, and reweighted appropriately. Many networks, of course, had only one feeder eighth grade school in the network, in which case, a school refusal was equivalent to a network refusal. Response rates for the 1991 and 1992 eighth grade by network were: 74% and 69%, respectively.

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

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% of the target sample.

VALIDITY OF THE MEASURES OF SELF-REPORTED DRUG USE

The question always arises whether sensitive behaviors like drug use are 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 inferential evidence that exists strongly suggests that the self-report questions produce largely valid data. A more complete discussion of the contributing evidence which leads to this conclusion may be found in other publications; here we will only briefly summarize the evidence.[8]

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.[9] In essence, this means that respondents were highly consistent in their self-reported behaviors over a three- to four-year time interval. Second, we found a high degree of consistency among logically related measures of use within the same questionnaire administration. Third, the proportion of seniors reporting some illicit drug use by senior year has reached two-thirds of all respondents in peak years and nearly as high as 80% in some follow-up years, which constitutes *prima facie* evidence that the degree of underreporting must be very limited. Fourth, in the aggregate the seniors' reports of use by their unnamed friends–about which they would presumably have less reason to distort–has been highly consistent with self-reported use in terms of both prevalence and trends in prevalence (see Volume I of this report). Fifth, we have found self-reported drug use to relate in consistent and expected ways to a number of other attitudes, behaviors, beliefs, and social situations–in other words, there is strong evidence of "construct validity." Sixth, the missing data rates for the self-reported use questions are only very slightly higher than for the preceding nonsensitive questions, in spite of the instruction to respondents to leave blank those drug use questions they felt they could not answer honestly. And seventh, the great majority of respondents, when asked, say they would answer such questions honestly if they were users.

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 there exists any

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[8]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, D.C.: U.S. Government Printing Office; Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1984). *Drugs and American high school students: 1975-1983*. DHHS (ADM) 85-1374. Washington, D.C.: U.S. Government Printing Office; Wallace, J.M., Jr., & Bachman, J.G. (1993). Validity of self-reports in student-based studies on minority populations: Issues and concerns. In M. de LaRosa & J.L.R. Adrados (Eds.), *Drug abuse among minority youth: Advances in research and methodology*. NIDA Research Monograph No. 130. Rockville, MD: National Institute on Drug Abuse.

[9]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.

remaining reporting bias, 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.

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. Accordingly, the measures and procedures have been standardized and applied consistently across each data collection. 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 to much the same extent from one year to the next. In other words, biases in the survey estimates will tend to be consistent from one year to another, which means that our measurement of *trends* should be affected very little by any such biases. The smooth and consistent nature of most trend curves reported for the various drugs provides rather compelling empirical support for this assertion.

Chapter 4

PREVALENCE OF DRUG USE AMONG YOUNG ADULTS

As described in more detail in the preceding chapter, the Monitoring the Future study conducts ongoing panel studies on representative samples from each graduating class, beginning with the class of 1976. Two matched panels, 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 fourteen senior classes previously participating in the study. In 1994, this meant that representative samples of the classes of 1980 through 1993 were surveyed by mail. Because the study design calls for an end of biennial follow-ups of these panels after they reach approximately age 32 (i.e., seven follow-ups for each half-panel), the classes of 1976 through 1979 were not included in the standard 1994 follow-up surveys. They are surveyed at age 35 and at five-year intervals thereafter. In 1994, the class of 1977 received the "age 35" follow-up questionnaire; the findings from this special questionnaire will be provided in future reports.

In this section, we present the results of the 1994 follow-up survey, which should accurately characterize approximately 85% of young adults in the class cohorts one to fourteen years beyond high school (modal ages 19 to 32). The remaining 15% 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.

Figures 1 through 19 contain the 1994 *prevalence* data by age, corresponding to those respondents one to fourteen years beyond high school (modal ages 19 to 32). Later figures contain the *trend* data for each age group, including seniors and graduates who are up to fourteen years past high school (modal age 32). With the exception of the seniors, 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. The trends are based on fairly narrow age bands in order to cover more years. For obvious reasons, trends on the youngest age bands can be calculated for the longest period of time.

A NOTE ON LIFETIME PREVALENCE ESTIMATES

In Figures 1 through 19, 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 (second bar from the left). 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 left-most bar). To be categorized as one who has used the drug based on all past answers regarding that drug, the respondent has either (a) to have reported past use in the most recent data collection and/or (b) to have reported some use in his or her lifetime on at least two earlier occasions. Because respondents in the age groups of 18 and 19-20 cannot have their responses adjusted on the basis of two earlier occasions, adjusted prevalences are reported only for ages 21 and older. The unadjusted estimate is most commonly presented in epidemiological studies, since 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 and a respondent can be classified as having used a drug at sometime 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 which respondents appropriately corrected in later surveys. It should be noted that a high 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.[10]

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 marijuana," which is heavily affected by the psychotherapeutic estimates. We believe this is due to the greater difficulty of accurately categorizing psychotherapeutic drugs (usually taken in pill form) with a high degree of certainty–especially if one has used them 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.

[10]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.

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 1994 the adjusted lifetime prevalence figures among 31 to 32 year olds reach 80% for **any illicit drug**; 61% for **any illicit drug other than marijuana**; 75% for **marijuana**; and 40% for **cocaine**, specifically. Put another way, among young Americans who graduated high school in 1980 and 1981 only one-fifth (20%) have never tried an illegal drug.*

  The 1994 survey responses, *unadjusted* for previous answers, show somewhat lower lifetime prevalence: 73% for ***any illicit drug***, 50% for ***any illicit drug other than marijuana***, 70% for ***marijuana***, and 35% for ***cocaine***.

- Despite the higher levels of lifetime use among older age groups, they generally show levels of *annual* or *current* use which are no higher than such use among 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 initiation after high school.

  In analyses published elsewhere, we looked closely at patterns of change in drug use, and identified some post-high school experiences which 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*** in particular, ***marijuana*** use, and use of ***other illicit drugs***.[11]

- For the use of ***any illicit drug***, lifetime prevalence is 80% among 31 to 32 year olds vs. "only" 46% among the 1994 high school seniors. Annual prevalence, however, is highest among the seniors (36%) with progressively lower rates among the older age groups (see Figure 1). Current (30-day) prevalence shows much the same pattern with seniors having the highest rate (22%), and the rate declining gradually to 13% among the 31 to 32 year-olds.

- A similar pattern exists for ***marijuana***; a higher lifetime prevalence as a function of age, but somewhat lower annual and 30-day prevalence

[11]Bachman, J. G., O'Malley, P.M., & Johnston, L. D. (1984). Drug use among young adults: The impacts of role status and social environment. *Journal of Personality and Social Psychology, 47*, 629-645. See also, Bachman, J.G., O'Malley, P.M., Johnston, L.D., Rodgers, W.L., and Schulenberg, J. (1992) *Changes in drug use during the post-high school years*. Monitoring the Future Occasional Paper No. 35. Ann Arbor, MI: Institute for Social Research.

rates during the late 20s. Current ***daily marijuana use***, which ranges between 2.2% and 3.1% across the age band, shows the least variation across age. (See Table 6).

- Statistics on the use of ***any illicit drug other than marijuana*** (Figure 2) have a similar pattern. Like marijuana and the any-illicit-drug-use index, corrected lifetime rates on this index also show an appreciable rise with age, reaching 61% among the 31 to 32 year old age group. Current use shows less variation across all age bands, ranging from 4% to 9%. Annual use declines gradually with increased age of the respondent, in fact, most of the drugs that constitute this category show a decline with age in annual prevalence. One exception is cocaine.

- Several classes of drugs show rates of current use among the older age groups proportionately much lower than among seniors. For example, annual prevalence rates for ***hallucinogens*** are about 1% to 2% among those 27 years old and older, compared to 8% for high school seniors (Figure 7). ***Inhalants*** (Figure 10) also show a sharp dropoff in annual and 30-day use after senior year and again after age 22.

- For ***stimulants***, lifetime prevalence is again much higher among the older age groups–reflecting the addition of many new initiates in their early twenties (Figure 4). However, more recent use as reflected in the annual prevalence figure is now 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 section.

- Questions on the use of ***crystal methamphetamine*** (ice), are contained in two of the six questionnaire forms. Among the 19 to 32 year old respondents combined, 0.8% reported some use in the prior year–lower than the 1.8% reported by seniors (Figure 15).

- ***Barbiturates*** are similar to stimulants in that lifetime prevalence is appreciably higher in the older ages, but slightly different in that active nonmedical use after high school always has been lower than such use during high school (Figure 11). At present, current usage rates are quite low in all age groups; therefore 30-day use varies little by age.

- ***Opiates other than heroin*** show age differences very similar to those seen for barbiturates–somewhat higher lifetime prevalence as a function of age, annual prevalence declining modestly with age, and 30-day use varying little with age (Figure 12).

- ***Tranquilizer*** use, on the other hand, remains fairly stable for both 30-day and annual prevalence rates across the full age band even though lifetime prevalence increases considerably with age (Figure 13).

- ***Cocaine*** generally has presented a unique case among the illicit drugs in that lifetime, annual, and current use all tended to be higher among the older age groups (Figure 5). By 1994 30-day cocaine use had reached such low levels that it varied rather little by age. Annual prevalence, however, still is higher among the older age groups: 6% among 29 to 32 year olds, compared to 3% among the 19 to 20 year olds, and 2% among high school seniors. The fact that use is more frequent among people in their twenties and early thirties than among those in their late teens still distinguishes cocaine from all the other illicit drugs.

- Lifetime prevalence reached 8% to 9% among those in their late 20s and early 30s, vs. 3% among seniors. However, current prevalence is very low at all ages. On average, the follow-up respondents one to fourteen years out of high school have an annual prevalence of 1.2% vs. 1.9% among seniors, and a 30-day prevalence of 0.3% vs. 0.8% among seniors. Taken together, these facts suggest that follow-up respondents have a higher rate of noncontinuation than do seniors, as is true for most other drugs.

  However, we believe that the omission of high school dropouts is likely to have a greater than average impact on the prevalence estimates for crack (as is the case with the senior data).

- In the case of ***alcohol***, all prevalence rates generally increase for the first four years after high school, through age 21 or 22 (Figure 18a). After that, prevalence rates vary slightly for the different age groups. Lifetime prevalence, due in large part to a "ceiling effect," changes very little after age 21 to 22. Current (30-day) alcohol use increases through age 21-22, and stays fairly steady thereafter through at least age 28, perhaps declining slightly thereafter. Current ***daily drinking*** varies very little by age; it is at 3%-4% between ages 18 and 26, and at 5% thereafter.

- ***Occasions of heavy drinking*** in the two weeks prior to the survey show the largest differences among the age groups (Figure 18b). There is a fair difference between 18 year-olds (28%) and 21 to 22 year-olds, who have the highest prevalence of such heavy drinking (41%). Then there is a fall-off with each subsequent age group, reaching 25% by ages 31 to 32. We have interpreted this curvilinear relationship as an age-related effect (not a cohort effect), because it seems to replicate across different graduating classes or 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).[12]

- ***Cigarette smoking*** also shows an unusual pattern of age-related differences (Figure 19). On the one hand, current (30-day) smoking is about the same or lower, among those in their 20s as among high school seniors, reflecting the fact that relatively few new people are recruited to smoking after high school. On the other hand, smoking at heavier levels–such as smoking half-a-pack daily–is considerably higher among the older age groups, reflecting the fact that many previously moderate smokers move into a pattern of heavier consumption after high school.[13] While slightly more than a third (36%) of the current smokers in high school smoke at the rate of half-pack a day or more, almost three-quarters (71%) of the current smokers in the 31 to 32 age group do so.

- 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, primarily because we were concerned that its alluring name might have the effect of stimulating interest.)

  Relatively few 1994 follow-up respondents report any use of MDMA (Table 3). Among 19 to 32 year olds, 3.6% say they have ever tried it. Annual and current (30-day) use levels are much lower, at 0.6% and 0.1%, respectively.

- Questions about use of ***steroid***s were added in 1989 to one form only, making it difficult to determine age-related differences with much accuracy. Overall, 1.3% of 19 to 32 year olds in 1994 reported having used steroids in their lifetime. Annual and 30-day use levels were very low, at 0.3% and 0.2%, respectively. (See Tables 3 to 5.)

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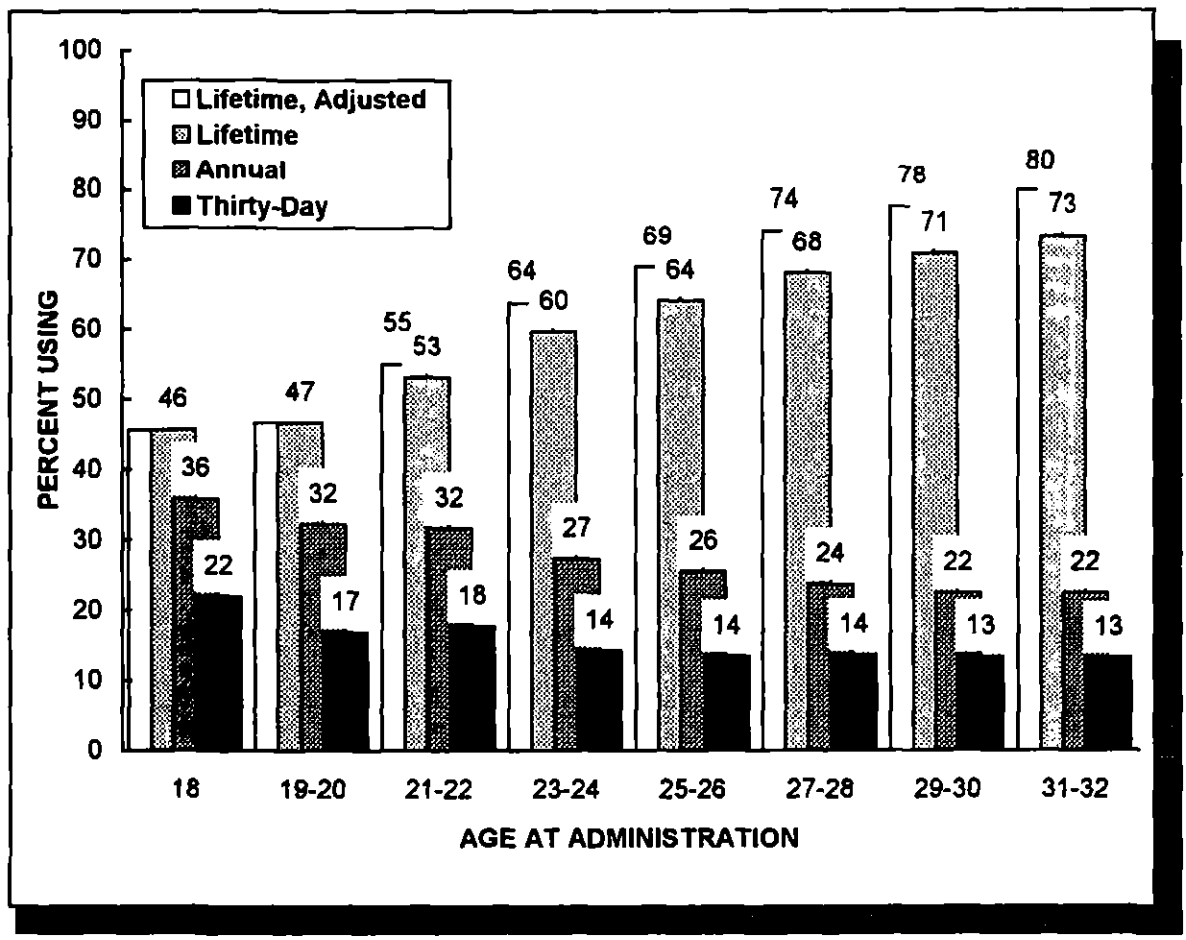
[12]O'Malley, P.M., Bachman, J.G., & Johnston, L.D. (1988). Period, age, and cohort effects on substance use among young Americans: A decade of change, 1976-1986. *American Journal of Public Health, 78*, 1315-1321. See also Bachman, O'Malley, & Johnston (1984), *op. cit*; and Bachman, O'Malley, Johnston, Rodgers, & Schulenberg (1992), *op.cit.*

[13]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 (O'Malley, Bachman, & Johnston, (1988), *op. cit.*).

Figure 1

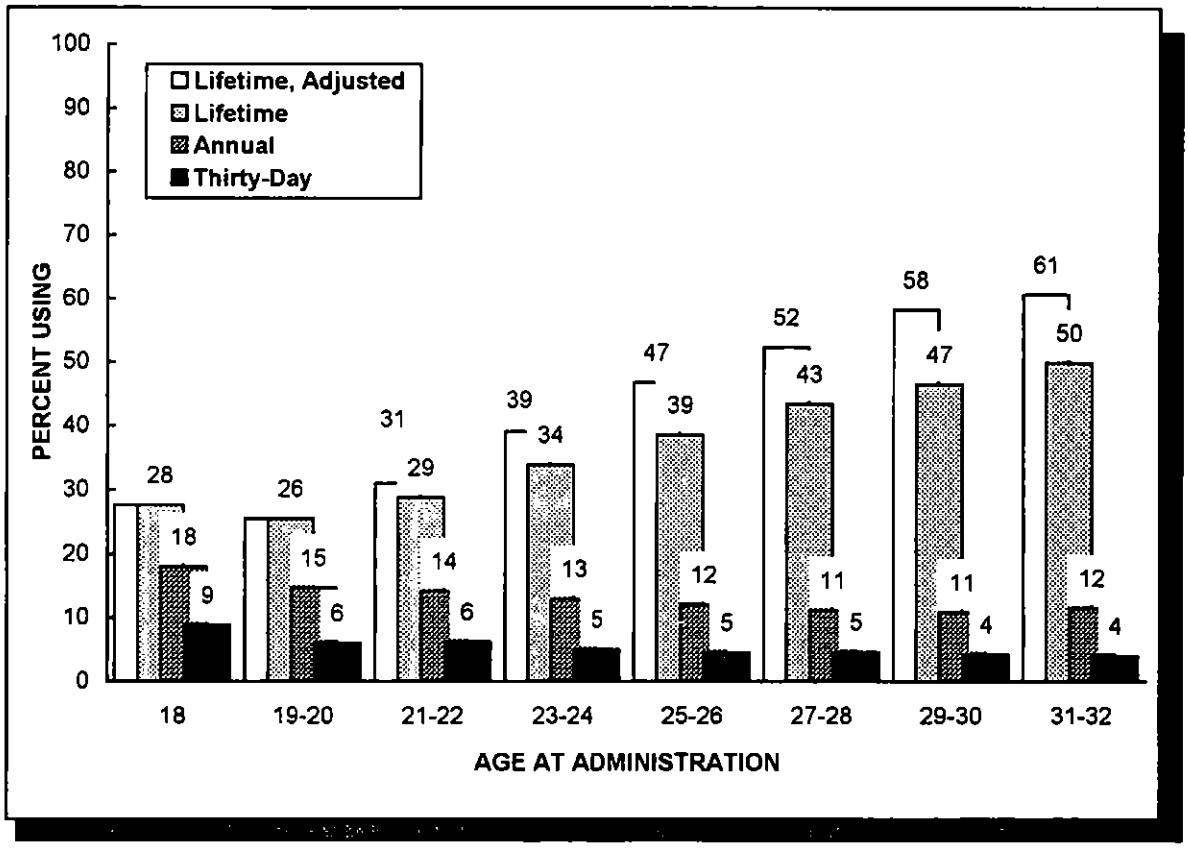
Any Illicit Drug: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 2

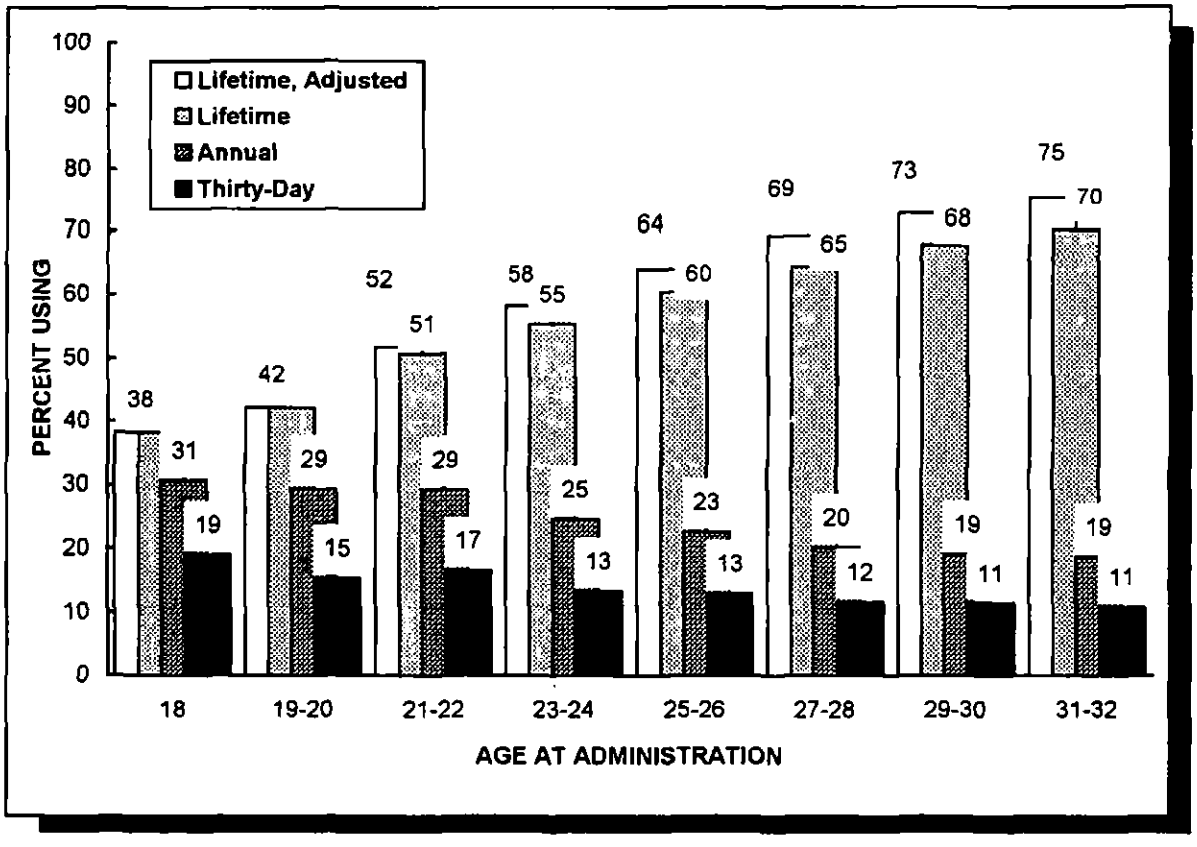
Any Illicit Drug Other than Marijuana: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 3

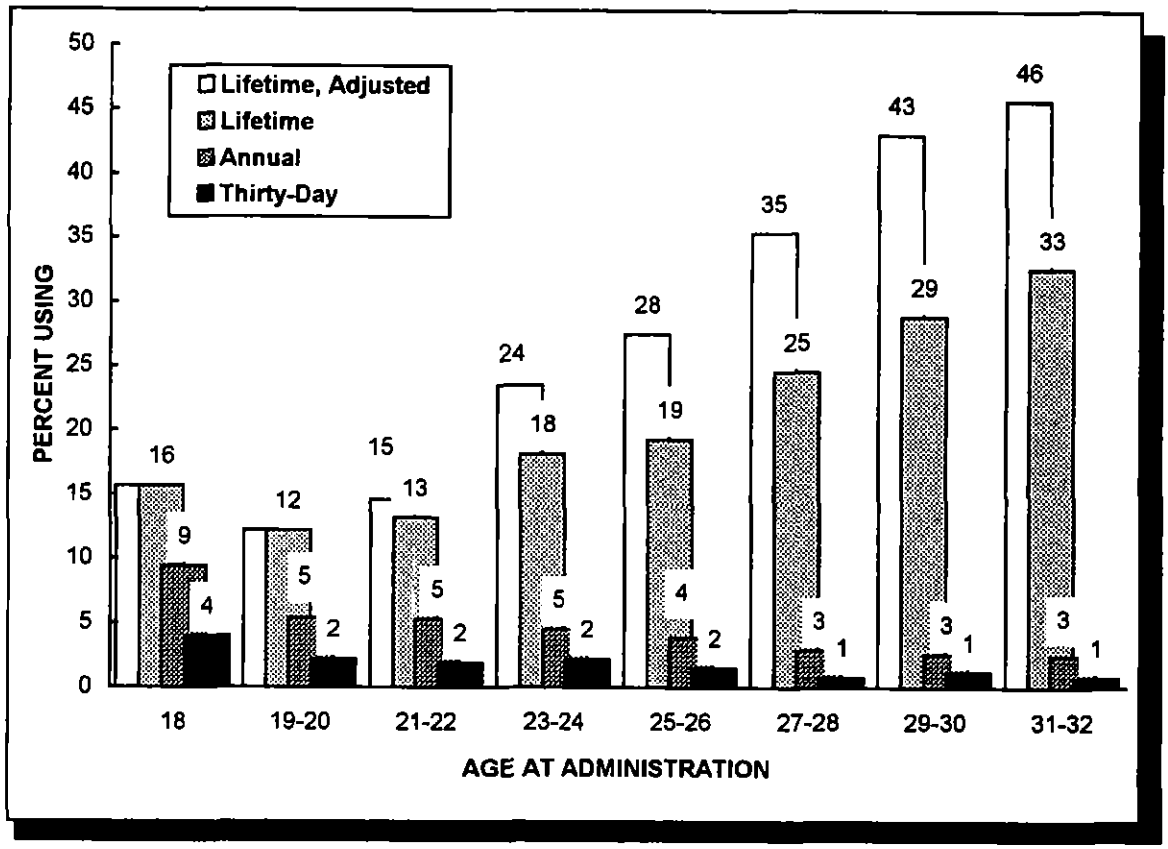
Marijuana: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 4

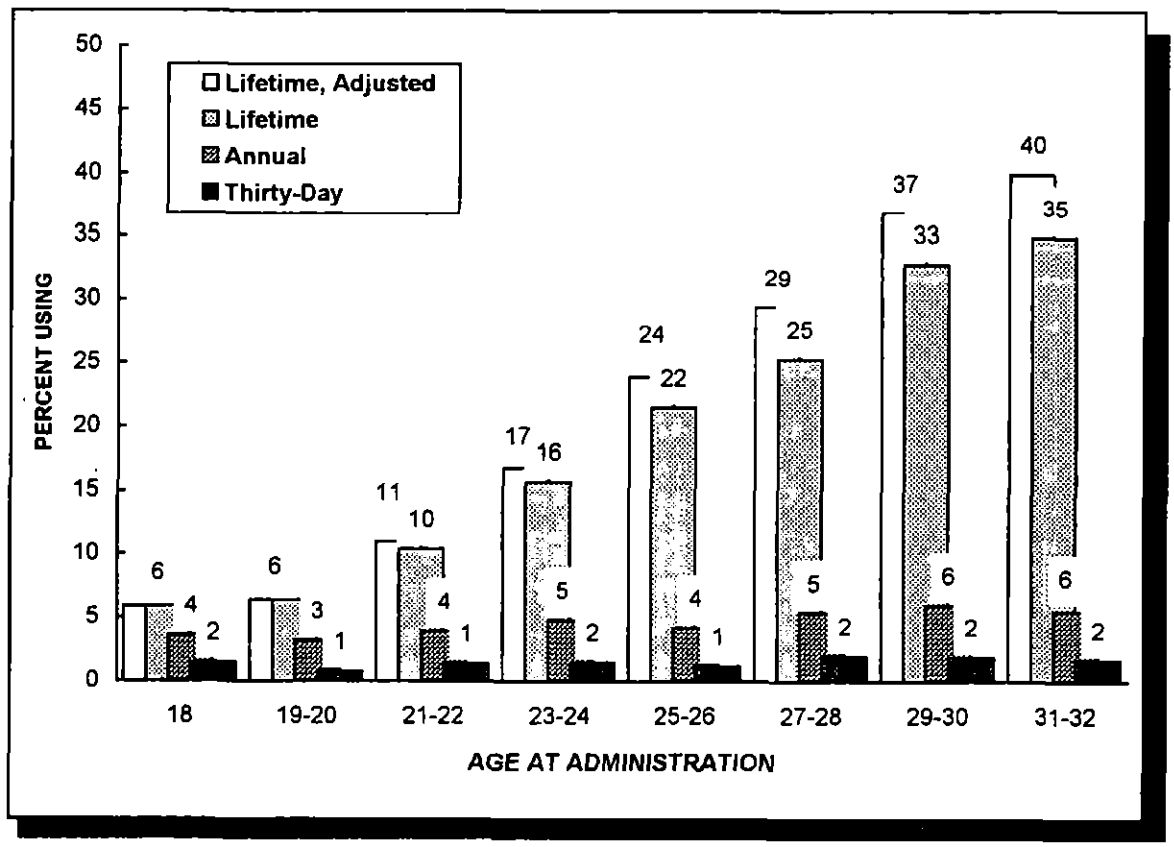
Stimulants: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion. The divergence between the two lifetime prevalence estimates is due in part to the change in question wording initiated in 1982/1983, which clarified the instruction to omit non-prescription stimulants.

Figure 5

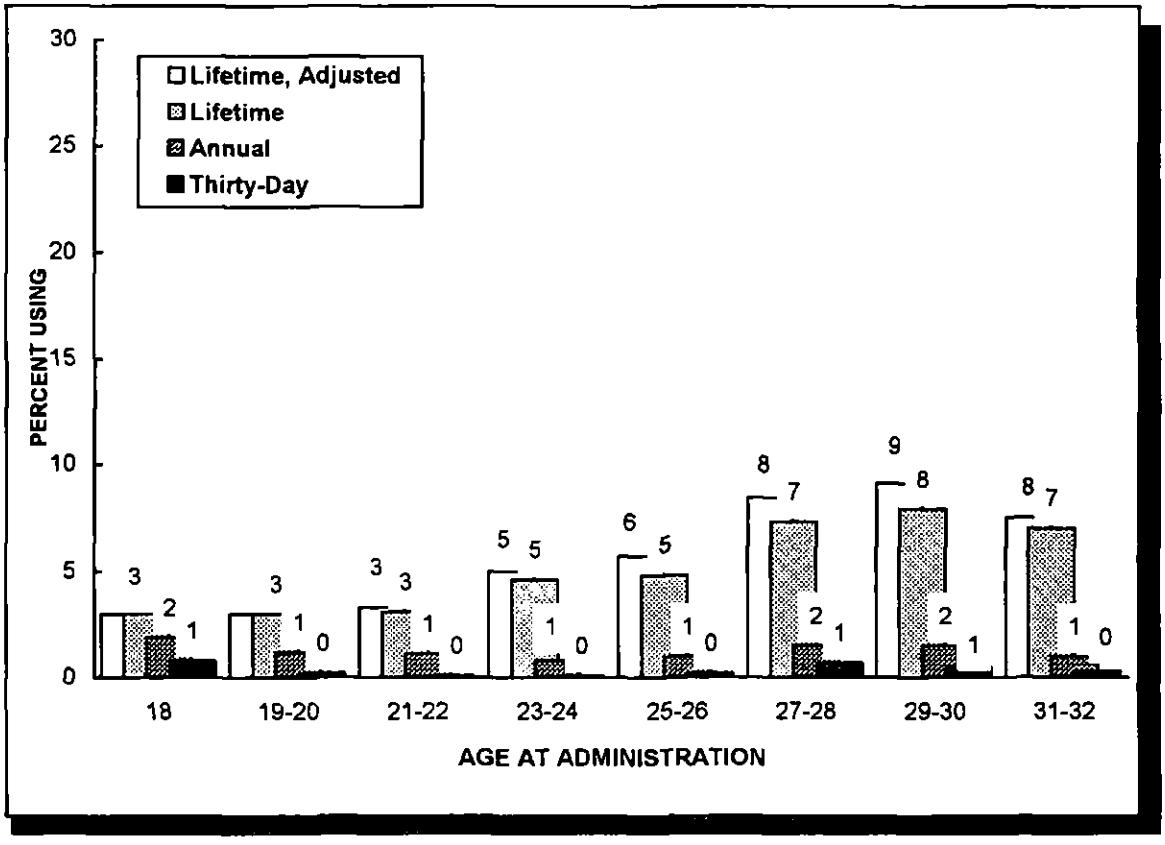
Cocaine: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 6a

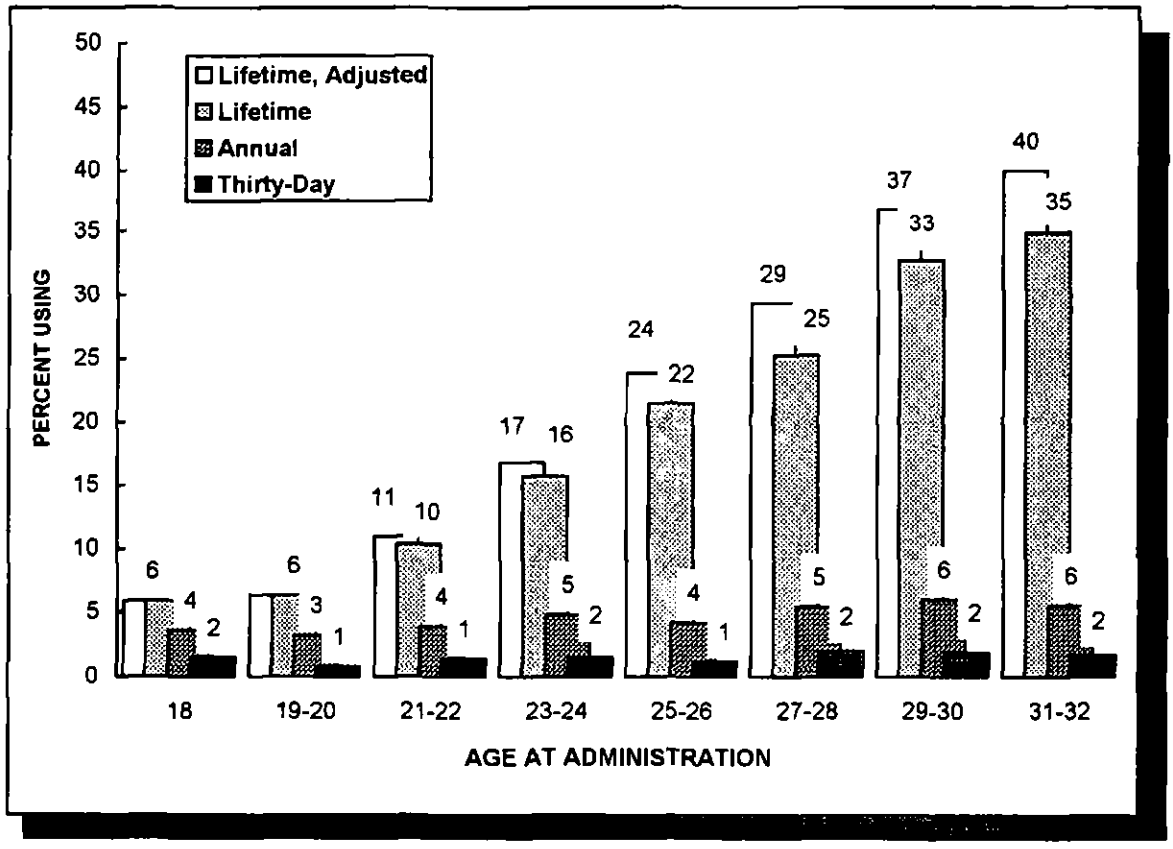
Crack Cocaine: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 6b

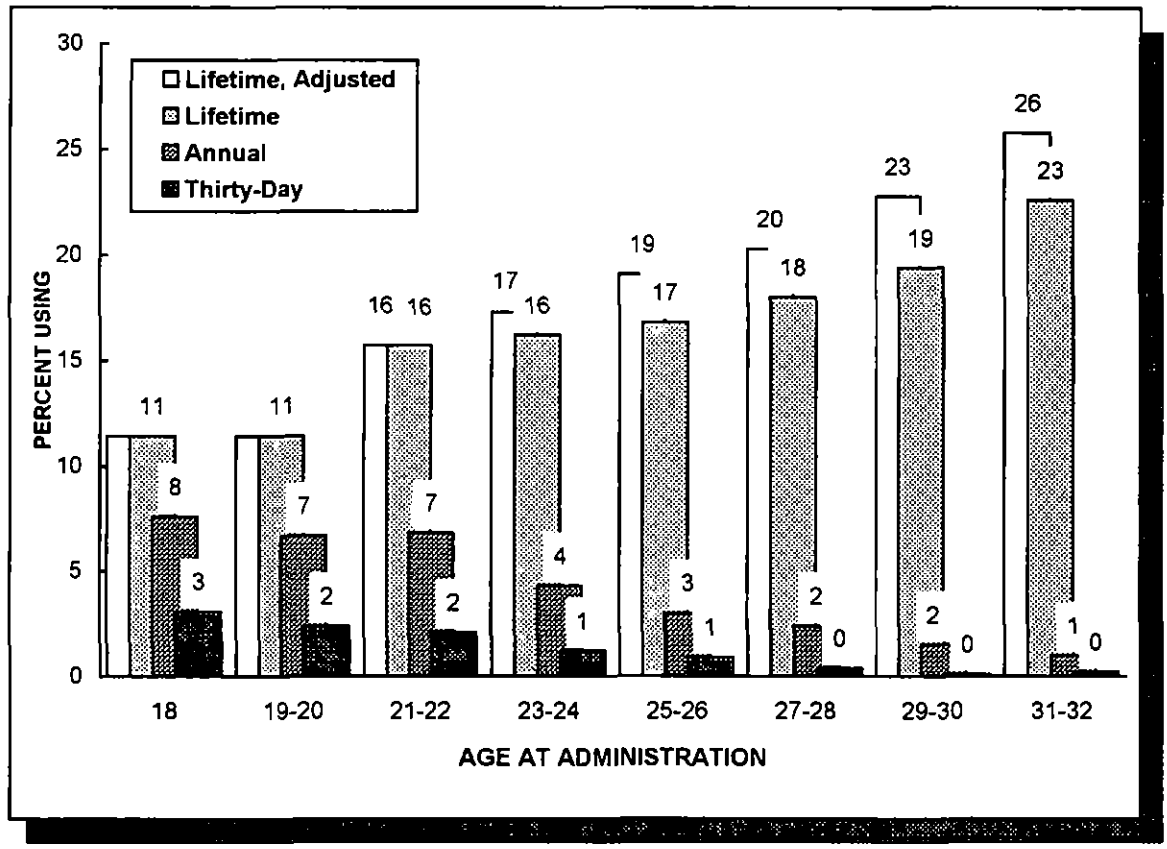
Other Cocaine: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 7

Hallucinogens*: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group

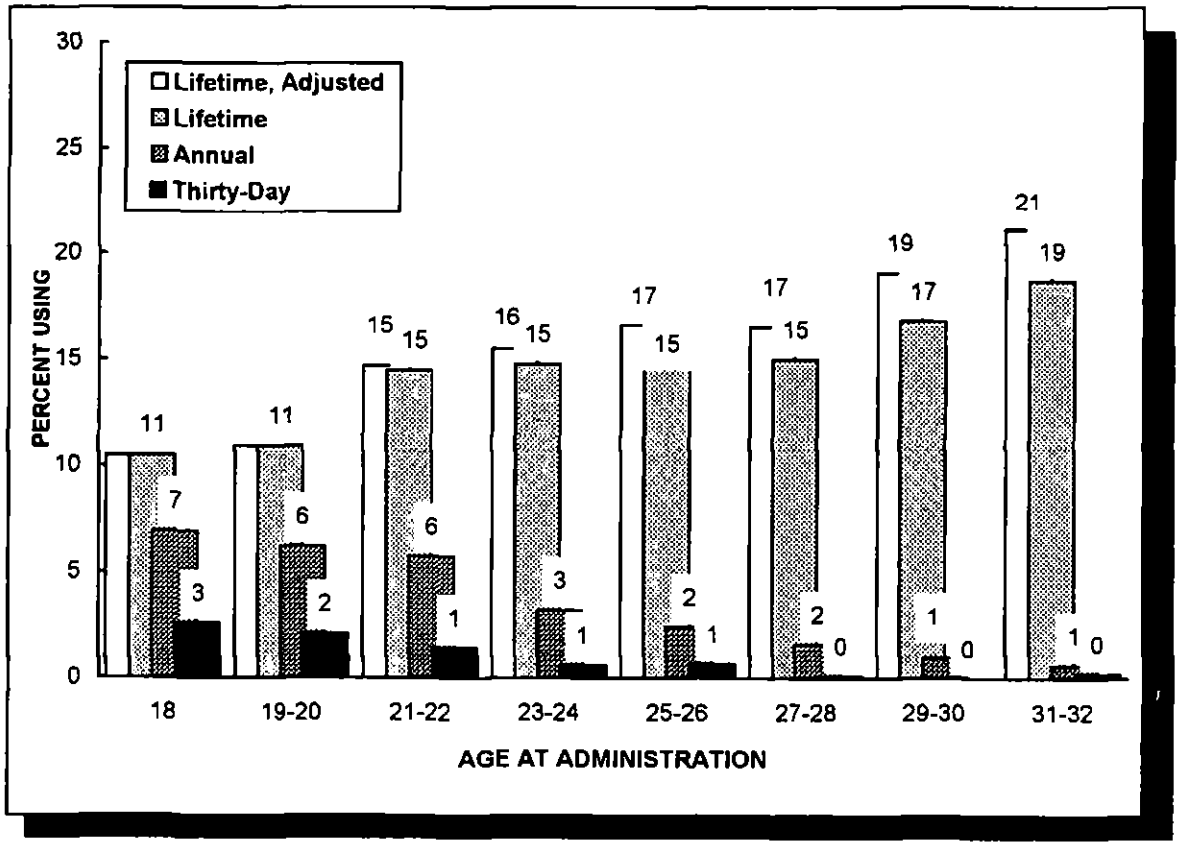


*Unadjusted for the possible underreporting of PCP.

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

Figure 8

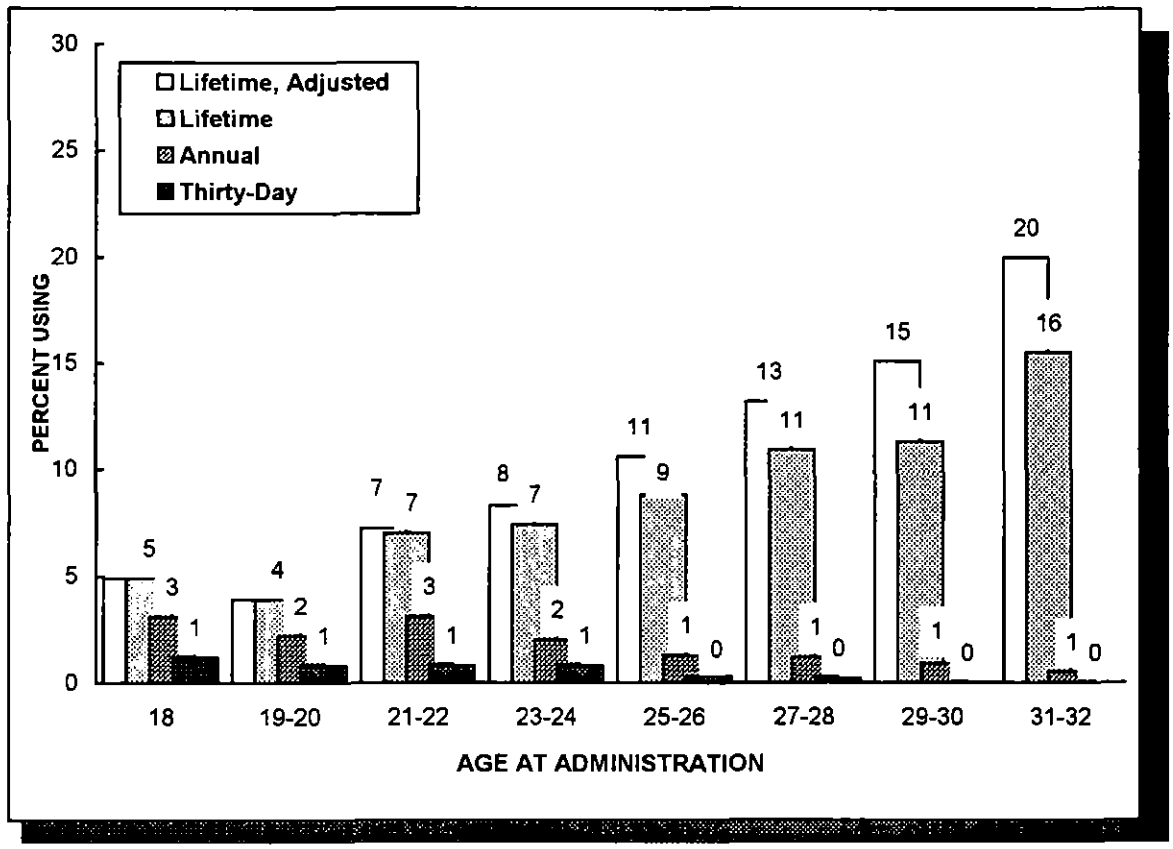
LSD: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 9

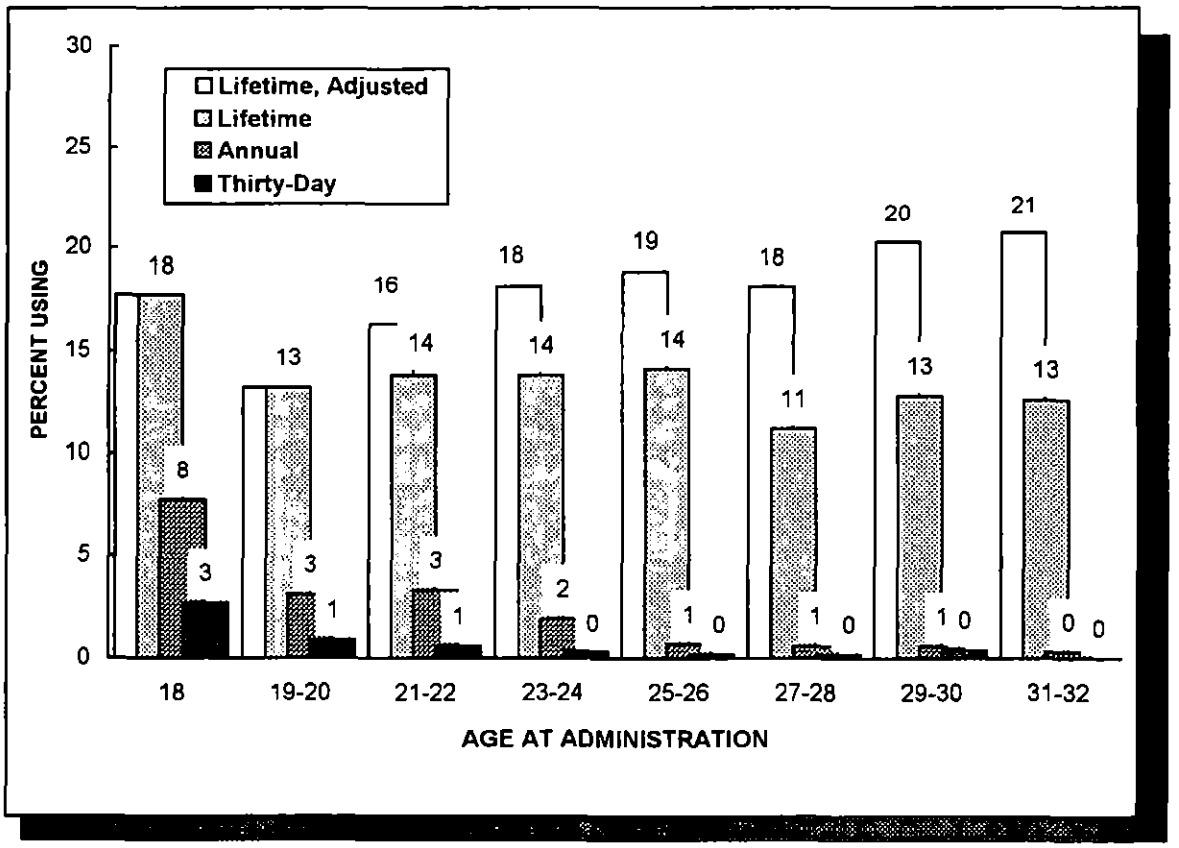
Hallucinogens Other than LSD: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 10

Inhalants*: Lifetime, Annual, and Thirty-Day Prevalence Among *Young Adults*, 1994
by Age Group

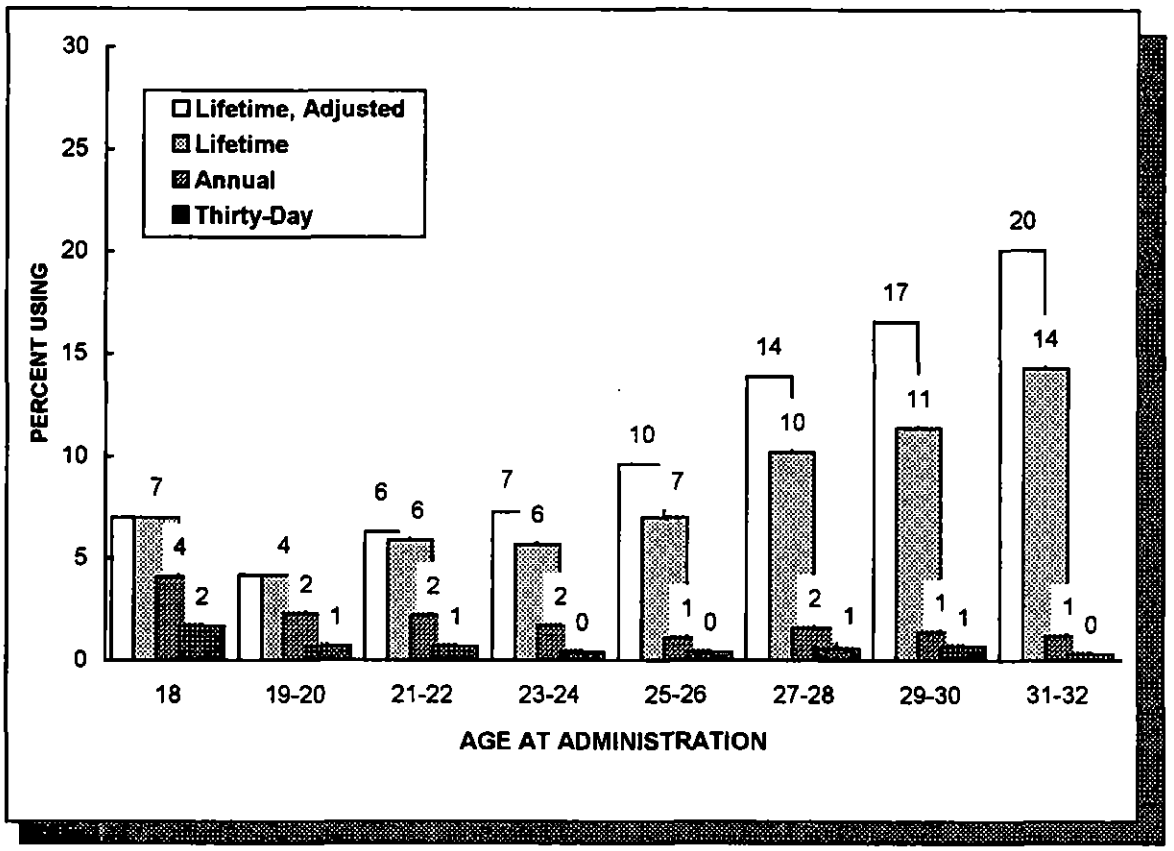


*Unadjusted for the possible underreporting of amyl and butyl nitrites.

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

Figure 11

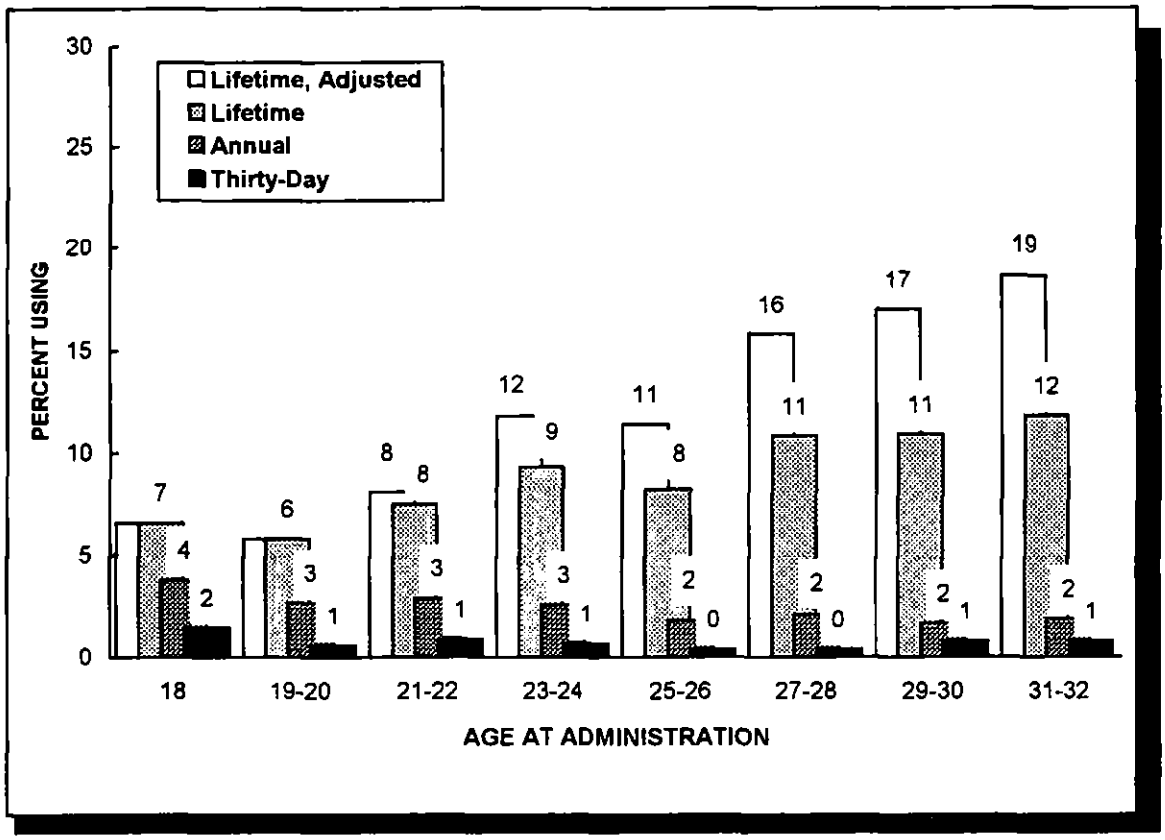
Barbiturates: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 12

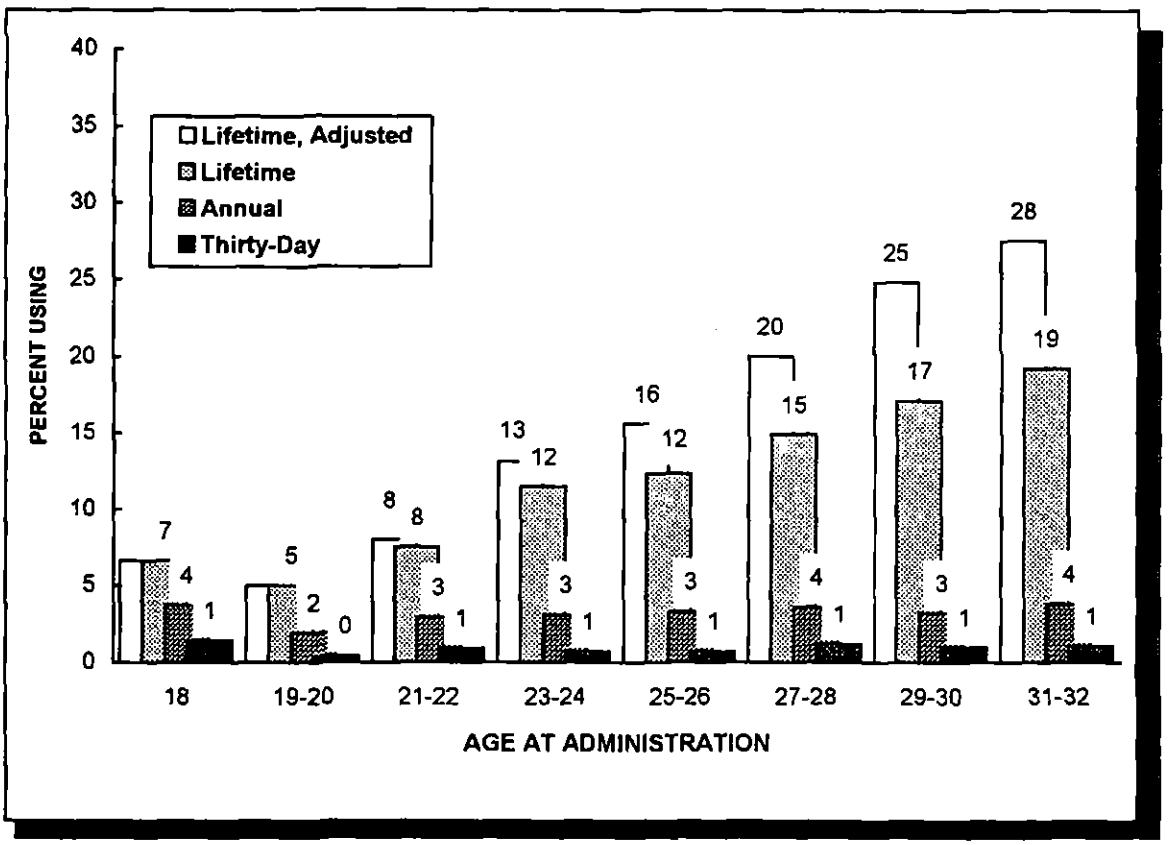
Other Opiates: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 13

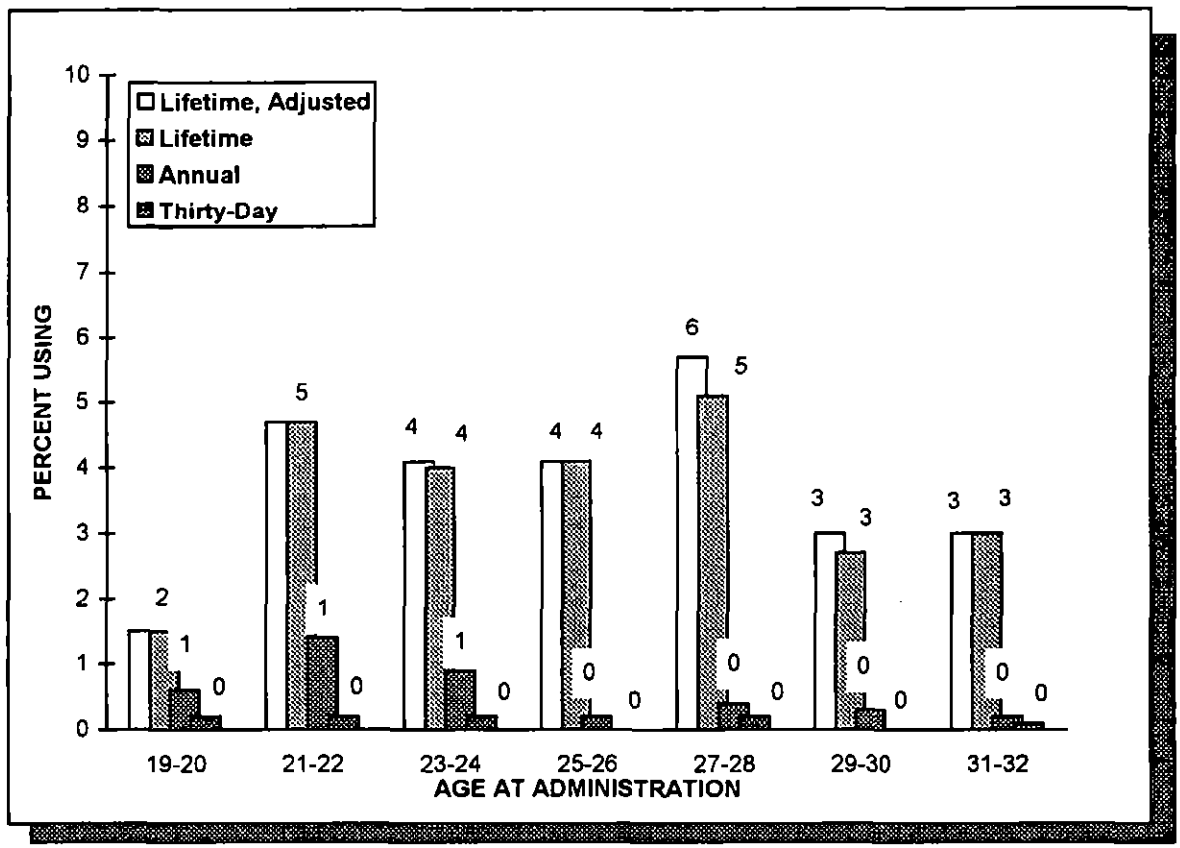
Tranquilizers: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 14

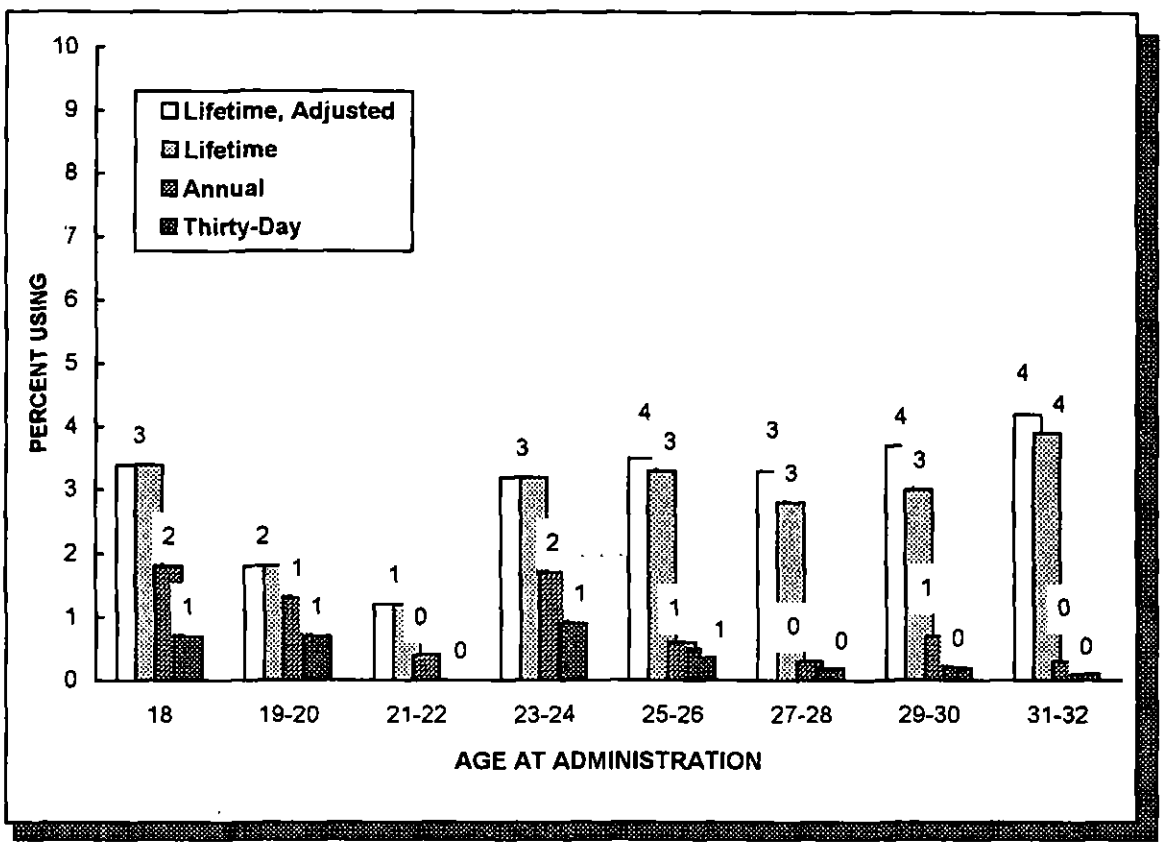
MDMA: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion. High school seniors were not asked about their use of this drug.

Figure 15

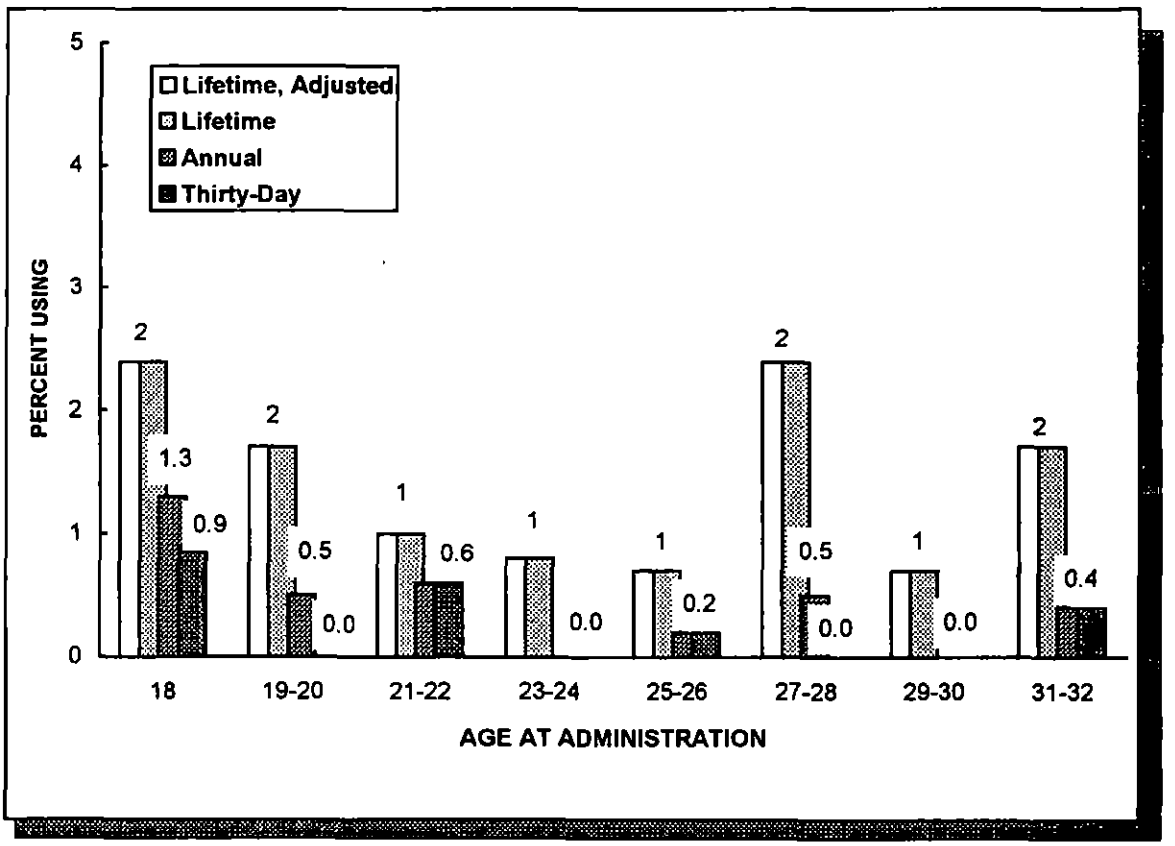
Crystal Methamphetamine ("Ice"): Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 16

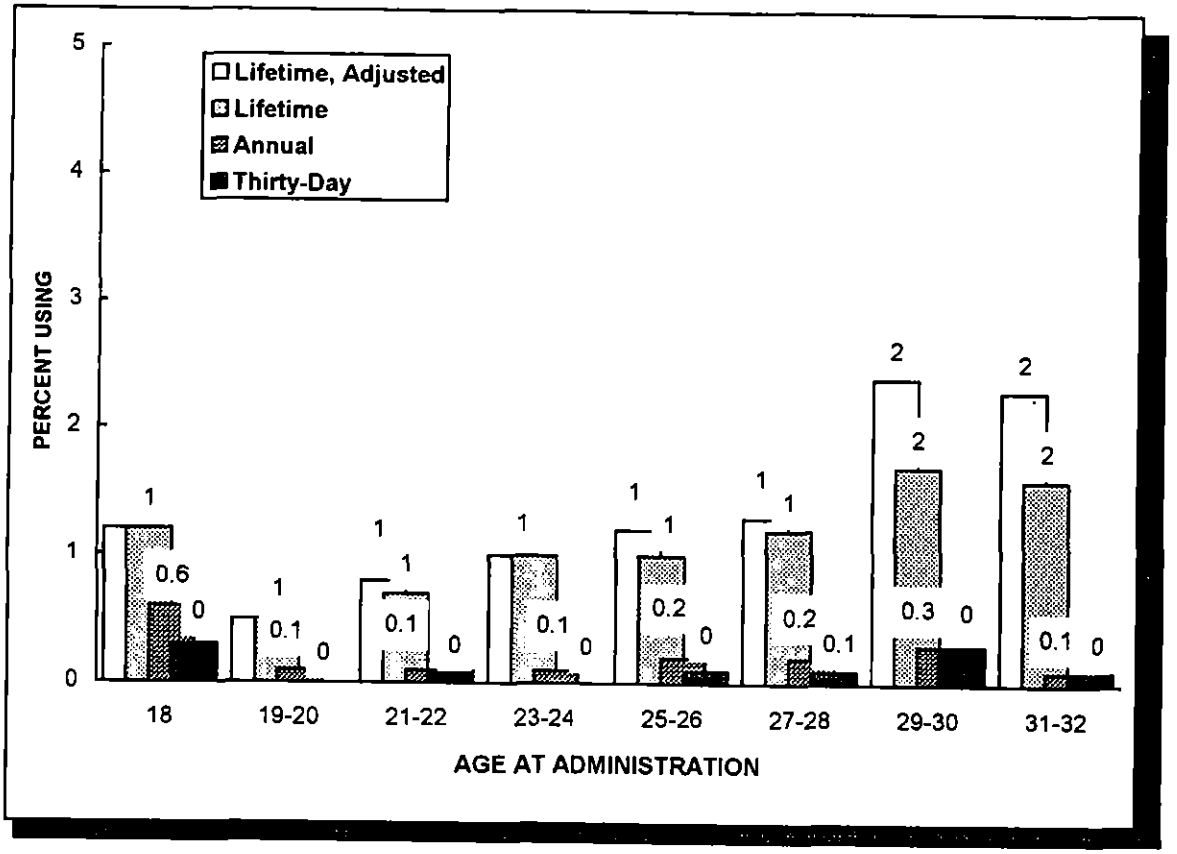
Steroids: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 17

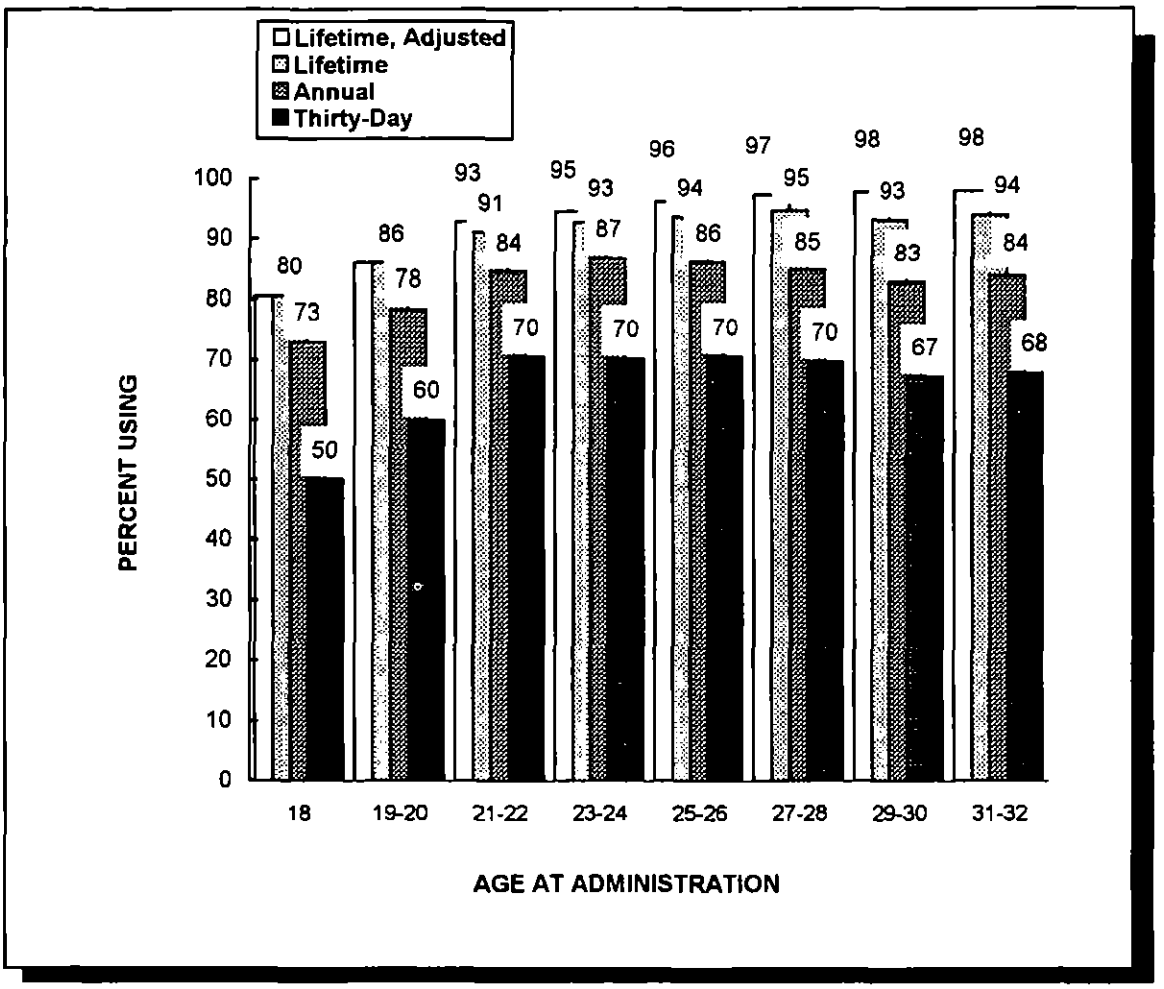
Heroin: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1994
by Age Group



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

Figure 18a

Alcohol: Lifetime, Annual, and Thirty-Prevalence Among Young Adults, 1994
by Age Group



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

Figure 18b

Alcohol: Two-Week Prevalence of Five or More Drinks in a Row and Thirty-Day Prevalence of Daily Use Among Young Adults, 1994
by Age Group

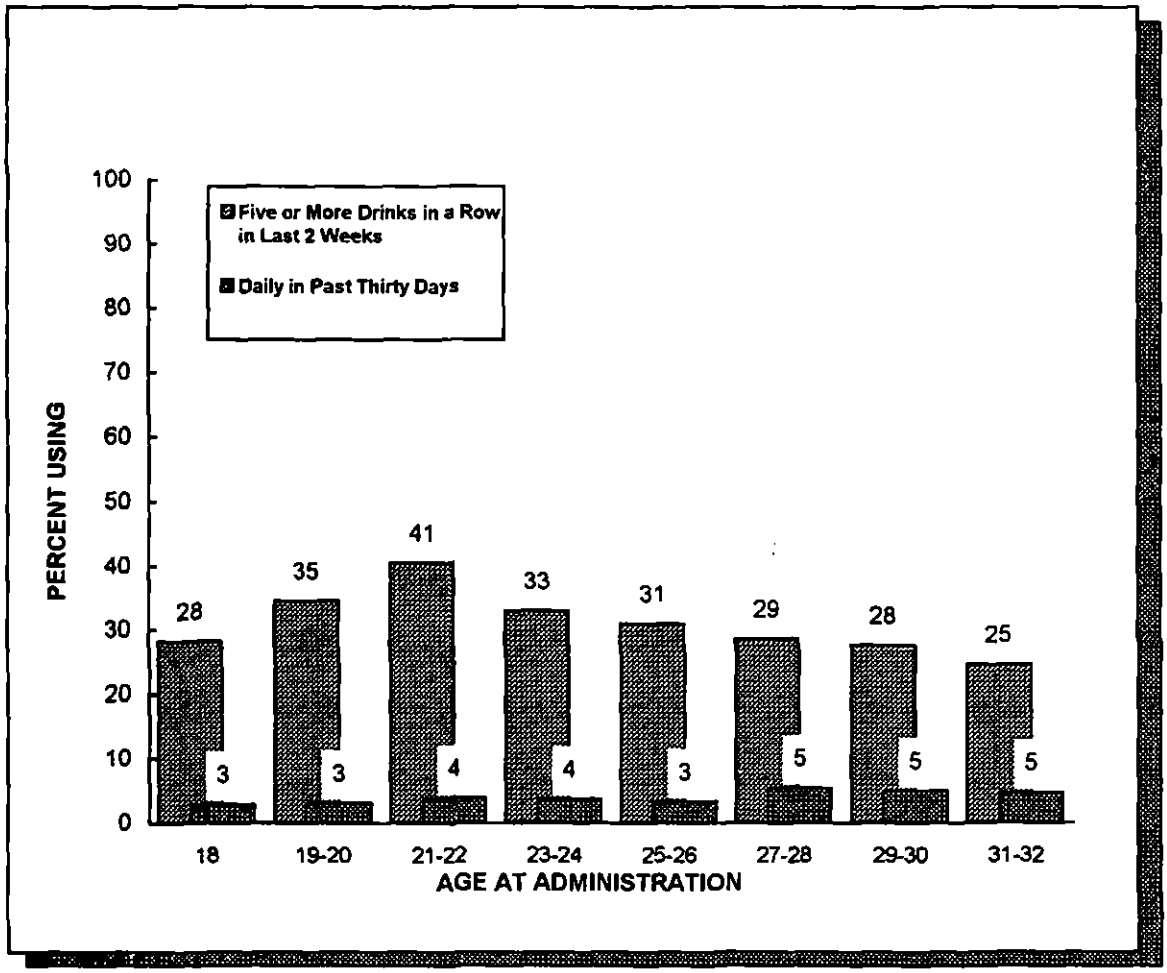
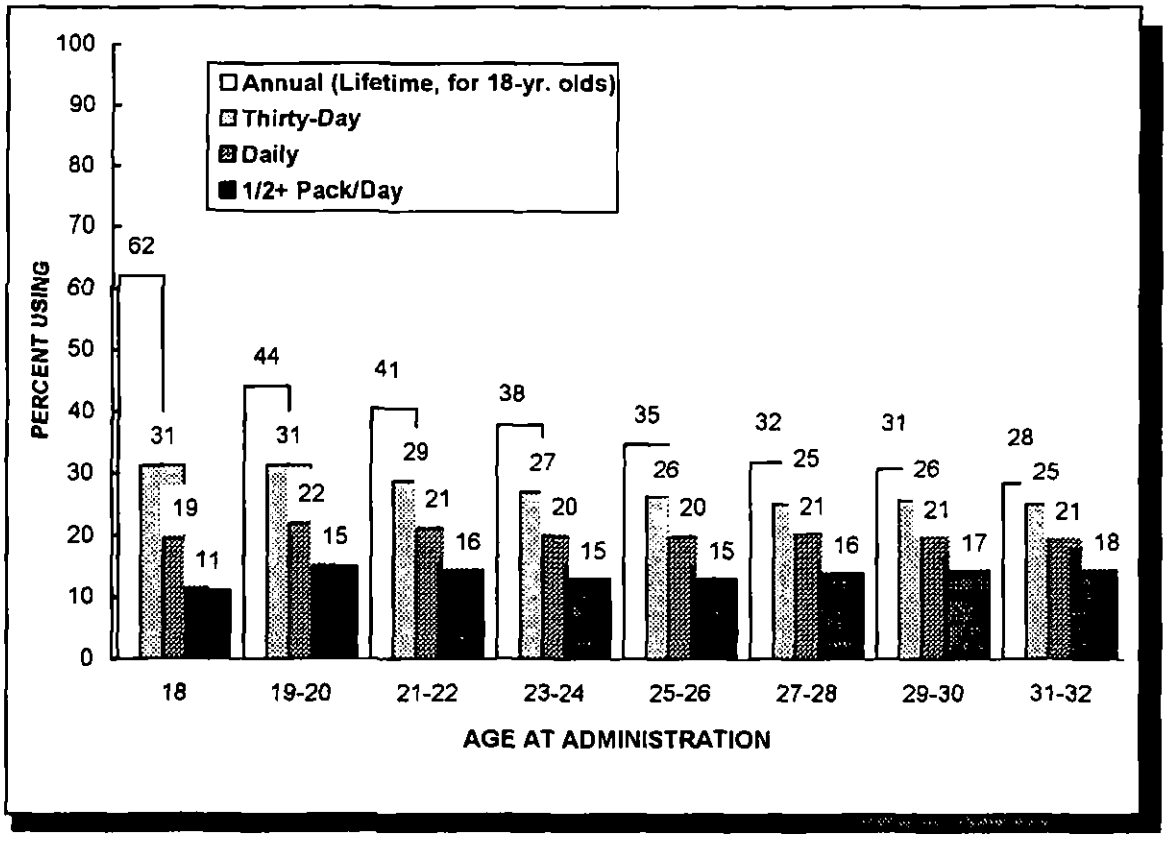


Figure 19

Cigarettes: Annual, Thirty-Day, Daily, and Half-Pack-a-Day Prevalence Among Young Adults, 1994
by Age Group



PREVALENCE COMPARISONS FOR SUBGROUPS OF YOUNG ADULTS

Sex Differences

Statistics on usage rates for the group of young adults one to fourteen years beyond high school (modal ages 19 to 32), are given for the total sample and separately for males and females in Tables 2 to 6. In general, most of the sex differences in drug use which pertained in high school may be found in this young adult sample as well.

- Somewhat more males than females report using ***any illicit drug*** during the prior year (31% vs. 23%). Males have higher annual prevalence rates in most of the specific illicit drugs–with the highest ratios (all greater than 2) pertaining for ***steroids, nitrites, MDMA, LSD, hallucinogens*** in general, ***inhalants, crack*** and ***cocaine***. For example, among the 19 to 32 year olds, LSD was used by 4.9% of males vs. 1.9% of females during the prior twelve months.

- Both ***crack*** and ***cocaine*** in general were used by more males than females in the past year. Crack use was reported by 1.8% of the males and 0.7% of the females; cocaine by 6.7% of the males and 3.0% of the females.

- Other large sex differences are found in ***daily marijuana use*** (4.5% for males vs. 1.4% for females in 1994), ***daily alcohol use*** (6.7% vs. 2.1%), and occasions of drinking ***five or more drinks in a row*** in the prior two weeks (43% vs. 23%). This sex difference in occasions of heavy drinking is greater among young adults than among high school seniors, where it is 37% for males vs. 20% for females.

- The use of ***stimulants***, which is now about equivalent among males and females in high school, is also fairly similar for both sexes in this post-high school period (annual prevalence 4.6% vs. 3.5%, respectively).

- ***Crystal methamphetamine*** (ice) is used by small percentages of both males (1.0% annual prevalence) and females (0.6%).

- In the 1980s, there were few differences between males and females in rate of ***cigarette use***. In the 1990s however, small differences have emerged resulting in slightly higher rates of use by males in 1994. Among high school seniors, past month prevalence is 33% for males, compared to 29% for females. Daily use rates are 20% and 18%, respectively, and half-pack or more use rates are 13% and 10%. These differences are similar, though smaller, among the 19 to 32 year olds. Males are slightly more likely to have smoked in the past month (29% vs. 26%), to have smoked daily (21% vs. 20%), and to have smoked half-a-pack or more per day (17% vs. 15%).

- ***Steroid*** use among young adults is much more prevalent among males than females, as is true for seniors. Among seniors, 2.1% of the males reported steroid use in the past year vs. 0.5% of the females. These statistics are much lower among the 19 to 32 year olds–0.6% vs. 0.1%–but males still account for nearly all steroid use.

- ***MDMA*** (ecstasy) is higher among males than females in the young adult sample (annual prevalence 0.9% vs. 0.3%, respectively).

Regional Differences

Follow-up respondents are asked in what state they currently reside. States are then assigned to the same regions used in the analysis of the high school data (see Figure 5, Volume I and Appendix B, Volume I). Tables 3 through 6 present regional differences in lifetime prevalence, annual prevalence, 30-day prevalence, and current daily prevalence, for the 19 to 32 year olds combined.

- Regional differences in use are not very large for ***marijuana***, except that the South is lower than the other regions, as is true among seniors. The South is also somewhat lower in the proportion using ***any illicit drug***.

- The Northeast and West show slightly higher rates of annual ***cocaine*** use than the North Central and the South; these regional differences are smaller on 30-day prevalence. In previous years, these regional differences were much larger.

- ***Crack*** shows no significant differences based on region for either young adults or seniors in 1994, though use is highest in the West.

- The annual use of ***stimulants*** is lowest in the Northeast, again consistent with the high school results.

- The use of ***crystal methamphetamine*** (ice) is concentrated primarily in the Western region of the country, 2.6% annual prevalence vs. 0.1%-0.6% for all other regions.

- ***Hallucinogens*** are used annually by slightly more of the respondents in the Western region (6%) than those in the other three regions (3%-4%). Slightly higher rates in the West also exist for ***LSD*** specifically, 5% vs. 2%-3% in the other regions.

- For the ***remaining illicit drugs*** the annual and 30-day prevalence rates tend to be very low, at or under 4% and 1%, respectively, making regional differences small in absolute terms (see Tables 4 and 5).

TABLE 2

Prevalence of Use of Various Types of Drugs, by Sex, 1994 Among Respondents of Modal Age 19-32

(Entries are Percentages)

Approx. Weighted N =	Males *(3900)*	Females *(4800)*	Total *(8700)*
Any Illicit Drug[a]			
Annual	31.2	23.4	26.9
Thirty-Day	18.8	11.7	14.8
Any Illicit Drug[a] **Other than Marijuana**			
Annual	15.4	10.3	12.6
Thirty-Day	6.5	3.8	5.0
Marijuana			
Annual	28.6	20.0	23.8
Thirty-Day	17.3	10.1	13.3
Daily	4.5	1.4	2.8
Inhalants[b,h]			
Annual	2.5	1.0	1.7
Thirty-Day	0.7	0.2	0.4
Nitrites[c]			
Annual	0.5	*	0.3
Thirty-Day	0.2	0.0	0.1
Hallucinogens[h]			
Annual	6.1	2.2	3.9
Thirty-Day	1.9	0.5	1.1
LSD			
Annual	4.9	1.9	3.2
Thirty-Day	1.3	0.4	0.8
PCP[c]			
Annual	0.3	0.2	0.3
Thirty-Day	0.2	0.0	0.1
Cocaine			
Annual	6.7	3.0	4.6
Thirty-Day	2.2	0.8	1.5
Crack			
Annual	1.8	0.7	1.2
Thirty-Day	0.4	0.2	0.3
Other Cocaine[d]			
Annual	5.8	2.4	3.9
Thirty-Day	1.9	0.5	1.1
MDMA ("Ecstasy")[e]			
Annual	0.9	0.3	0.6
Thirty-Day	0.2	0.1	0.1
Heroin			
Annual	0.2	0.1	0.2
Thirty-Day	0.2	*	0.1
Other Opiates[f]			
Annual	2.8	1.9	2.3
Thirty-Day	0.8	0.5	0.6

TABLE 2 (cont.)

Prevalence of Use of Various Types of Drugs, by Sex, 1994 Among Respondents of Modal Age 19-32

(Entries are Percentages)

Approx. Weighted N =	Males *(3900)*	Females *(4800)*	Total *(8700)*
Stimulants, Adjusted[f,g]			
Annual	4.6	3.5	4.0
Thirty-Day	1.6	1.5	1.5
Crystal Methamphetamine ("Ice")[c]			
Annual	1.0	0.6	0.8
Thirty-Day	0.6	0.3	0.4
Barbiturates[f]			
Annual	2.2	1.3	1.7
Thirty-Day	0.8	0.3	0.6
Tranquilizers[f]			
Annual	3.4	2.7	3.0
Thirty-Day	1.0	0.7	0.8
Steroids[c]			
Annual	0.6	0.1	0.3
Thirty-Day	0.3	*	0.2
Alcohol			
Annual	85.6	81.9	83.6
Thirty-Day	74.8	61.8	67.6
Daily	6.7	2.1	4.1
5+ drinks in a row in the last 2 weeks	43.4	22.6	31.8
Cigarettes			
Annual	37.6	34.9	36.1
Thirty-Day	28.7	26.2	27.3
Daily (Any)	21.4	20.3	20.7
Half-pack or more per day	16.8	15.0	15.8

`*` 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 opiates, stimulants, barbiturates, or tranquilizers not under a doctor's orders.

[b]This drug was asked about in five of the six questionnaire forms. Total N is approximately 7250.

[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1450.

[d]This drug was asked about in four of the six questionnaire forms. Total N is approximately 5800.

[e]This drug was asked about in two of the six questionnaire forms. Total N is approximately 2900.

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

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

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

- The annual and 30-day prevalence rates for ***alcohol*** are somewhat higher in the Northeast and North Central regions than in the Southern and Western parts of the country, as is true for seniors. ***Occasional heavy drinking*** shows the same pattern: 34%, 37%, 26% and 31%, respectively for the Northeast, North Central, South, and West (see Table 6).

- ***Cigarette smoking*** among these young adults is lowest in the West and highest in the Northeast and North Central, as it is among seniors.

Differences Related to Population Density

Population density is measured by asking respondents to check which of a number of listed alternatives best describes the size and nature of the community where they lived during March of that year. The major answer alternatives are listed in Table 3 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. See Tables 4 through 6 for the relevant results discussed below.

- Differences in illicit drug use by population density tend to be very modest, perhaps more modest than is commonly supposed. This is not to deny that certain drug problems are more common in highly urban areas—injection drug use and addictive use of crack cocaine, for example, are likely concentrated in inner-city urban areas. Among the general population, however, use of 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. The modest positive association, based on annual prevalence, is true for ***any illicit drug use, use of an illicit other than marijuana, marijuana, inhalants, hallucingens, LSD, MDMA, cocaine*** (but not ***crack***), ***ice***, and ***tranquilizers.***

- In 1994, ***marijuana*** shows a modest positive association with population density. (See annual and 30-day prevalence rates in Tables 4 and 5).

- ***Inhalant*** use has a similar pattern, with annual prevalence being lowest in the farm/country stratum, slightly higher in the small towns, and slightly higher still in the next three strata.

- Annual use of ***hallucinogens***, including ***LSD***, also shows a modest positive association with population density.

- ***Cocaine*** use has a modest positive association with population density; ***crack***, however, shows no clear relationship.

- The use of ***crystal methamphetamine*** (ice) also is associated with population density in 1994, with annual prevalence at 0.3% for the farm/country stratum and at 1.3% for the very large cities.

- Lifetime, annual, and 30-day ***alcohol*** use measures show a slight positive association with population density. ***Occasions of heavy drinking*** are about the same across all strata except farm/country, which has a slightly lower rate (see Table 6). ***Daily*** use stands between 4% and 5% for all community size strata.

- In contrast, a *negative* association with population density exists for ***cigarette smoking*** which is highest in the farm/country stratum and lowest in the very large cities (daily prevalences of 26% and 17%, respectively).

TABLE 3

Lifetime[f] Prevalence of Use of Various Types of Drugs by Subgroups, 1994 Among Respondents of Modal Age 19-32

(Entries are percentages)

	Approx. Weighted N	Any Illicit Drug[a]	Any Illicit Drug[a] Other than Marijuana	Marijuana	Inhalants[b,c]	Nitrites[d]	Hallucinogens[b]	LSD	PCP[c]	MDMA[g]	Cocaine
Total	*8700*	61.2	37.2	57.6	13.1	1.5	16.8	14.8	2.6	3.6	19.9
Sex:											
Male	*3900*	62.7	38.9	59.9	17.0	2.1	21.3	19.0	3.2	4.7	23.4
Female	*4800*	60.0	35.8	55.7	10.1	1.0	13.3	11.6	2.2	2.7	17.2
Modal Age:											
19-20	*1600*	46.6	25.5	42.1	13.2	0.9	11.4	10.9	1.4	1.5	6.4
21-22	*1300*	53.1	28.8	50.7	13.8	0.2	15.7	14.5	2.7	4.7	10.4
23-24	*1300*	59.6	33.9	55.3	13.8	1.3	16.2	14.8	1.7	4.0	15.7
25-26	*1200*	64.1	38.6	60.4	14.1	0.6	16.8	14.7	0.8	4.1	21.5
27-28	*1100*	68.0	43.4	64.5	11.2	1.8	18.0	15.0	3.9	5.1	25.3
29-30	*1100*	70.8	46.5	67.8	12.8	2.0	19.4	16.8	2.0	2.7	32.8
31-32	*1100*	73.3	49.9	70.2	12.6	3.6	22.6	18.7	6.3	3.0	34.9
Region:											
Northeast	*1700*	64.9	37.9	62.1	13.6	1.9	19.1	15.3	3.5	3.0	23.8
Northcentral	*2500*	60.7	35.3	57.9	11.9	1.2	16.3	14.9	2.1	1.2	17.1
South	*2800*	56.2	33.7	51.7	12.0	0.9	13.1	12.2	2.4	4.1	15.6
West	*1700*	66.2	44.8	62.1	16.5	2.5	21.5	18.9	2.7	6.5	27.1
Population Density[e]											
Farm/Country	*1100*	57.2	35.4	52.9	11.6	1.2	14.6	13.5	1.0	1.0	16.8
Small Town	*2600*	58.2	34.7	54.7	12.4	0.8	15.2	13.8	2.1	2.4	18.3
Medium City	*1900*	61.6	37.6	57.6	13.3	1.7	16.4	14.2	3.9	3.5	19.3
Large City	*1800*	64.4	37.5	61.3	13.8	0.9	18.2	16.1	2.8	4.5	20.5
Very Large City	*1200*	65.6	42.2	62.8	15.1	3.1	20.5	17.2	2.6	6.8	26.0

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 opiates, stimulants, 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 five of the six questionnaire forms. Total N is approximately 7250.
[d]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1450.
[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]Lifetime prevalence is uncorrected for any cross-time inconsistencies in responding.
[g]This drug was asked about in two of the six questionnaire forms. Total N is approximately 2900.

TABLE 3 (cont.)

Lifetime[c] Prevalence of Use of Various Types of Drugs by Subgroups, 1994 Among Respondents of Modal Age 19-32

(Entries are percentages)

	Crack	Heroin	Other Opiates	Stimulants[a]	Barbiturates	"Ice"[b]	Tranquilizers	Steroids[c]	Alcohol	Cigarettes
Total	5.2	1.0	9.0	20.6	8.1	2.7	12.0	1.3	91.8	NA
Sex:										
Male	6.4	1.5	11.4	20.9	9.7	3.5	13.1	2.7	92.3	NA
Female	4.3	0.7	7.1	20.3	6.8	2.2	11.2	0.1	91.3	NA
Modal Age:										
19-20	3.0	0.5	5.8	12.2	4.2	1.8	5.0	1.7	85.9	NA
21-22	3.1	0.7	7.5	13.2	5.9	1.2	7.5	1.0	91.0	NA
23-24	4.6	1.0	9.3	18.2	5.7	3.2	11.5	0.8	92.7	NA
25-26	4.8	1.0	8.2	19.3	7.0	3.3	12.3	0.7	93.5	NA
27-28	7.3	1.2	10.8	24.6	10.2	2.8	14.9	2.4	94.6	NA
29-30	7.9	1.7	10.9	28.9	11.4	3.0	17.1	0.7	93.0	NA
31-32	7.0	1.6	11.8	32.6	14.3	3.9	19.2	1.7	93.9	NA
Region:										
Northeast	4.6	1.4	8.8	18.2	7.7	2.1	11.9	0.6	95.0	NA
Northcentral	4.4	0.8	8.6	22.0	7.9	1.9	10.2	1.3	93.9	NA
South	4.7	0.7	8.2	18.7	8.2	1.9	13.3	1.1	89.3	NA
West	7.5	1.6	10.9	24.3	8.4	5.7	12.9	2.4	90.0	NA
Population Density[d]:										
Farm/Country	5.1	0.7	8.8	22.1	9.1	2.4	11.4	0.8	89.6	NA
Small Town	4.2	1.0	8.9	20.2	7.8	2.6	11.5	1.0	91.3	NA
Medium City	5.0	1.0	8.8	20.7	8.2	2.5	11.5	1.6	91.8	NA
Large City	5.8	0.9	8.6	20.2	7.9	3.4	12.4	1.2	93.2	NA
Very Large City	6.4	1.7	10.2	20.5	7.9	2.7	13.5	2.0	92.4	NA

Source: The Monitoring the Future Study, the University of Michigan.
'NA' indicates data not available.

[a]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[b]This drug was asked about in two of the six questionnaire forms. Total N is approximately 2900.
[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1450.
[d]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.
[e]Lifetime prevalence is uncorrected for any cross-time inconsistencies in responding.

TABLE 4

Annual Prevalence of Use of Various Types of Drugs by Subgroups, 1994 Among Respondents of Modal Age 19-32

(Entries are percentages)

	Approx. Weighted N	Any Illicit[a] Drug	Any Illicit Drug[a] Other than Marijuana	Marijuana	Inhalants[b,c]	Nitrites[d]	Hallucinogens[b]	LSD	PCP[d]	MDMA[f]	Cocaine
Total	*8700*	26.9	12.6	23.8	1.7	0.3	3.9	3.2	0.3	0.6	4.6
Sex:											
Male	*3900*	31.2	15.4	28.6	2.5	0.5	6.1	4.9	0.3	0.9	6.7
Female	*4800*	23.4	10.3	20.0	1.0	*	2.2	1.9	0.2	0.3	3.0
Modal Age:											
19-20	*1600*	32.2	14.6	29.3	3.1	0.6	6.7	6.2	0.5	0.6	3.2
21-22	*1300*	31.6	14.1	29.2	3.3	0.0	6.8	5.7	0.6	1.4	3.9
23-24	*1300*	27.3	12.9	24.6	1.9	0.2	4.3	3.2	0.4	0.9	4.8
25-26	*1200*	25.5	12.0	22.6	0.7	0.0	3.0	2.4	0.0	0.2	4.2
27-28	*1100*	23.6	11.1	20.1	0.6	0.5	2.4	1.6	0.0	0.4	5.4
29-30	*1100*	22.4	10.8	19.0	0.6	0.2	1.5	1.0	0.2	0.3	6.0
31-32	*1100*	22.4	11.5	18.6	0.3	0.4	1.0	0.6	0.0	0.2	5.5
Region:											
Northeast	*1700*	28.3	11.2	26.1	1.8	0.6	3.0	2.3	0.0	0.7	5.3
Northcentral	*2500*	26.9	11.4	24.7	1.7	0.2	3.7	3.2	0.2	*	4.0
South	*2800*	22.7	11.9	19.0	1.4	0.1	3.2	2.7	0.2	0.4	3.5
West	*1700*	32.2	16.4	28.1	1.9	0.3	6.2	4.8	0.4	1.3	6.4
Population Density[e]:											
Farm/Country	*1100*	22.6	11.5	19.0	0.9	0.0	3.1	2.8	0.0	0.4	3.1
Small Town	*2600*	25.6	11.6	22.6	1.3	0.1	3.3	2.7	0.3	0.3	4.1
Medium City	*1900*	28.2	13.1	24.9	2.1	0.6	3.8	3.0	0.3	0.9	4.7
Large City	*1800*	27.5	12.6	24.8	1.6	0.2	4.2	3.5	0.1	0.4	5.3
Very Large City	*1200*	30.7	14.4	28.2	2.4	0.4	5.6	4.2	0.2	0.8	5.8

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 opiates, stimulants, 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 five of the six questionnaire forms. Total N is approximately 7250.
[d]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1450.
[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]This drug was asked about in two of the six questionnaire forms. Total N is approximately 2900.

TABLE 4 (cont.)

Annual Prevalence of Use of Various Types of Drugs by Subgroups, 1994 Among Respondents of Modal Age 19-32

(Entries are percentages)

	Crack	Heroin	Other Opiates	Stimulants[a]	Barbiturates	"Ice"[b]	Tranquilizers	Steroids[c]	Alcohol	Cigarettes
Total	1.2	0.2	2.3	4.0	1.7	0.8	3.0	0.3	83.6	36.1
Sex:										
Male	1.8	0.2	2.8	4.6	2.2	1.0	3.4	0.6	85.6	37.6
Female	0.7	0.1	1.9	3.5	1.3	0.6	2.7	0.1	81.9	34.9
Modal Age:										
19-20	1.2	0.1	2.7	5.4	2.3	1.3	1.9	0.5	78.3	44.3
21-22	1.1	0.1	2.9	5.3	2.2	0.4	2.9	0.6	84.4	40.5
23-24	0.8	0.1	2.6	4.5	1.7	1.7	3.1	0.0	86.6	37.9
25-26	1.0	0.2	1.8	3.9	1.1	0.6	3.3	0.2	86.0	34.7
27-28	1.5	0.2	2.1	2.9	1.6	0.3	3.6	0.5	84.5	31.9
29-30	1.5	0.3	1.7	2.6	1.4	0.7	3.2	0.0	82.6	30.7
31-32	1.0	0.1	1.9	2.5	1.2	0.3	3.8	0.4	83.6	28.3
Region:										
Northeast	1.2	0.2	2.3	2.1	1.6	0.1	3.1	0.6	90.0	37.1
Northcentral	1.0	*	2.3	4.0	1.6	0.6	2.5	0.1	87.5	39.2
South	1.0	0.1	2.0	4.0	1.8	0.3	3.8	0.4	77.4	34.9
West	1.6	0.4	2.9	6.2	1.6	2.6	2.5	0.3	81.8	32.9
Population Density[d]:										
Farm/Country	1.1	0.1	2.1	4.3	1.9	0.3	2.5	0.2	77.8	40.0
Small Town	1.1	0.2	2.4	3.4	1.9	0.6	3.0	0.3	82.5	36.6
Medium City	1.1	0.1	2.5	4.6	1.5	0.8	3.0	0.6	84.4	36.5
Large City	1.4	0.1	1.9	4.0	1.5	0.8	2.9	0.1	85.8	35.1
Very Large City	1.1	0.2	2.5	4.2	1.5	1.3	3.6	0.4	86.2	32.6

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]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[b]This drug was asked about in two of the six questionnaire forms. Total N is approximately 2900.
[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1450.
[d]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 5

Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups, 1994 Among Respondents of Modal Age 19-32

(Entries are percentages)

	Approx. Weighted N	Any Illicit[a] Drug	Any Illicit Drug[a] Other than Marijuana	Marijuana	Inhalants[b,c]	Nitrites[d]	Hallucinogens[b]	LSD	PCP[d]	MDMA[f]	Cocaine
Total	*8700*	14.8	5.0	13.3	0.4	0.1	1.1	0.8	0.1	0.1	1.5
Sex:											
Male	*3900*	18.8	6.5	17.3	0.7	0.2	1.9	1.3	0.2	0.2	2.2
Female	*4800*	11.7	3.8	10.1	0.2	0.0	0.5	0.4	0.0	0.1	0.8
Modal Age:											
19-20	*1600*	16.8	6.0	15.3	0.9	0.0	2.4	2.1	0.0	0.2	0.8
21-22	*1300*	17.7	6.2	16.5	0.6	0.0	2.1	1.4	0.2	0.2	1.4
23-24	*1300*	14.3	5.0	13.3	0.4	0.0	1.2	0.6	0.4	0.2	1.5
25-26	*1200*	13.5	4.5	12.9	0.2	0.0	0.9	0.7	0.0	0.0	1.2
27-28	*1100*	13.6	4.6	11.6	0.2	0.5	0.4	0.1	0.0	0.2	2.0
29-30	*1100*	13.4	4.2	11.4	0.4	0.0	0.1	0.0	0.0	0.0	1.9
31-32	*1100*	13.2	4.0	10.8	0.0	0.2	0.2	0.2	0.0	0.1	1.7
Region:											
Northeast	*1700*	16.6	4.7	15.1	0.6	0.5	0.9	0.7	0.0	0.2	2.0
Northcentral	*2500*	14.4	4.4	13.2	0.4	0.0	1.1	1.0	0.0	0.0	1.1
South	*2800*	12.2	4.4	10.7	0.4	0.0	0.8	0.7	0.1	0.1	1.1
West	*1700*	17.8	7.4	15.9	0.4	0.0	1.9	1.0	0.3	0.2	1.9
Population Density[e]:											
Farm/Country	*1100*	12.0	3.7	10.6	0.2	0.0	0.8	0.7	0.0	0.0	0.6
Small Town	*2600*	13.8	4.6	12.5	0.4	0.0	1.1	0.8	0.1	0.1	1.2
Medium City	*1900*	16.3	5.8	14.2	0.6	0.3	0.9	0.6	0.3	0.1	1.9
Large City	*1800*	14.8	5.2	13.6	0.4	0.0	1.3	1.1	0.0	0.2	1.6
Very Large City	*1200*	17.4	5.6	15.7	0.4	0.2	1.3	0.9	0.0	0.0	1.9

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 opiates, stimulants, 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 five of the six questionnaire forms. Total N is approximately 7250.
[d]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1450.
[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]This drug was asked about in two of the six questionnaire forms. Total N is approximately 2900.

TABLE 5 (cont.)

Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups, 1994 Among Respondents of Modal Age 19-32

(Entries are percentages)

	Crack	Heroin	Other Opiates	Stimulants[a]	Barbiturates	"Ice"[b]	Tranquilizers	Steroids[c]	Alcohol	Cigarettes
Total	0.3	0.1	0.6	1.5	0.6	0.4	0.8	0.2	67.6	27.3
Sex:										
Male	0.4	0.2	0.8	1.6	0.8	0.6	1.0	0.3	74.8	28.7
Female	0.2	*	0.5	1.5	0.3	0.3	0.7	*	61.8	26.2
Modal Age:										
19-20	0.2	0.0	0.6	2.2	0.7	0.7	0.4	0.0	59.9	31.3
21-22	0.1	0.1	0.9	1.9	0.7	0.0	0.9	0.6	70.4	28.8
23-24	0.1	0.0	0.7	2.2	0.4	0.9	0.7	0.0	70.1	27.0
25-26	0.2	0.1	0.4	1.5	0.4	0.5	0.7	0.2	70.4	26.4
27-28	0.7	0.1	0.4	0.8	0.6	0.2	1.2	0.0	69.6	25.0
29-30	0.5	0.3	0.8	1.2	0.7	0.2	1.0	0.0	67.0	25.5
31-32	0.3	0.1	0.8	0.8	0.3	0.2	1.1	0.4	67.7	24.9
Region:										
Northeast	0.4	0.2	0.8	0.7	0.5	0.0	1.0	0.3	75.2	28.9
Northcentral	0.2	0.0	0.7	1.4	0.4	0.2	0.6	0.0	72.2	31.1
South	0.3	0.1	0.4	1.3	0.8	0.1	1.1	0.3	59.3	25.5
West	0.2	0.2	0.8	3.1	0.4	1.7	0.6	0.1	67.4	23.1
Population Density[d]:										
Farm/Country	0.2	0.0	0.6	1.3	0.4	0.2	0.6	0.2	58.5	31.1
Small Town	0.3	0.1	0.7	1.3	0.7	0.2	0.9	0.1	65.7	28.4
Medium City	0.3	0.1	0.6	1.8	0.5	0.3	1.1	0.3	68.9	26.5
Large City	0.3	*	0.6	1.8	0.7	0.6	0.7	0.0	71.6	26.2
Very Large City	0.3	0.1	0.7	1.5	0.3	1.0	0.7	0.4	72.4	24.3

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]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[b]This drug was asked about in two of the six questionnaire forms. Total N is approximately 2900.
[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1450.
[d]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 6

Thirty-Day Prevalence of Daily Use of Various Types of Drugs by Subgroups, 1994 Among Respondents of Modal Age 19-32

(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	*8700*	2.8	4.1	31.8	20.7	15.8
Sex:						
Male	*3900*	4.5	6.7	43.4	21.4	16.8
Female	*4800*	1.4	2.1	22.6	20.3	15.0
Modal Age:						
19-20	*1600*	3.1	3.1	34.5	21.9	15.0
21-22	*1300*	2.9	3.9	40.5	21.1	15.6
23-24	*1300*	3.1	3.7	32.9	19.9	15.0
25-26	*1200*	2.7	3.3	30.9	19.8	15.0
27-28	*1100*	2.2	5.4	28.5	20.5	15.9
29-30	*1100*	2.4	5.0	27.5	20.9	16.8
31-32	*1100*	2.7	4.7	24.6	20.9	17.8
Region:						
Northeast	*1700*	3.5	3.9	34.4	22.4	17.3
Northcentral	*2500*	2.8	4.2	37.2	24.4	19.1
South	*2800*	2.0	3.8	25.8	19.6	14.9
West	*1700*	3.1	4.5	31.4	16.0	11.1
Population Density[a]:						
Farm/Country	*1100*	2.9	3.9	28.5	26.1	20.9
Small Town	*2600*	2.4	3.8	31.7	21.5	16.3
Medium City	*1900*	2.8	4.5	32.4	19.8	14.9
Large City	*1800*	3.1	3.9	32.7	19.5	14.8
Very Large City	*1200*	3.0	4.7	32.9	17.3	12.6

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.

Chapter 5

TRENDS IN DRUG USE AMONG YOUNG ADULTS POST-HIGH SCHOOL

In 1993 and 1994, we observed large and important increases in the use of a number of substances among secondary school students. (In fact, among 8th graders the upturn began a year earlier.) An issue to be addressed in this chapter is whether those increases are occurring only among adolescents, or whether they are also occuring among young adults as well.

Trends in the use of the various licit and illicit drugs by all high school graduates who are between one to fourteen years beyond high school are presented here. Figures 20 through 34 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 which would be seen with one-year strata. (These two-year strata are not strictly speaking age-strata, because they are based on all respondents from adjacent high school classes, and they do not take account of the minor differences in individual respondents' ages; but they are close approximations to age-strata, and we will characterize them by the modal age of the respondents, as age 19 to 20, 21 to 22, and so on.) Each data point in these figures is based on approximately 1200 weighted cases drawn from two adjacent high school classes; actual (unweighted) numbers of cases are somewhat higher. For the 1994 data, the 19 to 20 year old stratum is comprised of participating respondents from the classes of 1993 and 1992, respectively, the 21 to 22 year old stratum contains data from the classes of 1991 and 1990, and so on.

Tables 7 through 11 are derived from the same data but are presented in tabular form for 19 to 28 year olds combined. Data are given for each year in which they are available for that full age band (i.e., from 1986 onward). Those aged 29 to 32 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 20 through 34.

TRENDS IN PREVALENCE: YOUNG ADULTS

To repeat, trends in use by young adults may be found in Tables 7 through 11 (for the age group 19-28), as well as in Figures 20 through 34 (for ages 19-32). The results are as follows:

- Longer term declines for a number of drugs appeared to level and perhaps even reverse in 1992 (see Table 8). 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, stimulants,*** and ***crack***. In 1993 and 1994, annual prevalence for most drugs remained steady, with the important exception of ***cocaine other than crack***, which declined from 5.1% in 1992 to 3.6% in 1994.

Thus, it appears that the broad increase seen among secondary school students is not being observed among young adults ages 19-28. Instead, a period of level use continues, neither decreasing nor increasing substantially. However, as we note later, there is some evidence that the youner adults (ages 19-22) are showing some increases, particularly in marijuana use.

- ***Marijuana*** remained at 25.5% annual prevalence following a 1.4% increase in 1992 (not statistically significant) after years of steady decline. As noted in Table 1, presented earlier, there were increases between 1993 and 1994 of 3.8 percentage points among eighth graders, 6.0 percentage points among tenth graders, and 4.7 percentage points among twelfth graders—all highly statistically significant.

- Use of ***LSD*** increased between 1989 and 1992 among young adults, but did not continue to increase in 1993 and 1994, with annual prevalence remaining at about 4%, and 30-day prevalence at 1%. Use of ***PCP*** remained at a very low level (0.3% annual prevalence in 1994).

- Over the longer term, trends in use of most drugs among the older age groups have pretty much paralleled the changes among seniors discussed in Chapter 5, Volume I. Many of the changes have been secular trends–that is, they are observable in all the age groups under study. This was generally true for the longer term declines in the use of ***any illicit drug***, ***marijuana***, ***any illicit drug other than marijuana***, ***stimulants***, ***crack***, and ***tranquilizers***. ***LSD*** and ***opiates other than heroin*** began to level out in 1987, ***barbiturates*** and ***methaqualone*** in 1988. (As can be seen in Table 1, presented earlier, their trends have been less parallel in the last few years.)

- Several of these drug classes actually exhibited a faster decline in use among the older age groups than among high school seniors during the decline period (see Figures 20-34). These include ***any illicit drug***, ***any illicit drug other than marijuana***, ***stimulants***, ***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 higher ones, than post-high school respondents for use of ***any illicit drug***, ***any illicit drug other than marijuana***, ***marijuana***, ***hallucinogens***, ***LSD***, ***tranquilizers***, and ***stimulants***.

- The large separation of the age band lines in Figure 23 shows that ***inhalant*** use consistently has dropped sharply with age. In fact, of all of the populations covered in this study, the eighth graders (not shown in Figure 23) have had the highest rate of use. Figure 23 also shows

that there has been a long-term gradual increase in annual inhalant use (unadjusted for underreporting of nitrite inhalants) among the youngest three of the age groups shown (seniors, those 1-2 years and 3-4 years, past high school). Those respondents 5 or more years past high school, who historically have had a negligible rate of use did not exhibit the same increase in use as the younger respondents.

- The ***alcohol*** trends for the older age groups (see Figures 33a-d) have been somewhat different than for the younger ones. The declines during the 1980s in ***30-day prevalence*** and ***occasions of heavy drinking*** had been greater for the two youngest age strata (seniors and those 1-2 years past high school) 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, which would be expected to affect only the younger age groups. However, because similar (though weaker) trends were evident among high school seniors in states that have maintained a constant minimum drinking age of 21, the changed laws cannot account for all the downward trends.[5] Since 1991 or 1992, however, these declines have slowed or discontinued for all age groups.

  Those 3-4 years past high school stand out for showing the smallest long-term downward trend in ***binge drinking***. One important segment of that age stratum is comprised of college students, who showed practically no downward trend.

  The older age groups in general have shown only a modest long-term decline in annual prevalence rates, and no recent decline in 30-day prevalence rates or in ***binge drinking***. Their rates of ***daily drinking*** have fallen by larger proportions. Note also that the trend lines for different ages on binge drinking (Figure 33d) are more spread out on the vertical dimension than is usually the case, reflecting large and persisting age differentials (age effects) in this behavior. Those of college age show the highest rates of binge drinking.

  In Figure 33b, dealing with 30-day prevalence of ***alcohol*** use, note the sharp drop among seniors between 1987 and 1992, and then among those 1-2 years past high school between 1989 and 1992. This may reflect some lasting cohort effects resulting from fewer adolescents drinking in high school (perhaps due to the change in drinking age laws).

- The prevalence rates for ***cigarette smoking*** show more complex trends than other substances, due to the presence of both cohort and age effects, plus slightly different patterns of such effects on different

[5] O'Malley, P.M., & Wagenaar, A.C. (1991). 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.

measures of smoking in the past 30 days (1 or more cigarettes per month, 1 or more cigarettes per day, and 1/2 pack or more of cigarettes per day).

While the curves are of the same general shape for each band (Figures 34a-c) each curve tends to be displaced to the right of the immediately preceding age group, which is two years younger. The pattern is clearest in Figure 34c (1/2 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 a classic pattern exhibited in the presence of a cohort effect—that is, when cohorts (in this case, 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[6], 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 34b and c). This was true at least through about 1991. Since then, there has been some convergence of rates across age groups, largely because of few cohort differences among senior classes who have graduated since the early to mid-1980s. For example, smoking at lighter levels has shown little cohort differences since about 1981 (see Figure 34a, age 18 senior year data). Figure 34c shows that heavier use, 1/2 pack or more per day, continued to show modest further decline through 1986.

In addition to these cohort differences, there is a differential age trend in which, as respondents grow older, the proportion smoking at all in the past month declines some, while the proportion smoking 1/2 pack per day actually increases. Put another way, many of the light smokers in high school either become heavy smokers or quit smoking. In 1994, the age relationship with prevalence of smoking 1 or more cigarettes in the past 30 days is clearly negative, going from 31% among 18 year olds to 25% among 31-32 year olds. On the other hand, the age relationship with prevalence of 1/2 pack plus per day is clearly positive, ranging from 11% among 18 year olds to 18% among 31-32 year olds. (The age relationship at the intermediate level, of 1 or more cigarettes per day, is essentially flat, ranging only 3 percentage points, unsystematically, from 19% to 22% across the various age groups.) In previous years these age relationships often were different because big cohort

[6] 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.

differences were superimposed upon the age differences; because there have not been very large cohort difference, at senior year for some time, the cross-age differences now observed across the age band 18 to 32 reflect primarily the age effects of light use declining with age and heavy use increasing with age.

- Apart from cigarettes, none of the other drugs included in the study show a clear pattern of enduring cohort differences, despite wide variations in their use by different cohorts at a given age. There is 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 off at low rates of use, evidence for the cohort effect has faded.) The cohort effect for daily marijuana use may be attributable, in part, to the strong association between that behavior and regular cigarette smoking.

- The annual prevalence for ***MDMA*** (ecstasy) among the young adult sample was at about 1.5% in 1989 and 1990; since 1991 it has been at a lower plateau of around 0.8%. (See Table 8.) MDMA has not been included in the surveys of high school seniors up to now.

- The important downturn in ***cocaine***, observed for the first time among all age groups in 1987, decelerated sharply in 1992 in the age groups encompassed here (see Figure 27), and almost completely stopped in 1994. The proportion of 19 to 28 year olds combined who reported any ***cocaine*** use in the prior year dropped only 0.4 percentage points (to 4.3%) in 1994, and seniors held steady. Note that the older age bands have been consistently higher than the younger ones, illustrating an age effect in the use of this drug.

- The decline in ***crack*** use ended in 1992 in this age group, as well as among seniors (see Figure 28). Among 19 to 28 year olds the annual prevalence rate has held at about 1%, which is down by nearly two-thirds from the peak levels of just over 3% in 1986 through 1988.

- ***Stimulant*** use showed a long and substantial decline between 1981 and 1991, and has been flat among the young adult sample since then (Figure 30). As Table 8 shows, 19 to 28 year olds' annual prevalence rate ranged from 4.0% to 4.5% since 1991. (Use by adolescents, however, increased in 1993 and 1994.)

- The use of ***crystal methamphetamine*** (ice) has remained fairly steady at a very low rate of use since it was first measured in 1990. Its annual prevalence is 0.9% in 1994.

- Among young adults age 19-28, annual prevalence of ***LSD*** averaged slightly under 3% in the late 1980s (1986-1989). Use rates rose slightly between 1989 and 1992, reaching 4.3%; in 1994 annual prevalence is

4.0%. Among high school seniors, the average annual prevalence in the late 1980s was slightly under 5%, but has risen to 6.9% in 1994.

It may be seen in Figure 25 that the increase in recent years in LSD use occurred primarily among the younger groups, 18 to 22. In fact, between 1991 and 1994, there were slight declines among the age 23-32 groups, and slight increases in the age 18-22 groups. These differential trends have resulted in an ordinally negative association between age and LSD use in 1993 and 1994, ranging from 6.9% among 18 year olds down to 0.6% among 31-32 year olds.

- Use of ***heroin*** remained stable for both seniors and young adults (Table 8). Among 19 to 28 year olds, the use of ***opiates other than heroin*** leveled after 1991, following a period of slow, long-term decline.

- In sum, except for ***cigarettes*** and ***alcohol*** (and more recently for ***LSD***), substance use among high school seniors and young adults have shown *longer-term* trends which were highly parallel. Although divergent trends would not necessarily demonstrate a lack of validity in either set of data (because such a divergence could occur as the result of cohort differences), we believe that the high degree of *convergence* provides an important source of validation of the trends reported earlier for the seniors. In fact, each of these sets of data have helped to validate the trend story reported by the other.

  In 1993 and 1994, there was some divergence in trends between the adolescents and the young adults on a number of drugs, as use among adolescents has risen. This divergence may indicate a new cohort effect, perhaps reflecting an "intergenerational forgetting" of the dangers of drugs by the youngest cohorts.

TRENDS FOR IMPORTANT SUBGROUPS OF YOUNG ADULTS

Four-year age groupings have been used here to examine subgroup trends in order to have sufficiently large numbers of cases to make reliable estimates for the subgroups. Subgroup data for respondents of each sex, and for respondents from communities of different size, 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, information on state of residence was included; trend data have been categorized in the four regions of the country since then. These subgroup trend data are not presented in tables here because of space limitations.

Sex Differences in Trends

- Over the long term, sex differences narrowed for some drugs, 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

TABLE 7

Trends in Lifetime[k] Prevalence of Various Types of Drugs Among Respondents of Modal Age 19-28

(Entries are Percentages)

	Percent who used in lifetime									
Approx. Weighted N's =	1986 *(6900)*	1987 *(6800)*	1988 *(6700)*	1989 *(6600)*	1990 *(6700)*	1991 *(6600)*	1992 *(6800)*	1993 *(6700)*	1994 *(6500)*	'93-'94 change
Any Illicit Drug[h]	70.5	69.9	67.9	66.4	64.5	62.2	60.2	59.6	57.5	-2.2s
Any Illicit Drug[h] Other than Marijuana	48.4	47.0	44.6	42.7	40.8	37.8	37.0	34.6	33.4	-1.2
Marijuana	66.5	66.0	63.8	62.8	60.2	58.6	56.4	55.9	53.7	-2.1s
Inhalants[b]	12.3	12.7	12.6	13.2	12.5	13.4	13.5	14.1	13.2	-0.8
Inhalants, Adjusted[c]	18.6	15.7	15.0	NA	13.5	14.1	13.9	14.5	13.5	-1.0
Nitrites[f]	12.6	6.9	6.2	NA	1.9	1.4	1.2	1.3	1.0	-0.4
Hallucinogens	18.5	17.1	17.0	15.9	16.1	15.7	15.7	15.4	15.4	0.0
Hallucinogens, Adjusted[g]	20.1	17.2	17.2	NA	16.5	16.0	15.9	15.5	15.5	-0.1
LSD	14.6	13.7	13.8	12.7	13.5	13.5	13.8	13.6	13.8	+0.3
PCP[f]	8.4	4.8	5.0	NA	2.5	3.1	2.0	1.9	2.0	+0.1
Cocaine	32.0	29.3	28.2	25.8	23.7	21.0	19.5	16.9	15.2	-1.8ss
Crack[c]	NA	6.3	6.9	6.1	5.1	4.8	5.1	4.3	4.4	+0.1
Other Cocaine[j]	NA	28.2	25.2	25.4	22.1	19.8	18.4	15.1	13.9	-1.2
MDMA ("Ecstasy")[i]	NA	NA	NA	3.3	3.7	3.2	3.9	3.8	3.8	+0.1
Heroin	1.3	1.3	1.1	1.0	0.9	0.9	0.9	0.9	0.8	0.0
Other Opiates[a]	10.7	10.6	9.8	9.6	9.4	9.3	8.9	8.1	8.2	+0.1
Stimulants, Adjusted[a,d]	32.3	30.8	28.8	25.3	24.4	22.4	20.2	18.7	17.1	-1.6s
"Ice"[ni]	NA	NA	NA	NA	2.5	2.9	2.2	2.7	2.5	-0.2
Sedatives[a]	16.7	15.0	13.2	12.1	NA	NA	NA	NA	NA	NA
Barbiturates[a]	11.1	9.7	8.9	7.9	8.7	8.2	7.4	6.5	6.4	0.0
Methaqualone[a]	13.1	11.6	9.7	8.7	NA	NA	NA	NA	NA	NA
Tranquilizers[a]	17.6	16.5	15.1	13.5	12.9	11.8	11.3	10.5	9.9	-0.6
Alcohol[l]	94.8	94.9	94.8	94.5	94.3	94.1	93.4	92.1	91.2	-0.9
Cigarettes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Steroids[f]	NA	NA	NA	1.1	1.2	1.7	1.9	1.5	1.3	-0.2

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

'NA' indicates data not available.

Footnotes continue on next page.

FOOTNOTES FOR TABLES 7-10

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

[b]This drug was asked about in four of the five questionnaire forms in 1986-89, and five of the six questionnaire forms in 1990-1994. Total N is approximately 5400 in 1994.

[c]This drug was asked about in two of the five questionnaire forms in 1987-89, and in all six questionnaire forms in 1990-1994.

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

[e]Adjusted for underreporting of amyl and butyl nitrites.

[f]This drug was asked about in one questionnaire form. Total N in 1994 is approximately 1100.

[g]Adjusted for underreporting of PCP.

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

[i]This drug was asked about in two of the five questionnaire forms in 1989, and in two of the six questionnaire forms in 1990-1994. Total N in 1994 is approximately 2200.

[j]This drug was asked about in one of the five questionnaire forms in 1987-89, and in four of the six questionnaire forms in 1990-1994. Total N in 1994 is approximately 4300.

[k]Lifetime prevalence is uncorrected for any cross-time inconsistencies in responding. See text.

[l]In 1993 and 1994, the question text was changed slightly in three of the 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 are used in order to provide the most reliable estimate of change.

TABLE 8

Trends in Annual Prevalence of Various Types of Drugs Among Respondents of Modal Age 19-28

(Entries are Percentages)

	Percent who used in last twelve months									
	1986	1987	1988	1989	1990	1991	1992	1993	1994	'93-'94 change
Approx. Weighted N's =	*(6900)*	*(6800)*	*(6700)*	*(6600)*	*(6700)*	*(6600)*	*(6800)*	*(6700)*	*(6500)*	
Any Illicit Drug[h]	41.9	39.3	36.3	32.8	30.7	27.0	28.3	28.4	28.4	0.0
Any Illicit Drug[h] Other than Marijuana	27.0	23.9	21.3	18.3	16.7	14.3	14.1	13.0	13.0	+0.1
Marijuana	36.5	34.8	31.8	29.0	26.1	23.8	25.2	25.1	25.5	+0.5
Inhalants[b]	1.9	2.1	1.8	1.9	1.9	2.0	1.9	2.1	2.1	0.0
Inhalants, Adjusted[c]	3.0	2.8	2.4	NA	2.1	2.2	1.9	2.3	2.2	-0.1
Nitrites[f]	2.0	1.3	1.0	NA	0.4	0.2	0.1	0.4	0.3	-0.2
Hallucinogens	4.5	4.0	3.9	3.6	4.1	4.5	5.0	4.5	4.8	+0.3
Hallucinogens, Adjusted[g]	4.9	4.1	3.9	NA	4.2	4.6	5.1	4.6	4.9	+0.3
LSD	3.0	2.9	2.9	2.7	3.3	3.8	4.3	3.8	4.0	+0.2
PCP[f]	0.8	0.4	0.4	NA	0.2	0.3	0.3	0.2	0.3	+0.1
Cocaine	19.7	15.7	13.8	10.8	8.6	6.2	5.7	4.7	4.3	-0.4
Crack[c]	3.2	3.1	3.1	2.5	1.6	1.2	1.4	1.3	1.1	-0.1
Other Cocaine[j]	NA	13.6	11.9	10.3	8.1	5.4	5.1	3.9	3.6	-0.3
MDMA ("Ecstasy")[i]	NA	NA	NA	1.4	1.5	0.8	1.0	0.8	0.7	-0.1
Heroin	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.0
Other Opiates[a]	3.1	3.1	2.7	2.8	2.7	2.5	2.5	2.2	2.5	+0.3
Stimulants, Adjusted[a,d]	10.6	8.7	7.3	5.8	5.2	4.3	4.1	4.0	4.5	+0.5
"Ice"[i]	NA	NA	NA	NA	0.4	0.3	0.4	0.8	0.9	+0.1
Sedatives[a]	3.0	2.5	2.1	1.8	NA	NA	NA	NA	NA	NA
Barbiturates[a]	2.3	2.1	1.8	1.7	1.9	1.8	1.6	1.9	1.8	-0.1
Methaqualone[a]	1.3	0.9	0.5	0.3	NA	NA	NA	NA	NA	NA
Tranquilizers[a]	5.4	5.1	4.2	3.7	3.7	3.5	3.4	3.1	2.9	-0.2
Alcohol[l]	88.6	89.4	88.6	88.1	87.4	86.9	86.2	85.3	83.7	-1.6s
Cigarettes	40.1	40.3	37.7	38.0	37.1	37.7	37.9	37.8	38.3	+0.5
Steroids[f]	NA	NA	NA	0.5	0.3	0.5	0.4	0.3	0.4	+0.1

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 7.

TABLE 9

Trends in Thirty-Day Prevalence of Various Types of Drugs Among Respondents of Modal Age 19-28

(Entries are Percentages)

	Percent who used in last thirty days									
	1986	1987	1988	1989	1990	1991	1992	1993	1994	'93-'94 change
Approx. Weighted N =	*(6900)*	*(6800)*	*(6700)*	*(6600)*	*(6700)*	*(6600)*	*(6800)*	*(6700)*	*(6500)*	
Any Illicit Drug[h]	25.8	23.4	20.5	17.7	15.9	15.1	14.8	14.9	15.3	+0.4
Any Illicit Drug[h] Other than Marijuana	13.0	10.7	9.5	7.5	6.0	5.4	5.5	4.9	5.3	+0.4
Marijuana	22.0	20.7	17.9	15.5	13.9	13.5	13.3	13.4	14.1	+0.6
Inhalants[b]	0.4	0.6	0.6	0.5	0.6	0.5	0.6	0.7	0.5	-0.2
Inhalants, Adjusted[e]	0.7	0.9	0.9	NA	0.7	0.6	0.7	0.7	0.6	-0.1
Nitrites[f]	0.5	0.5	0.4	NA	0.1	*	0.1	0.2	0.1	-0.1
Hallucinogens	1.3	1.2	1.1	1.1	0.9	1.1	1.5	1.2	1.4	+0.3
Hallucinogens, Adjusted[g]	1.4	1.2	1.1	NA	1.0	1.2	1.6	1.2	1.4	+0.2
LSD	0.9	0.8	0.8	0.8	0.6	0.8	1.1	0.8	1.1	+0.3
PCP[f]	0.2	0.1	0.3	NA	0.2	0.1	0.2	0.2	0.1	-0.1
Cocaine	8.2	6.0	5.7	3.8	2.4	2.0	1.8	1.4	1.3	0.0
Crack[c]	NA	1.0	1.2	0.7	0.4	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	-0.1
MDMA ("Ecstasy")[i]	NA	NA	NA	0.4	0.2	0.1	0.3	0.3	0.2	-0.1
Heroin	0.1	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	0.0
Other Opiates[a]	0.9	0.9	0.7	0.7	0.7	0.6	0.7	0.7	0.6	-0.1
Stimulants, Adjusted[a,d]	4.0	3.2	2.7	2.1	1.9	1.5	1.5	1.5	1.7	+0.3
"Ice"[i]	NA	NA	NA	NA	0.1	*	0.1	0.3	0.5	+0.2
Sedatives[a]	0.9	0.8	0.7	0.5	NA	NA	NA	NA	NA	NA
Barbiturates[a]	0.7	0.7	0.7	0.5	0.6	0.5	0.5	0.6	0.6	0.0
Methaqualone[a]	0.3	0.2	0.1	0.0	NA	NA	NA	NA	NA	NA
Tranquilizers[a]	1.8	1.6	1.4	1.2	1.1	0.9	1.0	1.0	0.8	-0.2
Alcohol[l]	75.1	75.4	74.0	72.4	71.2	70.6	69.0	68.3	67.7	-0.6
Cigarettes	31.1	30.9	28.9	28.6	27.7	28.2	28.3	28.0	27.9	0.0
Steroids[f]	NA	NA	NA	0.2	0.1	0.2	0.1	0.0	0.1	+0.1

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 7.

TABLE 10

Trends in Thirty-Day Prevalence of Daily Use of Various Types of Drugs Among Respondents of Modal Age 19-28

(Entries are Percentages)

	Percent who used daily in last thirty days									'93-'94 change
	1986	1987	1988	1989	1990	1991	1992	1993	1994	
Approx. Weighted N =	*(6900)*	*(6800)*	*(6700)*	*(6600)*	*(6700)*	*(6600)*	*(6800)*	*(6700)*	*(6500)*	
Marijuana	4.1	4.2	3.3	3.2	2.5	2.3	2.3	2.4	2.8	+0.4
Cocaine	0.2	0.1	0.2	0.1	*	0.1	*	0.1	*	0.0
Stimulants, Adjusted[a,d]	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Alcohol										
Daily[j]	6.1	6.6	6.1	5.5	4.7	4.9	4.5	4.5	3.8	-0.7s
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	-0.7
Cigarettes										
Daily	25.2	24.8	22.7	22.4	21.3	21.7	20.9	20.8	20.7	0.0
Half-pack or more per day	20.2	19.8	17.7	17.3	16.7	16.0	15.7	15.5	15.3	-0.2

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

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

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

See footnotes at end of Table 7.

TABLE 11

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

(Entries are Percentages)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	'93-'94 change
	Percent reporting use in last twelve months									
Any Illicit Drug	41.9	39.3	36.3	32.8	30.7	27.0	28.3	28.4	28.4	0.0
Males	45.3	42.6	39.5	35.7	33.6	30.0	31.4	31.1	32.3	+1.2
Females	39.0	36.5	33.6	30.5	28.3	24.5	25.8	26.1	25.3	-0.9
Any Illicit Drug Other than Marijuana	27.0	23.9	21.3	18.3	16.7	14.3	14.1	13.0	13.0	-0.1
Males	30.4	26.5	23.8	21.0	19.1	16.4	16.3	14.7	16.2	+1.6
Females	24.0	21.6	19.4	16.2	14.7	12.5	12.2	11.6	10.5	-1.0
	Percent reporting use in last thirty days									
Any Illicit Drug	25.8	23.4	20.5	17.7	15.9	15.1	14.8	14.9	15.3	+0.4
Males	29.9	27.1	23.7	21.1	18.8	18.3	17.9	17.4	19.5	+2.1s
Females	22.2	20.2	17.8	15.0	13.5	12.5	12.4	12.9	12.1	-0.8
Any Illicit Drug Other than Marijuana	13.0	10.7	9.5	7.5	6.0	5.4	5.5	4.9	5.3	+0.4
Males	15.2	12.3	10.6	9.1	6.8	6.6	6.5	5.9	7.1	+1.2
Females	11.0	9.4	8.7	6.2	5.3	4.4	4.7	4.0	3.9	-0.1
	Approximate Weighted Ns									
All Respondents	*6900*	*6800*	*6700*	*6600*	*6700*	*6600*	*6800*	*6700*	*6500*	
Males	*3200*	*3100*	*3000*	*2900*	*3000*	*3000*	*3000*	*3000*	*2900*	
Females	*3700*	*3700*	*3700*	*3700*	*3700*	*3600*	*3700*	*3700*	*3600*	

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 opiates, stimulants, barbiturates, methaqualone (until 1990), or tranquilizers not under a doctor's orders.

Figure 20
Any Illicit Drug: Trends in Annual Prevalence Among Young Adults
by Age Group

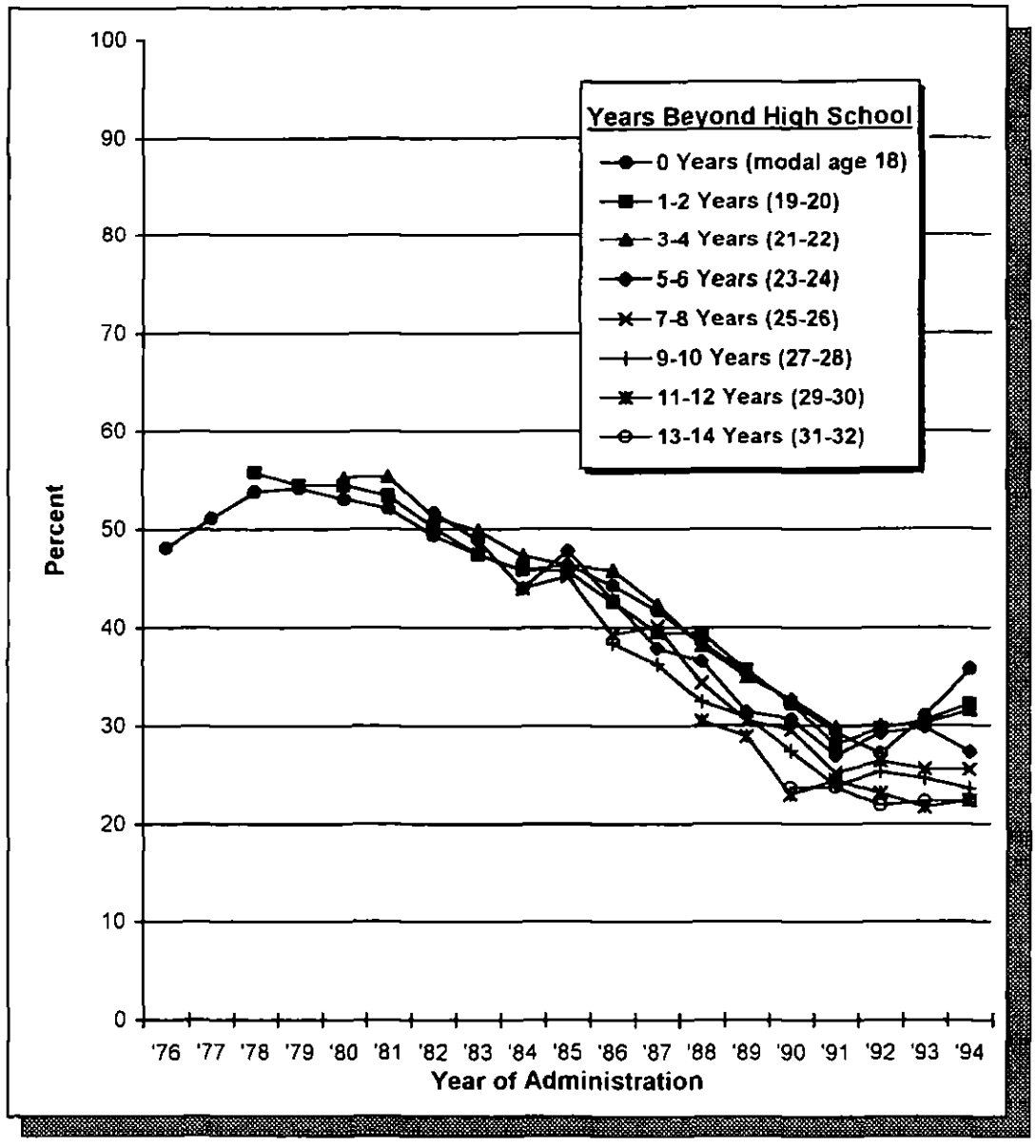


Figure 21
Any Illicit Drug Other than Marijuana: Trends in Annual Prevalence Among Young Adults
by Age Group

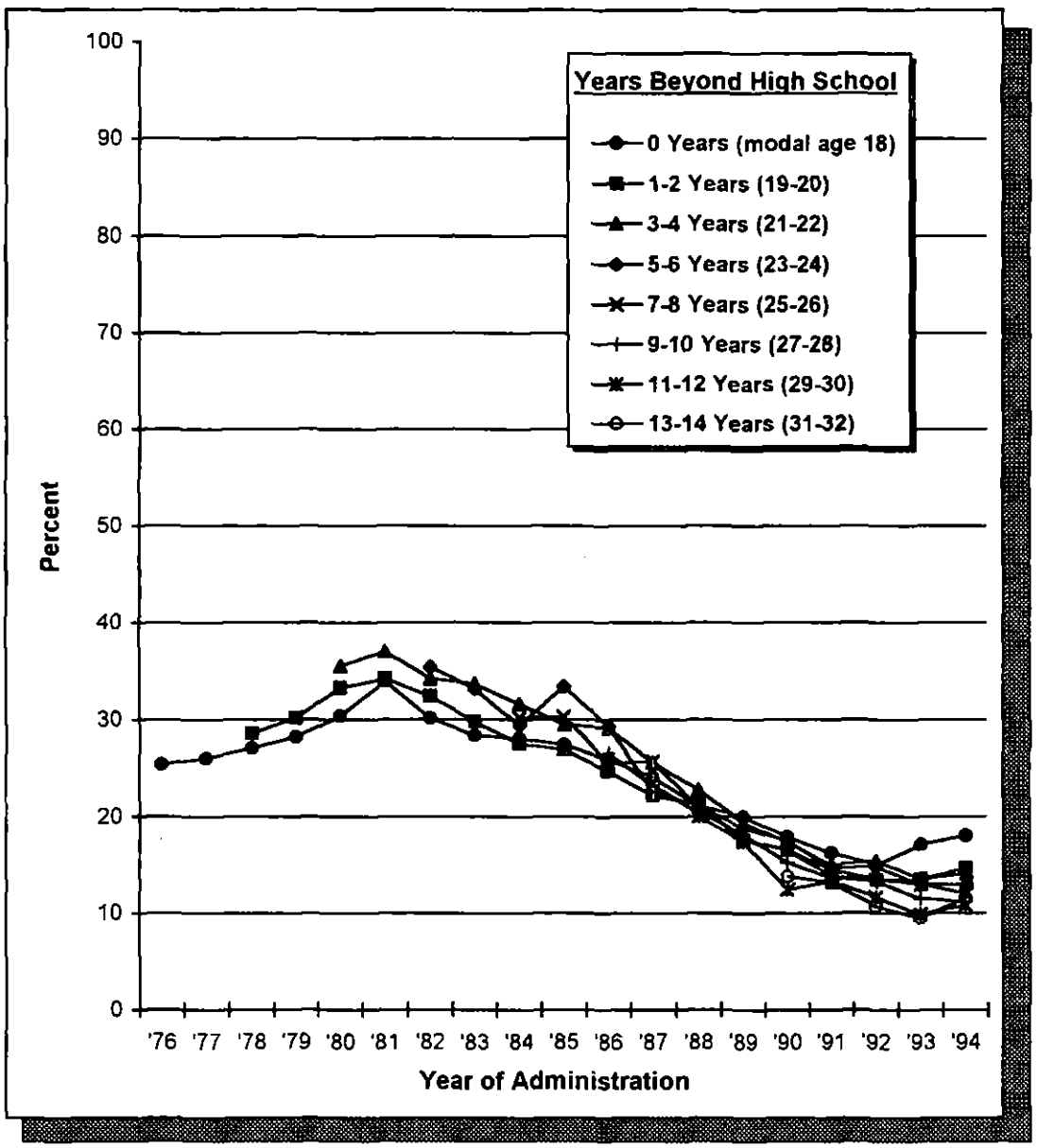


Figure 22a
Marijuana: Trends in Annual Prevalence Among Young Adults
by Age Group

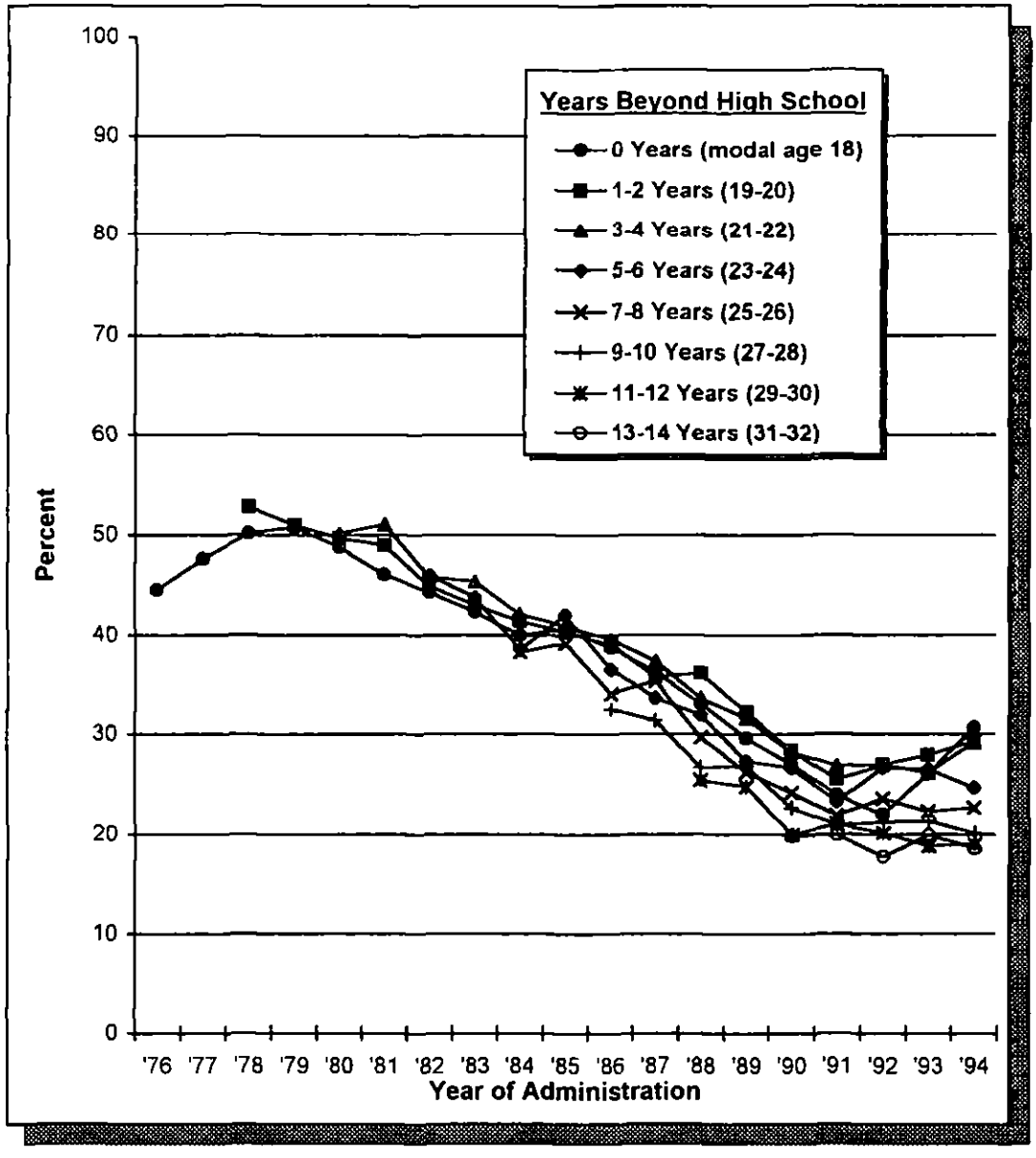


Figure 22b
Marijuana: Trends in Thirty-Day Prevalence Among Young Adults
by Age Group

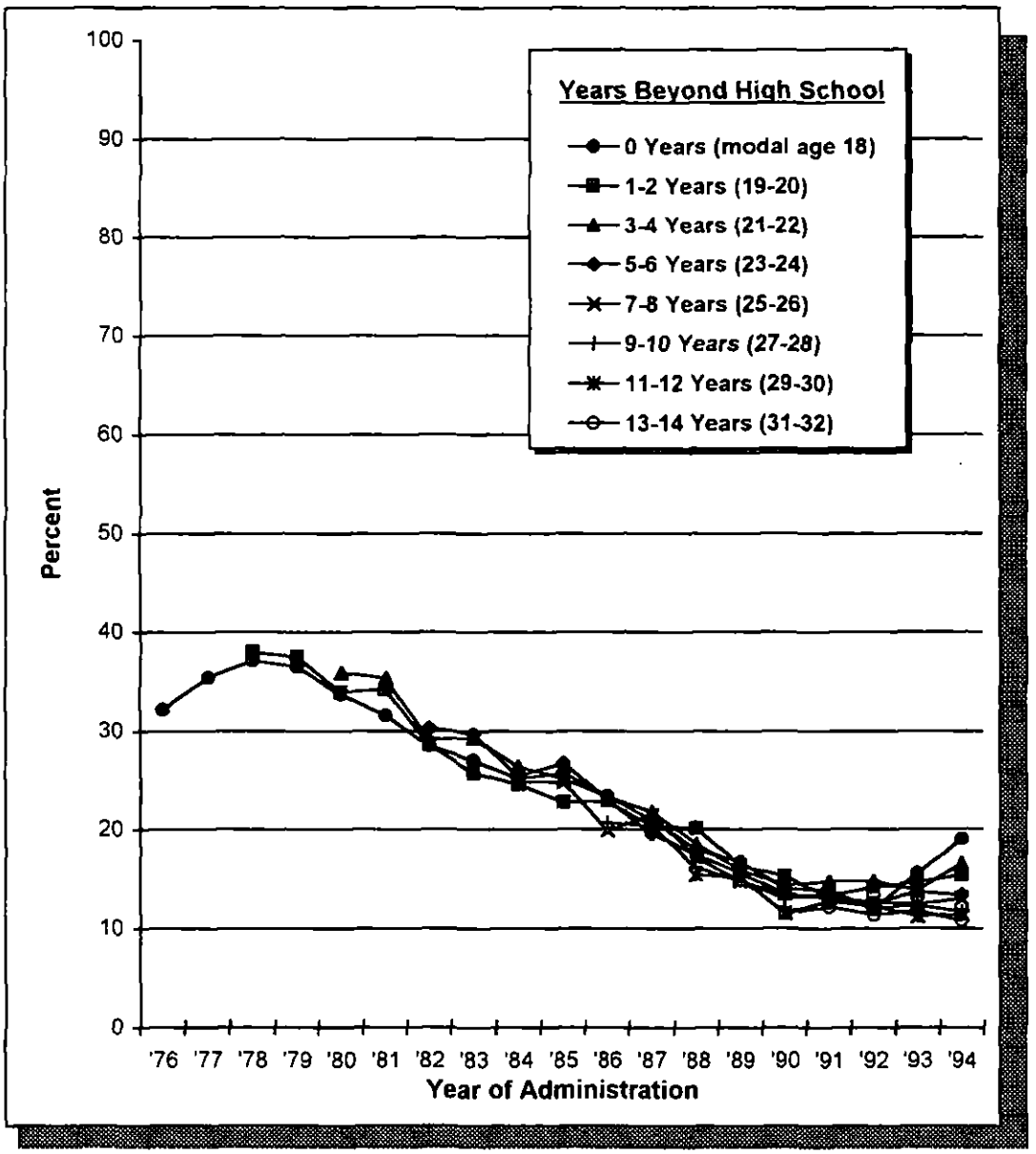


Figure 22c
Marijuana: Trends in Thirty-Day Prevalence of Daily Use Among Young Adults
by Age Group

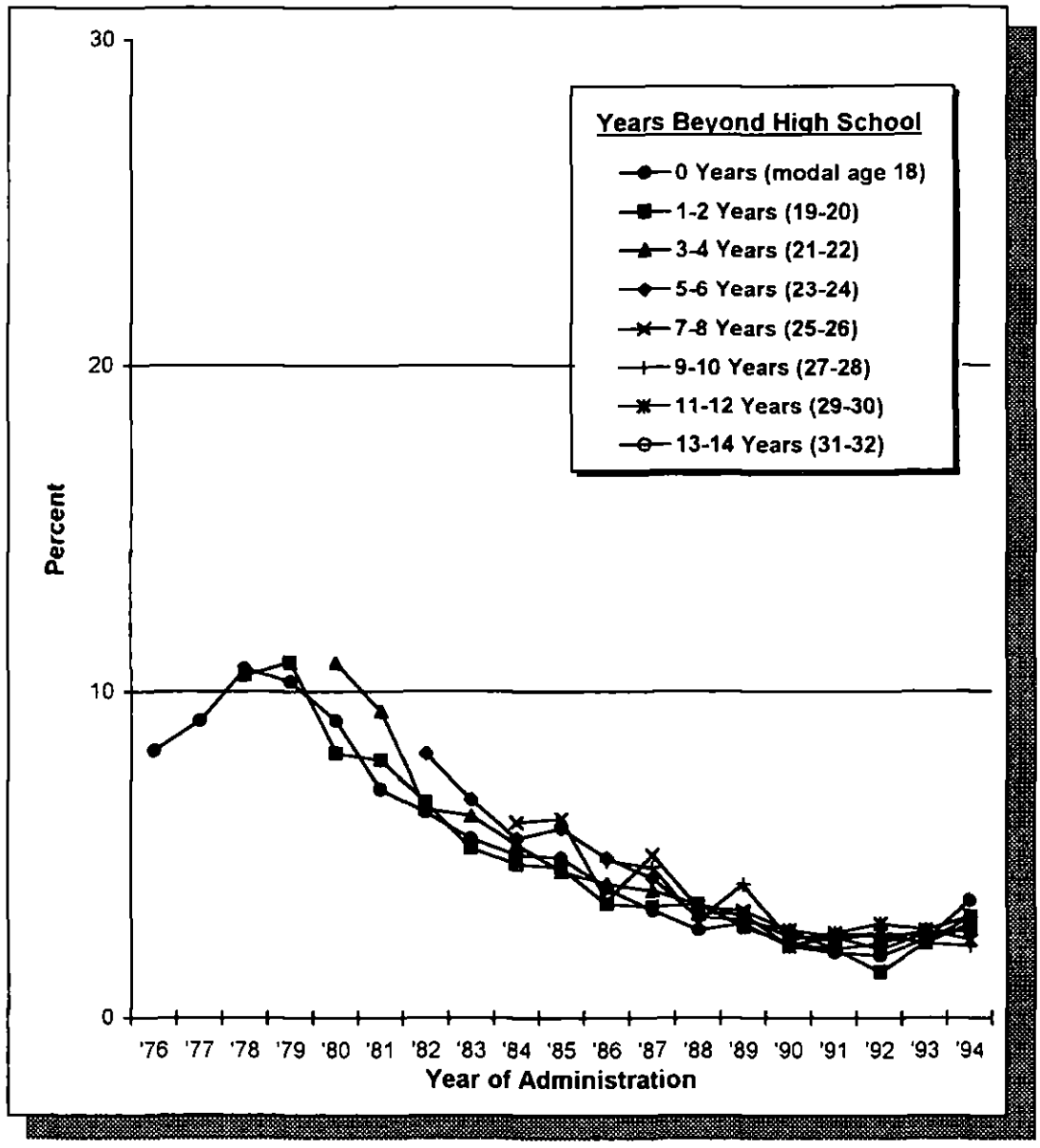
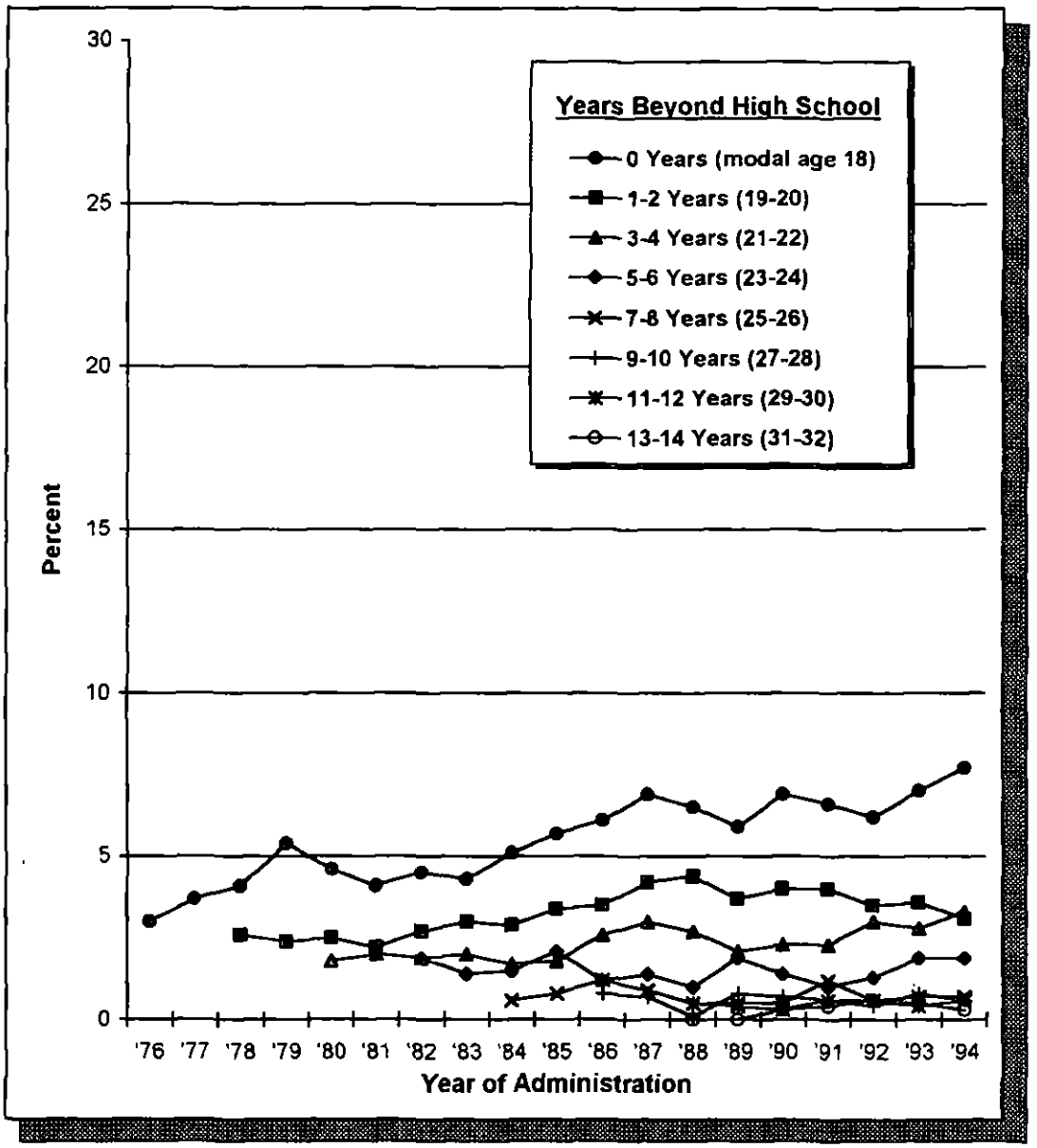
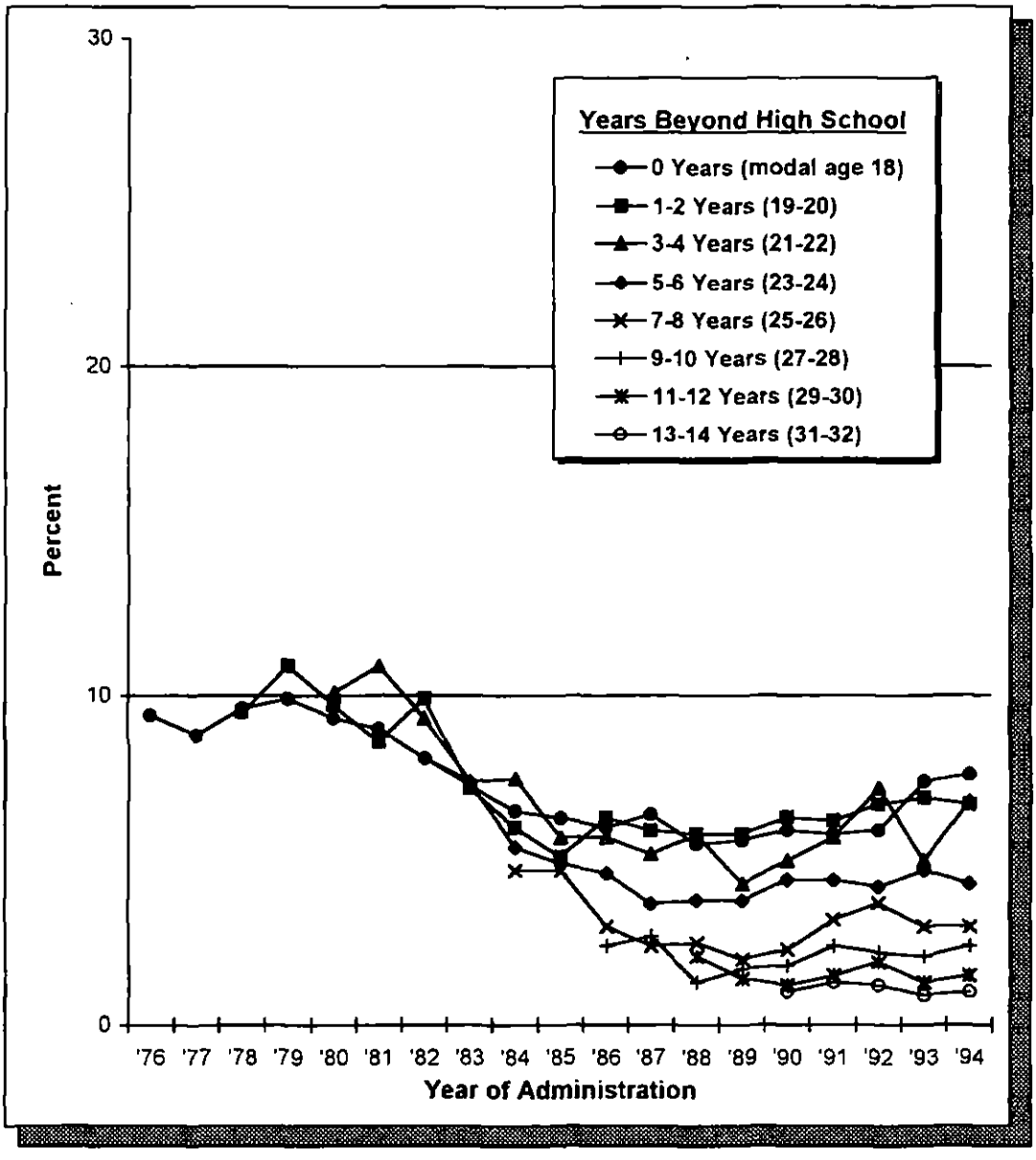


Figure 23
Inhalants*: Trends in Annual Prevalence Among Young Adults
by Age Group



*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.

Figure 24
Hallucinogens*: Trends in Annual Prevalence Among Young Adults
by Age Group



*Unadjusted for the possible underreporting of PCP.

Figure 25
LSD: Trends in Annual Prevalence Among Young Adults
by Age Group

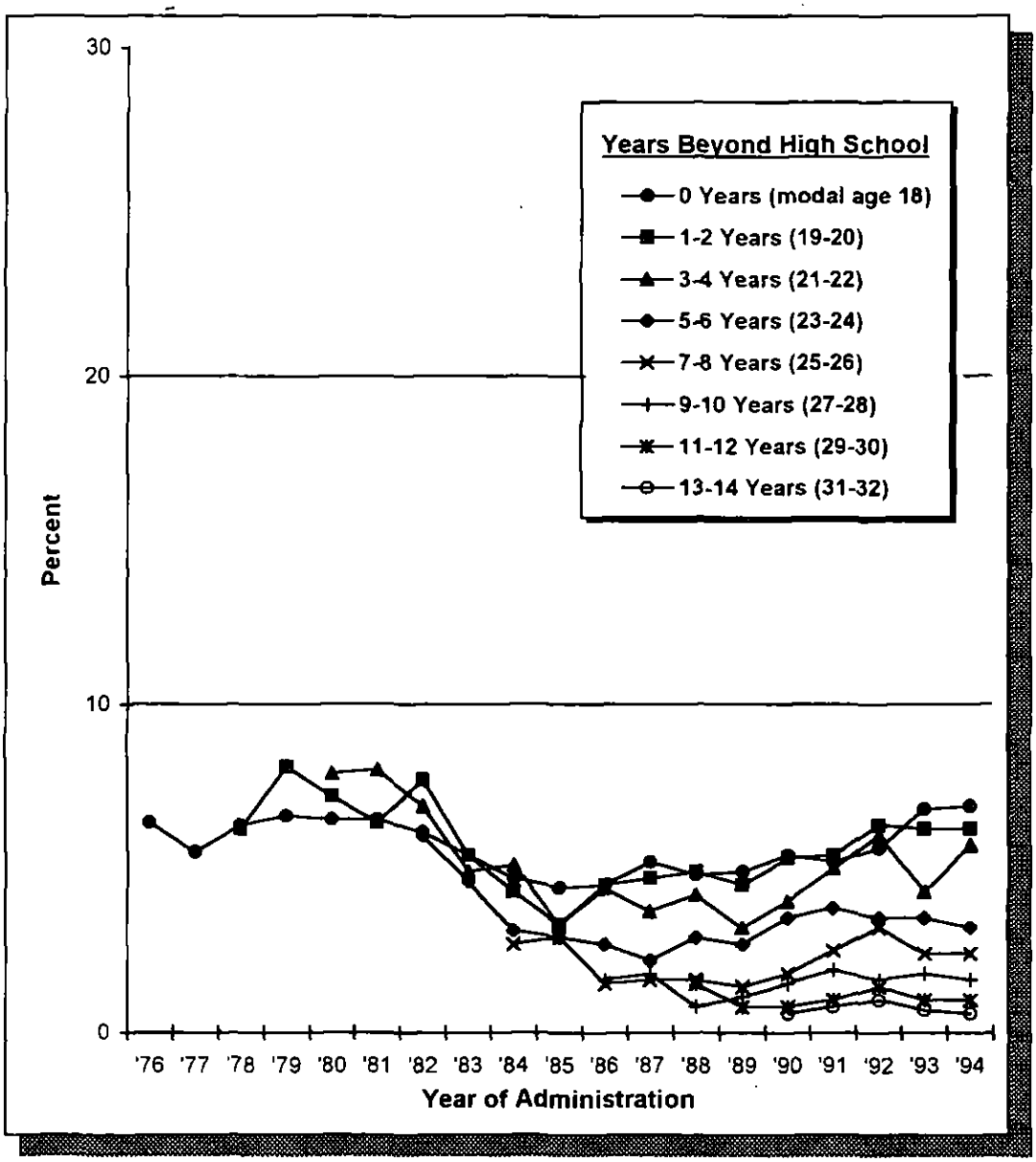


Figure 26
Hallucinogens Other than LSD: Trends in Annual Prevalence Among Young Adults
by Age Group

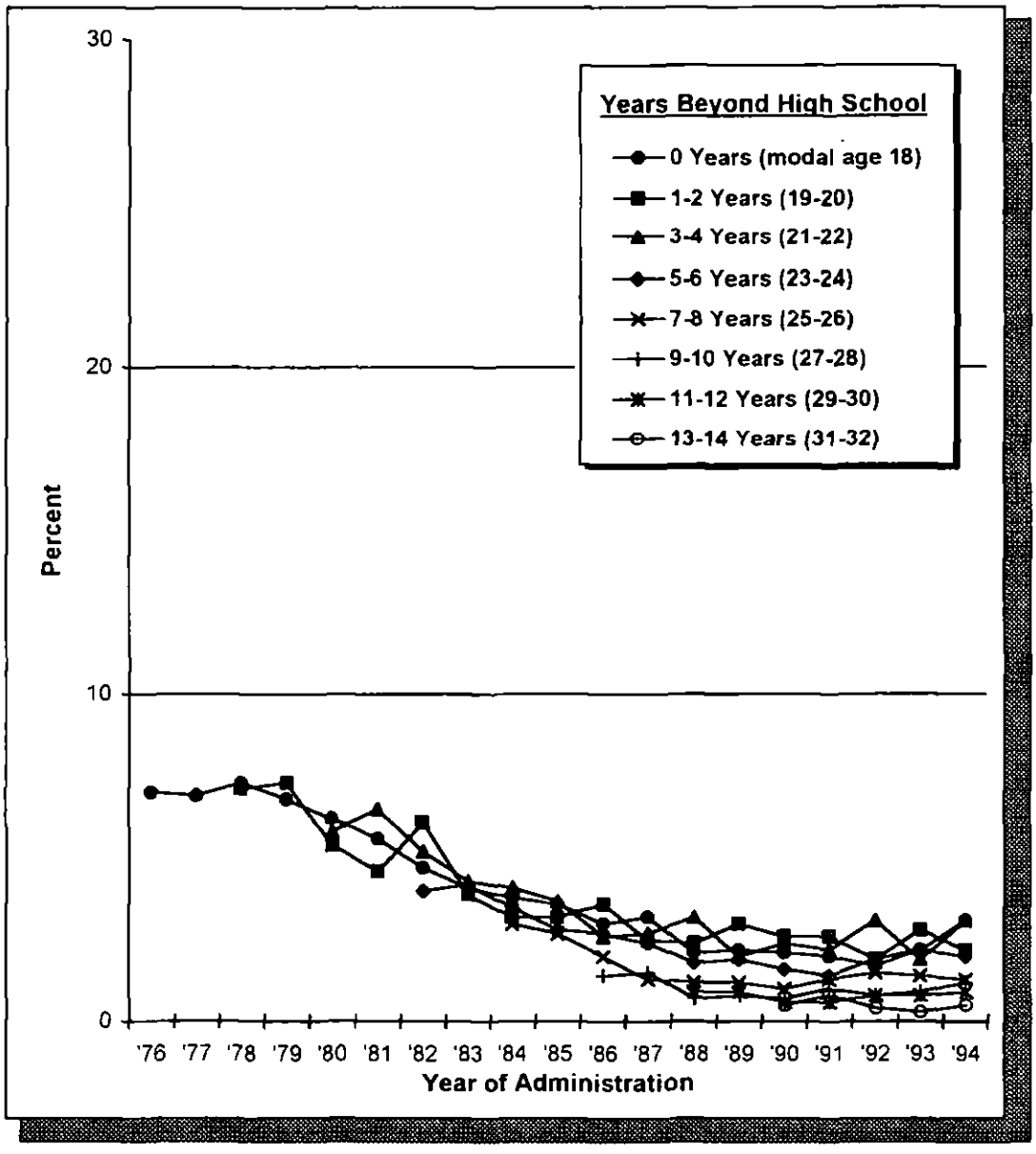


Figure 27
Cocaine: Trends in Annual Prevalence Among Young Adults
by Age Group

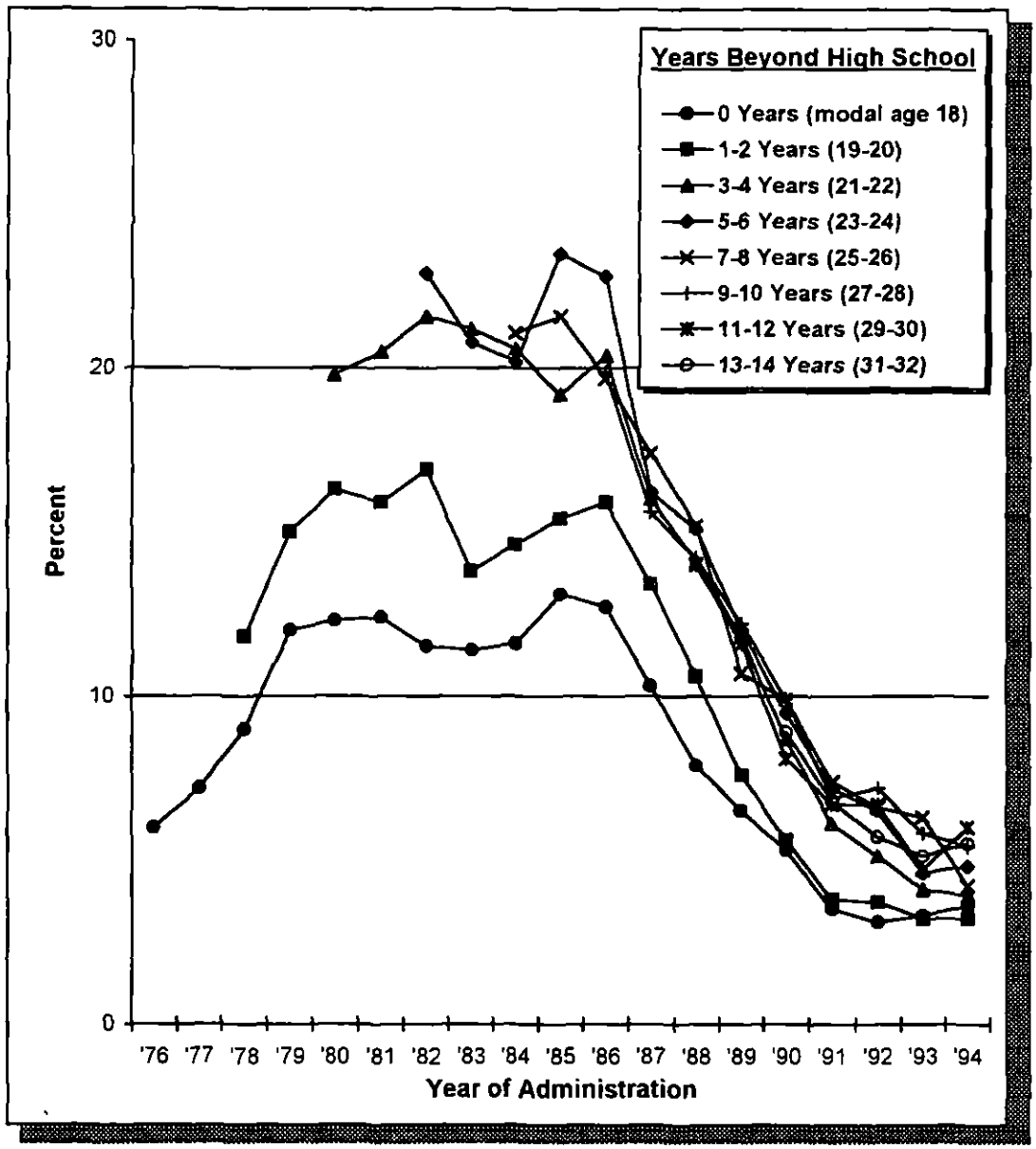


Figure 28
Crack Cocaine: Trends in Annual Prevalence Among Young Adults
by Age Group

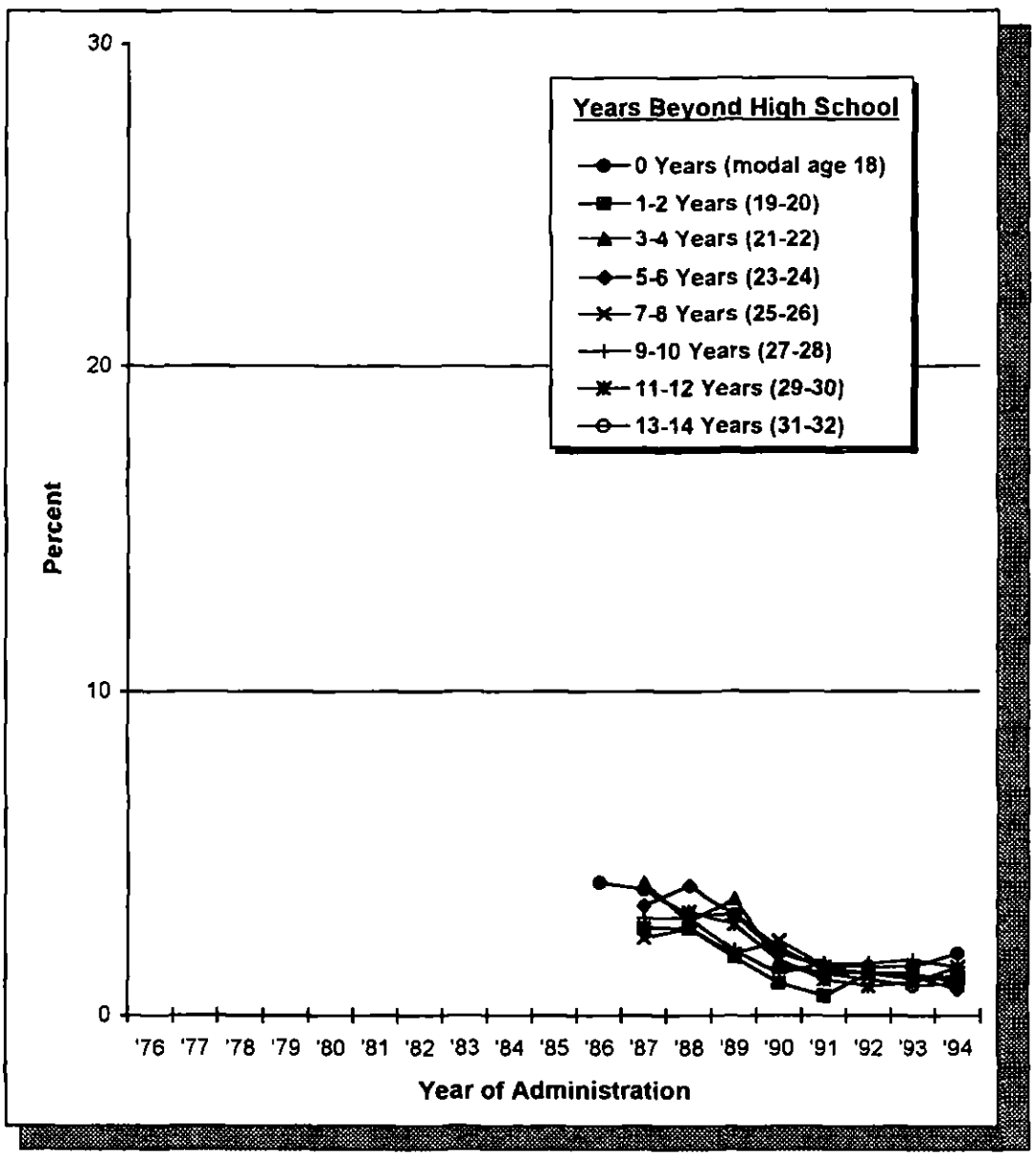


Figure 29
Other Opiates: Trends in Annual Prevalence Among Young Adults
by Age Group

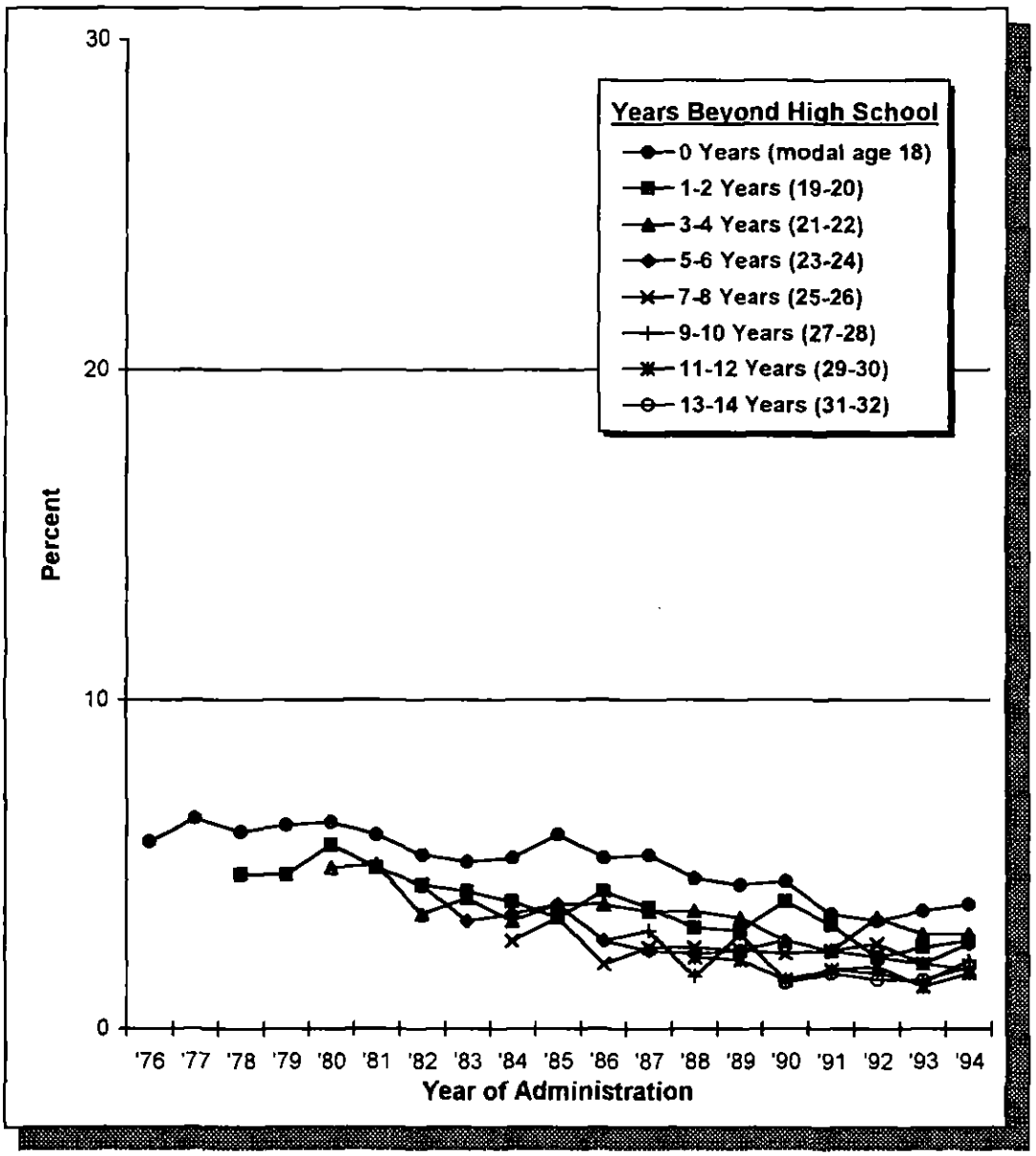


Figure 30
Stimulants: Trends in Annual Prevalence Among Young Adults
by Age Group

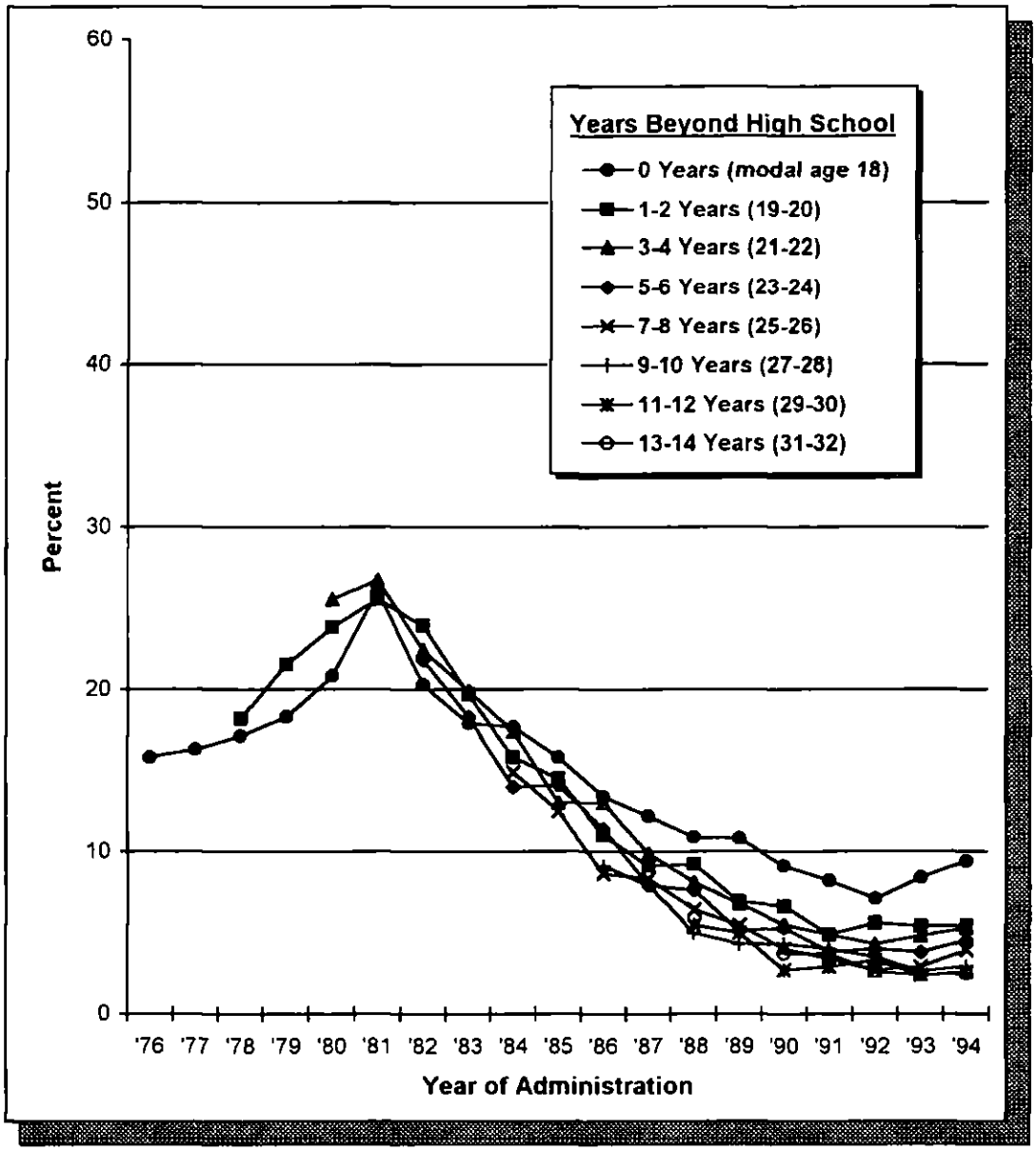


Figure 31
Barbiturates: Trends in Annual Prevalence Among Young Adults
by Age Group

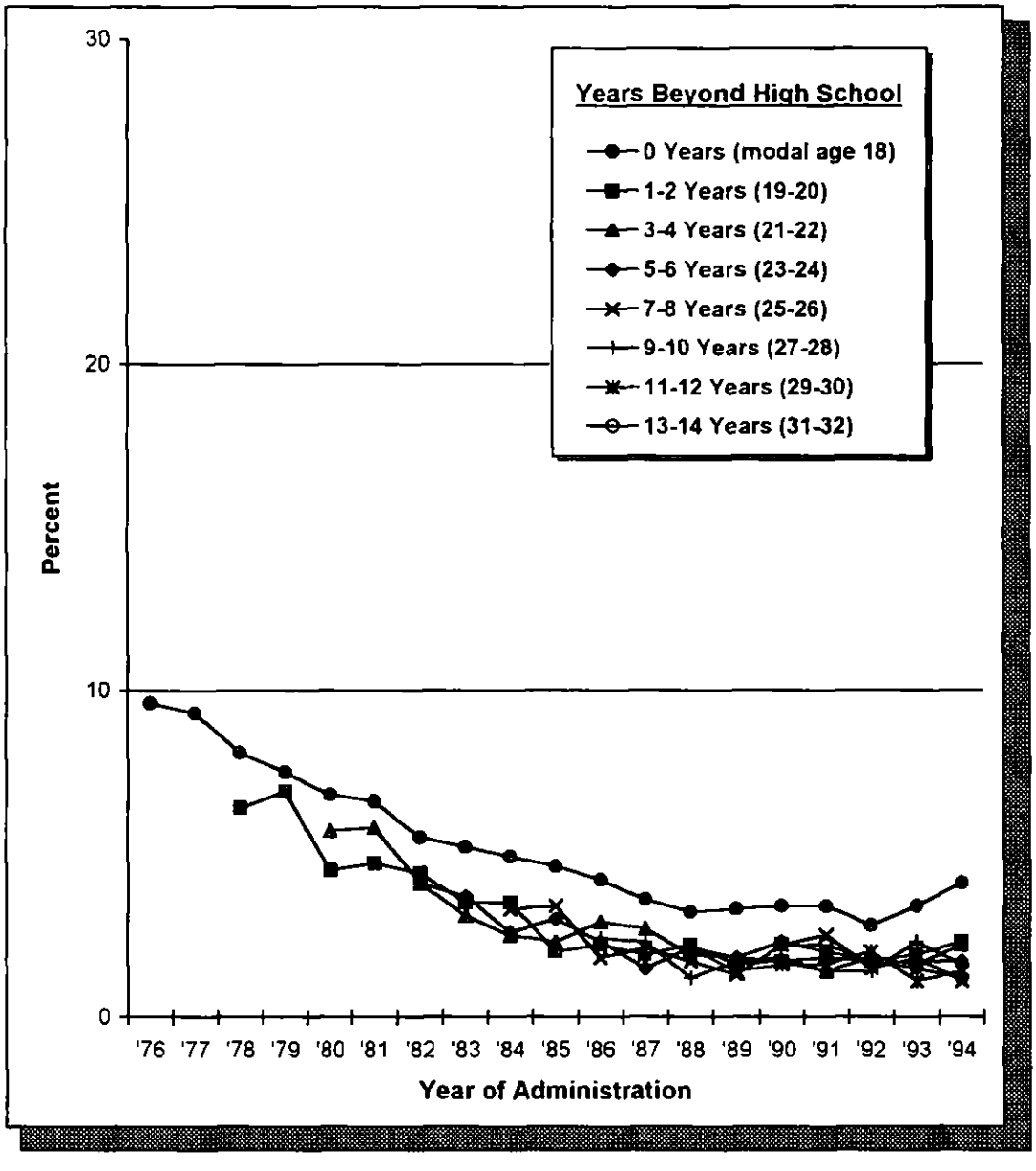


Figure 32
Tranquilizers: Trends in Annual Prevalence Among Young Adults
by Age Group

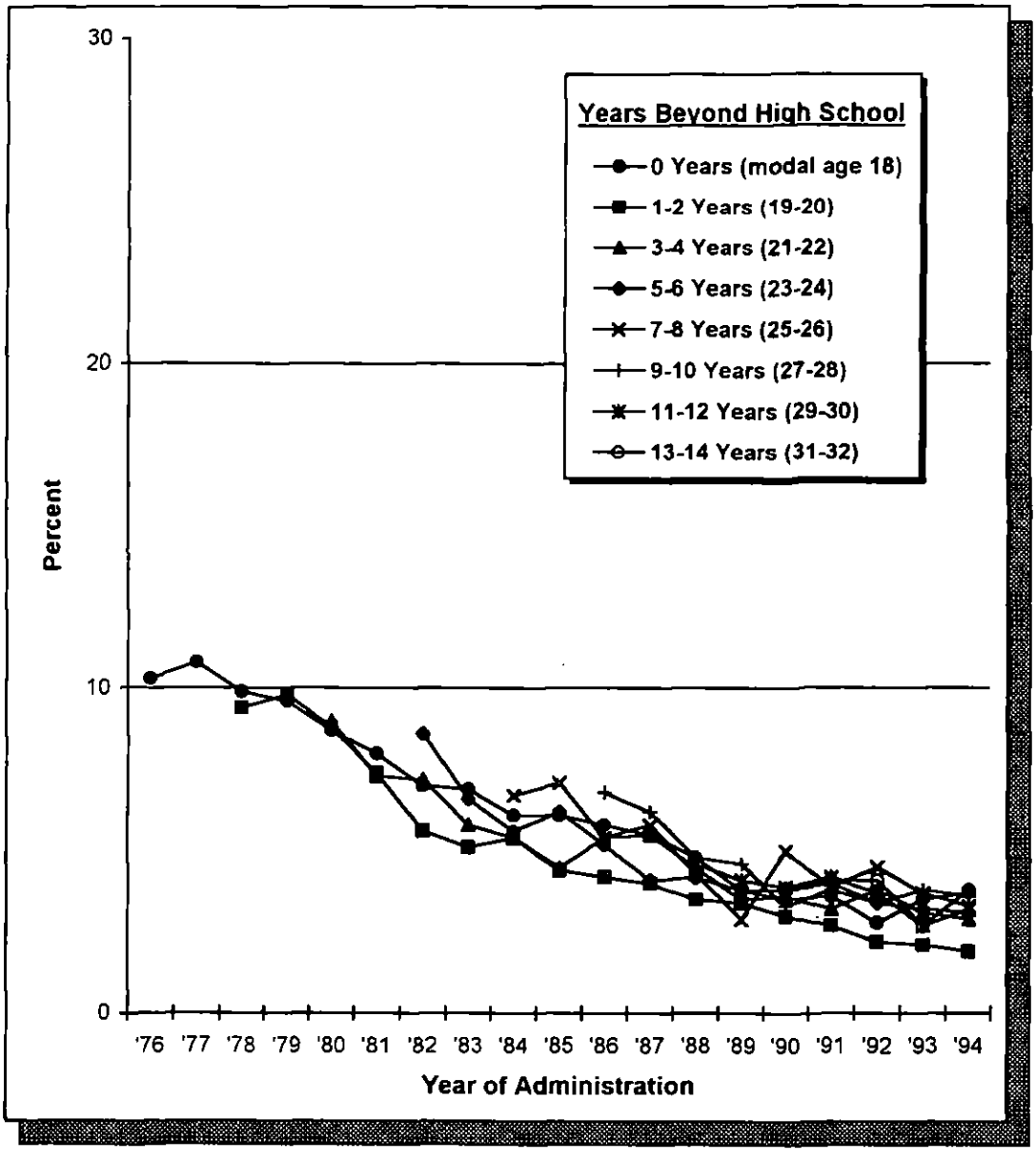
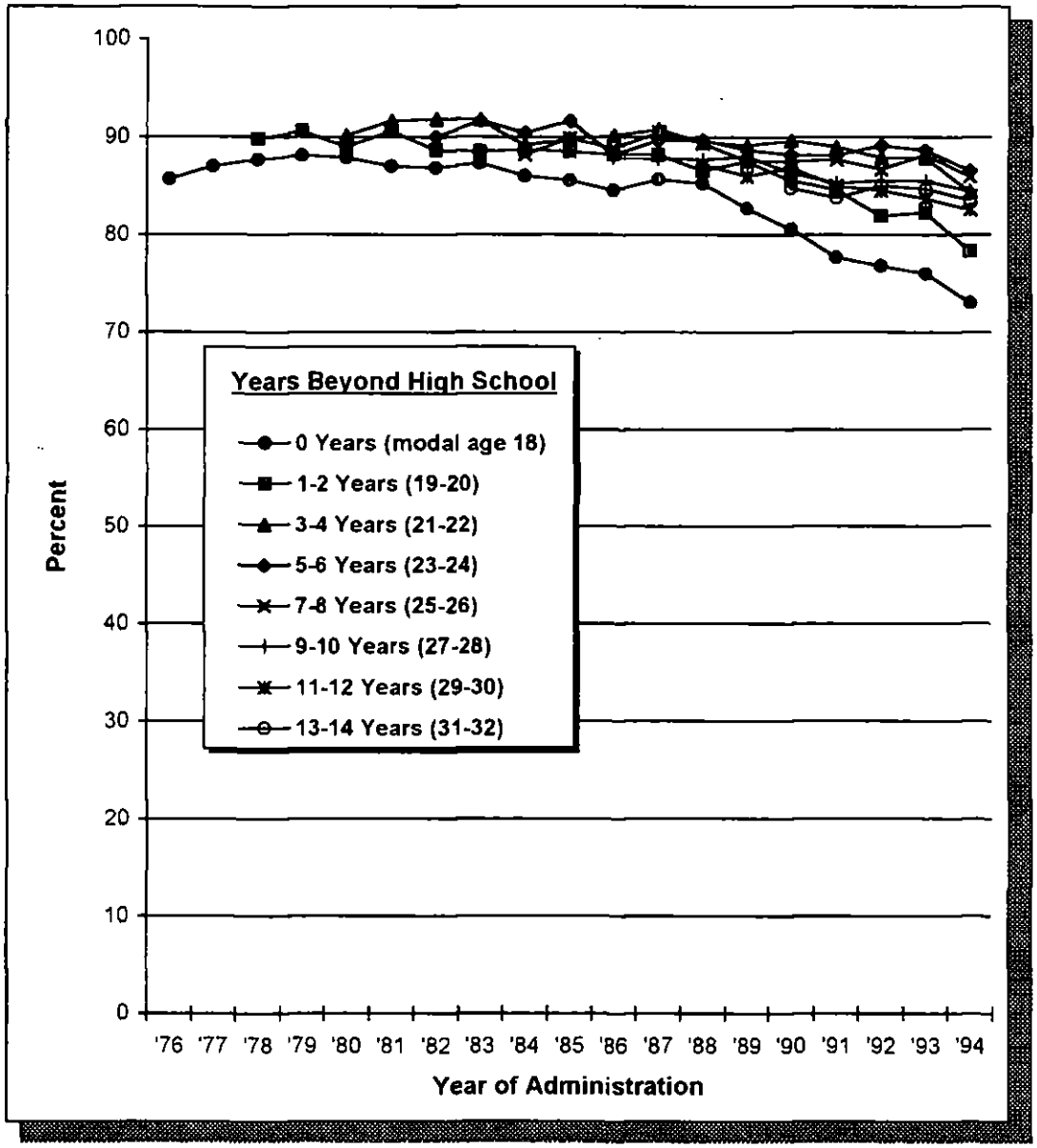
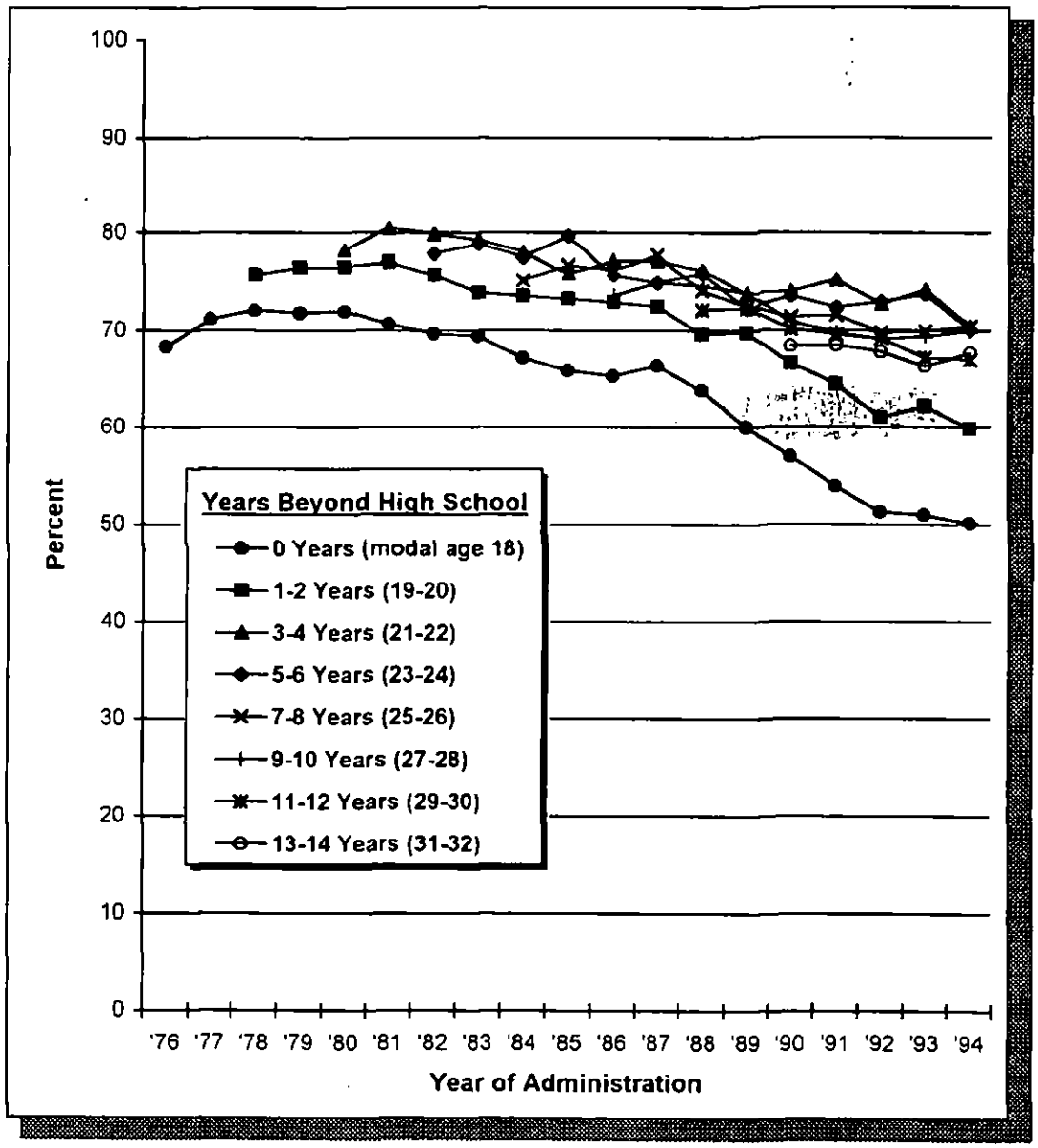


Figure 33a
Alcohol: Trends in Annual Prevalence Among Young Adults
by Age Group



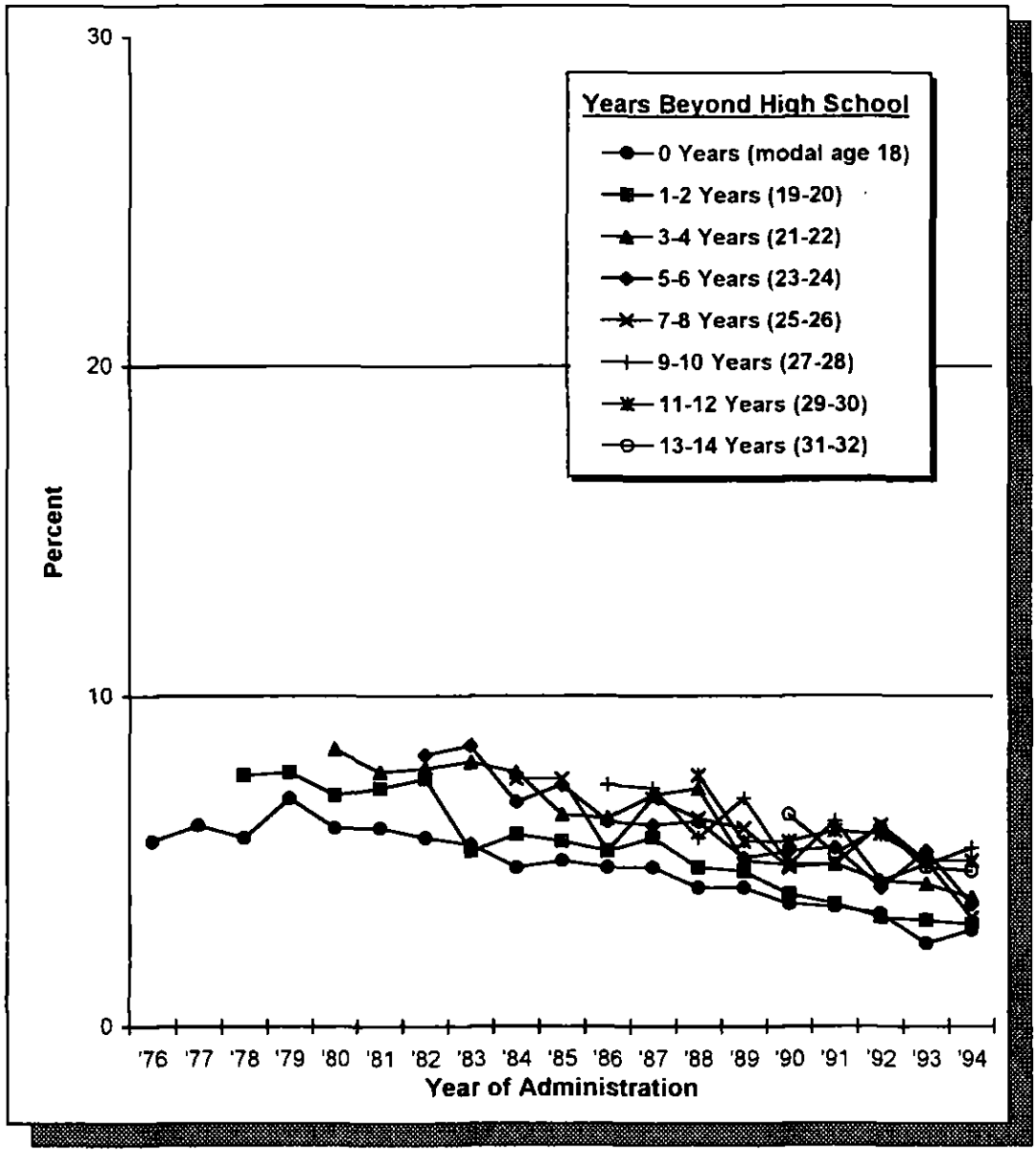
Note: 1993 data points are based on the data from the questionnaire forms containing the original wording of the alcohol question. 1994 data points are based on the revised alcohol question. See text for details.

Figure 33b
Alcohol: Trends in Thirty-Day Prevalence Among Young Adults
by Age Group



Note: 1993 data points are based on the data from the questionnaire forms containing the original wording of the alcohol question. 1994 data points are based on the revised alcohol question. See text for details.

Figure 33c
Alcohol: Trends in Thirty-Day Prevalence of Daily Use Among Young Adults
by Age Group



Note: 1993 data points are based on the data from the questionnaire forms containing the original wording of the alcohol question. 1994 data points are based on the revised alcohol question. See text for details.

Figure 33d
Alcohol: Trends in Two-Week Prevalence of Having Five or More Drinks in a Row at Least Once Among Young Adults
by Age Group

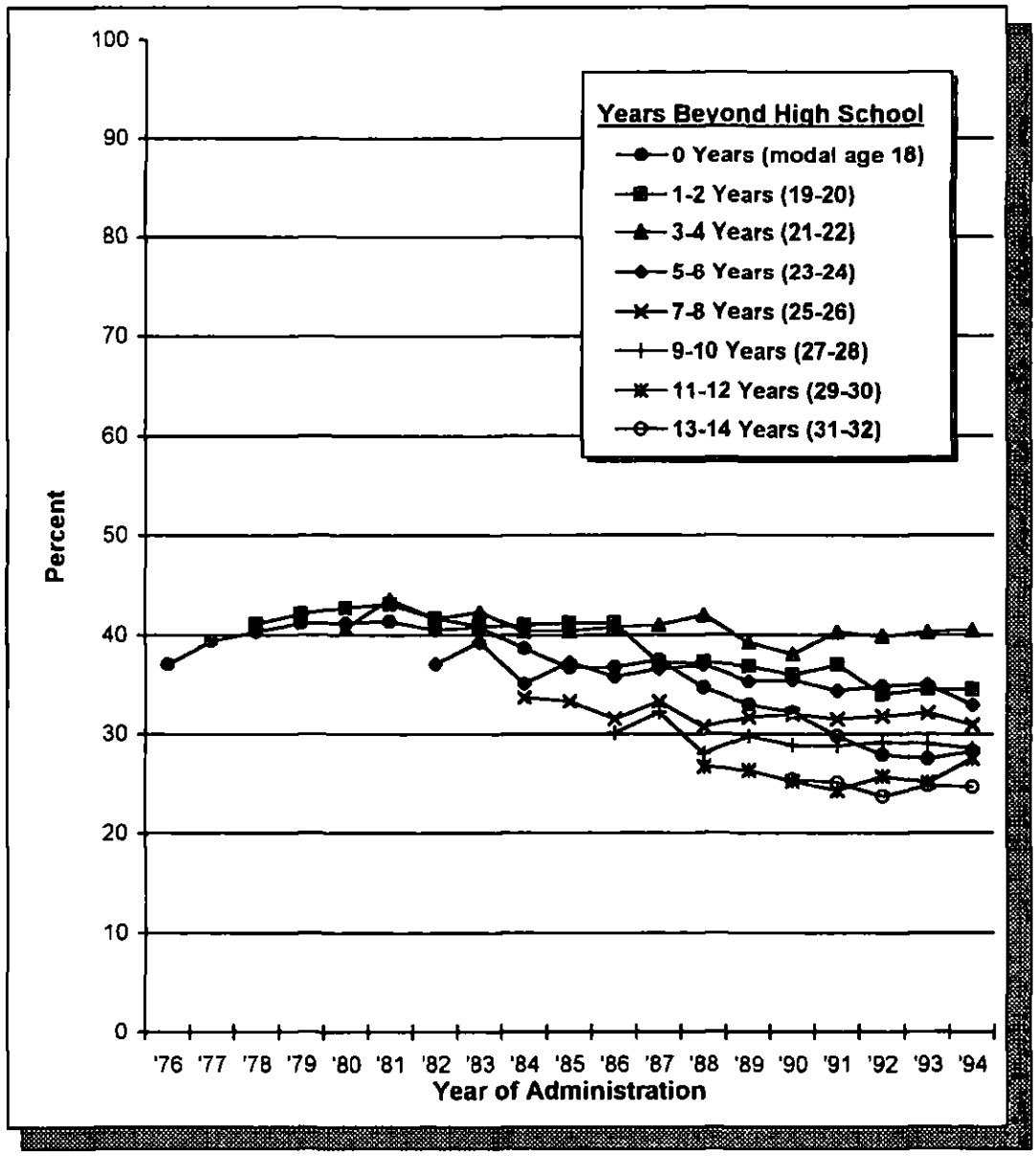


Figure 34a
Cigarettes: Trends in Thirty-Day Prevalence Among Young Adults
by Age Group

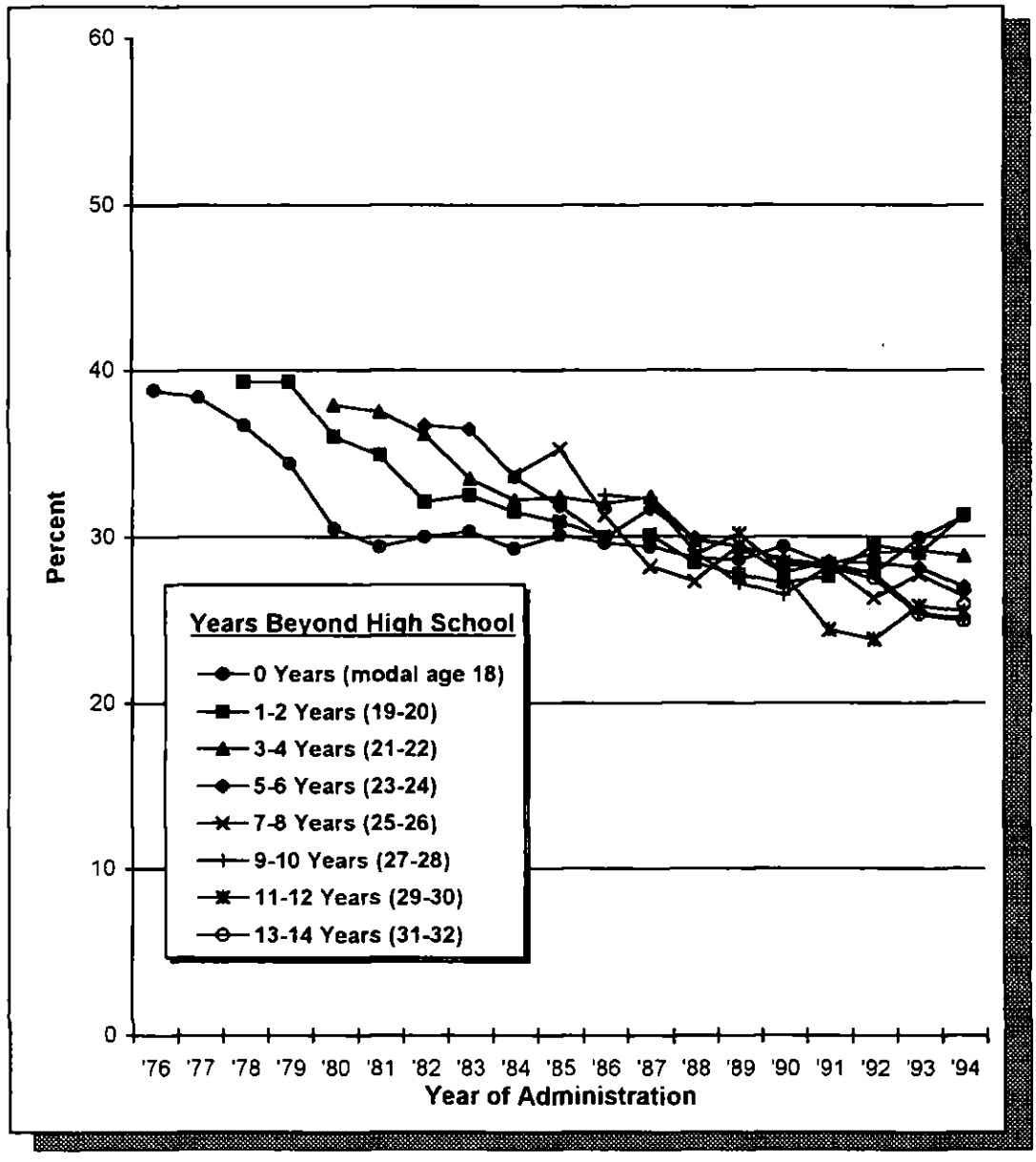


Figure 34b
Cigarettes: Trends in Thirty-Day Prevalence of Daily Use Among Young Adults
by Age Group

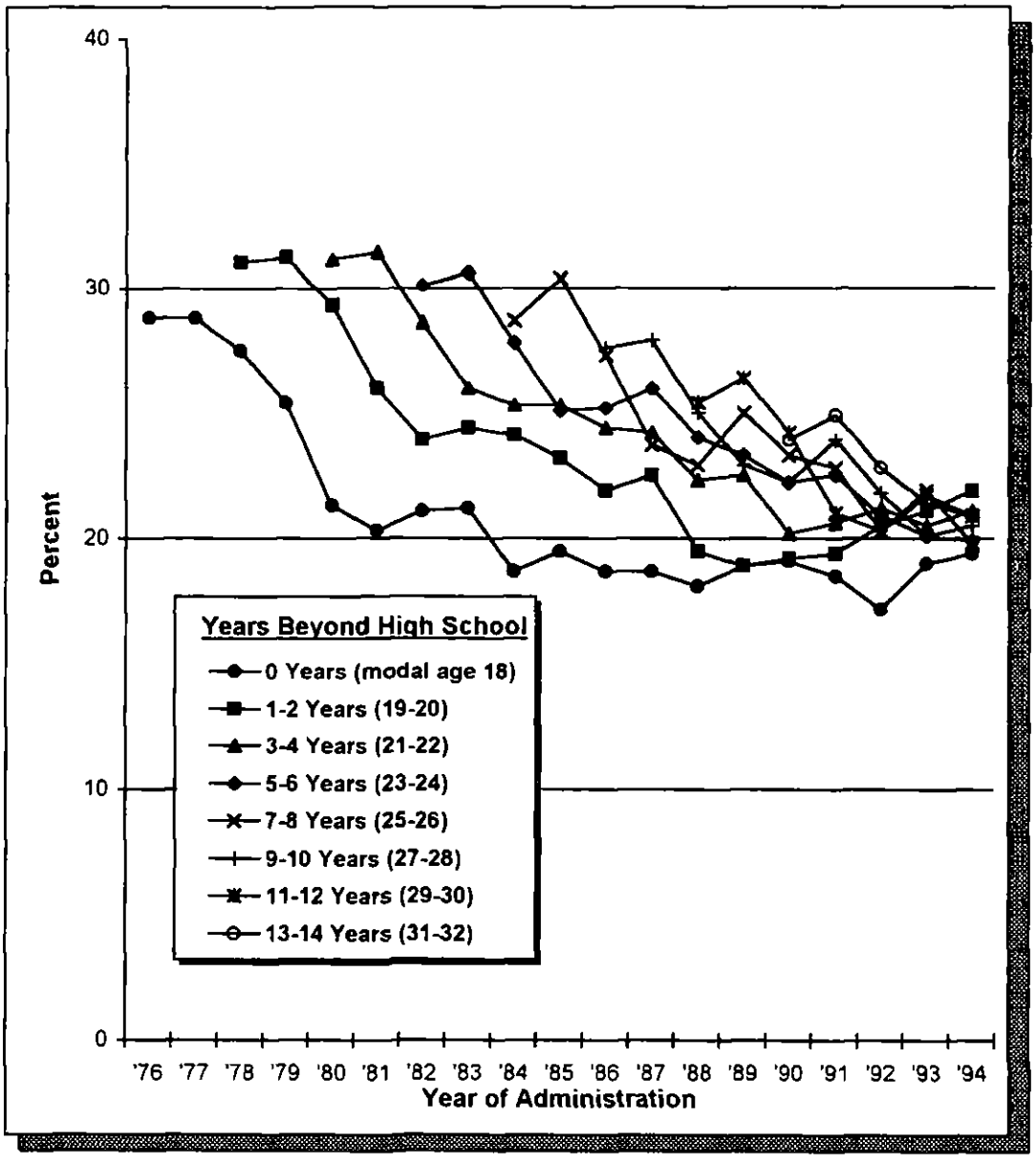
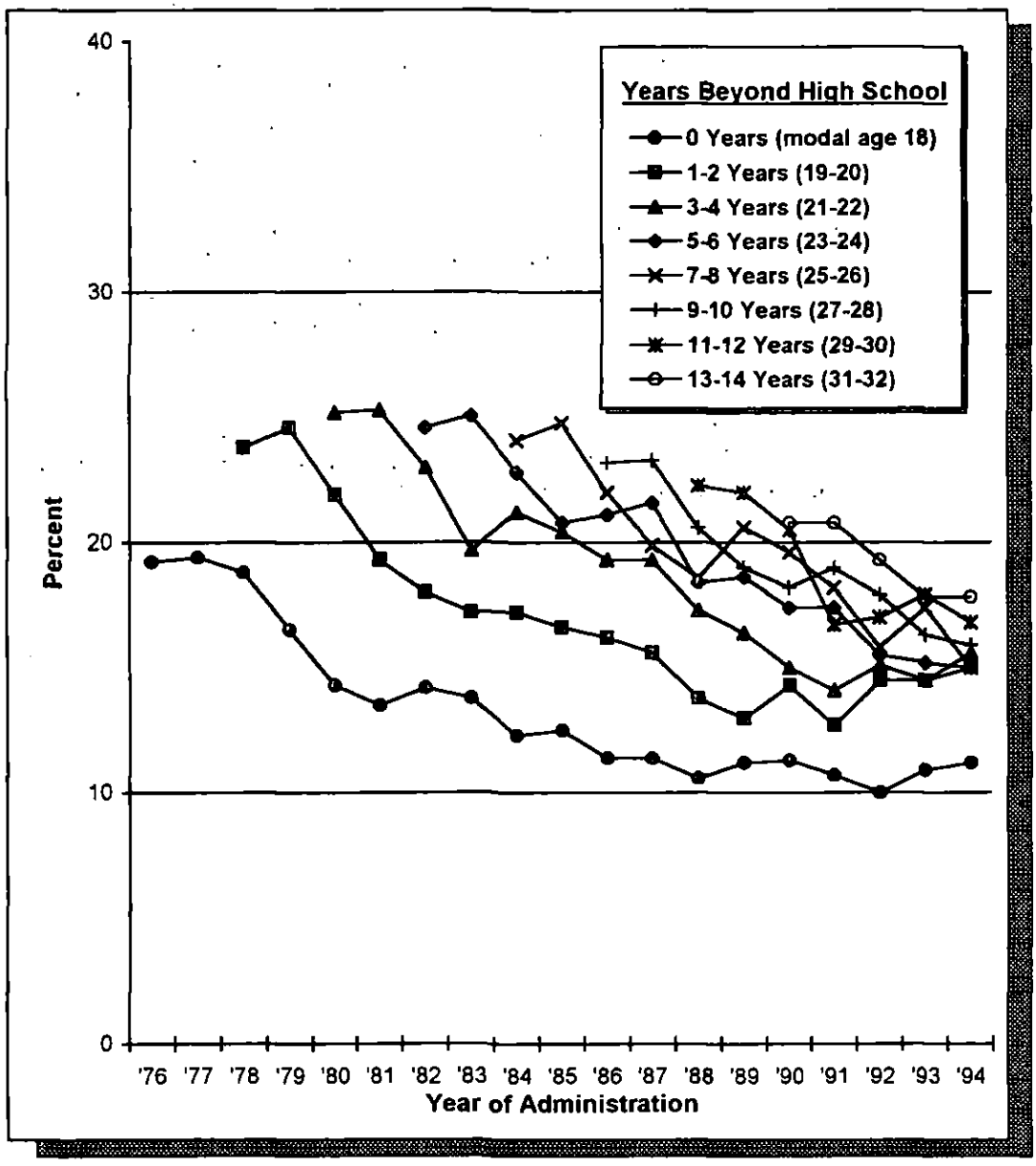


Figure 34c

Cigarettes: Trends in Thirty-Day Prevalence of Smoking a Half-Pack or More Daily Among Young Adults

by Age Group



most drugs, and also on the index of ***any illicit drug use*** in the prior year and of ***any illicit drug use other than marijuana*** (see Table 11, for example).

- Between 1980 and 1993, the downward trend in ***marijuana*** use among 19 to 22 year olds was sharper among males than females, narrowing the gap between the two groups. Annual prevalence fell by 27 percentage points (to 29%) among males, compared to a drop of 20 percentage points (to 25%) among females. In 1994, there were significant increases in annual and monthly marijuana use by males, while use by females held steady, thus widening the gap once again.

  Also between 1980 and 1993, ***daily marijuana use*** for this age group fell from 13% to 3% among males, versus from 6% to 2% among females, again narrowing the gap considerably. However, there was a significant increase among males in 1994 (to 5%), while females decreased slightly, to 1%.

- For ***LSD***, the male-female differences tended to diminish as use declined (1980-1985), and tended to increase as use increased (1985-1992). As of 1994, the sex differences are fairly large, with males considerably more likely to be users in all age bands.

- During the period of sharp decline in annual ***cocaine*** prevalence (1986-1993) use dropped more among males than females. In the 19 to 22 year age band, annual prevalence for males declined by 16.4 percentage points (to 4.5%) vs. 12.9 percentage points among females (to 2.8% in 1993). In the 23 to 26 year old age band there was also a drop in the sex difference since 1986: down 19.0 percentage points (to 6.9%) among males and 13.1 percentage points (to 4.2%) among females. Since 1988, when data are first available, use among males in the 27 to 30 year old group also is dropping faster (down 11.5% vs. 6.4% for females) between 1986 and 1993. In 1994, however, females continued to decline in use, while males in most age bands began to increase, suggesting the beginning of a turnaround in cocaine use.

- As ***barbiturate*** use has declined since 1980, sex differences have been nearly eliminated among both the 19 to 22 year olds (since 1984, at least) and among the two older age bands; annual prevalence stands between 1% and 3% for both sexes in all three age groups.

- The annual prevalence figures for ***heroin*** appear to have dropped among males in the 19 to 22 year old category since 1980 (from 0.6% to 0.2% in 1994). Rates for females remained very low, between 0.1% to 0.3% throughout the period. All three age bands show very stable rates of use since 1990, unlike the secondary school samples who have shown an increase in use.

- Both sexes have shown some decline in recent years in the use of ***opiates other than heroin***, with a near elimination of previous sex differences by 1992. In 1994, use by males began to rise slightly in all three age bands, while use by females did not.

- Since 1981, rates of ***stimulant*** use have been similar for males and females, and have shown substantial and parallel downward trends for both sexes. Among the 19 to 22 year olds, since 1981 males have dropped 21.4 percentage points in annual prevalence (to 5.9% in 1994), and females have dropped 20.3 points (to 5.0% in 1994).

- For ***tranquilizers*** both sexes also have shown a long, gradual decline (and very similar rates of use) since 1980. In recent years, rates hovered between 2% and 5% annual prevalence for both sexes in all three age groupings.

- ***Inhalant*** use has been consistently higher among males than females in all three age groups. It has also been stable for both sexes in the older two age groups; but the 19 to 22 year olds (who have the highest prevalence rate in general) showed a gradual upward drift from 1980 to 1991 for both sexes, much as has happened among high school seniors. Since then, there has been little further change.

- For ***alcohol,*** 30-day prevalence rates have shown a long, gradual, parallel decline since 1981 for both sexes in the 19 to 22 year old age group. Thirty-day prevalence fell from 83% to 72% among males and from 75% to 59% among females by 1994. In the older two age bands, there has also been a modest, parallel decline for both sexes, since 1985 in the case of 23 to 26 year olds, and at least since 1988 in the case of the 27 to 30 year olds.

  There is still a large sex difference for ***daily drinking*** among the 19 to 22 year old age group in 1994: 5.5% for males vs. 1.9% for females; but not nearly as large as it was in 1981 (11.8% vs. 4.0%). The sex differences have been larger for the older age groups (in 1994, for example, 9.0% vs. 2.2% for 27 to 30 year olds), and there has been less evidence of a convergence.

  There also are large and long-established sex 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), although 19 to 22 year old males have shown some longer-term decline in this statistic, from 54% in 1986 to 48% in 1994, thus narrowing the gap slightly (from 24.3 percentage points in 1986 to 20.0 points in 1994). Among females in this age group, there has been practically no change in the rate of binge drinking (28.4% in 1994) since 1985. In the two older age groups, there is little evidence of a change in binge drinking by either sex.

A comparison of the long-established prevalence rates across the three age bands shows that binge drinking declines more sharply with age among young women than among young men. Female rates for 19 to 22 year olds have been around 30% for many years vs. around 18% by age 27-30. The comparable rates for males are 50% and 40%, respectively.

- All three age groups showed a long-term decline in ***daily smoking*** rates 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. Their smoking rates have also been very close.

  There have been some increases in recent years in daily smoking rates, particularly among the younger groups, especially among the males. For example, 19 to 22 year old males increased significantly from 20% in 1993 to 23% in 1994. 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 would predict a continuation of the increase in smoking among 19 to 22 year olds in the coming years.

Regional Differences in Trends

The follow-up respondent's state of residence was first determined in the 1987 survey, so trend data by region exist only for the interval since then. Changes have been examined for all 19 to 28 year olds combined to increase the reliability of the estimates. (All regions are represented by between 1100 and 2300 cases in all years.) In general, the changes which have occurred since 1987 have been pretty consistent across regions, particularly in terms of the direction of the change–for the most part downward.

- There were substantial drops in all four regions between 1987 (the initial measurement point) and 1991 for ***any illicit drug, marijuana, cocaine, crack,*** and ***stimulants***. Since 1991, however, there has been a leveling or increase in the use of these drugs in most or all regions, with the exception of ***cocaine*** which has continued to decline.

- 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 lowest consistently, with the other three regions fairly close to one another. For the use of ***any illicit drug other than marijuana***, the West stands out as highest (17% annual prevalence in 1994) and the other three regions have been nearly identical since 1990 (all at 12% in 1994). As will be discussed below, in recent years the West has had the highest rates of use among young adults of ***LSD, hallucinogens other than marijuana, MDMA*** (ecstasy), and ***ice***.

- The declines in ***cocaine*** use observed in all regions between 1987 and 1991, were greatest in the two regions which had attained the highest levels of use by the mid-1980s–the West and the Northeast. In 1992 these declines stalled in all regions except the Northeast, which is similar to the finding for seniors. There were further drops in 1993 and 1994. Less regional variability remains in 1994 than in 1987, but the West and Northeast still have the highest annual prevalence rates (6.0% and 5.1%, respectively, for 19 to 28 year olds), while the South and North Central regions are lower (3.2% and 3.6%, respectively).

- All four regions also exhibited an appreciable drop in ***crack*** use between 1987 and 1991, and leveled since. As was true for cocaine generally, prevalence rates among the regions have converged so that the West now is only slightly higher (1.4%) than the traditionally lowest South (0.9%).

- Rates of ***inhalant*** use have remained relatively stable and quite low in all four regions among 19 to 28 year olds.

- Questions about ***MDMA*** (ecstasy) were added to the surveys in 1989; use rates in both 1989 and 1990 were higher in the West and the South and lower in the Northeast and North Central. In 1991 and 1992 use fell (nonsignificantly) in all regions except the West, where annual prevalence rose significantly in 1992 (from 0.9% to 3.1%). Although the West has since declined, it remains highest in 1994, at 1.8% vs. 0.7% in the Northeast, 0.5% in the South, and 0.1% in the North Central region.

- ***LSD*** use rose in all four regions between 1989 and 1992, though more in the West than elsewhere. Since 1992 rates have remained fairly level. In 1994 the annual prevalence rate in the West is 5.8% for 19 to 28 year olds vs. between 3.2% and 4.0% in the other three regions. Use of ***hallucinogens other than LSD*** also has been highest (and rising) in the West in recent years.

- Questions about the use of ***ice*** were added in 1990. Three of the regions have shown negligible rates since then (from 0.1% to 0.5% annual prevalence) with the West showing a consistently higher rate (from 1.4% to 3.1%) and evidence of an increase in use between 1991 (0.9%) and 1994 at about 3.1%.

- The use of ***barbiturates*** has remained flat, and at about equivalent levels, in all four regions of the country since 1987, when regional data were first produced.

- With respect to ***alcohol*** use, there were modest declines in all four regions between 1987 (when the first measurement is available for 19 to 28 year olds) and 1990 in both 30-day prevalence and daily drinking.

Since then rates have leveled. ***Occasional heavy drinking*** has remained fairly level in all regions since 1987. The rates generally have been appreciably higher in the North Central (40% in 1994) and the Northeast (36%) than in the West (33%) and the South (27%).

- Current ***daily cigarette smoking*** dropped only one or two percentage points in all regions since 1988 among 19 to 28 year olds. Again, the North Central (25% in 1994) and the Northeast (22%) have higher rates than the South (20%). The West (16%) has consistently had the lowest rates sine 1987.

Trend Differences Related to Population Density

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.

- In general, the proportion of young adults using ***any illicit drug*** declined substantially over the long term in communities of all sizes. (Among the young adults, five levels of population density are distinguished.) Among 19 to 22 year olds, this decline began in 1980 (when data were first available) and continued through 1991; since then rates have been fairly level except for small rises among the 19 to 22 year olds in all but the rural areas. In general, the farm/country and small town strata continue to have lower use than all of the other strata. In 1994 the proportions of 19 to 22 year olds reporting use of an illicit drug in the past year were 27% for the farm/country strata, 32% for small town, 33% for medium and large cities, and 35% for very large cities. (The absolute differences among these strata narrowed as usage rates fell, and remain narrow with the more recent rise.) For young adults aged 23 to 26, the difference also has become smaller in recent years (a difference of only 10% in 1994 between the rural and most urban strata vs. 23% in 1985). Among the 27 to 30 year olds, the difference has averaged about 9% between the rural and large city strata.

- The use of ***any illicit drug other than marijuana*** tells a similar story: A long period of fairly parallel decline before leveling, and some convergence of usage rates among the strata. While the very large cities tend to have the highest rates on both indexes, they are only slightly higher than the other urban areas.

- ***Marijuana*** use began to decline in 1981 or 1982 among the 19 to 22 year olds in all community size categories until 1991 when prevalence rates stabilized, before trending upward again in 1994. Still, the four largest urban strata have declined by 21 to 24 percentage points since 1980, and the farm/country by 14 percentage points.

- Among the 19 to 22 year olds (the age group with by far the highest rates of ***LSD*** use of the young adults) ***LSD*** use in communities of all sizes declined appreciably in the 1980s. Since 1989 there has been some increase in use in all strata. There has also been some increase since 1989 among 23 to 26 year olds in the more urban areas.

  The use of ***hallucinogens other than LSD***, taken as a class, fell in communities of all sizes among the young adults between 1980 and 1987, but there has been very little systematic change since then.

- The important drop in ***cocaine*** use since 1986 slowed considerably after 1992 or 1993 in all three age strata and in communities of all sizes. Usage rates among the strata tended to converge during the period of decline, and this convergence remains, with the large and very large cities still showing rates of cocaine use slightly higher than the less densely populated areas.

- ***Crack*** use among all age groups peaked in 1987 or 1988 and, after declining, appears to have bottomed out in all strata since about 1990. The crack use reported in this study seems to bear little systematic association with community size. (A possible exception is that among 19 to 22 year olds, use has generally been highest in the very large cities.)

- ***Stimulant*** 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 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.

- ***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.

- The use of ***barbiturates*** also fell to very low rates by 1989 before stabilizing. Annual prevalence in 1994 is less than 3% in all community-size strata for all three age bands. Unlike methaqualone it has never shown much correlation with urbanicity.

- ***Tranquilizer*** use among young adults has had little or no association with population density over this time interval either. Among the 19 to 22 year olds it declined by half in most strata from 1980 to about 1985, to just over 4% annual prevalence. Since 1985 some further, rather modest declines have occurred, resulting in annual prevalence rates of between 2% and 4% in all community-size strata for all three age bands.

- Annual ***heroin*** prevalence in 1994 stands at less than 0.5%–usually much less–in all strata for all three age bands, and shows little systematic relationship with urbanicity. In the early 1980s it did tend to be more concentrated in cities than in the small-town and farm/country strata among the 19 to 22 year olds.

- Similarly, the annual use of ***opiates other than heroin*** had some positive association with degree of population density in the early 1980s; however, it has shown rather little association since then, due to a greater decline in use in several urban strata. For each of the strata, annual prevalence stands at between 1% and 3% for all community-size strata in all three age groups.

- While the absolute levels of ***inhalant*** use still remain low in these age groups, during the mid- to late-1980s there was a gradual increase among 19 to 22 year olds in all community-size strata. There has been no consistent association with population density since then, except that the more urban strata have tended to have the highest rates since 1990 among the 19 to 22 year olds.

- In the first four years for which data on ***MDMA*** (ecstasy) were available (1989-1992), use was generally lower in the farm/country and small town strata than in the three urban strata. In recent years, use levels have been very low, and not systematically related to population density.

- In the six years between 1984 and 1990, ***alcohol*** use declined modestly in almost all community-size strata for both the 19 to 22 and the 23 to 26 age groups. Since then, there has been little systematic change. The same is true for ***occasional heavy drinking***. In 1993, the association between community size and alcohol use remained only a slightly positive one for 30-day prevalence; there was no systematic association for daily prevalence, and there was a very slightly positive one for occasions of heavy drinking among all age groups. The farm/country stratum stands apart fairly consistently as having the lowest monthly prevalence of drinking and the lowest prevalence of occasional heavy drinking. The wording change in the alcohol prevalence question makes changes in 1994 difficult to assess; another year or two will help clarify the extent to which meaningful changes are occurring.

- ***Cigarette smoking*** has been slightly negatively associated with urbanicity in all three age strata, without much evidence of differential trends related to degree of urbanicity.

Chapter 6

ATTITUDES AND BELIEFS ABOUT DRUGS AMONG YOUNG ADULTS

Over the past fifteen years or so we have observed in the 12th grade data substantial changes in attitudes and beliefs about the use of drugs, in particular the perceived risk of harm associated with marijuana and cocaine, and personal disapproval of use of marijuana, cocaine, and amphetamines. Further, the importance of these shifts in attitudes and beliefs in explaining changes in actual drug-using behavior has been demonstrated in earlier volumes in this series and elsewhere.[7] In this chapter we review trends since 1980 in the same attitudes and beliefs among young adults.

PERCEIVED HARMFULNESS OF DRUGS

Table 12 provides trends in the perceived risks 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 500-600 weighted cases per year for each age band) and thus, to improve the reliability of the estimates. Still, these are small sample sizes compared to those available for eighth, tenth, and twelfth graders, so the change estimates are more labile. Because of the nature of the 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 seniors, shown here as 18 year olds, for 1980 onward.

Beliefs About Harmfulness Among Young Adults

- Table 12 illustrates considerable differences in the degree of risk young adults associate with various drugs. In general, the results closely parallel those observed among seniors.

- ***Marijuana*** is seen as the least risky of the illicitly used drugs, although sharp distinctions are made between different levels of use: In 1994, experimental use is perceived as being of "great risk" by only 15%-19% of high school graduates (age 19 to 30), whereas regular use is perceived to be that risky by about two-thirds (63%-66%) of them.

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[7]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. Johnston, L.D. (1981) Frequent marijuana use: Correlates, possible effects, and reasons for using and quitting. In R. deSilva, R. Dupont, and G. Russell (Eds.), *Treating the Marijuana Dependent Person* (pp. 8-14). 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 and 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). Washington, DC: U.S. Government Printing Office.

TABLE 12

Trends in Perceived Harmfulness of Drugs
Young Adults in Modal Age Groups of 18, 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	Percent saying "great risk"[a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	'93-'94 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	-2.4
	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	-0.6
	23-26					9.6	10.0	12.4	14.5	16.0	14.0	17.7	14.0	15.0	13.0	15.0	+2.0
	27-30									14.6	16.0	17.0	15.7	15.1	14.0	14.8	+0.8
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	-5.5sss
	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	+1.0
	23-26					15.8	16.3	20.9	20.8	26.8	25.3	30.4	26.2	27.4	24.0	25.5	+1.5
	27-30									24.2	25.7	28.7	27.4	27.5	26.8	28.1	+1.3
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	-7.5sss
	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	-4.2
	23-26					52.9	57.5	59.4	65.3	68.3	72.1	71.0	70.9	67.3	64.1	63.2	-0.9
	27-30									67.5	69.1	69.2	67.5	68.8	69.4	65.6	-3.8
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	-0.7
	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	-0.1
	23-26					48.3	46.9	47.9	51.5	53.7	50.7	52.0	50.1	49.7	49.0	46.8	-2.2
	27-30									53.3	55.6	54.6	52.5	53.0	51.5	53.5	-2.0
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	-0.3
	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	-0.4
	23-26					89.0	86.6	88.7	90.0	89.2	89.0	88.2	89.1	87.3	85.3	87.5	-2.2
	27-30									89.1	91.2	92.0	87.1	88.5	89.0	89.2	+0.2
Try PCP once or twice	18								55.6	58.8	56.6	55.2	51.7	54.8	50.8	51.5	+0.7
	19-22								63.6	63.8	NA	NA	NA	NA	NA	NA	NA
	23-26								64.8	63.2	NA	NA	NA	NA	NA	NA	NA
	27-30									65.9	NA	NA	NA	NA	NA	NA	NA
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	-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	+3.3
	23-26					31.3	31.1	35.9	48.0	47.1	51.3	51.5	50.5	53.5	54.1	56.0	+1.8
	27-30									45.3	53.0	51.6	52.6	51.8	54.7	53.5	-1.2
Take cocaine occasionally	18							54.2	66.8	69.2	71.8	73.9	75.5	75.1	73.3	73.7	+0.4
	19-22							53.8	61.3	67.1	72.6	74.6	72.6	74.9	75.4	78.0	+2.6
	23-26							50.9	62.6	63.2	69.9	69.9	70.3	69.9	72.8	70.3	-2.5
	27-30									62.6	66.6	66.6	69.1	69.9	69.1	69.9	+0.7
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	-0.8
	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	+0.5
	23-26					75.6	76.9	83.0	88.9	90.9	91.2	91.2	92.7	89.9	91.9	92.6	+0.7
	27-30									88.9	92.0	91.4	90.9	92.0	91.6	92.1	+0.5
Try crack once or twice	18								57.0	62.1	62.9	64.3	60.6	62.4	57.6	58.4	+0.8
	19-22								59.4	67.3	68.5	69.4	66.9	65.4	63.5	70.1	+6.6s
	23-26								59.1	63.5	69.8	67.3	66.9	67.1	64.2	69.3	+5.1
	27-30									66.5	64.9	68.7	66.8	64.3	68.8	65.6	-3.2
Take crack occasionally	18								70.4	73.2	75.3	80.4	76.5	76.3	73.9	73.8	-0.1
	19-22								75.0	77.3	81.8	82.3	82.7	81.9	83.6	84.3	+0.7
	23-26								70.3	74.0	79.9	81.1	83.9	84.4	81.6	83.2	+1.6
	27-30									76.4	76.7	82.6	81.8	79.1	83.6	78.6	-4.9
Take crack regularly	18								84.6	84.8	85.6	91.6	90.1	89.3	87.5	89.6	+2.1
	19-22								89.6	91.1	94.1	94.9	95.6	93.4	96.2	96.0	-0.2
	23-26								88.0	89.2	91.5	94.2	95.4	94.1	93.4	94.9	+1.5
	27-30									89.6	89.5	95.3	94.4	93.3	93.5	93.0	-0.6

(Table continued on next page)

TABLE 12 (cont.)
Trends in Perceived Harmfulness of Drugs
Young Adults in Modal Age Groups of 18, 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	Percent saying "great risk"[a]															'93-'94 change
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	
Try cocaine powder once or twice	18								45.3	51.7	53.8	53.9	53.6	57.1	53.2	55.4	+2.2
	19-22								44.0	48.6	51.1	54.5	52.7	56.2	49.7	62.0	+12.3sss
	23-26								41.0	43.6	48.4	48.9	47.4	45.9	45.6	52.5	+6.9s
	27-30									42.0	45.1	46.2	43.3	42.3	49.9	47.1	-2.8
Take cocaine powder occasionally	18								56.8	61.9	65.8	71.1	69.8	70.8	68.6	70.6	+2.0
	19-22								58.0	59.0	63.2	70.0	69.9	72.6	70.6	75.4	+4.8
	23-26								50.0	53.2	62.2	63.3	67.0	65.8	64.0	68.8	+4.8
	27-30									53.6	52.7	60.9	59.2	61.2	64.3	61.0	-3.3
Take cocaine powder regularly	18								81.4	82.9	83.9	90.2	88.9	88.4	87.0	88.6	+1.6
	19-22								86.6	87.6	91.3	92.5	93.8	92.1	94.0	94.9	+0.9
	23-26								82.9	84.1	88.5	92.4	93.8	91.3	92.4	92.8	+0.4
	27-30									85.1	86.7	92.7	91.1	91.5	92.5	90.7	-1.8
Try MDMA ("ecstasy") once or twice																	
	19-22										45.2	47.1	48.8	46.4	45.0	51.1	+6.1
	23-26										49.5	47.2	47.4	45.5	41.9	50.6	+8.7ss
	27-30										44.9	48.7	47.7	44.2	51.7	47.3	-4.5
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	+2.1
	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	+1.9
	23-26					58.2	59.2	60.8	66.6	65.4	62.3	64.1	62.4	63.7	65.0	63.3	-1.7
	27-30									66.0	69.7	67.5	66.1	66.5	69.3	69.6	+0.3
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	+0.1
	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	+0.2
	23-26					81.2	80.7	78.9	84.5	82.4	80.8	83.4	84.4	81.5	82.1	80.8	-1.3
	27-30									86.0	86.8	85.3	84.3	84.9	86.2	86.8	+0.6
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	-0.3
	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	+2.0
	23-26					92.0	90.1	90.6	92.8	91.5	91.3	91.0	92.6	91.3	91.6	93.0	+1.4
	27-30									92.7	93.5	93.0	90.7	91.3	92.6	93.8	+1.1
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	+0.1
	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	+3.1
	23-26					29.6	29.4	29.4	34.1	33.2	32.5	35.3	31.0	32.7	32.6	32.9	+0.3
	27-30									35.2	37.5	36.9	36.5	36.2	34.0	37.5	+3.5
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	-2.9
	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	-1.9
	23-26					75.8	77.2	75.6	78.2	77.4	76.7	77.8	79.4	76.4	76.2	73.6	-2.6
	27-30									80.6	82.9	83.3	79.4	80.3	79.8	78.4	-1.4
Try crystal meth ("ice")	18												61.6	61.9	57.5	58.3	+0.8
	19-22											57.8	58.6	57.7	57.5	61.4	+3.9
	23-26											56.5	56.0	55.6	52.0	61.0	+9.0ss
	27-30											59.6	57.2	52.7	60.3	57.9	-2.4
Try 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	+0.7
	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	+1.6
	23-26					32.2	29.9	30.2	35.5	35.8	32.9	37.9	31.8	33.5	32.8	34.0	+1.2
	27-30									37.2	38.7	39.0	37.0	38.2	36.5	40.5	+4.0
Take 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	-2.8
	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	-1.6
	23-26					77.4	77.0	74.9	79.9	79.8	76.6	80.5	77.7	76.3	75.0	74.3	-0.6
	27-30									81.5	83.7	84.0	79.6	78.6	80.2	78.3	-1.9

(Table continued on next page)

TABLE 12 (cont.)
Trends in Perceived Harmfulness of Drugs
Young Adults in Modal Age Groups of 18, 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	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	'93-'94 change
		Percent saying "great risk"[a]															
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	-0.6
	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	-0.1
	23-26					5.5	3.0	6.5	6.6	4.2	5.1	5.7	4.4	5.6	3.2	4.5	+1.3
	27-30									5.0	6.3	4.4	6.6	5.6	4.7	4.1	-0.6
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	-1.2
	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	-0.5
	23-26					27.8	27.4	26.9	30.2	29.1	27.8	31.1	30.4	31.6	25.9	26.2	+0.3
	27-30									27.4	31.7	32.2	31.7	30.9	28.0	27.4	-0.7
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	-1.6
	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	-1.8
	23-26					76.7	77.9	80.1	77.2	81.8	76.9	79.7	80.2	78.0	76.7	77.5	+0.8
	27-30									79.3	81.7	84.7	79.1	79.9	79.1	76.6	-2.6
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	-1.8
	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	-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	+4.0
	27-30									41.0	42.3	44.1	42.2	45.1	42.9	43.2	+0.3
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	-1.9
	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	-4.8
	23-26					71.1	70.1	75.7	73.6	75.5	71.4	78.5	75.3	76.3	78.4	76.4	-1.9
	27-30									72.8	75.2	77.8	75.4	77.6	75.0	75.3	+0.3
Use smokeless tobacco regularly	18							25.8	30.0	33.2	32.9	34.2	37.4	35.5	38.9	36.6	-2.3
	19-22							29.7	34.1	31.1	37.1	33.5	38.9	40.1	43.3	37.6	-5.7
	23-26							37.0	38.5	35.8	37.9	40.1	38.9	41.6	44.6	42.9	-1.6
	27-30									42.8	42.8	43.8	44.3	44.1	47.3	46.3	-1.0
Approximate Weighted N=	*18*	*3234*	*3604*	*3557*	*3305*	*3262*	*3250*	*3020*	*3315*	*3276*	*2796*	*2553*	*2549*	*2684*	*2759*	*2591*	
	19-22	*590*	*585*	*583*	*585*	*579*	*547*	*581*	*570*	*551*	*565*	*552*	*533*	*527*	*480*	*490*	
	23-26					*540*	*512*	*545*	*531*	*527*	*498*	*511*	*505*	*518*	*503*	*465*	
	27-30									*513*	*587*	*490*	*486*	*482*	*473*	*445*	

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) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.

It is interesting to note that in the mid-1980s and early 1990s fewer of the older age groups saw great risk, particularly with experimental and occasional use of marijuana, than the younger age bands. Indeed, there was a quite regular negative ordinal relationship between age and perceived risk for some years. This could reflect an age effect, but we believe it is more likely a cohort effect: The younger cohorts initially perceived marijuana as more dangerous and persisted in this belief as they grew older than did preceding cohorts. Newer cohorts again are more relaxed in their attitudes—1994 high school seniors are less likely to perceive marijuana use as dangerous than their recent predecessors. We have interpreted this as representing a "generational forgetting" 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 when they were that age. This recent change of beliefs is happening primarily among 18 year olds (and younger ages), not among the older age bands.

- Use of any of the other illicit drugs is seen as distinctly more risky than marijuana. Even experimental use of ***amphetamines*** and ***barbiturates*** is perceived as risky by about 33%-41% of young adults age 19 to 30, and 42%-54% think trying ***LSD*** or ***MDMA*** (ecstasy) involves great risk. Trying ***cocaine*** powder is seen as dangerous by 47%-62%, while using ***crack*** or ***heroin*** once or twice is seen as dangerous by 61%-70%.

- In recent years, the older age groups have been *more* likely than the younger age groups to see ***LSD***, ***heroin***, and ***barbiturates*** as dangerous.

- There is a modest age-related difference in experimental and occasional use of ***cocaine***; the older groups (23 and over) perceive less risk than the younger groups (18-22) who have had less experience with cocaine. However, with regard to regular cocaine use, the three older age groups are *more* likely to see that behavior as dangerous than the seniors.

- 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 seniors and young adults perceive it as a quite dangerous drug, perhaps because it is likened to crack in most media accounts. Both drugs are burned and the fumes inhaled, both are stimulants, and both can produce dependence.

- ***MDMA*** (ecstasy) questions were introduced a year earlier, and have not been asked of seniors. Young adults see it as a fairly dangerous drug, even for experimentation; between 47% and 51% say there is "great risk" involved. This puts it close to LSD in its level of perceived risk.

- As was true for high school seniors, only a minority of the young adults see ***heavy drinking on weekends*** as dangerous (40%-43%); however, about three-fourths of young adults (and two-thirds of seniors) feel that way about ***daily heavy drinking***.

- Approximately three-quarters (71%-76%) of the young adults perceive regular pack-a-day ***cigarette smoking*** as entailing high risk, higher than the 68% of seniors who hold that belief and much higher than the 51% of eighth graders who do so. Unfortunately the understanding of the risks comes too late for many who have initiated use (and often heavy use) in their teen years.

- The use of ***smokeless tobacco*** is seen as dangerous by many fewer, 38%-46% of young adults and 37% of seniors.

Trends in Perceived Harmfulness Among Young Adults

- Nearly all of the important trends observed among seniors in perceived harmfulness can also be seen among young adults. (See Table 12.)

- The long-term increase in the perceived risk of ***regular marijuana use*** documented among seniors between 1980 and 1989 also occurred among young adults. The proportion of 19 to 22 year olds reporting "great risk" rose from 44% in 1980 (the first data point available) to 75% in 1989. Among seniors the shift over the same interval was from 50% to 78%. (Daily marijuana use dropped appreciably during this time in all of these age groups.) In 1992 however, there was a decline in the perceived dangers of regular marijuana use among the seniors, the 19 to 22 year olds, and the 23-26 year olds. These declines continued in 1993 through 1994, and there was even a decline in perceived risk among the 27-30 year old age group. Since 1991, the younger the age group, the larger the decline in perceived risk.

- In general, young adults have been more cautious about ***heroin*** use than high school seniors. Among the seniors, there had been a downward shift from 1975 to 1986 in the proportion seeing great risk associated with trying heroin; there was a sharp upturn in 1987. In 1994 perceived risk stands at the same level as in 1987. Young adults, although the data do not extend back as far, seem also to have shown an increased caution about heroin use in the latter half of the 1980s, continuing into the 1990s. These trends may reflect respectively, (a) the lesser attention paid to heroin by the media during the late seventies and early eighties than previously, and (b) the subsequent great increase in attention paid to intravenous heroin use in the past few years because of its important role in the spread of AIDS.

- Trend data are available since 1987 on the perceived risks associated with ***crack*** show increases in the 1987-1990 interval, followed by

relatively little change. Were data available a year or two earlier, they undoubtedly would have shown an even larger shift.

Since 1992 the seniors have shown decreases in the perceived risk of experimental or occasional use of crack, leaving them as perceiving considerably less risk than the other age groups.

- Perceived risk associated with ***cocaine powder*** showed increases between 1991 and 1994 among all four age groups, but the increases were small among the seniors (up 1 percentage point). (The 8th and 10th graders showed declines in the perceived risk of both crack and cocaine powder in 1994.) This divergence in trends may also reflect some "generational forgetting" of the dangers of these drugs.

- With regard to ***occasional heavy drinking***, perceived risk of harm among 12th graders increased (though not entirely consistently) from 36% in 1980 to 49% in 1992; it declined slightly in 1993 and 1994 to its current level of 47%. Among the older groups, change has been more irregular; there seemed to be some increase in perceived risk between 1981 and about 1990, with little systematic change since then. All age groups are about the same level in 1994 as they were in 1990.

- In the late 1980s and early 1990s, the data available from the young adult samples showed a modest increase in the proportions associating great risk with ***regular smoking***. For example, over the nine-year interval from 1984 to 1993, 12th graders, 19 to 22 year olds, and 23 to 26 year olds all showed an increase of 6 or 7 percentage points in the proportion seeing great risk in pack-a-day smoking. However, all three groups showed (nonsignificant) declines in 1994. Substantial proportions still do not see such behavior as being risky (between 24% and 32%). In recent years the 18 year olds have consistently showed the lowest perceived risk (and 10th graders are lower and 8th graders lower still). It seems clear that 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 the proverbial "horse is out of the barn" and many have become addicted.

- Between 1986 (when questions about ***smokeless tobacco*** were first included) and 1993, there was a fair increase in perceived risk among 12th graders, 19 to 22 year olds, and 23 to 26 year olds. The lower the age, the larger the increase, which had the effect of narrowing the age-related differences among young adults. Older respondents, however, still see the most risk. In 1994, all age groups showed some decline in the perceived risk of using smokeless tobacco.

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 13. Comparison data for 12th graders are also provided for 1980 onward. (See also Table 22 in Chapter 8 of Volume I, for the longer-term trends in high school seniors' attitudes and beliefs about drugs.)

Extent of Disapproval by Young Adults

- In general, the attitudes of young adults related to the various drug-using behaviors, both licit and illicit, are highly similar to those held by 12th graders. This means that the great majority disapprove of using, or even experimenting with, all of the ***illicit drugs other than marijuana***. For example, regular use of each of the following drugs is disapproved by 98% or more of young adults: ***LSD, cocaine, amphetamines, barbiturates,*** and ***heroin***. Even experimentation with each of these drugs is disapproved by 82% to 97% of the young adults.

- These attitudes seem to differ little as a function of age, except that disapproval of experimental use of ***cocaine*** declines after age 22: among seniors (92%), 19 to 22 year olds (94%), 23 to 26 year olds (89%), and 27 to 30 year olds (87%). These differences are consistent with age-related differences in actual use.

- Even for ***marijuana***, more than half of young adults now disapprove experimentation, between 69% and 77% disapprove occasional use, and nearly 90% disapprove regular use.

- Rates of disapproval for the various patterns of ***alcohol*** use listed are quite close to those observed among seniors. Seniors are more likely to disapprove of experimentation: 28% for seniors vs. 18% to 22% for the three older groups.

- Disapproval for ***cigarette smoking*** at the rate of a pack per day or more, varies little by age (between 70% and 75%).

Trends in Disapproval by Young Adults

Prior to 1991, there had been some important changes among American young adults' attitudes, with a declining proportion finding the use of the various drugs acceptable, even for adult use. However, since 1990 there has been rather little further systematic change in these attitudes. The rates of disapproval have remained fairly constant (in many cases at very high levels) and generally have not reversed, even though such a change has been occurring among secondary school students. (See Volume I.)

TABLE 13

Trends in Proportions Disapproving of Drug Use
Young Adults in Modal Age Groups of 18, 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	Percent disapproving[a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	'93-'94 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	-5.7ss
	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	+2.9
	23-26					41.2	38.6	42.6	49.1	48.7	52.5	57.5	58.8	55.0	54.6	52.3	-2.3
	27-30									49.0	50.9	53.8	54.6	51.9	56.8	55.7	-1.1
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	-6.6sss
	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	+1.1
	23-26					54.8	52.8	57.0	64.9	63.4	69.4	73.7	73.3	74.0	71.9	70.9	-1.0
	27-30									65.3	67.1	68.9	73.0	67.2	72.2	69.4	-2.8
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	-5.3sss
	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	-0.1
	23-26					80.6	81.3	83.3	87.4	86.9	90.4	91.0	89.6	90.2	92.1	90.3	-1.8
	27-30									87.6	87.5	89.7	89.6	87.2	89.4	88.7	-0.7
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	-3.4ss
	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	-1.8
	23-26					87.3	87.1	88.0	89.9	91.4	91.0	90.7	89.1	88.8	86.9	87.3	+0.3
	27-30									91.0	87.2	89.7	87.9	85.6	88.8	88.2	-0.6
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	-1.5s
	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	-0.2
	23-26					99.2	98.0	98.5	99.0	98.0	98.4	98.3	98.4	98.3	98.1	97.7	-0.3
	27-30									98.8	97.1	98.9	98.9	97.5	98.5	98.7	-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	-1.1
	19-22	73.0	69.3	69.9	74.1	72.5	77.6	78.9	82.3	85.3	88.8	90.1	91.2	90.6	92.7	93.9	+1.2
	23-26					70.2	70.5	72.1	80.0	82.9	85.5	88.3	88.0	87.3	89.2	89.2	0.0
	27-30									82.1	81.0	85.5	86.9	83.9	85.7	86.6	+0.9
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	-0.9
	19-22	91.6	89.3	91.9	94.6	95.0	96.3	97.0	97.2	97.9	97.4	98.9	97.9	98.4	97.8	98.8	+1.0
	23-26					95.7	95.3	97.3	98.1	97.6	98.3	98.4	98.5	98.7	98.4	98.8	+0.4
	27-30									98.1	97.0	99.3	99.0	97.2	98.7	99.0	+0.3
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	-1.2
	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	+0.3
	23-26					96.7	94.9	96.4	97.1	97.4	96.7	96.8	96.9	96.3	95.4	96.5	+1.1
	27-30									97.9	95.8	97.5	96.6	94.8	97.3	94.7	-2.6s
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	-0.8
	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	+0.2
	23-26					99.2	98.2	98.8	99.1	98.4	98.3	98.1	99.0	98.7	98.4	98.6	+0.2
	27-30									99.2	97.3	99.0	98.9	97.0	98.9	98.7	-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	-0.4
	19-22	99.2	98.5	98.6	98.7	98.7	99.1	98.9	98.6	98.4	98.3	99.5	98.5	98.3	98.4	98.8	+0.4
	23-26					99.4	98.8	99.1	99.4	98.7	98.7	98.5	99.3	99.2	98.9	98.8	-0.1
	27-30									99.4	97.6	99.4	99.0	97.8	99.0	99.4	+0.4

TABLE 13 (cont.)

Trends in Proportions Disapproving of Drug Use

Young Adults in Modal Age Groups of 18, 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	'93-'94 change
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	-2.9s
	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	+1.1
	23-26					74.2	74.2	74.6	80.3	83.5	83.3	84.1	84.8	83.4	84.8	82.7	-2.1
	27-30									83.5	81.0	84.3	83.7	80.9	83.5	82.0	-1.4
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	-1.9s
	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	+0.6
	23-26					96.6	95.9	96.6	97.0	97.2	98.1	97.9	97.9	97.7	98.4	97.7	-0.7
	27-30									98.1	96.5	98.6	97.8	96.8	97.7	99.0	+1.2
Try 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	-2.2s
	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	+0.4
	23-26					83.9	84.5	84.4	89.8	90.7	89.4	88.8	87.9	88.8	88.5	88.0	-0.5
	27-30									90.5	88.3	88.4	88.8	86.6	88.9	87.6	-1.3
Take 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	-0.9
	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	+0.5
	23-26					98.4	98.5	97.7	98.6	98.3	98.3	98.5	98.5	98.6	98.5	98.5	0.0
	27-30									98.4	97.1	99.1	98.5	97.7	98.4	99.1	+0.6
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	-1.7
	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	+1.5
	23-26					17.4	16.1	13.2	17.7	13.7	17.5	18.6	19.5	17.4	18.1	17.6	-0.5
	27-30									19.5	19.1	18.7	18.8	17.9	19.5	18.6	-0.9
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	-4.7ss
	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	+3.1
	23-26					71.4	73.7	71.6	72.7	74.6	74.4	77.6	76.9	75.5	74.2	73.3	-1.0
	27-30									76.0	73.9	73.3	76.1	69.5	73.5	72.4	-1.1
Take four or five drinks nearly every day	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	-0.8
	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	+1.1
	23-26					96.2	95.0	95.5	96.9	94.3	95.9	96.9	96.1	95.7	95.7	95.7	0.0
	27-30									97.4	94.6	96.1	95.3	94.8	94.8	96.4	-1.6
Have five or more drinks once or twice each weekend	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	-5.0ss
	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	+4.6
	23-26					66.2	68.3	66.5	67.5	65.2	63.2	66.9	64.6	69.6	66.8	66.9	0.0
	27-30									73.9	71.4	73.1	72.1	68.4	73.4	73.5	+0.1
Smoke one or more packs of cigarettes per day	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	-0.8
	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	+2.5
	23-26					69.9	68.7	67.5	69.7	66.4	71.1	71.5	77.2	73.6	72.9	70.3	-2.6
	27-30									72.8	69.4	73.5	71.2	70.7	73.8	72.3	+1.5
Approximate Weighted N=	*18*	*3261*	*3610*	*3651*	*3341*	*3254*	*3265*	*3113*	*3302*	*3311*	*2799*	*2566*	*2547*	*2645*	*2723*	*2588*	
	19-22	*588*	*573*	*605*	*579*	*586*	*551*	*605*	*587*	*560*	*567*	*569*	*533*	*530*	*489*	*474*	
	23-26					*542*	*535*	*560*	*532*	*538*	*516*	*524*	*495*	*538*	*514*	*475*	
	27-30									*526*	*509*	*513*	*485*	*512*	*462*	*442*	

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.

- Prior to 1991, the largest upward shift occurred for ***marijuana***; the proportion of 19 to 22 year olds disapproving even experimentation with marijuana rose from 38% in 1980 to 60% in 1990. (It is 64% in 1994.) Although data are available for a shorter period for the 23 to 26 year olds, this group also increased in disapproval of experimenting with marijuana–from 41% in 1984 to 59% in 1991. Since 1991 their disapproval rates declined, however, to 52% in 1994.

- Between 1990 and 1994, there has appeared to be some decline in disapproval of ***LSD*** use, with the least decline occurring in the oldest age band (27-30 year olds).

- Most of the 1994 disapproval statistics for ***heroin*** use, at any of the three levels of use, are at about the same (very high) levels they were in 1990.

- Among the 19 to 22 year olds disapproval of regular ***cocaine*** use rose gradually from about 92% in 1982 to 99% in 1990, where it has remained since. All three young adult age bands are now near the ceiling of 100%. Young adults 19 to 22, like seniors, showed a sizeable increase in their disapproval of ***experimental use of cocaine***, with the proportion disapproving rising from 70% in 1982 to 94% in 1994; most of the increase occurred since 1986. Disapproval also rose among 23 to 26 year olds–from 70% in 1984 (when data were first available) to 89% in 1994. There has been very little change since 1990, however.

- There had been significant increases in disapproval of experimental use of ***amphetamines*** and ***barbiturates***. Trying amphetamines once or twice was disapproved by 73%-74% of 19 to 26 year olds in 1984, compared to 84% by 1990, and the corresponding figures for trying barbiturates were 84%-85% in 1984 compared to 89%-91% in 1990. There has been little systematic change in these attitudes since then; disapproval of amphetamine use remains quite high and disapproval of barbiturate use remains very high among young adults.

- The story for ***alcohol*** has become quite complicated. Between 1980 and 1992, an increasing proportion of high school seniors favored total abstention, with the percent disapproving even drinking once or twice rising from 16% in 1980 to 33% in 1992. This figure has fallen back to 28% by 1994. Among 19 to 22 year olds there had been a modest increase between 1985 and 1989, with no discernible trend since then. For the two oldest age groups there has been little change in these attitudes. These differing trends may reflect the fact that the drinking age in all states has been raised to age 21; this would have the greatest effect on seniors, who may be incorporating the legal restrictions into their normative structure, and as they enter the second age band, bring 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.

Daily drinking (of one or two drinks) had become more disapproved in the three youngest age bands (seniors through 26 year olds) until about 1990, but disapproval has either leveled or declined since then.

Weekend ***binge drinking*** has shown a considerable increase in disapproval since the early 1980s for the three youngest age groups (who started out the most tolerant) and this continued through 1992. In 1993, there was a (non-significant) drop in their disapproval of binge drinking, but only the seniors showed a continuing decline in 1994.

- From 1984 through 1992 there was very little change in the proportions of high school seniors disapproving ***cigarette smoking*** at the rate of a pack or more per day (73% vs. 74% in 1992), but there has been some decline in disaproval since then. Among the young adults, disapproval rose only very slightly during the 1980s and has changed little in the last three or four years.

A FURTHER COMMENT: COHORT DIFFERENCES AND IMPLICATIONS FOR PREVENTION AND THEORY

It was noted above that the older age respondents are more likely than younger ones to see the use of ***crack, LSD, heroin,*** and ***barbiturates*** as dangerous, just the opposite of the situation with marijuana. We have offered the framework for a theory of drug epidemics in which direct learning (from personal use) and vicarious learning (from use by others in both the immediate and mass media environments) play an important role in changing these key attitudes.[8] To the extent that the current 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 was 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 which could prove dangerous. Methamphetamine was discouraged with the slogan "speed kills." There was a serious epidemic of heroin use in the early 1970s, and so on. The younger cohorts in our study were not exposed to these experiences, but the older cohorts were. 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 a cohort effect (younger cohorts seeing less danger) that was enough to offset the secular trend among seniors, who have shown little change in perceived risk since 1980.

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

This vicarious learning process has a very practical importance for the national strategy for preventing future epidemics. As future cohorts of youngsters 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 adverse reactions, the less opportunity they 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–say through school prevention programs and 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 all three grades in 1994, which suggests that this form of "generational forgetting"–in which replacement cohorts lose some of the knowledge held by their predecessors, and become more vulnerable to using drugs–already may be taking place.

Chapter 7

THE SOCIAL MILIEU FOR YOUNG ADULTS

In Volume I we examined the extent to which secondary school students are exposed to drug use of various kinds, their perceptions of the relevant norms in their peer groups, and the extent to which they perceive various drugs to be available to them. In this chapter the same issues are addressed 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.

PEER NORMS AS PERCEIVED BY YOUNG ADULTS

Table 14 gives the current status and trends in peer norms for the same three age bands discussed in Chapter 5: namely, 19 to 22 year olds, 23 to 26 year olds, and 27 to 30 year olds. For these three age bands, trend data are available since 1980, 1984, and 1988, respectively. Table 14 also includes comparable data from seniors.

The questions about how their close friends feel use the same answer scale (stated in terms of degree of disapproval of the use of the various drugs at different levels of use) as do the questions which ask about the respondent's 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; i.e., the proportion saying that they personally disapprove of a drug-using behavior tends to approximate the proportion saying that their close friends would disapprove of that same behavior. The major exceptions are ***marijuana***, where friends' attitudes have consistently been reported as more disapproving than their own attitudes, and ***binge drinking***, where friends' attitudes have consistently been seen as less disapproving than their own attitudes.

Current Perceptions of Friends' Attitudes

- The peer norms reported by young adults one to twelve years past high school are similar to those reported by high school seniors. That is, for each of the ***illicit drugs other than marijuana*** the great majority think that their close friends would disapprove of their even trying such drugs once or twice (86% for ***amphetamines***, 89% for ***LSD*** and 90% for ***cocaine***).

- Nearly two-thirds of the young adults (about 64%) now think their friends would disapprove of their even trying ***marijuana***, while almost three-fourths think they would disapprove of occasional use and about 88% think they would disapprove of regular use.

TABLE 14

Trends in Proportions of Friends Disapproving of Drug Use
Young Adults in Modal Age Groups of 18, 19-22, 23-26, and 27-30

(Entries are Percentages)[a]

Q. How do you think your close friends feel (or would feel) about you...	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	'93-'94 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	-3.9s
	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	+0.3
	23-26					47.7	47.0	49.1	53.9	58.2	62.6	61.3	64.5	65.6	65.5	63.2	-2.3
	27-30									58.6	58.7	61.4	64.6	63.5	64.4	66.3	+1.9
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	-4.7ss
	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	-0.1
	23-26					54.3	56.4	57.1	63.1	68.1	73.2	71.8	72.5	75.3	73.5	72.2	-1.3
	27-30									67.8	69.4	71.9	73.7	76.0	75.1	76.4	+1.3
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	-2.9s
	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	-1.7
	23-26					77.8	78.4	80.9	82.0	85.8	89.2	88.1	87.9	90.3	89.1	88.8	-0.3
	27-30									85.4	86.0	88.4	89.2	88.7	88.2	88.9	+0.7
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	-0.1
	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	+0.2
	23-26					87.4	90.8	88.6	89.8	88.9	91.0	90.1	92.4	88.9	87.7	86.3	-1.4
	27-30									88.8	89.7	92.3	91.1	91.4	89.9	91.2	+1.3
Trying cocaine once or twice	18							79.6	83.9	88.1	88.9	90.5	91.8	92.2	91.1	91.4	+0.3
	19-22							76.4	NA	84.8	87.7	89.2	92.3	91.9	92.4	94.7	+2.3
	23-26							70.8	NA	81.4	84.5	84.1	86.7	87.4	87.7	87.9	+0.2
	27-30									81.8	81.1	83.7	83.5	84.4	86.1	87.8	+1.7
Taking cocaine occasionally	18							87.3	89.7	92.1	92.1	94.2	94.7	94.4	93.7	93.9	+0.2
	19-22							84.9	NA	91.0	93.8	94.2	95.6	95.9	95.6	97.5	+1.9
	23-26							81.7	NA	88.2	91.5	92.4	94.1	93.8	93.5	94.3	+0.8
	27-30									87.7	89.5	90.0	92.2	92.3	92.8	94.6	+1.8
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	+1.3
	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	+2.2
	23-26					78.4	79.1	76.7	81.7	83.0	85.6	84.3	85.0	83.6	84.2	84.7	+0.5
	27-30									82.7	84.1	84.9	84.6	84.7	84.1	85.9	+1.8
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	-1.0
	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	+1.7
	23-26					63.6	66.8	67.7	68.3	69.2	70.8	72.7	72.5	72.1	67.6	71.5	+3.9
	27-30									71.0	68.0	70.4	71.9	68.8	73.2	70.9	-2.3
Taking four or five drinks nearly every day	18	87.9	86.4	86.6	86.0	86.1	88.2	87.4	85.6	87.1	87.2	88.2	86.4	87.4	87.2	85.2	-2.0
	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	+0.5
	23-26					90.8	90.2	92.5	92.8	93.7	92.1	92.1	92.4	91.1	93.1	92.1	-1.1
	27-30									92.8	92.0	92.9	92.7	92.7	93.9	94.0	+0.2
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	+0.6
	19-22	53.5	51.7	51.7	53.3	50.8	53.3	47.0	49.4	50.5	56.8	53.1	51.4	53.6	51.9	54.4	+2.5
	23-26					53.8	57.3	61.0	57.2	58.8	57.5	55.1	56.8	58.4	57.6	61.4	+3.8
	27-30									61.9	65.1	66.3	68.2	66.2	66.7	63.7	-3.1
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	+0.6
	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	-2.2
	23-26					73.9	77.3	80.3	80.5	79.5	80.5	78.5	83.3	82.3	77.4	80.1	+2.6
	27-30									81.2	80.9	82.9	84.5	83.1	86.8	82.5	-4.3
Approximate Weighted N=	*18*	*2766*	*3120*	*3024*	*2722*	*2721*	*2688*	*2639*	*2815*	*2778*	*2400*	*2184*	*2160*	*2229*	*2220*	*2149*	
	19-22	*569*	*597*	*580*	*577*	*582*	*556*	*577*	*595*	*584*	*555*	*559*	*537*	*520*	*510*	*470*	
	23-26					*510*	*548*	*549*	*540*	*510*	*513*	*516*	*516*	*507*	*481*	*463*	
	27-30									*483*	*518*	*479*	*480*	*451*	*451*	*457*	

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.

- Almost three-quarters (72%) of young adults say their friends would disapprove if they were ***daily drinkers***, and over 9 out of 10 (92%) if they were ***heavy daily drinkers***.

- Friends' disapproval of ***heavy weekend drinking*** is distinctly lower. Only 54% to 64% of any age group thinks their friends would disapprove of their having five or more drinks once or twice each weekend. The lowest level of perceived friends' disapproval is among the 19-22 year olds, who exhibit the highest rate of such drinking.

- Peer disapproval of ***cigarette smoking*** is reasonably high in all four age bands: 72% of seniors say their friends would disapprove of pack-a-day smoking, 74% of the 19 to 22 year olds, 80% of the 23 to 26 year olds, and 83% of the 27 to 30 year olds say so. Clearly anti-smoking attitudes are weakest among younger people; the differences cannot be explained by differences in actual smoking rates since the older cohorts have the highest smoking rates, and also had the highest rates as seniors.

Trends in Peer Norms for Young Adults

- Important changes in the social acceptability of drug using behaviors among young adults' peers have occurred over the life of this study. Since 1980, peer disapproval of ***marijuana*** use has grown 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 1980 to 65% in 1992. That figure has not changed significantly since then (64% in 1994).

- There has been a more gradual increase in peer disapproval levels for ***amphetamine*** use.

- ***LSD*** has generally shown little change. Disapproval among the 18 year olds and the 19 to 26 year olds has edged downward in the past few years–in particular since 1992.

- Perceived peer norms regarding ***cocaine*** use were first measured in 1986. During the next five years self-reported cocaine use declined substantially and peer norms shifted considerably toward disapproval. In 1994, 95% of the 19 to 22 year olds thought their friends would disapprove of their even trying cocaine (vs. 76% in 1986), and 98% thought their friends would disapprove of occasional use (vs. 85% in 1986). In the two older age bands, shifts have occurred in the same direction, but peer disapproval of experimenting with cocaine still remains negatively associated with age among the young adults.

- While peer norms regarding ***alcohol*** use have become somewhat more restrictive among seniors, there has been rather little change among the young adults.

- Peer norms regarding ***cigarette smoking*** 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 change through 1994 when friends' disapproval stood at 72%. There was little change for some years among the older groups. Between 1985 and 1992, peer disapproval among 19 to 22 year olds has hovered around 80%, before dropping to 74% in 1994. Among 23 to 26 year olds it increased a bit from 77% to 82% in 1992, but dropped to 80% in 1994. Despite recent publicity about changing norms and new laws restricting smoking, there was little change in rates of perceived peer disapproval of cigarette smoking for some years, particularly among those of high school and college ages; now rates of disapproval show evidence of a decline. There may have been a modest increase in perceived peer disapproval in the oldest age stratum, however.

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 what proportion of his or her close friends use each drug, while the second asks how often the respondent has been around people using each of a list of drugs "to get high or for kicks." The same questions are asked of high school seniors and the results have been included in Tables 15 and 16 for comparison purposes. We continue to deal with four-year age bands to increase the reliability of the change scores. At the end of each table is a summary of the numbers of cases upon which each annual estimate is based.

Exposure to Drug Use among Young Adults

- Relatively high proportions of young adults have at least some friends who use ***some illicit drugs*** (Table 15). In 1994, the proportion is highest for high school seniors (78%), falls to 72% among 19 to 22 year olds, 67% for the 23 to 26 year olds, and 57% for the 27 to 30 year olds. About 15% of the 19 to 22 year olds, and between 6% and 9% of the two older groups, say that *most or all* of their friends use some illicit drug. High school seniors have the highest proportion at 20%.

- With regard to ***illicit drugs other than marijuana***, taken as a whole, considerably fewer report any of their friends so involved: 54% for seniors, 46% for 19 to 22 year olds, 39% for 23 to 26 year olds, and 34% for 27 to 30 year olds. Note again the descending rates with increasing age after high school. High school seniors also have the highest proportion saying that most or all of their friends use (7% vs. 2-4% among the young adult strata).

TABLE 15

Trends in Proportions of Friends Using Drugs
Young Adults in Modal Age Groups of 18, 19-22, 23-26, and 27-30

(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	'93-'94 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	+7.3sss
	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	-0.2
	23-26					83.6	82.7	80.3	80.9	74.4	73.8	65.8	63.0	67.3	64.6	66.7	-2.1
	27-30									74.8	72.9	69.6	67.1	61.5	60.2	57.1	-3.2
% 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	+4.8ss
	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	+4.5s
	23-26					19.6	15.4	16.2	11.7	9.5	9.7	9.5	7.4	6.2	6.4	8.7	+2.2
	27-30									8.6	6.4	5.9	2.9	5.8	5.0	5.6	+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	+5.0ss
	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	-5.1
	23-26					63.7	64.0	59.0	61.1	55.1	54.2	47.8	41.8	46.1	42.3	39.4	-2.9
	27-30									55.9	55.0	49.7	47.2	37.7	38.5	33.9	-4.6
% 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	0.0
	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	+0.4
	23-26					10.6	6.6	8.6	5.2	3.9	4.2	3.4	1.6	1.8	2.8	2.5	-0.3
	27-30									4.6	3.0	2.8	1.0	1.4	1.5	1.5	+0.1
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	+8.2sss
	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	-0.2
	23-26					82.0	80.8	77.7	79.4	71.6	69.8	61.8	59.6	61.3	61.2	62.6	+1.3
	27-30									71.8	68.2	65.1	62.6	58.0	57.4	52.3	-5.1
% 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	+5.0sss
	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	+4.5s
	23-26					17.0	14.3	13.7	10.4	7.8	8.6	8.3	6.9	5.6	5.6	7.5	+1.9
	27-30									6.8	4.4	4.0	2.8	5.1	5.2	5.0	-0.2
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	+2.8
	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	+0.2
	23-26					7.7	6.7	7.2	6.1	6.2	5.9	6.1	4.4	5.1	6.3	7.0	+0.7
	27-30									4.6	3.5	2.9	2.5	3.3	2.9	3.5	+0.6
% 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	+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	0.0
	23-26					0.6	0.2	0.6	0.1	0.2	0.4	0.4	0.1	0.0	0.1	0.2	+0.1
	27-30									0.3	0.0	0.2	0.2	0.0	0.2	0.0	-0.2
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	-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
	23-26					10.8	7.8	8.0	7.9	5.2	NA	NA	NA	NA	NA	NA	NA
	27-30									6.6	NA	NA	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	+0.1
	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
	23-26					0.8	0.3	0.4	0.3	0.1	NA	NA	NA	NA	NA	NA	NA
	27-30									0.5	NA	NA	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	+2.8
	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	-5.0
	23-26					21.5	17.2	15.4	15.9	13.3	14.1	12.3	12.5	15.0	17.2	17.3	+0.2
	27-30									10.4	7.7	9.1	8.6	10.9	8.7	8.1	-0.6
% 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	+0.4
	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	+0.4
	23-26					0.8	0.5	1.0	0.2	0.6	0.5	0.6	0.2	0.4	0.7	1.1	+0.5
	27-30									0.3	0.2	0.3	0.3	0.0	0.3	0.4	-0.1

(Table continued on next page)

TABLE 15 (cont.)

Trends in Proportions of Friends Using Drugs

Young Adults in Modal Age Groups of 18, 19-22, 23-26, and 27-30

(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	'93-'94 change
Take other psychedelics																	
% 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	+2.1
	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	-1.2
	23-26					20.0	16.7	13.2	13.2	11.7	9.6	8.7	8.5	9.8	9.4	10.3	+0.9
	27-30									10.6	7.4	7.1	6.8	7.9	7.1	6.6	-0.4
% 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	+0.5
	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	+0.7
	23-26					0.8	0.3	0.5	0.3	0.2	0.3	0.8	0.1	0.4	0.7	0.6	-0.1
	27-30									0.2	0.1	0.3	0.2	0.0	0.2	0.3	+0.1
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	-0.1
	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
	23-26					11.6	6.8	7.4	6.9	5.1	NA	NA	NA	NA	NA	NA	NA
	27-30									6.7	NA	NA	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	-0.7
	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
	23-26					0.6	0.0	0.4	0.0	0.2	NA	NA	NA	NA	NA	NA	NA
	27-30									0.4	NA	NA	NA	NA	NA	NA	NA
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	+1.6
	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	-2.8
	23-26					52.4	53.2	51.6	50.7	47.1	40.8	34.8	29.0	28.8	27.1	22.3	-4.8
	27-30									47.9	43.3	38.3	35.7	29.9	27.6	22.6	-5.0
% 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	-0.6
	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	+1.1
	23-26					9.1	5.3	7.0	4.1	3.1	2.7	2.1	0.6	0.9	0.8	1.0	+0.2
	27-30									3.8	2.0	2.3	0.9	1.2	0.8	0.8	0.0
Take crack																	
% saying any friends	18								27.4	25.4	26.1	19.2	17.6	17.8	17.9	20.0	+2.1
	19-22								23.8	21.8	20.6	14.6	14.3	11.8	13.6	13.8	+0.2
	23-26								26.4	22.4	19.8	14.4	10.8	10.8	8.8	8.8	0.0
	27-30									22.1	18.4	16.6	11.6	10.3	10.2	10.4	+0.3
% saying most or all	18								2.2	1.1	2.1	0.6	0.6	0.7	0.9	1.0	+0.1
	19-22								0.7	0.8	1.0	0.6	0.2	0.1	0.3	0.4	+0.1
	23-26								0.8	0.9	0.8	0.5	0.1	0.1	0.5	0.2	-0.2
	27-30									1.2	0.9	0.9	0.3	0.0	0.6	0.3	-0.3
Take MDMA ("ecstasy")																	
% saying any friends	18											12.4	11.9	10.7	12.8	15.9	+3.1s
	19-22										16.3	14.3	12.0	12.9	13.7	11.3	-2.4
	23-26										7.6	9.0	9.5	11.0	9.8	11.4	+1.6
	27-30										5.6	6.3	5.4	4.6	6.6	5.8	-0.7
% saying most or all	18											2.2	1.7	2.1	1.2	1.7	+0.5
	19-22										0.4	0.7	0.2	0.7	0.7	0.5	-0.2
	23-26										0.5	0.2	0.1	0.1	0.5	0.1	-0.5
	27-30										0.5	0.3	0.0	0.1	0.3	0.2	-0.1
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	+1.0
	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	+1.1
	23-26					6.1	4.4	4.3	6.5	3.6	5.2	4.2	3.6	3.8	4.5	4.9	+0.4
	27-30									3.8	2.8	4.5	2.7	3.1	3.6	4.2	+0.6
% 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	-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	+0.2
	23-26					0.4	0.2	0.2	0.0	0.2	0.4	0.2	0.3	0.4	0.1	0.2	+0.1
	27-30									0.2	0.1	0.2	0.2	0.0	0.2	0.3	+0.1

(Table continued on next page)

TABLE 15 (cont.)

Trends in Proportions of Friends Using Drugs
Young Adults in Modal Age Groups of 18, 19-22, 23-26, and 27-30

(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	'93-'94 change
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	+2.4
	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	-2.7
	23-26					16.0	14.9	14.0	13.0	10.6	10.8	10.5	8.5	8.4	8.7	8.0	-0.6
	27-30									12.1	8.6	9.1	9.3	7.5	8.2	8.0	-0.2
% 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	-0.2
	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	0.0
	23-26					0.4	0.3	0.7	0.0	0.3	0.2	0.2	0.0	0.0	0.0	0.3	+0.3
	27-30									0.3	0.0	0.2	0.2	0.1	0.2	0.2	0.0
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	+0.6
	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	-0.1
	23-26					45.6	40.1	33.5	32.1	28.4	23.1	20.6	17.1	15.1	16.8	16.2	-0.6
	27-30									26.1	21.6	19.3	17.0	15.3	14.0	13.1	-0.9
% 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	-0.2
	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	+0.9
	23-26					1.9	1.8	1.7	1.2	0.3	0.6	0.7	0.8	0.4	1.5	0.9	-0.6
	27-30									0.6	0.4	0.5	0.5	0.1	0.5	0.5	0.0
Take 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	+0.4
	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	-2.0
	23-26					22.2	18.7	16.3	14.1	11.2	10.4	8.9	8.3	8.7	8.2	7.6	-0.6
	27-30									12.0	8.5	8.8	7.1	6.6	6.7	7.4	+0.7
% 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	+0.1
	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	+0.2
	23-26					0.4	0.3	0.3	0.3	0.1	0.2	0.2	0.1	0.1	0.3	0.2	-0.1
	27-30									0.2	0.0	0.4	0.2	0.2	0.2	0.0	-0.2
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	0.0
	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	-2.2
	23-26					25.7	21.0	17.4	15.0	12.1	10.3	8.6	5.9	6.4	7.6	7.7	+0.1
	27-30									11.8	7.9	8.2	7.0	7.1	6.5	6.6	+0.1
% 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	0.0
	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	+0.1
	23-26					0.6	0.3	0.7	0.2	0.2	0.4	0.2	0.1	0.2	0.6	0.2	-0.4
	27-30									0.5	0.2	0.2	0.2	0.0	0.2	0.0	-0.2
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	+1.0
	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	-2.4
	23-26					29.3	26.3	22.3	20.8	15.5	13.1	14.8	12.1	12.5	11.0	13.4	+2.4
	27-30									20.1	16.6	16.9	14.9	12.0	12.5	13.9	+1.4
% 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	0.0
	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	+0.1
	23-26					0.4	0.3	0.5	0.0	0.3	0.4	0.2	0.3	0.1	0.4	0.2	-0.2
	27-30									0.5	0.3	0.4	0.2	0.1	0.2	0.4	+0.2
Take steroids																	
% saying any friends	18											25.9	24.7	21.5	19.0	18.1	-0.9
	19-22										23.4	21.5	22.2	19.7	20.7	16.8	-3.9
	23-26										15.3	15.0	12.3	14.5	11.1	10.5	-0.6
	27-30										9.9	10.5	7.5	8.0	8.0	8.0	+0.1
% saying most or all	18											1.8	1.0	1.7	0.9	1.2	+0.3
	19-22										0.2	0.6	0.0	0.1	0.4	0.2	-0.2
	23-26										0.4	0.0	0.0	0.2	0.1	0.1	0.0
	27-30										0.5	0.0	0.0	0.0	0.2	0.1	-0.1

(Table continued on next page)

TABLE 15 (cont.)

Trends in Proportions of Friends Using Drugs
Young Adults in Modal Age Groups of 18, 19-22, 23-26, and 27-30

(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	'93-'94 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	+1.2
	19-22	96.3	96.7	96.6	97.3	96.8	95.8	96.9	95.6	97.0	97.6	96.1	95.2	93.1	95.1	92.5	-2.6
	23-26					96.8	96.8	96.2	95.9	95.3	95.4	94.7	93.9	95.1	94.4	94.0	-0.4
	27-30									96.1	96.0	95.2	94.4	95.6	93.4	93.3	-0.1
% 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	+2.6
	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	+2.2
	23-26					73.2	74.4	69.5	74.9	68.9	69.8	67.1	69.3	68.8	68.7	70.7	+2.0
	27-30									66.7	67.8	62.0	62.7	63.3	61.3	63.2	+1.9
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	+2.2
	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	-1.5
	23-26					73.1	72.7	73.5	73.7	72.1	73.1	72.2	74.0	73.1	74.3	72.1	-2.2
	27-30									66.3	61.8	65.4	65.2	65.5	64.5	62.7	-1.7
% 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	+0.8
	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	-2.6
	23-26					11.4	11.6	12.5	11.9	12.8	12.0	13.9	11.6	14.6	13.2	15.2	+2.0
	27-30									5.2	6.3	6.7	6.6	5.9	6.7	6.4	-0.3
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	+3.3ss
	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	-0.6
	23-26					93.9	95.0	91.6	92.1	89.8	90.1	88.7	89.6	85.6	88.3	86.4	-1.8
	27-30									92.6	89.8	90.7	90.4	88.0	85.8	84.8	-1.0
% 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	+0.3
	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	-0.5
	23-26					25.6	22.7	19.7	18.5	16.5	20.5	16.9	18.1	16.0	15.5	16.6	+1.1
	27-30									15.8	14.2	11.6	12.9	11.9	14.3	10.9	-3.4
Approximate Weighted N =	*18*	*2987*	*3307*	*3303*	*3095*	*2945*	*2971*	*2798*	*2948*	*2961*	*2587*	*2361*	*2339*	*2373*	*2410*	*2337*	
	19-22	*576*	*592*	*564*	*579*	*543*	*554*	*579*	*572*	*562*	*579*	*556*	*526*	*510*	*468*	*435*	
	23-26					*527*	*534*	*546*	*528*	*528*	*506*	*510*	*507*	*516*	*495*	*449*	
	27-30									*516*	*507*	*499*	*476*	*478*	*461*	*419*	

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]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.

- With respect to individual drugs, exposure among young adults age 19-30 is greatest for ***marijuana***, with around two-thirds of 19-26 year olds reporting that some friends use, and over half of the 27-30 year olds doing so. The next highest exposures are for ***cocaine*** (22%-23%), ***LSD*** (24% among 19-22 year olds, declining to 8% among 27-30 year olds), and ***amphetamines*** (13%-21%).

- The proportions who have friends who use ***steroids*** (17%-8%), ***inhalants*** (14%-4%), ***hallucinogens other than LSD*** (14%-7%), ***crack cocaine*** (14%-10%), ***MDMA*** (***ecstasy,*** 11%-6%), ***tranquilizers*** (10%-14%, and ***barbiturates*** (10%-7%) all exceed 10% in at least one age group.

- For several substances, the proportion of young adults having any friends who use decreases with age, consistent with the age-related differences in self-reported use. The steepest declines occur with ***inhalants, steroids,*** and ***LSD***.

- ***Cocaine*** is the one illicit drug that shows a significant increase in active use with age. Consequently, there is no fall-off associated with age in having friends who use (22%-23% for all three young adult age groups).

- In general it appears that even some respondents who report that friends use illicit drugs are not directly exposed to use themselves, judging by the differences in proportions saying they have some friends who use (Table 15), and the proportions who say they have not been around people who were using during the prior year (Table 16).

- 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: 81% of the high school seniors, 80% of the 19 to 22 year olds, 72% of the 23 to 26 year olds, and 63% of the 27 to 30 year olds. The proportions who say *most or all* of their friends get drunk once a week differ substantially by age: 28% of the seniors, 26% of the 19 to 22 year olds, 15% of the 23 to 26 year olds, and 6% of the 27 to 30 year olds. 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 these four age groups: 90%, 94%, 90%, and 86%, respectively. (See Table 16.)

- In each of these four groups, nearly all (85%-88%) also have at least a few friends who ***smoke cigarettes***, with little difference by age. At the other end of the scale, about one-quarter of each of the younger two groups state that *most or all* of their friends smoke (25% of the seniors and 22% of the 19 to 22 year olds), while only 17% of the 23 to 26 year olds and 11% of the 27 to 30 year olds say the same. This reduction in

the segregation of smokers probably reflects the gradual dissolution of self-selected affiliation groups in high school and the formation of more heterogeneous work-based and neighborhood-based friendship networks after high school.

Trends in Exposure to Drug Use by Young Adults

Tables 15 and 16 also provide trend data on the proportions of friends using and in direct exposure to use. 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 high school seniors since 1980 also have been included in these tables for comparison purposes.

- An examination of Table 16 will show that exposure to illicit drug use gets progressively lower with advancing age for ***any illicit drug***, as well as for a number of specific drugs. Some of the largest declines in exposure to use with age occur for ***marijuana, inhalants, LSD, other hallucinogens,*** and ***steroids***. These differences replicate across different historical periods.

- Young adults' trends in exposure to use tend to parallel those observed for 12th graders. Between 1980 and 1992, that meant a decreasing number of respondents being exposed to ***any illicit drug use*** (Table 16), or reporting any such use in their own friendship circle (Table 15). In 1993 and 1994, however, some *divergence* in the trends emerged; 12th graders showed a significant increase in both friends' use and exposure to use (and in self-reported use), but the young adults generally did not.

- With regard to ***marijuana***, 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 9% said the same in 1993. That number is up significantly, to 13%, in 1994. Clearly the number of friendship groupings in which marijuana use is widespread has dropped dramatically over the long term, though high school seniors did show a significant increase in 1993 and 1994 on friends' use, exposure to use, and self-reported use, which the young adult strata did not.

- The proportion exposed to use of ***any illicit drugs other than marijuana***, by way of contrast, did not change much between 1980 and 1986, but between 1986 and 1991 there was a drop in such exposure in all four age groups. In all four age groups this appears to be due particularly to drops in exposure to the use of ***cocaine*** and ***amphetamines***, although there were decreases for ***barbiturates***, and ***tranquilizers*** as well. The levels have not changed a great deal since 1991 or 1992, however, except among 12th graders, whose exposure has increased.

TABLE 16

Trends in Exposure to Drug Use
Young Adults in Modal Age Groups of 18, 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	'93-'94 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	+4.7ss
	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	+2.2
	23-26					68.9	70.2	68.0	62.4	62.7	58.3	54.6	52.1	48.2	49.9	47.1	-2.8
	27-30									52.4	50.2	47.0	39.6	41.7	38.9	45.6	+6.7s
% 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	+5.3sss
	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	+2.0
	23-26					20.7	23.3	18.5	17.4	18.2	13.8	13.7	13.3	12.2	11.1	11.1	-0.1
	27-30									13.7	12.0	10.8	8.2	10.5	9.0	12.5	+3.5
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	+2.7
	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	+4.4
	23-26					51.5	51.9	51.5	43.6	42.9	36.8	34.0	30.0	27.3	27.8	24.9	-2.9
	27-30									35.8	33.7	31.5	25.8	26.6	24.2	25.8	+1.6
% 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	-0.2
	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	+1.0
	23-26					9.0	10.4	9.3	8.5	6.7	5.0	5.1	3.5	2.6	3.0	2.2	-0.7
	27-30									6.0	4.7	4.1	3.2	3.7	2.4	3.4	+1.1
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	+6.2sss
	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	+1.3
	23-26					65.3	66.0	64.1	59.0	57.6	55.0	50.6	47.9	44.6	45.9	44.4	-1.5
	27-30									49.1	47.4	42.1	36.0	38.2	35.3	41.9	+6.6s
% 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	+6.7sss
	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	+2.3
	23-26					17.5	20.6	14.6	14.8	15.6	11.6	11.2	11.6	10.9	10.4	10.4	0.0
	27-30									10.9	9.8	8.5	6.7	8.9	7.6	10.7	+3.0
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	+3.2s
	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	+3.1
	23-26					8.3	9.3	8.8	7.3	6.3	6.7	8.4	8.6	8.8	7.8	8.4	+0.6
	27-30									3.6	3.2	3.3	3.6	3.9	4.9	5.3	+0.4
% 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	+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	-0.7
	23-26					0.3	0.4	0.4	0.7	0.6	0.3	0.5	0.2	0.8	0.3	0.5	+0.2
	27-30									0.3	0.2	0.5	0.2	0.2	0.5	0.5	0.0
Other Psychedelics																	
% 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	+1.9
	19-22	18.3	16.3	16.3	12.5	10.5	11.0	9.2	9.1	7.7	8.4	8.3	8.9	10.6	6.7	8.3	+1.6
	23-26					8.4	8.9	9.1	6.0	5.1	4.8	5.7	5.5	5.1	5.7	5.2	-0.5
	27-30									5.0	3.4	3.4	3.4	2.1	3.7	3.4	-0.3
% 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	+0.4
	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	-0.3
	23-26					0.1	0.3	0.5	0.6	0.8	0.1	0.4	0.4	0.0	0.2	0.4	+0.2
	27-30									0.2	0.4	0.5	0.3	0.1	0.5	0.2	-0.3
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	-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	+1.2
	23-26					38.5	40.6	42.0	34.5	35.9	28.0	24.0	19.9	16.7	14.6	14.3	-0.3
	27-30									28.9	28.3	24.2	18.6	19.4	16.6	14.3	-2.3
% 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	-0.4
	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	+0.2
	23-26					5.3	8.5	7.0	6.0	5.4	3.5	2.5	1.7	1.4	1.7	1.0	-0.6
	27-30									4.4	3.9	2.9	2.2	2.0	1.2	1.5	+0.3

(Table continued on next page)

TABLE 16 (cont.)

Trends in Exposure to Drug Use
Young Adults in Modal Age Groups of 18, 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	'93-'94 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	+1.6
	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	+1.8
	23-26					2.3	3.3	3.2	2.9	1.7	2.3	2.3	1.8	1.7	1.5	1.9	+0.4
	27-30									2.1	1.4	1.5	0.9	1.0	2.0	2.0	+0.1
% 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	-0.4
	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	+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	0.0
	27-30									0.3	0.3	0.5	0.2	0.2	0.9	0.3	-0.6
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	+2.5s
	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	+3.3
	23-26					9.0	12.3	9.2	9.7	7.4	8.0	5.9	8.3	7.0	4.6	6.9	+2.3
	27-30									6.5	6.5	5.8	5.5	3.7	5.6	5.9	+0.3
% 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	0.0
	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	+0.2
	23-26					0.4	0.5	1.3	0.8	0.8	0.5	1.6	0.7	0.1	0.3	0.1	-0.2
	27-30									0.7	0.5	1.0	0.3	0.8	1.2	0.8	-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	+3.5s
	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	+5.2s
	23-26					32.3	30.5	29.1	20.9	18.8	14.0	16.8	14.6	11.8	13.2	11.2	-1.9
	27-30									15.6	14.3	13.5	10.7	11.4	11.3	11.0	-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	+0.2
	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	+1.8
	23-26					3.9	3.2	2.2	3.3	1.9	0.7	2.0	1.3	0.2	0.8	0.9	+0.1
	27-30									2.0	2.0	1.2	0.8	0.8	1.3	0.7	-0.6
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	+1.1
	19-22	25.6	23.1	21.8	18.3	15.7	14.7	12.8	12.0	8.2	8.3	6.5	7.9	7.3	7.2	7.4	+0.1
	23-26					16.1	13.1	11.0	7.1	7.1	6.6	6.9	5.9	6.5	3.8	4.2	+0.4
	27-30									8.0	6.8	5.9	5.4	5.2	5.7	4.5	-1.2
% 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	+0.1
	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	+0.6
	23-26					0.7	0.9	1.7	0.8	0.6	0.3	1.1	0.3	0.3	0.0	0.0	0.0
	27-30									0.7	0.4	0.6	0.2	0.4	1.2	0.2	-1.0
Tranquilizers																	
% 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	+2.7s
	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	+2.0
	23-26					23.1	21.0	16.9	15.9	13.4	12.9	12.0	10.4	9.7	10.9	9.8	-1.1
	27-30									15.0	11.6	11.1	9.7	10.3	10.4	9.0	-1.3
% 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	+0.1
	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	+0.2
	23-26					2.0	1.6	2.6	1.8	1.2	0.8	0.5	1.0	0.6	0.7	0.1	-0.6
	27-30									1.4	0.3	1.7	0.8	1.3	1.3	1.0	-0.3
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	-1.8
	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	+0.8
	23-26					90.3	92.7	91.4	90.6	91.1	92.9	91.3	91.0	91.4	90.3	89.5	-0.8
	27-30									87.1	88.4	86.2	87.7	87.3	86.6	86.2	-0.4
% saying often exposed	18	60.2	61.0	59.3	60.2	58.7	59.5	58.0	58.7	56.4	55.5	56.1	54.5	53.1	51.9	54.0	+2.1
	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	+0.2
	23-26					52.1	54.8	51.4	53.0	48.1	50.9	49.7	48.4	45.4	45.4	43.3	-2.1
	27-30									39.9	39.5	38.7	38.0	39.9	38.1	39.3	+1.2
Approximate Weighted N =	*18*	*3259*	*3608*	*3645*	*3334*	*3238*	*3252*	*3078*	*3296*	*3300*	*2795*	*2556*	*2525*	*2630*	*2730*	*2581*	
	19-22	*582*	*574*	*601*	*569*	*578*	*549*	*591*	*582*	*556*	*567*	*567*	*532*	*528*	*489*	*460*	
	23-26					*533*	*532*	*557*	*529*	*531*	*514*	*523*	*494*	*532*	*513*	*471*	
	27-30									*522*	*507*	*506*	*478*	*502*	*457*	*425*	

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]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.

- Between 1977 and about 1992, there was a considerable drop in the proportion of all four age groups who say they have any friends who use ***crack***. (Self-reported use declined in the same period.) The rates have pretty much leveled since then.

- For all four age groups there were some modest declines between 1987 and 1992 in the proportion saying that most or all of their friends drink ***alcohol***, but little change in the proportion saying that most or all of their friends ***get drunk*** once a week. Both measures have shown slight increases between 1992 and 1994.

- Among high school seniors, the proportion who said most or all of their friends ***smoked cigarettes*** declined appreciably between 1975 and 1981, about when self-reported use declined, and leveled thereafter until 1993 and 1994, when there were significant increases in both measures. Among 19 to 22 year olds a decline in friends' use occurred between 1980 (or possibly earlier) and 1985, followed by a leveling; and among 23 to 26 year olds such a downturn was evident between at least 1984 (the first year for which data are available) and 1988. These staggered changes illustrate that the "cohort effects" are moving up the age spectrum along with the cohorts.

- Nearly all of these changes parallel changes in self-reported use by these four age groups, reinforcing our trust in the validity of the self-report data.

PERCEIVED AVAILABILITY OF DRUGS

Young adults participating in the follow-up survey receive identical questions to those asked of high school seniors about 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 four-year age bands, are presented in Table 17, along with the data for the 12th graders.

Perceived Availability for Young Adults

- As was true with the high school seniors, substantial proportions of the American young adult population have access to the various illicit drugs. (We do not even ask about access to alcohol and cigarettes, since we assume it to be universal.)

- ***Marijuana*** is the most available, with 80%-87% of the young adult age strata saying it would be "fairly easy" or "very easy" to get. About the same proportion of 12th graders (86%) have access.

TABLE 17

Trends in Reported Availability of Drugs
Young Adults in Modal Age Groups of 18, 19-22, 23-26, and 27-30

(Entries are Percentages)[8]

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	'93-'94 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	+2.5s
	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	+1.6
	23-26					92.5	88.8	88.8	90.3	86.9	88.7	83.3	82.5	83.8	84.6	87.1	+2.5
	27-30									89.3	86.0	83.1	83.8	80.7	82.8	80.3	-2.6
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	+0.8
	19-22	NA	NA	NA	NA	NA	NA	NA	22.8	26.0	NA	NA	NA	NA	NA	NA	NA
	23-26					NA	NA	NA	23.1	28.0	NA	NA	NA	NA	NA	NA	NA
	27-30									26.7	NA	NA	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	+1.6
	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	-1.2
	23-26					32.7	29.1	30.0	27.5	32.7	32.6	30.2	32.8	33.5	33.4	40.1	+6.7s
	27-30									29.4	29.9	32.3	27.0	30.9	30.5	27.2	-3.3
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	-0.3
	19-22	NA	NA	NA	NA	NA	NA	NA	21.7	24.6	NA	NA	NA	NA	NA	NA	NA
	23-26					NA	NA	NA	21.2	27.6	NA	NA	NA	NA	NA	NA	NA
	27-30									24.3	NA	NA	NA	NA	NA	NA	NA
MDMA	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.7	22.0	22.1	24.2	28.1	31.2	+3.1s
	19-22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.6	24.9	27.1	23.9	27.0	+3.2
	23-26					NA	NA	NA	NA	NA	NA	21.4	23.1	26.4	24.0	26.0	+2.0
	27-30									NA	NA	27.1	20.8	22.2	22.8	21.9	-0.9
Some psychedelic other than LSD	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	+0.3
	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	-0.9
	23-26					31.8	29.6	26.4	25.6	29.6	28.7	27.0	25.7	27.7	25.3	28.3	+3.0
	27-30									28.6	29.6	30.8	24.9	24.8	25.4	24.7	-0.8
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	-1.9
	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	+0.7
	23-26					63.7	67.2	65.8	69.0	71.7	70.0	65.6	58.0	61.1	53.8	54.4	+0.6
	27-30									68.6	68.2	64.0	60.0	63.1	56.8	53.1	-3.7
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	-3.1
	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	+3.2
	23-26					NA	NA	NA	44.5	53.0	49.9	46.9	42.0	42.6	42.5	42.4	-0.1
	27-30									46.5	46.8	46.8	43.1	45.2	45.8	41.1	-4.8
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	-1.7
	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	+2.1
	23-26					NA	NA	NA	64.9	69.1	60.1	58.6	53.2	56.4	50.5	49.7	-0.8
	27-30									63.5	62.8	57.9	55.8	56.8	55.0	48.9	-6.2
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	+0.4
	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	+3.2
	23-26					18.6	18.1	21.0	22.3	28.4	31.2	28.1	25.6	25.7	25.7	29.2	+3.5
	27-30									23.6	27.4	29.5	22.1	25.6	28.5	24.4	-4.1
Some other narcotic (including methadone)	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	+0.5
	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	+1.6
	23-26					32.8	32.1	33.6	32.2	35.9	36.4	34.7	33.2	33.9	33.1	35.8	+2.7
	27-30									31.6	36.2	36.1	29.0	31.8	33.0	34.8	+1.7

(Table continued on next page)

TABLE 17 (cont.)
Trends in Reported Availability of Drugs
Young Adults in Modal Age Groups of 18, 19-22, 23-26, and 27-30

(Entries are Percentages)[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	'93-'94 change
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	+0.5
	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	+0.6
	23-26					65.8	66.0	64.5	65.3	62.2	60.1	55.8	54.8	54.5	52.6	52.9	+0.3
	27-30									54.3	58.6	55.3	54.4	50.4	52.9	48.3	-4.6
"Ice"	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.0	24.3	26.0	26.6	25.6	-1.0
	19-22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.0	21.8	22.5	20.9	24.7	+3.8
	23-26					NA	NA	NA	NA	NA	NA	22.3	20.0	21.3	22.9	24.5	+1.6
	27-30									NA	NA	27.3	19.7	22.0	21.2	21.7	+0.5
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	-1.2
	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	-1.3
	23-26					52.7	47.7	46.4	45.9	47.4	44.8	41.6	39.6	42.0	38.8	40.3	+1.5
	27-30									43.2	44.5	44.2	38.5	37.8	39.7	37.4	-2.3
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	-1.9
	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	+0.2
	23-26					60.2	54.3	54.1	56.3	52.8	51.4	47.8	45.1	48.1	43.2	45.9	+2.6
	27-30									55.3	54.4	54.9	47.5	47.8	47.4	44.4	-2.9
Steroids	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	46.7	46.8	44.8	42.9	-1.9
	19-22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	44.1	44.8	46.3	41.7	40.9	-0.8
	23-26					NA	NA	NA	NA	NA	NA	37.6	35.8	39.3	35.8	37.0	+1.2
	27-30									NA	NA	36.4	30.6	35.0	31.6	30.5	-1.1
Approximate Weighted N=	*18*	*3240*	*3578*	*3602*	*3385*	*3269*	*3274*	*3077*	*3271*	*3231*	*2806*	*2549*	*2476*	*2586*	*2670*	2526	
	19-22	*582*	*601*	*582*	*588*	*559*	*571*	*592*	*581*	*568*	*572*	*571*	*534*	*512*	*480*	459	
	23-26					*540*	*541*	*548*	*539*	*526*	*514*	*532*	*511*	*523*	*500*	463	
	27-30									*519*	*513*	*510*	*487*	*475*	*473*	437	

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) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

- ***Stimulants*** (amphetamines) are the next most available (48%-57%), and they are even more available to 12th graders (62%); followed by ***powdered cocaine*** (48%-50%).

- ***Crack*** is available to somewhat smaller proportions than powdered cocaine–from 41%-42% for all four age strata.

- ***LSD*** shows a high degree of availability among high school seniors (51%), and 19-22, and 23-26 year olds (44% and 40%), but considerably less availability in the oldest stratum (27%).

- ***Hallucinogens other than LSD*** are reported as less available than LSD from 25%-29% in the three young adult strata and 34% among 12th graders. Again, availability descends with age and in this case recent increases have occurred only among 12th graders–not the 19-22 year olds.

- Two other classes of drugs which are reported as available by sizeable proportions of young adults, are ***barbiturates*** and ***tranquilizers***. Some 37%-41% say they could get barbiturates (compared with 43% of seniors), while 41%-46% say the could get tranquilizers (vs. 39% of seniors). While the availability of barbiturates declines a bit with age, the availability of tranquilizers seems to increase in the mid- to late-20s.

- Between a quarter and a third of young adults (24%-33%) say they could get ***heroin*** fairly easily (vs. 34% of 12th graders), and availability drops with increasing age.

- A third of young adults (35%-36%) say they can get ***other narcotics*** (vs. 38% of high school seniors).

- Even a drug as exotic as ***ice*** is reported to be available to over one-fifth of these age groups (22%-25%) and to more than a quarter of high school seniors (26%).

- ***Steroids*** show descending availability with increasing age, ranging from 43% among high school seniors down to 31% among 27-30 year olds.

Trends in Perceived Availability for Young Adults

- ***Marijuana*** has been almost universally available to all these age groups throughout the historical periods covered by the available data. There had been a slight decrease among high school seniors since the peak year of 1979, and a slightly larger decrease since 1980 among 19 to 22 year olds. However, availability has risen some in nearly all strata since 1992 or 1993. Perceived availability is roughly the same for

all four groups: 80% to 87% think it would be "fairly easy" or "very easy" to get marijuana.

- ***Cocaine*** availability had been moving up among all three age groups over the 1985 to 1987 intervals, reaching historic highs in 1987. (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 young adults, also.) It is noteworthy that perceived availability of cocaine increased in all three age bands then available in 1987–the same year that use actually dropped sharply. Between 1988 and 1989, the two younger age strata (aged 18, and 19 to 22) were still increasing, while the two older were beginning to decrease in the proportion who believed cocaine to be easily available. In 1990 and 1991, all four groups reported decreased availability–quite likely because the number who have friends who are users has dropped so substantially in the last few years–and then leveled in 1992, when usage rates also leveled. Perceived availability of cocaine dropped to between 49% and 57% for all four age groups in 1993, with the declines ranging from 4 to 7 percentage points. These declines were statistically significant among all but the 19-22 year olds. There were no statistically significant changes in 1994.

- ***Crack*** availability increased between 1987 and 1989, then declined a bit until leveling (or perhaps increasing slightly) in 1992. In 1993 and 1994 it remained level. Since 1987, when the question was first asked, between 40% and 50% of 18-30 year olds have reported that crack would be fairly easy for them to obtain.

- The trends in ***LSD*** availability among young adults have some parallels to those for 12th graders. Among 12th 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, is paralleled in the early data for 19 to 22 year olds. Between 1986 and 1992, availability increased among 12th graders and the 19 to 22 year olds–particularly in 1992 and 1993. In 1994, reported availability of LSD among 12th graders and 23-26 year olds reached the highest level since these questions were introduced. There is no clear trend, however, in the oldest age group since the late 1980s, which may be a function of the very low levels of use of LSD in this age group.

- In the early 1980s there was a fair decline among all age groups in the availability of ***hallucinogens other than LSD***; there was little change until 1993, when high school seniors reported a significant increase in availability, but the young adult strata did not. There were no significant changes in 1994.

- The availability of ***MDMA*** (ecstasy) rose significantly in 1994 among high school seniors. Among young adults there has been no systematic trending since the questions were first introduced in 1989 and 1990.

- ***Heroin*** availability varied within a fairly narrow range from 1980 to 1986, but then showed a fair increase among both high school seniors and the 19 to 26 year olds through 1990. Since then there has been little systematic change.

- The availability of ***opiates other than heroin*** slowly rose among all age groups between 1980 and 1989, followed by some decline among young adults, but not among 12th graders. Reported availability was up for all age groups in 1994, though not significantly.

- The reported availability of ***amphetamines*** peaked in 1982 for both 12th graders and 19 to 22 year olds, since then it has fallen by 9 percentage points among 12th graders and 17 percentage points among the 19 to 22 year olds. Since 1987 there has been a decline of 12 percentage points among the 23 to 26 year olds, as well. For the 27-30 year olds, reported availability is down by 6 percentage points since 1988, when data for them first became available.

- ***Barbiturates*** have also shown a decline in availability since about 1981 or 1982 in the two younger groups—by 12 percentage points among high school seniors and 21 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 12 percentage points. There also has been a decline for 27-30 year olds of about 7 percentage points since 1989.

- Finally, ***tranquilizer*** availability has been declining gradually among high school seniors from 72% in 1975 to 39% in 1994. From 1980, when data were first available for 19 to 22 year olds, through 1992, availability had been declining more sharply and from a higher level (from 67% to 41% in 1992) than among seniors, such that previous differences in availability between them have been eliminated since 1992. The older age groups have also shown an overall decline in the availability of tranquilizers.

- Data on ***steroid*** availability were first gathered in 1990, and there was little systematic change in any age group through 1992. In 1993, however, all showed a fair drop in availability, though no one of them reached statistical significance. The declines continued in 1994 for all except the 23-26 year old age group.

Chapter 8

PREVALENCE OF DRUG USE AMONG COLLEGE STUDENTS

The follow-up design of the Monitoring the Future project is capable of generating an excellent national sample of college students–better in many ways than the more typical design which first samples colleges and then samples students within them, because in the present sample the students are not clustered in a limited number of colleges. Given the greater diversity in post-secondary institutions than in high schools, the use of a clustered sample would place far greater limitations on sample accuracy at the college level than at the high school level. (Note that the absence of dropouts in the high school senior sample should have practically no effect on the college sample, since very few of the dropouts would 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 have decided to limit the age band to the most typical one for college attendance, i.e., one to four years past high school, which corresponds to the modal ages of 19 to 22 years old. According to statistics from the United States Bureau of the Census,[9] this age band should encompass about 76% of all undergraduate college students enrolled full-time in 1993, down slightly from the 79% covered in 1989. Although extending 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 earlier indicated that the differences in *prevalence* 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. 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 the possibility that the age composition of college students changes much with time. Otherwise, college students characterized in one year might represent a noncomparable segment of the 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 college at the beginning of March in the year in question. Thus, the definition encompasses only those who are one to four years past high school and are active full-time undergraduate college students

[9]U.S. Bureau of the Census. (Telephone communication, unpublished data: 1994).

in the year in question. It excludes those who previously may have been college students or may have completed college.

Prevalence rates for college students and their same-age peers are provided in Tables 18 to 22. Having statistics for both groups makes it possible to see whether college students are above or below their age peers in terms of their usage rates. The college-enrolled sample now constitutes half (50%) of the entire follow-up sample one to four years past high school. Note that any difference between the two groups likely would be enlarged if data from the missing high school dropout segment were available for inclusion as part of the noncollege segment; 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 populations, not an absolute estimate of them.

PREVALENCE OF DRUG USE: COLLEGE STUDENTS VS. THOSE NOT IN COLLEGE

For most drugs, use among college students now tends to be lower than among their age-peers, but the degree of difference varies considerably by drug as Tables 18 through 22 show.

- There is little difference between those enrolled in college vs. their fellow high school graduates who are one to four years past high school, in annual prevalence of an overall index of ***any illicit drug use*** (college students at 31%, others at 33%). However, college students are slightly lower in their annual prevalence of ***any illicit drug other than marijuana*** (12% vs. 16%). In fact, for most of the individual illicit drugs except ***marijuana*** or ***inhalants***, use among college students is lower than among their age peers.

- Annual ***marijuana*** use is the same among college students and their fellow high school graduates of the same age (29%). However, their rate of current ***daily marijuana use*** is lower, 1.8% vs. 4.0%.

- ***Cocaine*** shows the largest absolute difference in annual prevalence among the illicit drugs, 2.0% for college students vs. 5.1% for those not in college.

- The next largest absolute difference after cocaine occurs for ***stimulants***, with 4.2% of the college students vs. 6.6% of the others reporting use in the past year.

- ***Barbiturates*** were used by fewer college students (1.2% annual prevalence) than 19-22 year olds not in college full-time (3.2%) in 1994.

- Annual use of ***crack*** is also lower among college students than among their noncollege age peers, at 0.5% vs. 1.9%, respectively. It has the largest proportional difference between the two groups.

- In 1994, use of ***ice*** in the past year is about the same among college students (0.8%), and for those respondents not in college (0.9%).

- College students are slightly below their noncollege age peers in annual usage rates for ***LSD*** (5.2% vs. 6.7%), ***opiates other than heroin*** (2.4% vs. 3.3%), and ***tranquilizers*** (1.8% vs. 2.9%).

- ***Heroin*** also shows low levels of use, but as has been true in the past, the rate is very slightly higher among the noncollege group (0.2%) than among the college students (0.1%).

- Use of ***MDMA*** (ecstasy) among college students is lower than among their noncollege age peers: Annual prevalence is 0.5% vs. 1.2%.

- In 1994, college students and their age peers have equal prevalence rates for lifetime use of ***alcohol*** (88%). However, college students report slightly higher rates of annual use (83% vs. 80%), monthly use (68% vs. 62%), and daily use (3.6% vs. 3.2%). The most important difference lies in the prevalence of ***occasions of heavy drinking*** (five or more drinks in a row in the past two weeks), which is 40% among college students vs. 34% among their age peers. (As noted in the next section, this difference appears primarily because heavy drinking is relatively low among noncollege females.) In sum, college students participate in more of what is probably heavy weekend drinking.

- By far the largest absolute difference between college students and others their age occurs for ***cigarette smoking***. For example, their prevalence of daily smoking is only 13% vs. 29% for high school graduates the same age who are currently not full-time college students. Smoking at the rate of half-pack a day stands at 8% vs. 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.[10]

SEX DIFFERENCES IN PREVALENCE AMONG COLLEGE STUDENTS

Tabular data are provided separately for male and female college students, and their same age-peers, in Tables 18 to 22.

- Most of the sex differences among college students replicate those discussed earlier for all young adults one to fourteen years past high school, which in turn replicated sex differences among secondary school

[10]See also Bachman, J.G., O'Malley, P.M., and Johnston, L.D. (1984). Drug use among young adults: The impacts of role status and social environments. *Journal of Personality and Social Psychology, 47*, 629-645.

students for the most part. That means that among college students, males have higher annual prevalence rates for most of the illicit drugs. The absolute differences are highest for use of ***any illicit drug other than marijuana*** (15% vs. 10%), ***any illicit drug*** (34% vs. 30%), ***marijuana*** (32% vs. 28%), ***hallucinogens*** (8.3% vs. 4.8%), and ***LSD*** specifically (6.9% vs. 4.1%).

- As is true for the entire young adult sample, substantial sex differences are to be found for college students in ***daily marijuana use*** (3.3% for males vs. 0.8% for females).

- Annual prevalence rates for ***alcohol*** are only slightly higher for male than for female college students (85% vs. 81%), and somewhat higher for 30-day rates (75% vs. 62%). Males are much higher on ***daily drinking*** (5.6% vs. 2.1%), and ***occasional heavy drinking*** (52% vs. 31%).

  Male college students report having ***occasional heavy drinking*** more often (52%) than their male counterparts who are not in college (45%). This difference occurs also for females (31% and 25%, respectively).

- One substance-using behavior that reflects a sex difference among college students different from that observed in the sample of all young adults is ***cigarette smoking***. While the noncollege segment of this age group shows higher rates of smoking among males than among females (e.g., 25% of noncollege males smoke a half-pack or more per day compared to 19% of noncolege women), college women are as likely to be current smokers as college men. While college women are about as likely as college men to have smoked in the past month (23% vs. 24%), they report slightly higher rates of daily use (14% vs. 13%) or use of half-a-pack or more per day (8.3% vs. 7.5%).

TABLE 18

Lifetime[c] Prevalence for Various Types of Drugs, 1994: 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[e]	45.5	53.5	49.5	55.7	42.6	51.6
Any Illicit Drug[e] Other than Marijuana	22.0	31.9	24.6	33.4	20.1	30.6
Marijuana	42.2	49.8	46.7	53.7	38.9	46.4
Inhalants[d]	12.0	14.6	14.5	19.5	10.3	10.5
Hallucinogens	10.0	16.6	12.4	20.7	8.4	13.1
LSD	9.2	15.9	11.7	19.9	7.4	12.4
Cocaine	5.0	11.3	6.4	15.4	3.9	7.8
Crack	1.0	5.0	1.0	6.1	1.0	4.0
MDMA ("Ecstasy")[f]	2.1	3.7	2.6	4.2	1.8	3.3
Heroin	0.1	1.1	0.0	1.6	0.1	0.6
Other Opiates[a]	5.1	8.1	6.9	10.3	3.9	6.2
Stimulants, Adjusted[a,b]	9.2	16.1	10.0	16.1	8.7	16.2
"Ice"[f]	1.3	1.7	0.6	2.1	1.8	1.4
Barbiturates[a]	3.2	6.7	4.7	8.0	2.2	5.6
Tranquilizers[a]	4.4	7.9	5.1	8.6	3.9	7.2
Alcohol	88.1	88.2	90.0	87.5	86.8	88.8
Cigarettes	NA	NA	NA	NA	NA	NA
Approximate Weighted N =	*1410*	*1450*	*590*	*670*	*820*	*780*

NOTE: 'NA' indicates data not available.

[a]Only drug use which was not under a doctor's orders is included here.
[b]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[c]Data are uncorrected for cross-time inconsistencies in the answers.
[d]This drug was asked about in five of the six questionnaire forms. Total N in 1994 for college students is approximately 1175.
[e]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, or heroin, or any use of other opiates, stimulants, barbiturates, or tranquilizers not under a doctor's orders.
[f]This drug was asked about in two of the six questionnaire forms. Total N in 1994 for college students is approximately 470.

TABLE 19

Annual Prevalence for Various Types of Drugs, 1994: 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[d]	31.4	32.5	33.9	37.1	29.5	28.6
Any Illicit Drug[d] Other than Marijuana	12.2	16.4	14.9	19.7	10.2	13.5
Marijuana	29.3	29.2	31.6	34.9	27.7	24.4
Inhalants[c]	3.0	3.2	3.5	4.8	2.7	1.8
Hallucinogens	6.2	7.2	8.3	10.4	4.8	4.4
LSD	5.2	6.7	6.9	9.5	4.1	4.3
Cocaine	2.0	5.1	2.7	8.1	1.5	2.5
Crack	0.5	1.9	0.6	3.0	0.3	1.0
MDMA ("Ecstasy")[e]	0.5	1.2	0.9	1.9	0.1	0.8
Heroin	0.1	0.2	0.0	0.3	0.1	0.1
Other Opiates[a]	2.4	3.3	3.2	4.1	1.9	2.5
Stimulants, Adjusted[a,b]	4.2	6.6	4.8	7.1	3.8	6.2
"Ice"[e]	0.8	0.9	0.4	1.0	1.2	0.8
Barbiturates[a]	1.2	3.2	1.7	3.6	0.8	2.9
Tranquilizers[a]	1.8	2.9	2.3	3.3	1.4	2.6
Alcohol	82.7	79.5	85.3	79.9	80.8	79.2
Cigarettes	37.6	47.1	39.3	49.9	36.4	44.7
Approximate Weighted N =	*1410*	*1450*	*590*	*670*	*820*	*780*

NOTE: 'NA' indicates data not available.

[a]Only drug use which was not under a doctor's orders is included here.
[b]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[c]This drug was asked about in five of the six questionnaire forms. Total N in 1994 for college students is approximately 1175.
[d]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, or heroin, or any use of other opiates, stimulants, barbiturates, or tranquilizers not under a doctor's orders.
[e]This drug was asked about in two of the six questionnaire forms. Total N in 1994 for college students is approximately 470.

TABLE 20

Thirty-Day Prevalence for Various Types of Drugs, 1994: 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[d]	16.0	18.3	20.5	22.6	12.7	14.6
Any Illicit Drug[d] Other than Marijuana	4.6	7.6	6.2	9.6	3.4	5.8
Marijuana	15.1	16.6	19.5	21.6	11.9	12.2
Inhalants[c]	0.6	0.8	0.7	1.3	0.6	0.4
Hallucinogens	2.1	2.4	2.9	4.1	1.4	1.0
LSD	1.8	1.9	2.3	3.2	1.4	0.8
Cocaine	0.6	1.5	0.9	2.5	0.3	0.6
Crack	0.1	0.2	0.2	0.5	0.0	0.0
MDMA ("Ecstasy")[e]	0.2	0.2	0.5	0.0	0.0	0.4
Heroin	0.0	0.1	0.0	0.2	0.0	0.1
Other Opiates[a]	0.4	1.0	0.5	1.1	0.3	1.0
Stimulants, Adjusted[a,b]	1.5	2.5	1.7	2.5	1.3	2.6
"Ice"[e]	0.5	0.3	0.2	0.4	0.8	0.2
Barbiturates[a]	0.4	1.0	0.9	0.9	0.1	1.1
Tranquilizers[a]	0.4	0.9	0.8	0.9	0.2	0.8
Alcohol	67.5	61.7	75.2	68.4	61.8	55.8
Cigarettes	23.5	36.3	23.9	38.7	23.2	34.1
Approximate Weighted N =	*1410*	*1450*	*590*	*670*	*820*	*780*

NOTE: `NA` indicates data not available.

[a]Only drug use which was not under a doctor's orders is included here.
[b]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[c]This drug was asked about in five of the six questionnaire forms. Total N in 1994 for college students is approximately 1175.
[d]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, or heroin, or any use of other opiates, stimulants, barbiturates, or tranquilizers not under a doctor's orders.
[e]This drug was asked about in two of the six questionnaire forms. Total N in 1994 for college students is approximately 470.

TABLE 21

Thirty-Day Prevalence of Daily Use for Various Types of Drugs, 1994: 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	1.8	4.0	3.3	6.7	0.8	1.7
Cocaine	0.1	0.0	0.2	0.0	0.0	0.0
Stimulants. Adjusted[a,b]	0.1	0.1	0.2	0.1	0.1	*
Alcohol						
Daily	3.6	3.2	5.6	4.9	2.1	1.6
5+ drinks in a row in past 2 weeks	40.0	34.4	52.2	44.7	31.3	25.2
Cigarettes						
Daily (any)	13.2	29.4	12.5	32.4	13.7	26.7
Half-pack or more per day	8.0	22.2	7.5	25.6	8.3	19.2
Approximate Weighted N =	*1410*	*1450*	*590*	*670*	*820*	*780*

NOTE: 'NA' indicates data not available. '*' indicates a prevalence rate 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]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

TABLE 22

Lifetime, Annual, and Thirty-Day Prevalence of an Illicit Drug Use Index[a], 1994: 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
	Percent Reporting Use in Lifetime[b]					
Any Illicit Drug	45.5	53.5	49.5	55.7	42.6	51.6
Any Illicit Drug Other than Marijuana	22.0	31.9	24.6	33.4	20.1	30.6
	Percent Reporting Use in Last Twelve Months					
Any Illicit Drug	31.4	32.5	33.9	37.1	29.5	28.6
Any Illicit Drug Other than Marijuana	12.2	16.4	14.9	19.7	10.2	13.5
	Percent Reporting Use in Last Thirty Days					
Any Illicit Drug	16.0	18.3	20.5	22.6	12.7	14.6
Any Illicit Drug Other than Marijuana	4.6	7.6	6.2	9.6	3.4	5.8
Approximate Weighted N=	*1410*	*1450*	*590*	*670*	*820*	*780*

NOTE: 'NA' indicates data not available.

[a]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, or heroin, or any use of other opiates, stimulants, sedatives or tranquilizers not under a doctor's orders.

[b]Data are uncorrected for cross-time inconsistencies in the answers.

Chapter 9

TRENDS IN DRUG USE AMONG COLLEGE STUDENTS

Since the drug-using behaviors of American college students in the late 1960s and early 1970s represented the beginning of what was to become a very broad epidemic of illicit drug use in the American population, it is important to note what has happened to those behaviors among college students in more recent years.

In this section we continue to use the same definition of college students: 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 35 through 48.) Because the rate of college enrollment declines steadily with number of years beyond high school, the comparison group is slightly older on the average than the college-enrolled group. However, this should influence the comparisons of the college-enrolled with the other group rather little, since age effects in this age range are rather small.

It should also be remembered that the difference between the enrolled and other group shows 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 "other" calculation, any differences with the college-enrolled likely would be accentuated.

For each year there are approximately 1,100-1,500 weighted respondents constituting the college student sample (see Table 27 for N's per year) and roughly 1,500-1,700 respondents constituting the "other" group one to four years past high school. Comparisons of the trends since 1980 in these two groups are given below. (It was not until 1980 that enough follow-up years had accrued to characterize young people one to four years past high school.)

TRENDS IN PREVALENCE 1980-1994: COLLEGE STUDENTS VS THOSE NOT IN COLLEGE

- The proportion of college students using ***any illicit drug*** in the twelve months prior to the survey (i.e., the annual prevalence rate) dropped between 1980 to 1984 (from 56% to 45%), leveled from 1984 to 1986, then declined again between 1986 and 1991 (from 45% to 29%). Since 1991 there has been some increase, though not statistically significant, to 31% annual prevalence. The rise among high school seniors has been sharper as Figure 35 illustrates (see also Table 24).

TABLE 23

Trends in Lifetime[e] Prevalence of Various Types of Drugs Among College Students 1-4 Years Beyond High School

(Entries are percentages)

	Percent who used in lifetime															
Approx. Wtd. N =	1980 *(1040)*	1981 *(1130)*	1982 *(1150)*	1983 *(1170)*	1984 *(1110)*	1985 *(1080)*	1986 *(1190)*	1987 *(1220)*	1988 *(1310)*	1989 *(1300)*	1990 *(1400)*	1991 *(1410)*	1992 *(1490)*	1993 *(1490)*	1994 *(1410)*	'93-'94 change
Any Illicit Drug[f]	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	-0.4
Any Illicit Drug[f] 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	-2.4
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	+0.2
Inhalants[b]	10.2	8.8	10.6	11.0	10.4	10.6	11.0	13.2	12.6	15.0	13.9	14.4	14.2	14.8	12.0	-2.8s
Hallucinogens	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	-1.8
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	-1.4
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	-1.4
Crack[c]	NA	NA	NA	NA	NA	NA	NA	3.3	3.4	2.4	1.4	1.5	1.7	1.3	1.0	-0.4
MDMA ("ecstasy")[g]	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.8	3.9	2.0	2.9	2.3	2.1	-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	-0.5s
Other Opiates[a]	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	-1.1
Stimulants[a]	29.5	29.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stimulants, Adjusted[a,d]	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	-0.9
Crystal meth. (ice)[h]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0	1.3	0.6	1.6	1.3	-0.4
Sedatives[a]	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
Barbiturates[a]	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	-0.3
Methaqualone[a]	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
Tranquilizers[a]	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	-1.9s
Alcohol[i]	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	88.1	-1.2
Cigarettes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

[b] This drug was asked about in four of the five questionnaire forms in 1980-89, and in five of the six questionnaire forms in 1990-1994. Total N in 1994 (for college students) is 1175.

[c] This drug was asked about in two of the five questionnaire forms in 1987-89, and in all six questionnaire forms in 1990-1994.

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

[e] Data are uncorrected for cross-time inconsistencies in the answers.

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

[g] This drug was asked about in two of the five questionnaire forms in 1989, and in two of the six questionnaire forms in 1990-1994. Total N in 1994 (for college students) is 470.

[h] This drug was asked about in two of the six questionnaire forms. Total N in 1994 (for college students) is 470.

[i] 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 are used in order to provide the most reliable estimate of change.

TABLE 24

Trends in Annual Prevalence of Various Types of Drugs Among College Students 1-4 Years Beyond High School

(Entries are percentages)

	Percent who used in last twelve months															
Approx. Wtd. N =	1980 *(1040)*	1981 *(1130)*	1982 *(1150)*	1983 *(1170)*	1984 *(1110)*	1985 *(1080)*	1986 *(1190)*	1987 *(1220)*	1988 *(1310)*	1989 *(1300)*	1990 *(1400)*	1991 *(1410)*	1992 *(1490)*	1993 *(1490)*	1994 *(1410)*	'93-'94 change
Any Illicit Drug[c]	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	+0.7
Any Illicit Drug[e] 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	-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	+1.5
Inhalants[b]	3.0	2.5	2.5	2.8	2.4	3.1	3.9	3.7	4.1	3.7	3.9	3.5	3.1	3.8	3.0	-0.8
Hallucinogens	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	+0.2
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	+0.1
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	-0.7
Crack[c]	NA	NA	NA	NA	NA	NA	1.3	2.0	1.4	1.5	0.6	0.5	0.4	0.6	0.5	-0.2
MDMA ("ecstasy")[f]	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.3	2.3	0.9	2.0	0.8	0.5	-0.3
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	0.0
Other Opiates[a]	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	-0.1
Stimulants[a]	22.4	22.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stimulants, Adjusted[a,d]	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	0.0
Crystal meth. (ice)[g]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1	0.1	0.2	0.7	0.8	+0.1
Sedatives[a]	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
Barbiturates[a]	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	-0.3
Methaqualone[a]	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
Tranquilizers[a]	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	-0.6
Alcohol[h]	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	-2.4
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	-1.1

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%. 'NA' indicates data not available.

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

[b]This drug was asked about in four of the five questionnaire forms in 1980-89, and in five of the six questionnaire forms in 1990-1994. Total N in 1994 (for college students) is 1175.

[c]This drug was asked about in one of the five questionnaire forms in 1986, two of the five questionnaire forms in 1987-89, and in all six questionnaire forms in 1990-1994.

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

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

[f]This drug was asked about in two of the five questionnaire forms in 1989, and in two of the six questionnaire forms in 1990-1994. Total N in 1994 (for college students) is 470.

[g]This drug was asked about in two of the six questionnaire forms. Total N in 1994 (for college students) is 470.

[h]In 1993 and 1994, the question text was changed slightly in three of the 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 are used in order to provide the most reliable estimate of change.

TABLE 25

Trends in Thirty-Day Prevalence of Various Types of Drugs Among College Students 1-4 Years Beyond High School

(Entries are percentages)

	Percent who used in last thirty days															
Approx. Wtd. N =	1980 *(1040)*	1981 *(1130)*	1982 *(1150)*	1983 *(1170)*	1984 *(1110)*	1985 *(1080)*	1986 *(1190)*	1987 *(1220)*	1988 *(1310)*	1989 *(1300)*	1990 *(1400)*	1991 *(1410)*	1992 *(1490)*	1993 *(1490)*	1994 *(1410)*	'93-'94 change
Any Illicit Drug[e]	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	+0.9
Any Illicit Drug[e] 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	-0.8
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	+0.8
Inhalants[b]	1.5	0.9	0.8	0.7	0.7	1.0	1.1	0.9	1.3	0.8	1.0	0.9	1.1	1.3	0.6	-0.7
Hallucinogens	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	-0.4
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	+0.2
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	-0.2
Crack[c]	NA	NA	NA	NA	NA	NA	NA	0.4	0.5	0.2	0.1	0.3	0.1	0.1	0.1	0.0
MDMA ("ecstasy")[f]	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.3	0.6	0.2	0.4	0.3	0.2	-0.1
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	0.0
Other Opiates[a]	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	-0.3
Stimulants[a]	13.4	12.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stimulants, Adjusted[a,d]	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	-0.1
Crystal meth. (ice)[g]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	0.3	0.5	+0.2
Sedatives[a]	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
Barbiturates[a]	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	0.0
Methaqualone[a]	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
Tranquilizers[a]	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	0.0
Alcohol[h]	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	67.5	-2.6
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	-1.0

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%. 'NA' indicates data not available.

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

[b]This drug was asked about in four of the five questionnaire forms in 1980-89, and in five of the six questionnaire forms in 1990-1994. Total N in 1994 (for college students) is 1175.

[c]This drug was asked about in two of the five questionnaire forms in 1987-89, and in all six questionnaire forms in 1990-1994.

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

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

[f]This drug was asked about in two of the five questionnaire forms in 1989, and in two of the six questionnaire forms in 1990-1994. Total N in 1994 (for college students) is 470.

[g]This drug was asked about in two of the six questionnaire forms. Total N in 1994 (for college students) is 470.

[h]In 1993 and 1994, the question text was changed slightly in three of the 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 are used in order to provide the most reliable estimate of change.

TABLE 26

Trends in Thirty-Day Prevalence of Daily Use of Various Types of Drugs Among College Students 1-4 Years Beyond High School

(Entries are percentages)

	Percent who used daily in last thirty days															
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	'93-'94 change
Approx. Wtd. N =	*(1040)*	*(1130)*	*(1150)*	*(1170)*	*(1110)*	*(1080)*	*(1190)*	*(1220)*	*(1310)*	*(1300)*	*(1400)*	*(1410)*	*(1490)*	*(1490)*	*(1410)*	
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	-0.1
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	+0.1
Stimulants[a]	0.5	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stimulants, Adjusted[a,b]	NA	NA	0.3	0.2	0.2	•	0.1	0.1	•	•	0.0	0.1	0.0	0.1	0.1	0.0
Alcohol																
Daily[c]	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	3.6	-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	40.0	-0.2
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	-2.0
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	-0.9

NOTES: For all drugs not included here (but in tables 23-25), thirty-day prevalence of daily use is below 0.05% in all years. 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%. 'NA' indicates data not available.

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

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

[c]In 1993 and 1994, the questions about alcohol use were revised in three of the six questionnaire forms to instruct the respondents to include only occasions on which they had "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 are used in order to provide the most reliable estimate of change.

TABLE 27

Trends in Lifetime, Annual, and Thirty-Day Prevalence of an Illicit Drug Use Index[a] Among College Students 1-4 Years Beyond High School, by Sex

(Entries are Percentages)

	1980[b]	*1981*[b]	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	'93-'94 change
	Percent reporting use in lifetime[c]															
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	-0.4
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	+3.8
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	-3.4
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	-2.4
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	+0.3
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	-4.3s
	Percent reporting use in last twelve 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	-0.7
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	-1.3
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	-0.5
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	-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	-0.1
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	-0.3
	Percent reporting use in last thirty 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	-0.9
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	+4.5s
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	-1.8
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	-0.8
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	-1.1
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	-0.4
	Approximate Weighted N															
All Respondents	*1040*	*1130*	*1150*	*1170*	*1110*	*1080*	*1190*	*1220*	*1310*	*1300*	*1400*	*1410*	*1490*	*1490*	*1410*	
Males	*520*	*530*	*550*	*550*	*540*	*490*	*540*	*520*	*560*	*580*	*620*	*640*	*680*	*660*	*590*	
Females	*520*	*600*	*610*	*620*	*570*	*600*	*650*	*700*	*750*	*720*	*780*	*770*	*810*	*830*	*820*	

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 opiates, stimulants, sedatives, or tranquilizers not under a doctor's orders.

[b]Revised questions about stimulant use were introduced in 1982 to exclude more completely the inappropriate reporting of non-prescription stimulants. The data in italics are therefore not strictly comparable to the other data.

[c]Data are uncorrected for cross-time inconsistencies in the answers.

- ***Use of any illicit drugs other than marijuana*** declined steadily among college students between 1980 and 1986, with annual prevalence dropping gradually from 32% to 25%. Such use showed an accelerating decline (to 13%) between 1987 and 1991, prior to leveling in 1992 and dropping slightly again in both 1993 and 1994 (Table 24). Again, this generally parallels the trend for the noncollege group, although usage rates have consistently been a bit lower among the college students (Figure 36).

- In general, for ***most individual classes of illicit drugs***, the trends since 1980 among those enrolled in college tend to parallel those for the noncollege group, as well as the trends observed among seniors. That is, for most drugs there was a decline in use until 1991. In 1992, a number of drugs leveled, and possibly increased in use, among college students. (There was no significant change in annual use of illicit drugs among college students between 1992 and 1993, or between 1993 and 1994.) Again, noncollege respondents' use generally paralleled that of their college-aged peers.

- The annual prevalence of ***marijuana*** use among college students decreased steadily from 1981 through 1991, dropping by nearly half from 51% to 26.5%. Their noncollege peers showed a comparable decline over the same time interval (see Figure 37a). Since 1991 both groups increased by about 3 percentage points.

- ***Daily marijuana*** use among college students (Figure 37b) fell significantly 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 showed sharper declines because they started higher than the college students in 1980.) After 1986 the decline decelerated and after 1990 it ceased. The rate stands at 1.8% in 1994, the same rate as in 1991. In sum, the proportion of American college students who actively smoke marijuana on a daily basis has dropped by about three-fourths since 1980. Unlike college students, there were significant increases in 1994 for noncollege aged peers and 12th graders.

- An appreciable and ongoing decline occurred for ***stimulant*** use between 1980 and 1991 (Figure 44). Annual prevalence dropped by more than eight-tenths, from 21% in 1982 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. After 1991 use among college students and their noncollege age peers leveled. In 1993, stimulant use rose slightly among college students and more among high school seniors; in 1994, use was unchanged among college students and up slightly in the other two groups. Over the years, those not in college have consistently reported a higher rate

of stimulant use than the college students, and since the mid-1980s high school seniors have reported higher rates still.

- ***Methaqualone*** showed a dramatic drop among college students, falling from an annual prevalence of 7.2% in 1980 to 0.2% in 1989 (data not shown). Practically no college-noncollege difference remained for methaqualone as both groups approached a 0% prevalence level. Because of the very low levels reported for this drug, it was dropped from the questionnaires in 1990 to make room for other questions.

- During the early 1980s, one of the largest proportional declines observed among college students was for ***LSD***. Annual prevalence fell from 6.3% in 1982 to 2.2% in 1985. Since 1985, use has increased, reaching 5.7% in 1992, before falling (nonsignificantly) to 5.1% in 1993, and leveling at 5.2% in 1994. Similar trends have been observed in those young adults not in college (Figure 40), and among high school seniors, when use in both groups increased between 1985 and 1994. Use among noncollege young adults increased from 4.1% to 6.7%, and use among high school seniors increased from 4.4% to 6.9%.

- ***Barbiturate*** use already was quite low among college students in 1980 (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 students, and less sharp than among the young adults not in college. Annual prevalence remained essentially unchanged between 1985 and 1993 among all three groups (see Figure 45), but there were significant increases in 1994 among the noncollege group and high school seniors.

- Figure 46 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%, remained fairly level until 1988, when it declined again (to 3.1%).[11] It was down to 1.8% by 1994, after a slow uneven decline. Use in the noncollege segment dropped more sharply, leaving very small subgroup differences. Tranquilizer use also dropped steadily among seniors, from 10.8% in 1977 to 2.8% in 1992, before rising slightly to 3.7% by 1994.

- In 1994, the use of ***opiates other than heroin*** by college students is about half what it was in 1980 (2.4% in 1994 vs. 5.1% in 1980) as a result of gradual decline over the interval. This trend closely parallels use among noncollege young adults and high school seniors (Figure 43).

[11]The use of barbiturates and tranquilizers very likely was dropping also during the latter half of the 1970s, judging by the trends among high school seniors.

- Like the high school seniors, college students showed a relatively stable pattern of ***cocaine*** use between 1980 and 1986, followed by a substantial decline in annual prevalence from 17% in 1986 to 2% in 1994–a drop of nearly nine-tenths (Figure 42). Their noncollege counterparts also showed a large decline from 19% in 1986 to 5.1% in 1994. Use among college students has dropped more sharply than among high school seniors, with the result that, since 1990, there has been little or no difference between high school seniors and college students in annual prevalence rates for cocaine. Cocaine does show a continuing decline in 1994 among colleges students, but not in the other two groups.

- It is in regard to ***alcohol*** use that college students appear to be showing some shifts in use which are different from those observed either among their age peers not in college or among high school seniors. The noncollege segment and the seniors have shown fairly substantial declines since 1981 in the prevalence of having ***five or more drinks in a row*** during the two weeks prior to the survey. College students, however, have shown less decline (Figure 47c). Between 1981 (when all three populations were very close in use) and 1992 this measure of heavy drinking dropped by 14 percentage points for high school seniors, by 11 percentage points for the noncollege 19 to 22 year olds, but by only 2 percentage points among college students. As a result, a substantial difference between college students and each of the other groups had emerged. Since 1992, these differences have begun to close some due to a slight decline (of 1.4 percentage points for the college students) and a slight increase (of 1.9 percentage points for the noncollege group) but college students clearly still have the highest rates.

  It is interesting to conjecture about why college students have not shown much decline in heavy drinking while their noncollege peers and high school seniors have. One possibility is that campuses have provided some insulation to the effects of changes in the drinking age laws. Also, in college, individuals who are under the legal drinking age 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, a lot of alcohol advertising is directed 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 47b). Daily drinking among the young adults not enrolled in college declined from 8.7% in 1981 to 6.5% in 1984, remained essentially unchanged through 1988, and since then has declined further (to 3.2% in 1994). The daily drinking estimates for college students–which appear a little less stable, perhaps due to smaller sample sizes in the 1980s–showed

little or no decline between 1980 and 1984, but some considerable decline since then. Daily prevalence was 6.5% in 1980, 6.6% in 1984, 4.9% in 1988, and 3.6% by 1994; almost half the level first observed in 1980.

- ***Cigarette smoking*** among American college students declined modestly in the first half of the eighties. Thirty-day prevalence fell from 26% to 22% between 1980 and 1985, remained fairly stable through 1989, increased gradually in 1991, and remained stable since then (23.5% in 1994) (Figure 48a). The ***daily smoking*** rate fell from 18.3% in 1980 to 12.7% 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 (12.1%), then rose steadily to 15.2% in 1993. In 1994 it was down slightly, to 13.2%, though up some for the other two groups.

  While the rates of smoking are dramatically lower among college students than among those not in college, their trends were quite parallel up to 1986, after which smoking rates stabilized among college students and continued to decline among young adults not in college (Figure 48a). Between 1990 and 1993, the noncollege group stabilized as college students increased their rate of smoking. The net effect was to narrow the differences in smoking rates between the college students and their noncollege age peers since 1980. In 1994, however, there were (nonsignificant) declines among college students, and (nonsignificant) increases among the noncollege group, widening the gap.

- In sum, the trends in substance use among American college students have generally paralleled closely those occurring among their age group as a whole. One important exception occurred for occasions of ***heavy drinking***, which fell off among those not enrolled full-time in college (as well as among high school seniors) but remained fairly constant among college students.

- For many drugs (***stimulants, barbiturates, tranquilizers, LSD,*** and ***daily marijuana use***) differences between college students and their noncollege age peers narrowed over the years. Much of this is due to overall declines in usage rates generally, but some may also reflect the increasing proportion of the age group going to college.[12]

  The overall drug use trends among college students are also 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

[12]The proportion of respondents one to four years past high school who report being enrolled full-time in a two- or four-year college rose from 38% in 1980 to 50% in 1992, where it has remained since.

proportionately larger among college students, and for that matter among all young adults of college age, than among high school seniors. Despite parallel trends up to 1991, only high school seniors showed a decline in ***marijuana*** use in 1992 as the older two groups ceased to decline. In 1994, all three groups increased, with rates about the same (see Figure 37a).

SEX DIFFERENCES IN TRENDS AMONG COLLEGE STUDENTS

One trend which is not obvious from the figures included here is the fact that the proportion of college students who are female has been rising slowly. Females constituted 50% of our 1980 sample of college students and 58% of our 1994 sample. Given that substantial sex differences exist in the use of some drugs, we have been concerned that apparent long-term trends in the levels of drug use among college students might actually be attributable to changes in the sex composition of that population. For that reason, in particular, we present separate trend lines for the male and female components of the college student population. Differences in the trends observed for these two groups are illustrated in the lower panels of Figures 35 through 48, and are discussed below.

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.

- After 1986, ***cocaine*** dropped more steeply for males than for females in general, and among male *college students* in particular; narrowing the gap between the sexes (see Figure 42).

- Certain other drug use measures have shown a convergence of usage levels between the sexes, mainly because they are converging toward zero. ***Daily marijuana use*** is one such example, with the decline among males between 1980 and 1986 narrowing the gap between the sexes. Since 1986 there has been no further narrowing, however. In 1994 the rates were 3.3% vs. 0.8% for male and female college students, respectively. (See Figure 37b.)

- ***Methaqualone*** also showed a convergence in use through 1989, with males declining more (no figure given).

- ***Stimulant*** use (Figure 44) also showed some convergence in the early eighties due to a greater decline among males. In fact, male and female college student use has been essentially equal for the past five years, though males showed some increase in use in 1993 and the resultant gap continues in 1994.

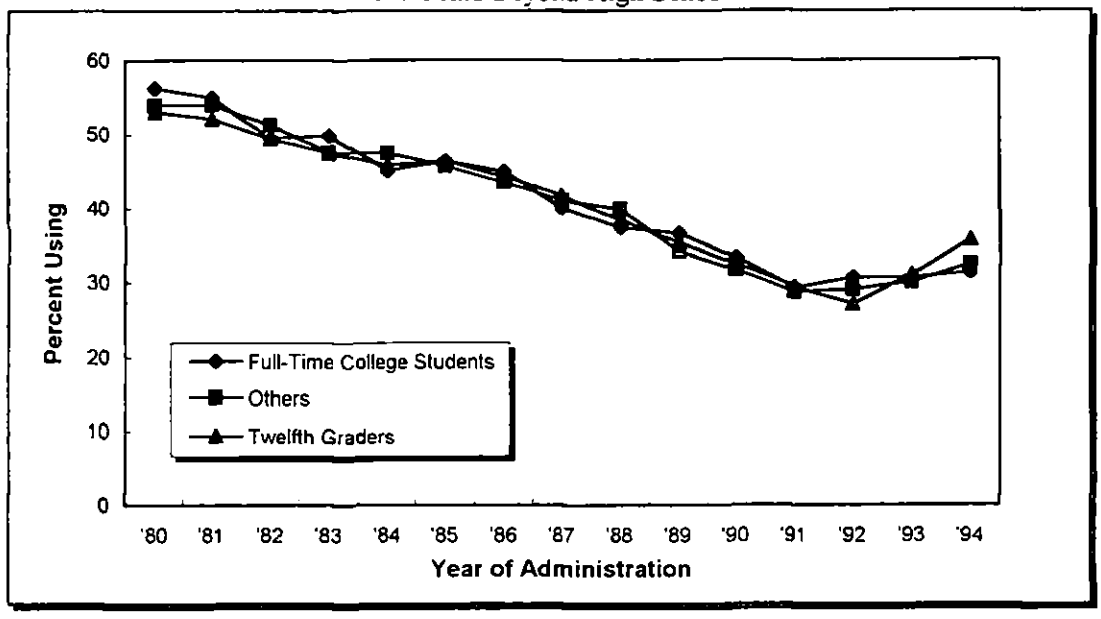
- The annual prevalence of ***alcohol*** use has been virtually identical for the two sexes throughout the period (Figure 47a), but daily and binge drinking consistently have been higher among males (Figures 47b-c).

Binge drinking among college females decreased very slightly since 1980, while heavy drinking among college males has fluctuated more. In 1994, after six years of relative stability, the gap between the sexes was the widest since 1987 (see Figure 47c).

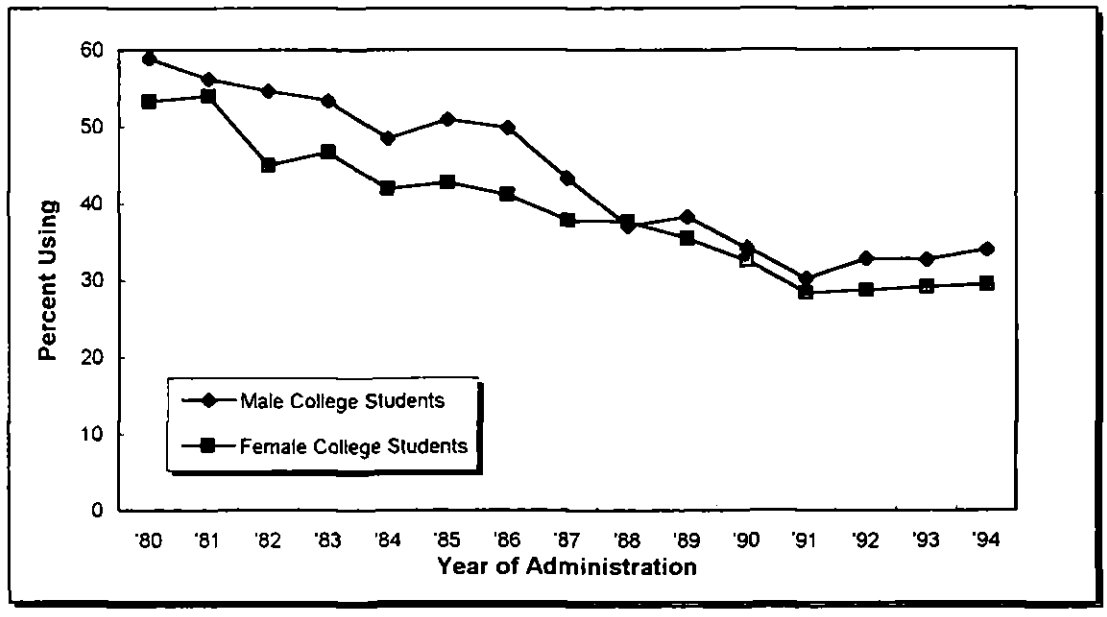
- Between 1980 and 1992, the 30-day prevalence of ***cigarette smoking*** has consistently been higher among females than males in college, despite decreases for both sexes during the first half of the decade and increases for both sexes from 1989 to 1993 (Figures 48a-c). However, between 1980 and 1989 the gap in 30-day prevalence narrowed, because use by female college students declined some, while use by male college students did not. In recent years, the gap has remained quite small.

Figure 35

Any Illicit Drug: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



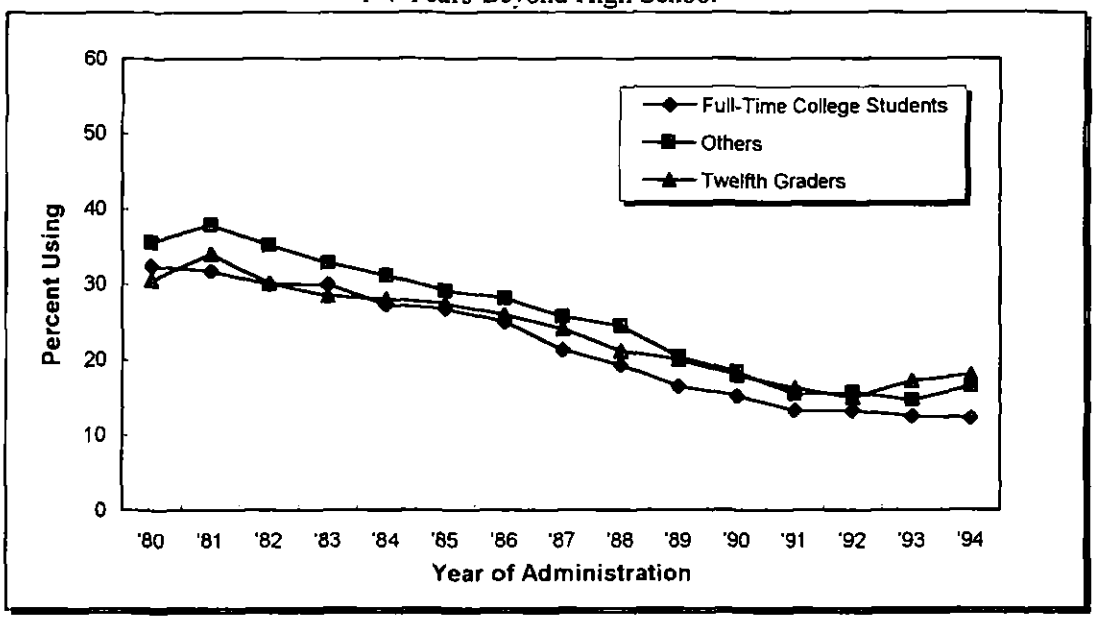
Any Illicit Drug: Trends in Annual Prevalence
Among Male and Female College Students



NOTE: "Others" refers to high school graduates 1-4 years beyond high school not currently enrolled full-time in college.

Figure 36

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 and Female College Students

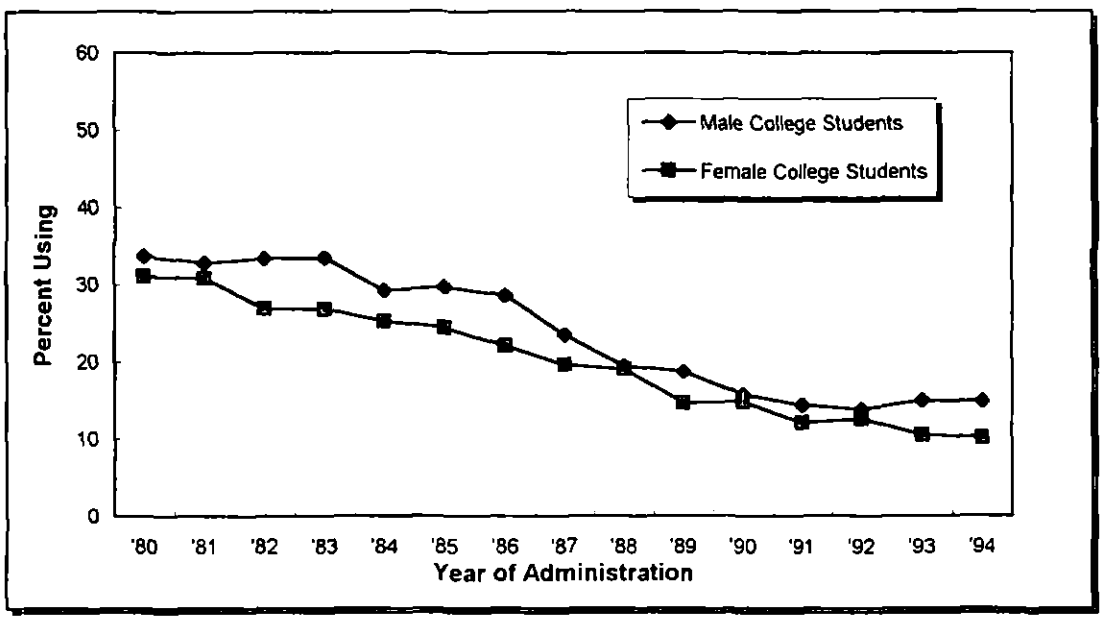
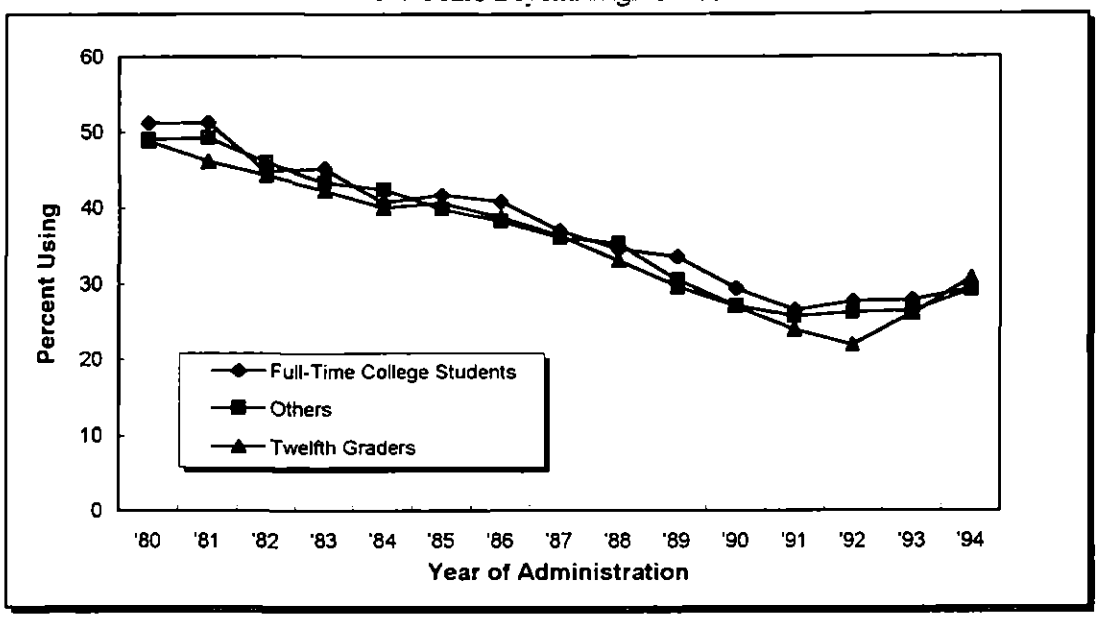


Figure 37a

Marijuana: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



Marijuana: Trends in Annual Prevalence
Among Male and Female College Students

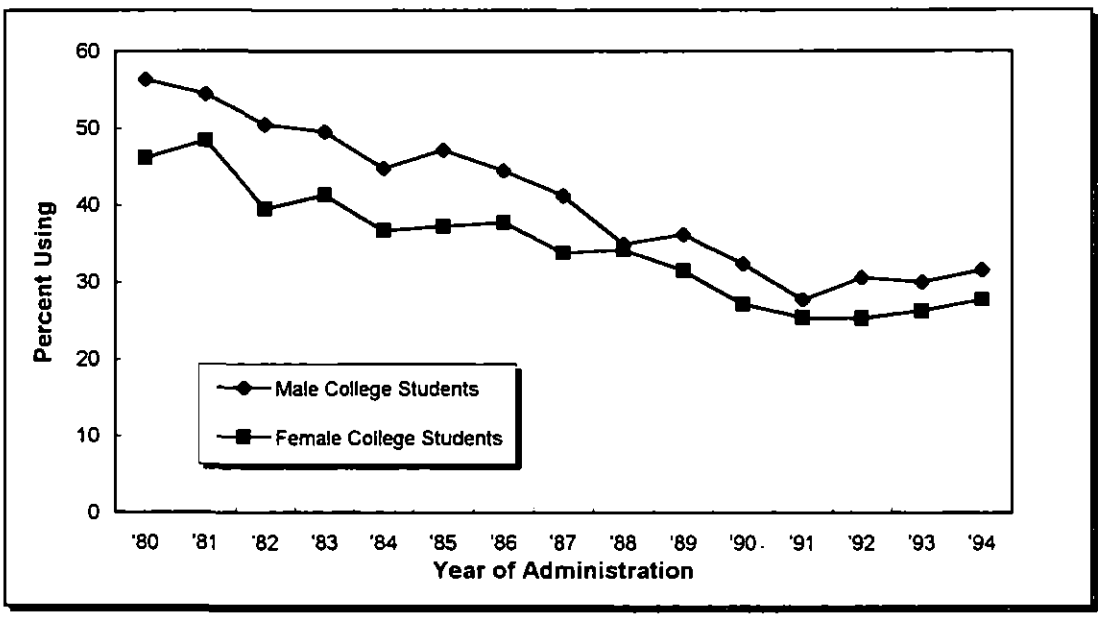
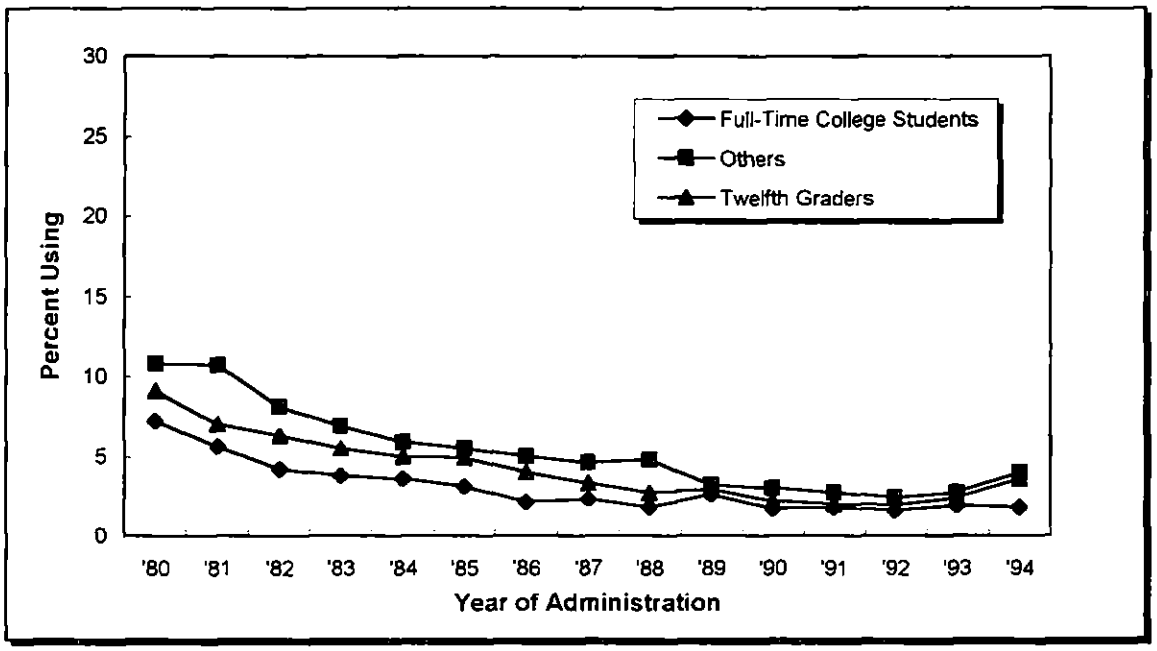


Figure 37b

Marijuana: Trends in Thirty-Day Prevalence of Daily Use
Among College Students Vs. Others
1-4 Years Beyond High School



Marijuana: Trends in Thirty-Day Prevalence of Daily Use
Among Male and Female College Students

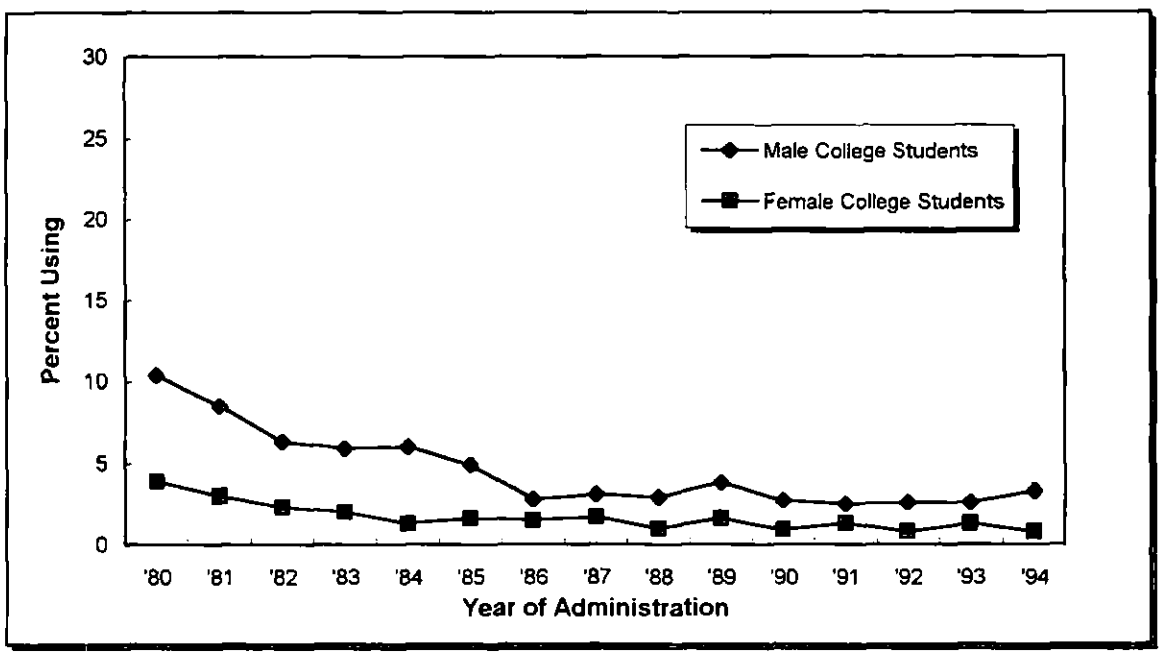
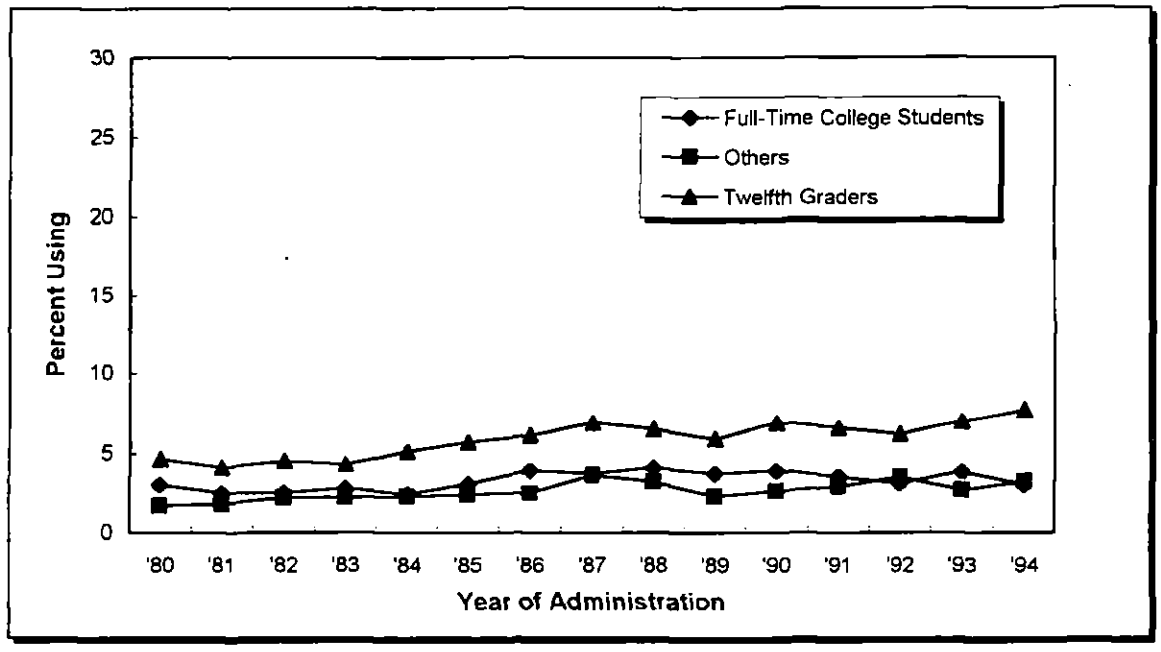
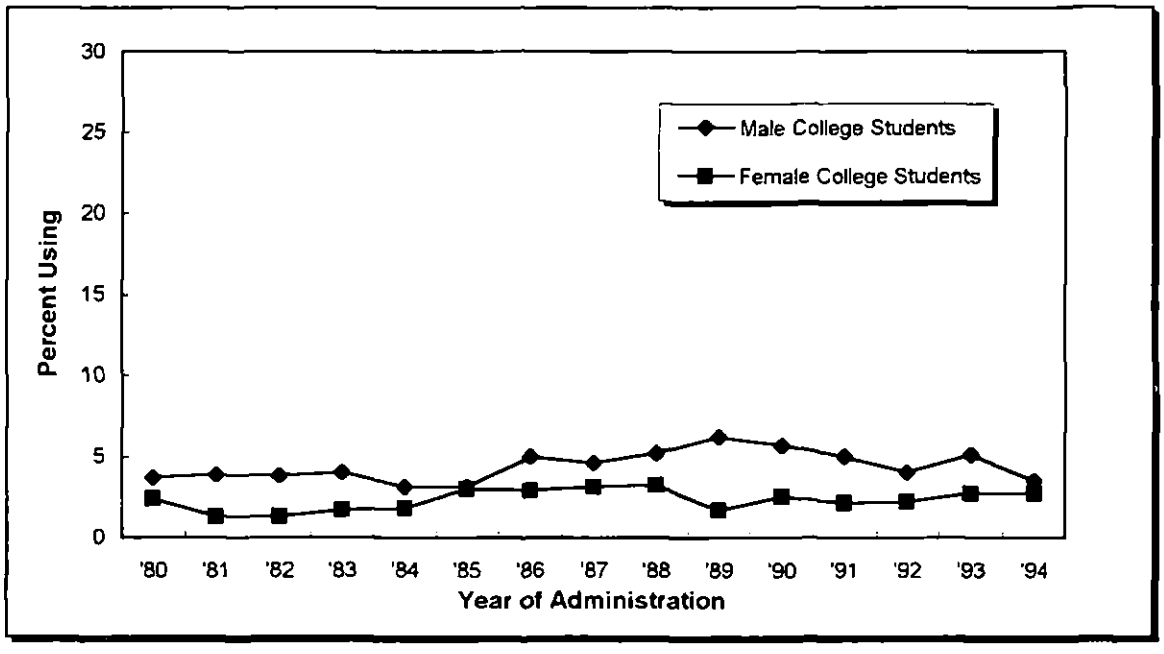


Figure 38

Inhalants*: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



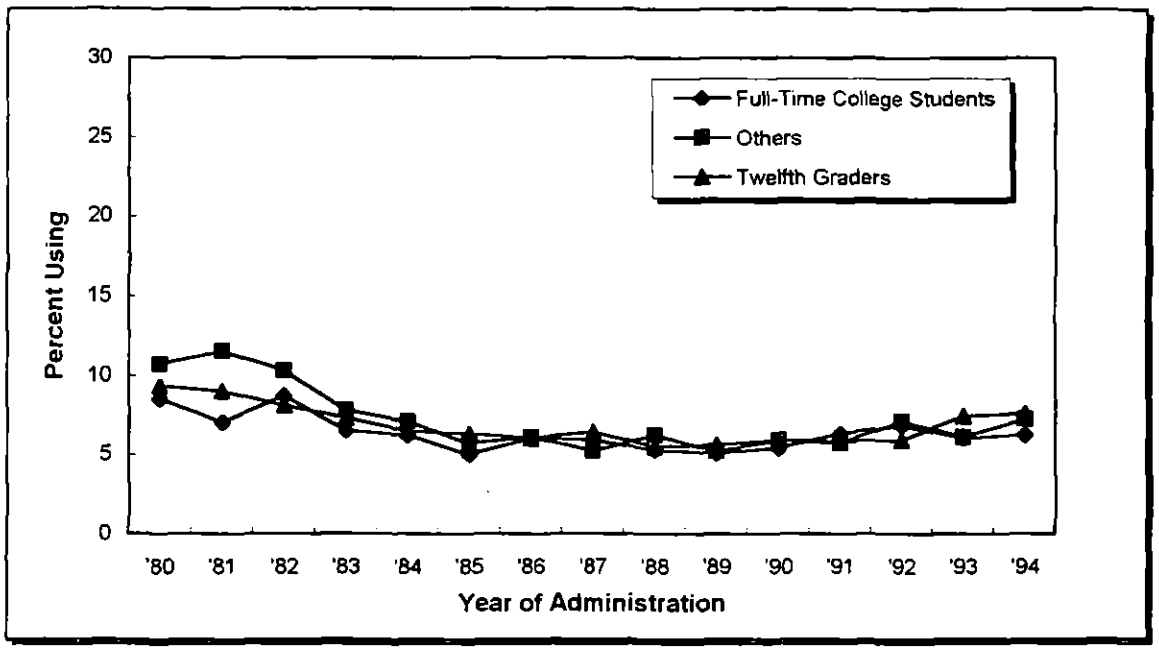
Inhalants*: Trends in Annual Prevalence
Among Male and Female College Students



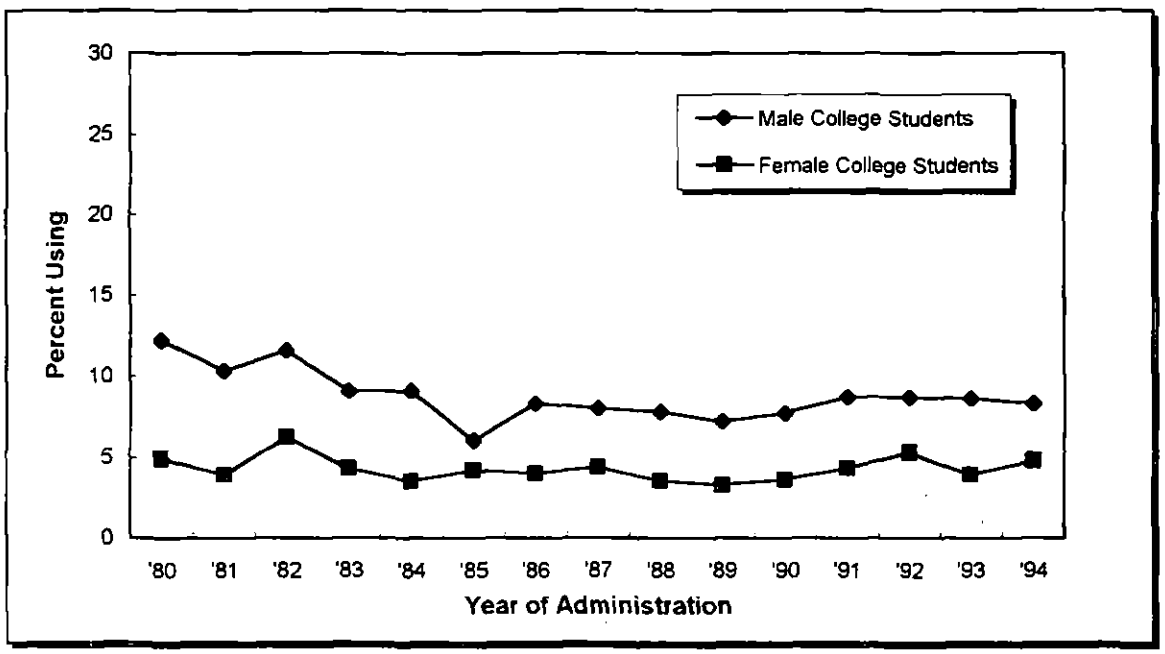
*Unadjusted for the possible underreporting of amyl and butyl nitrites.

Figure 39

Hallucinogens*: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



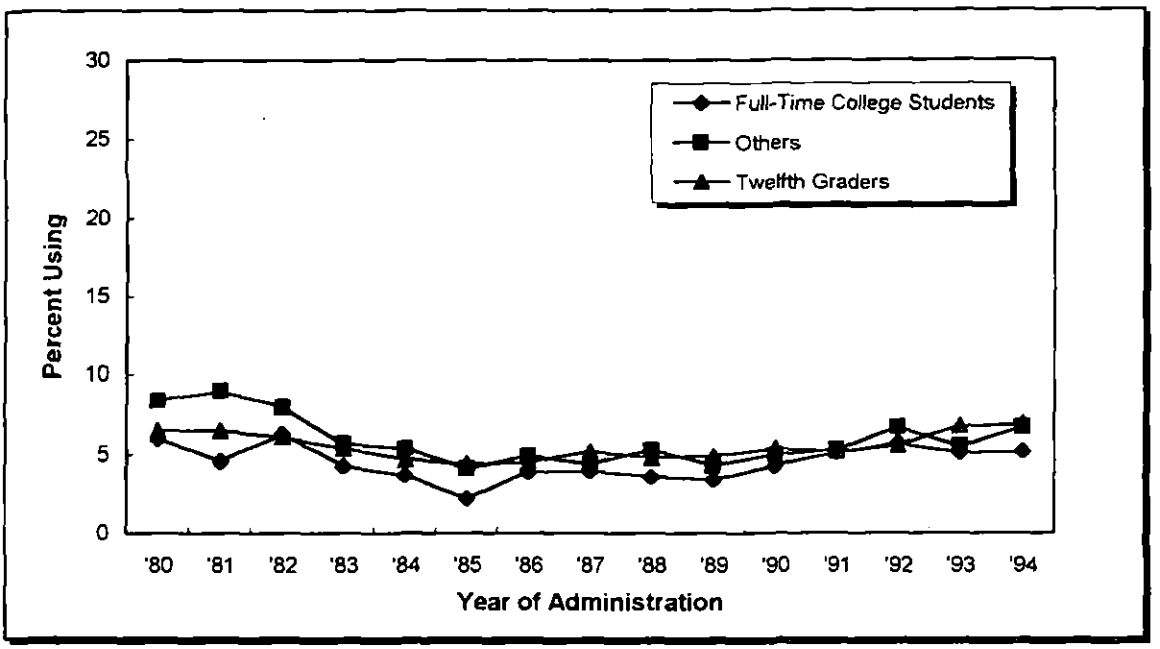
Hallucinogens*: Trends in Annual Prevalence
Among Male and Female College Students



*Unadjusted for the possible underreporting of PCP.

Figure 40

LSD: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



LSD: Trends in Annual Prevalence
Among Male and Female College Students

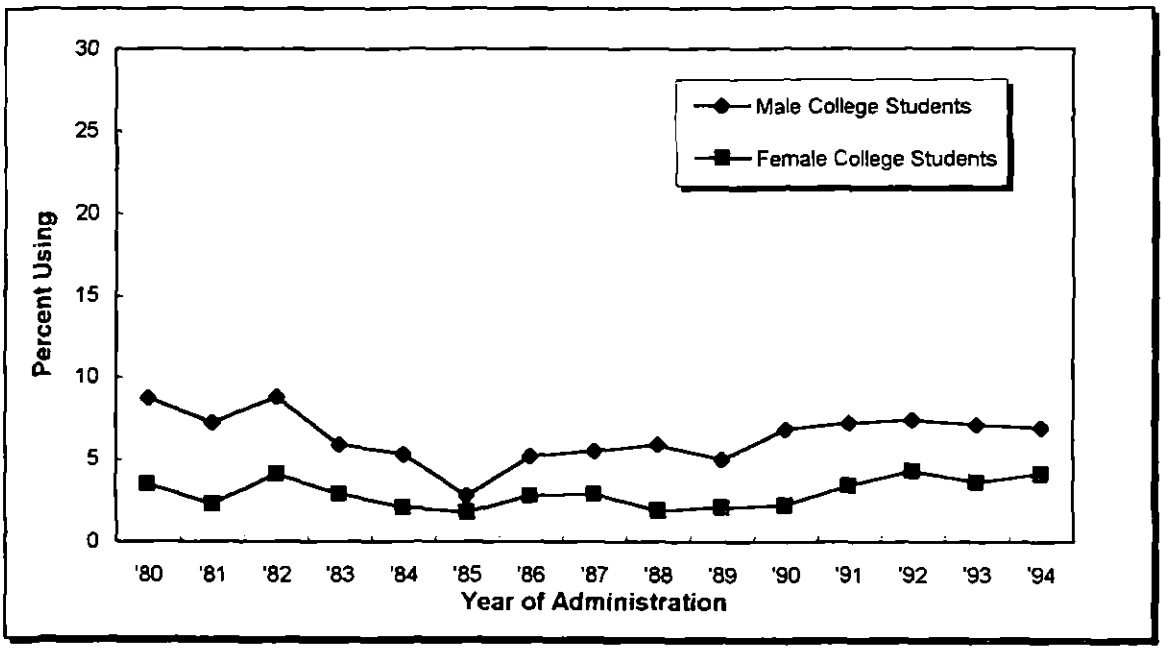
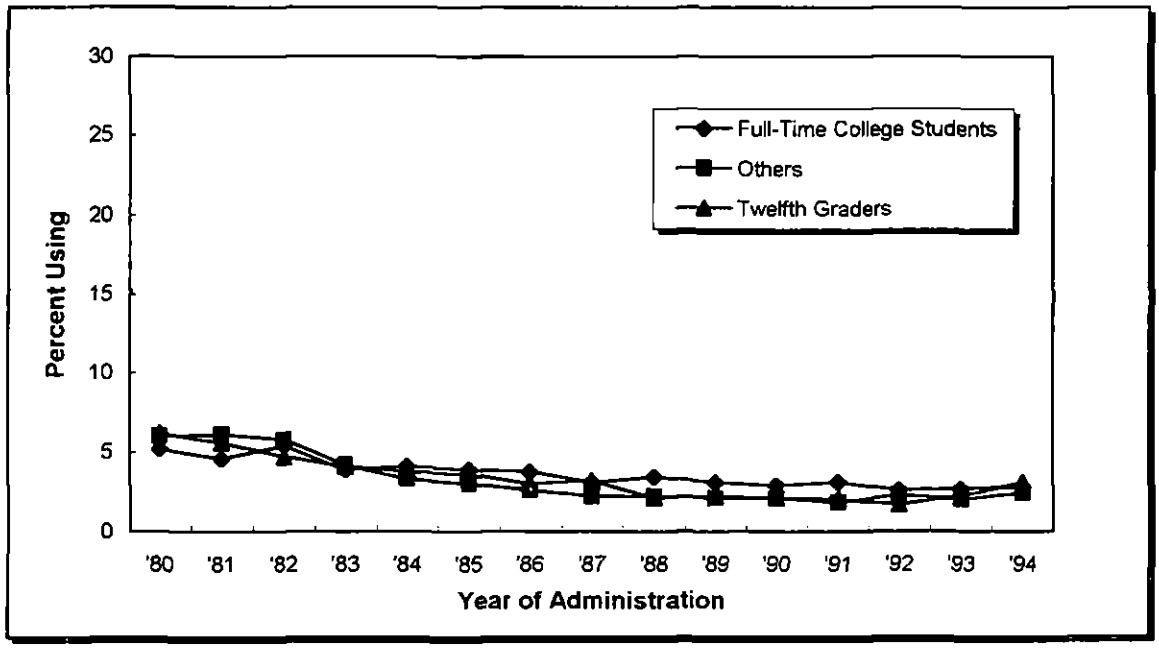


Figure 41

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 and Female College Students

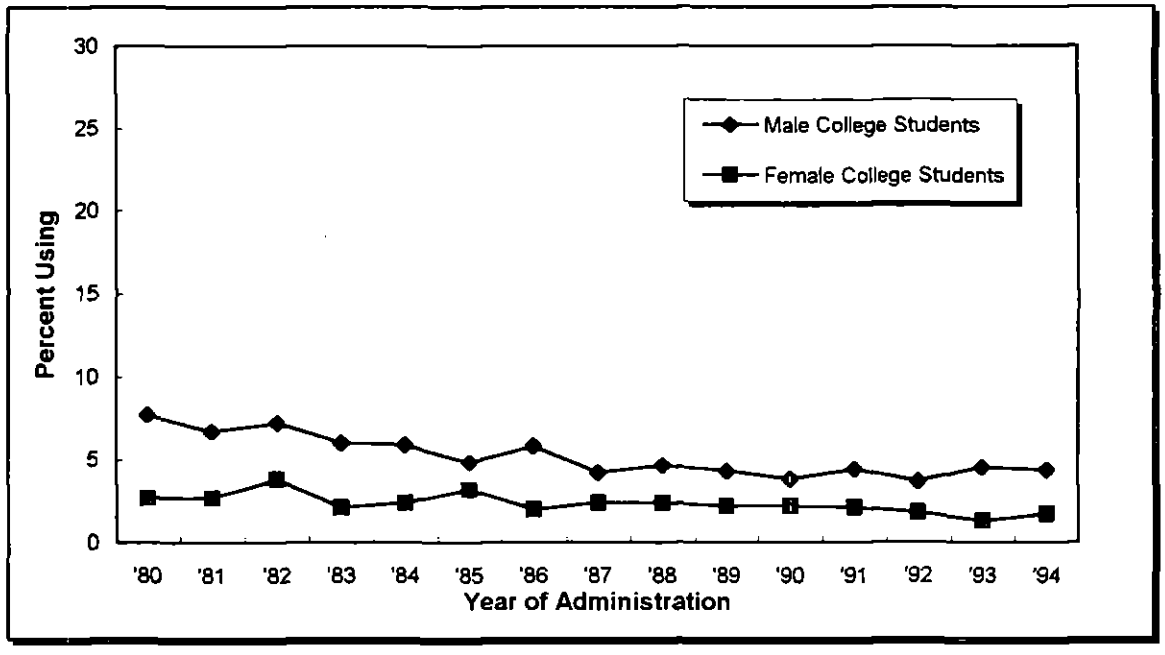
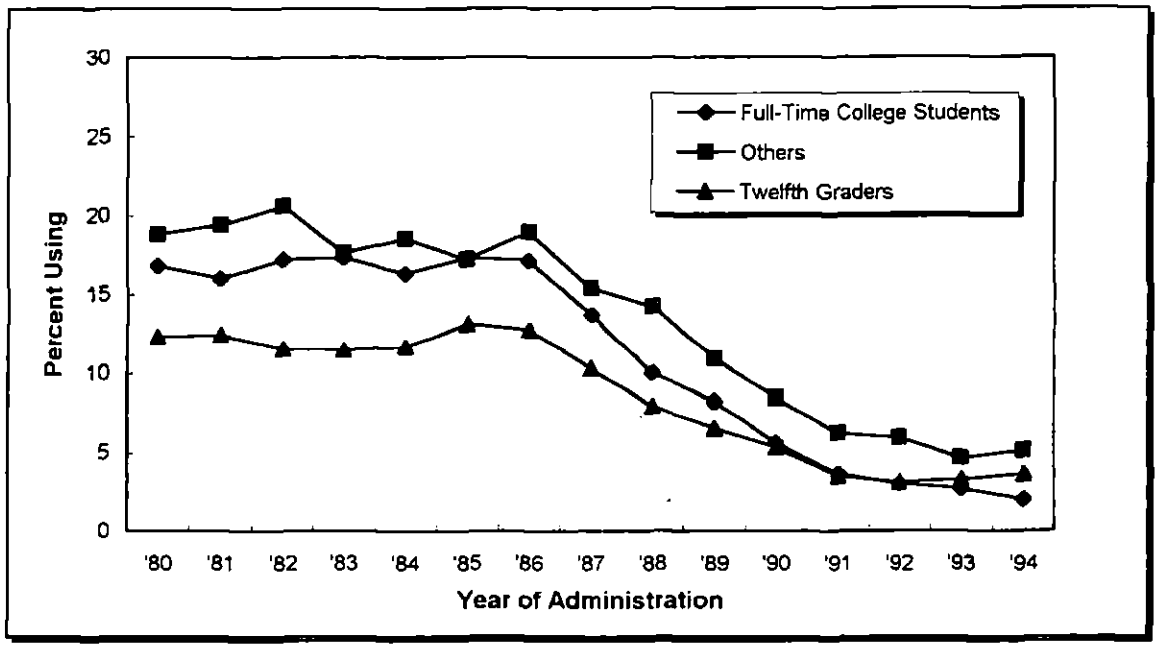


Figure 42

Cocaine: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



Cocaine: Trends in Annual Prevalence
Among Male and Female College Students

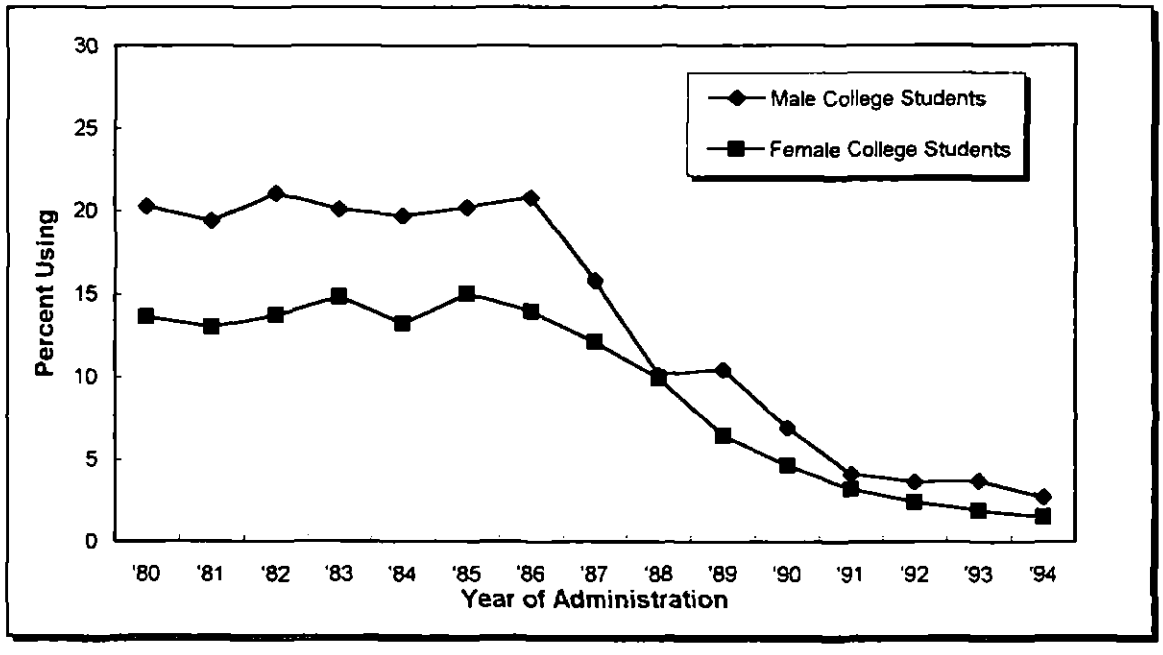
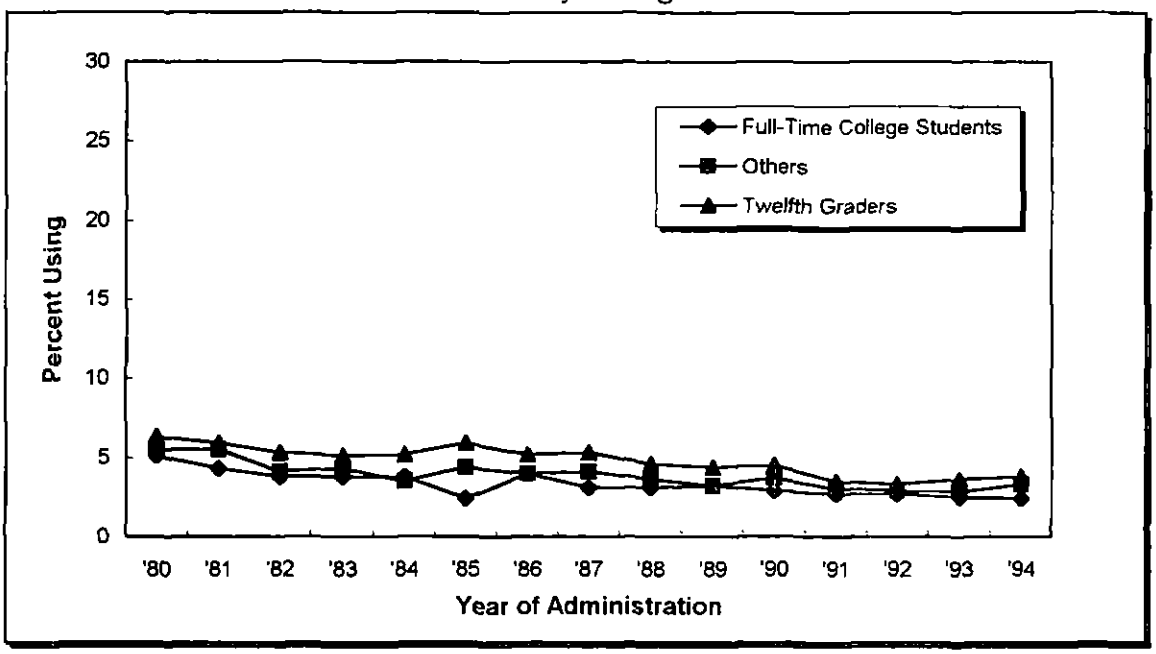


Figure 43

Other Opiates: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



Other Opiates: Trends in Annual Prevalence
Among Male and Female College Students

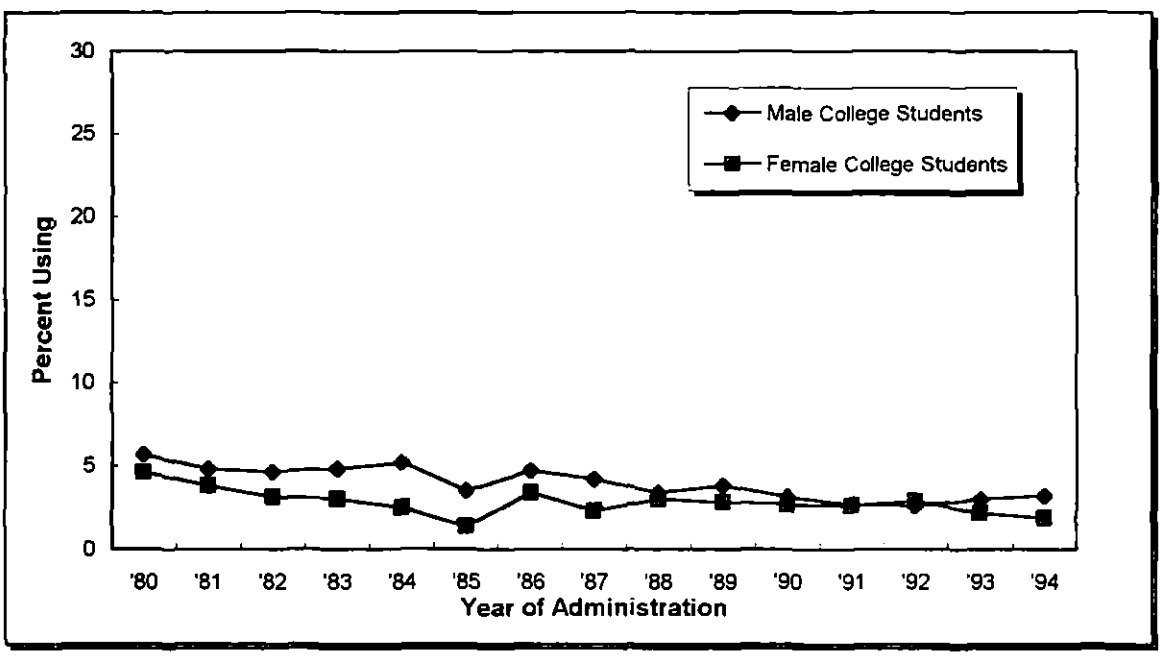
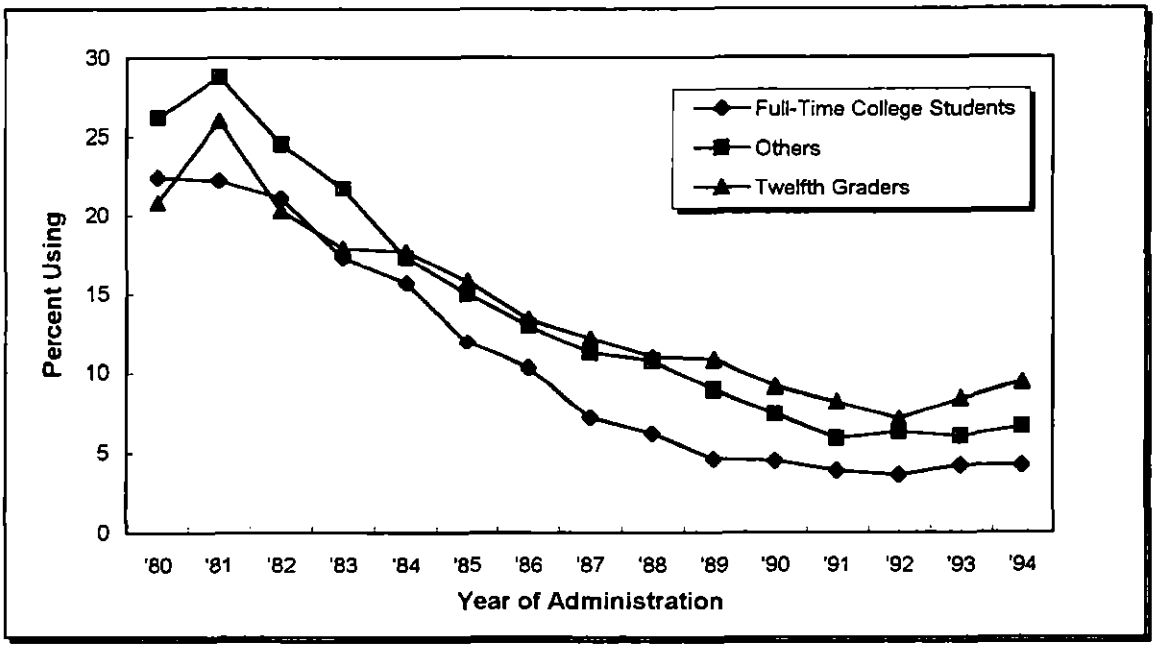


Figure 44

Stimulants: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



Stimulants: Trends in Annual Prevalence
Among Male and Female College Students

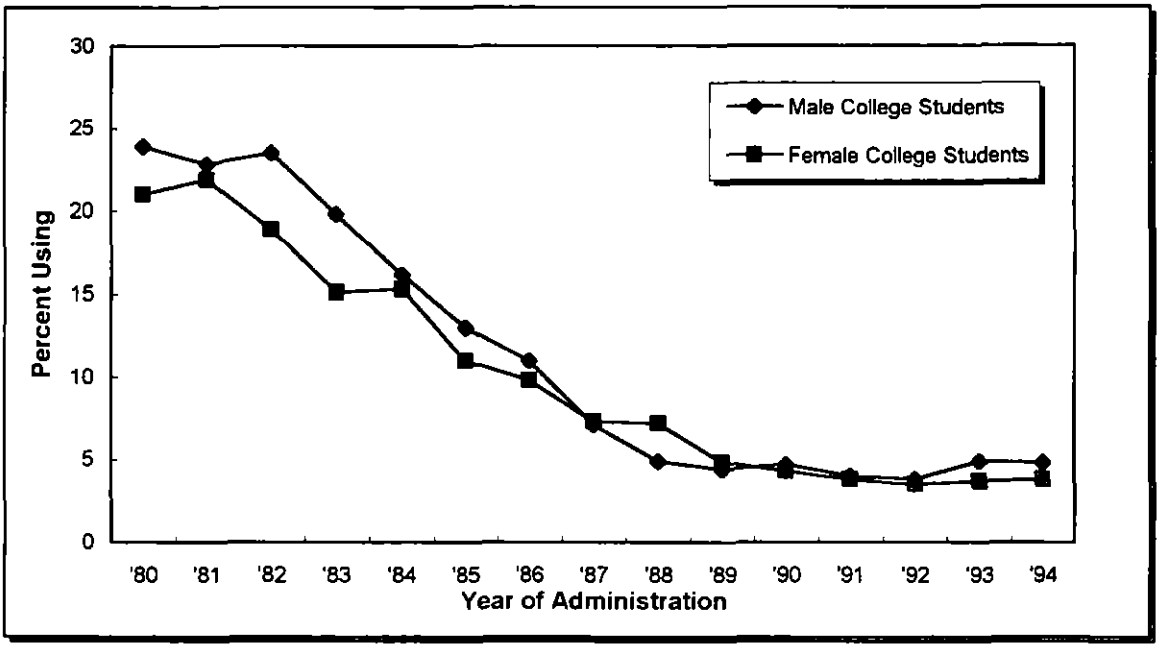
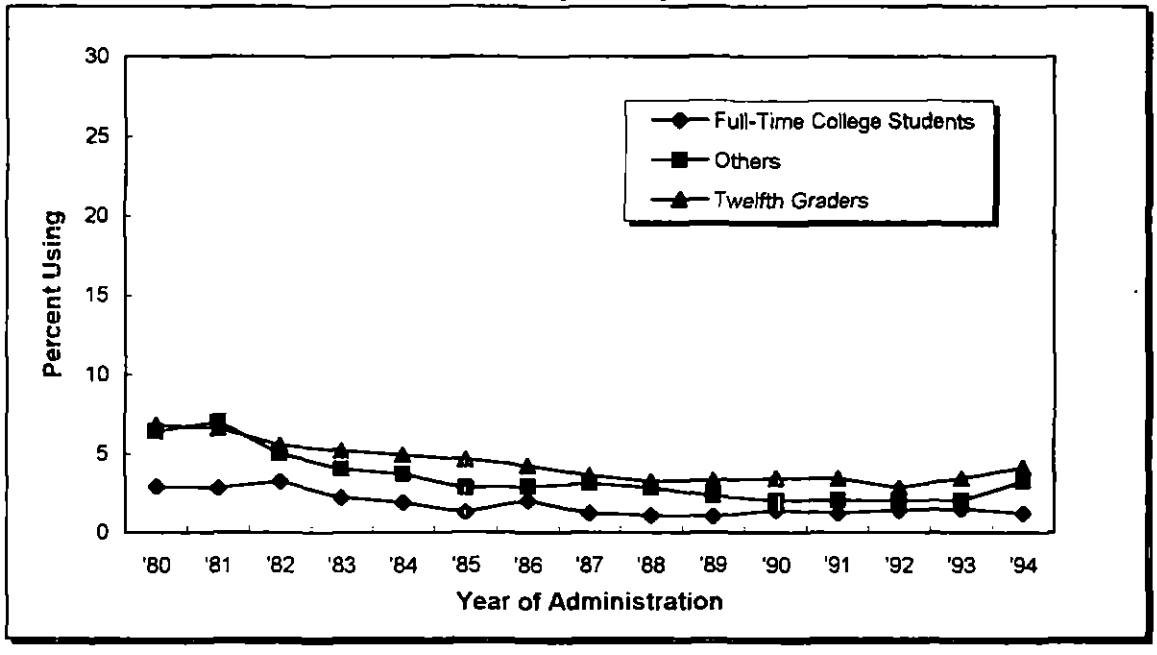


Figure 45

Barbiturates: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



Barbiturates: Trends in Annual Prevalence
Among Male and Female College Students

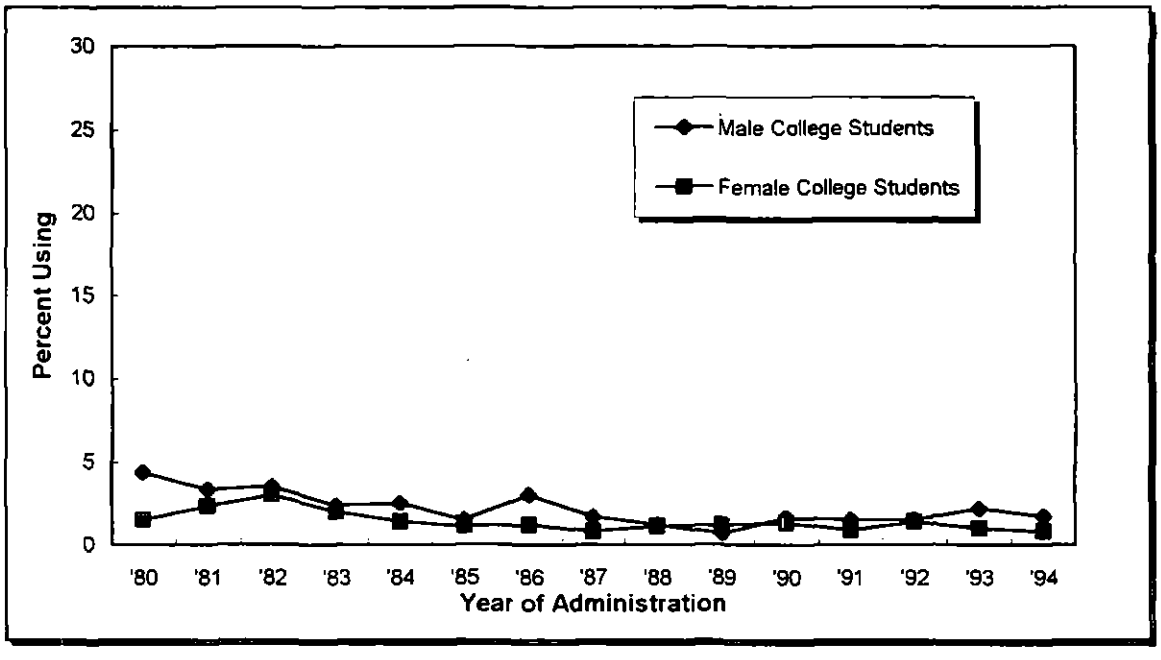
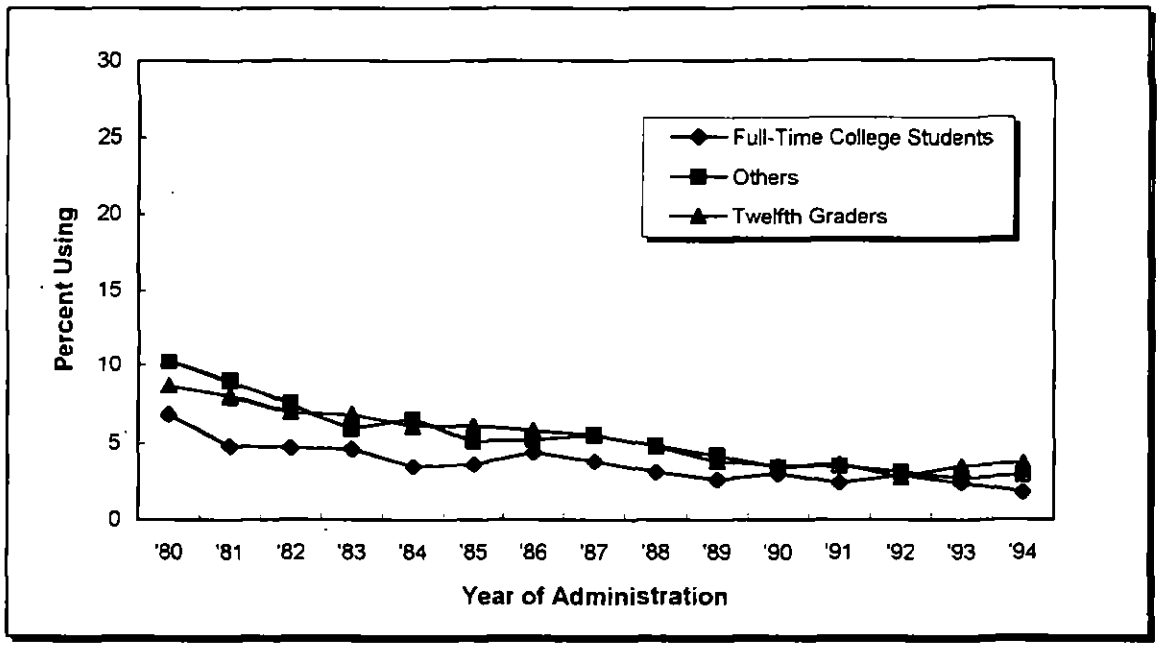


Figure 46

Tranquilizers: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



Tranquilizers: Trends in Annual Prevalence
Among Male and Female College Students

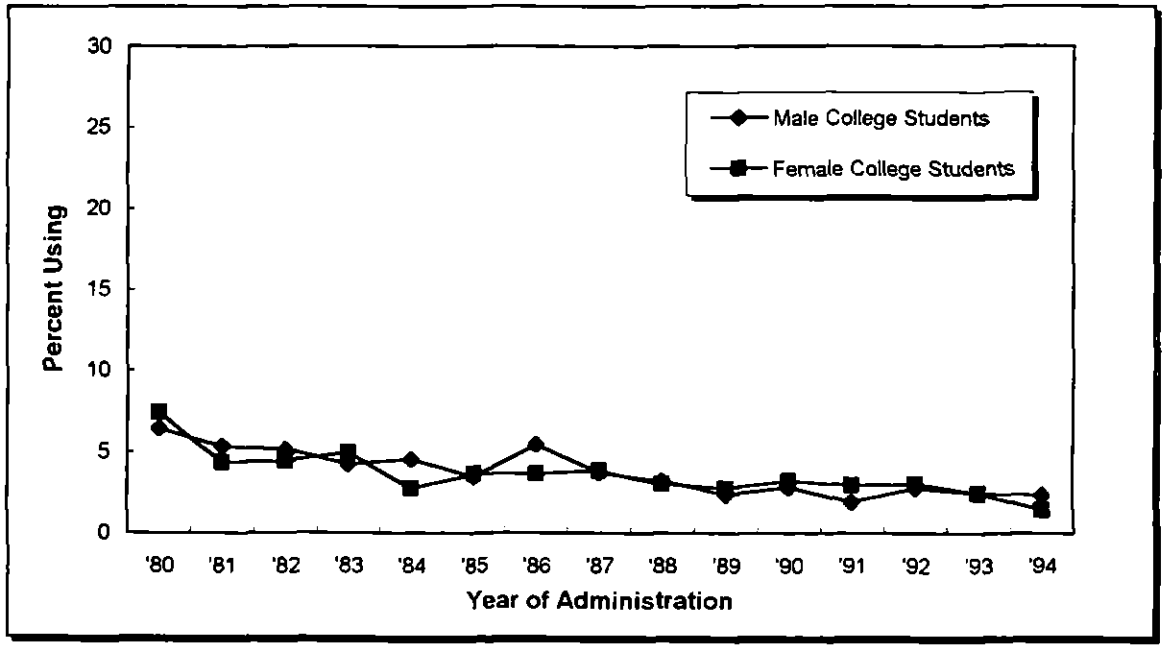
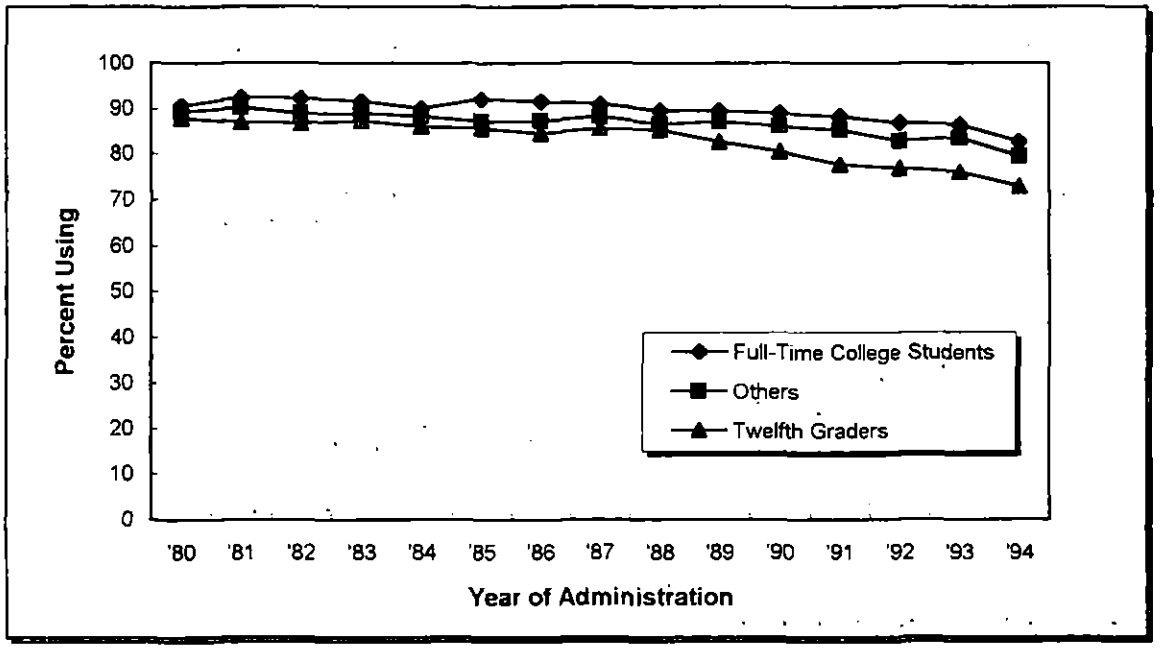
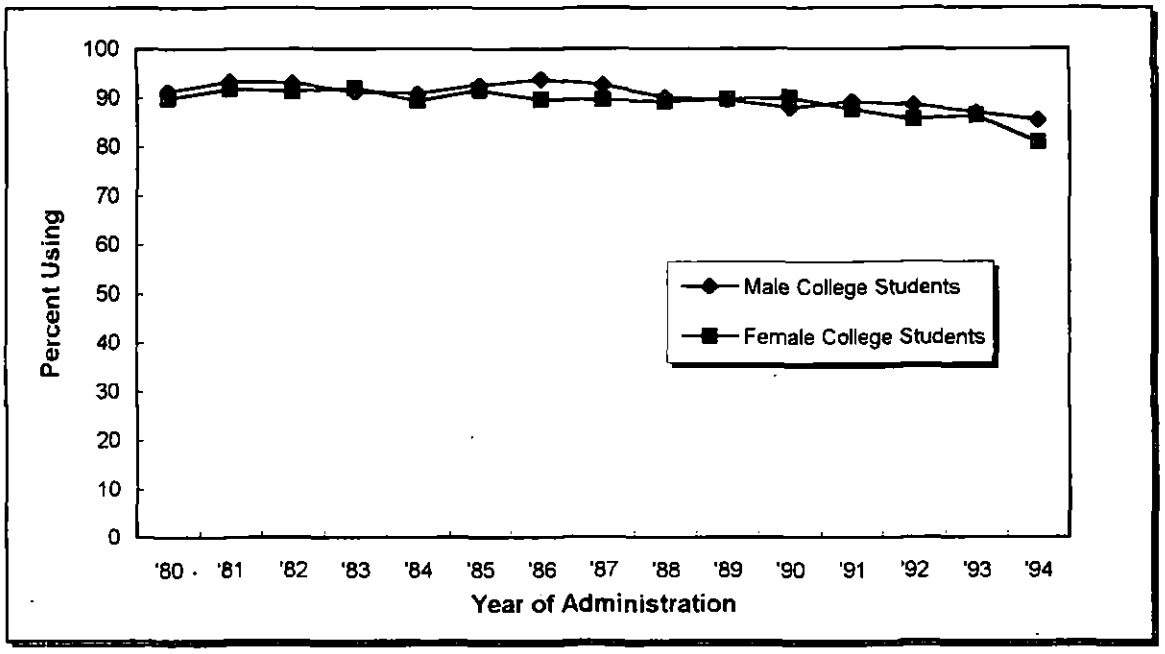


Figure 47a

Alcohol: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



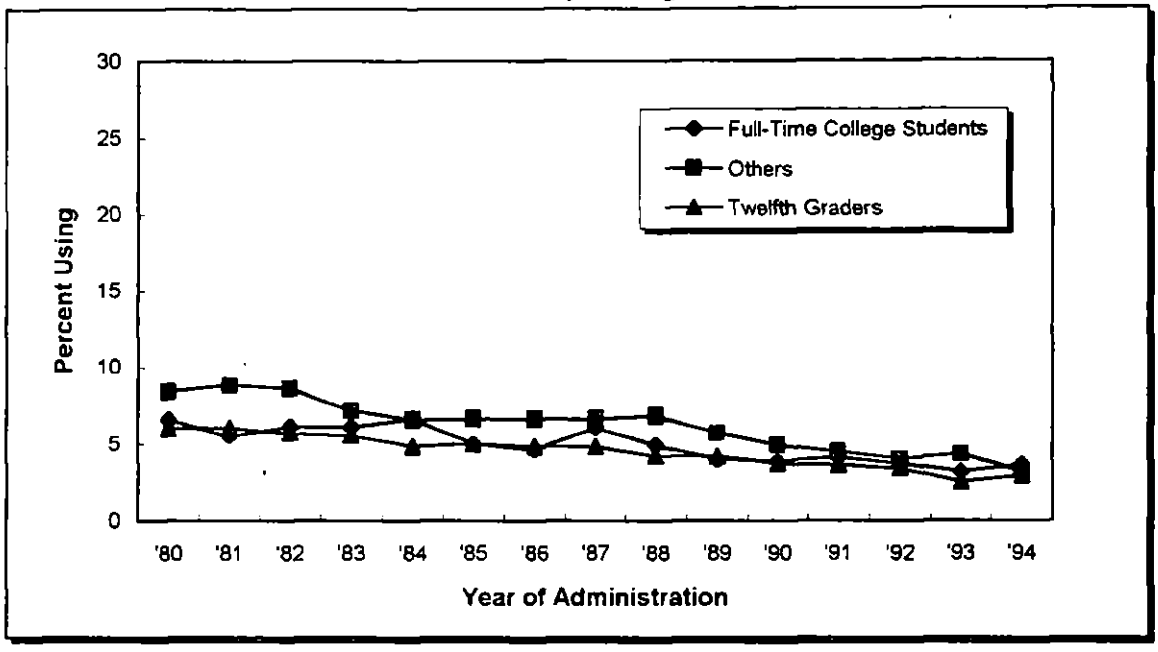
Alcohol: Trends in Annual Prevalence
Among Male and Female College Students



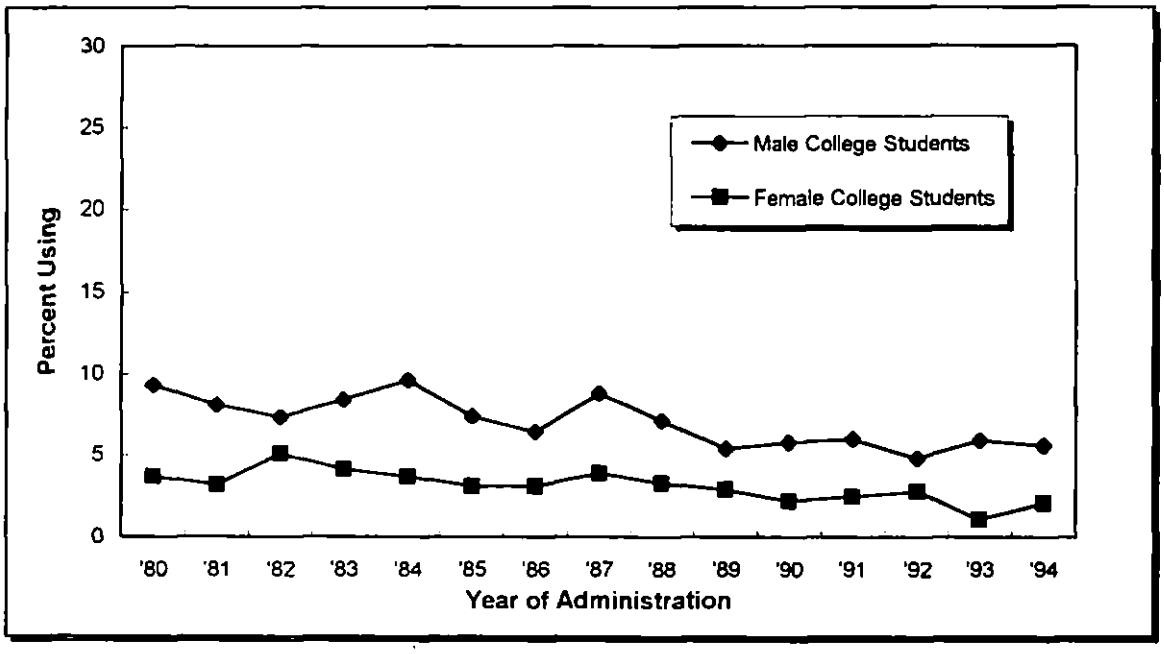
Note: 1993 data points are based on the data from the questionnaire forms containing the original wording of the alcohol questions. 1994 data points are based on the revised alcohol question. See text for details.

Figure 47b

Alcohol: Trends in Thirty-Day Prevalence of Daily Use
Among College Students Vs. Others
1-4 Years Beyond High School



Alcohol: Trends in Thirty-Day Prevalence of Daily Use
Among Male and Female College Students

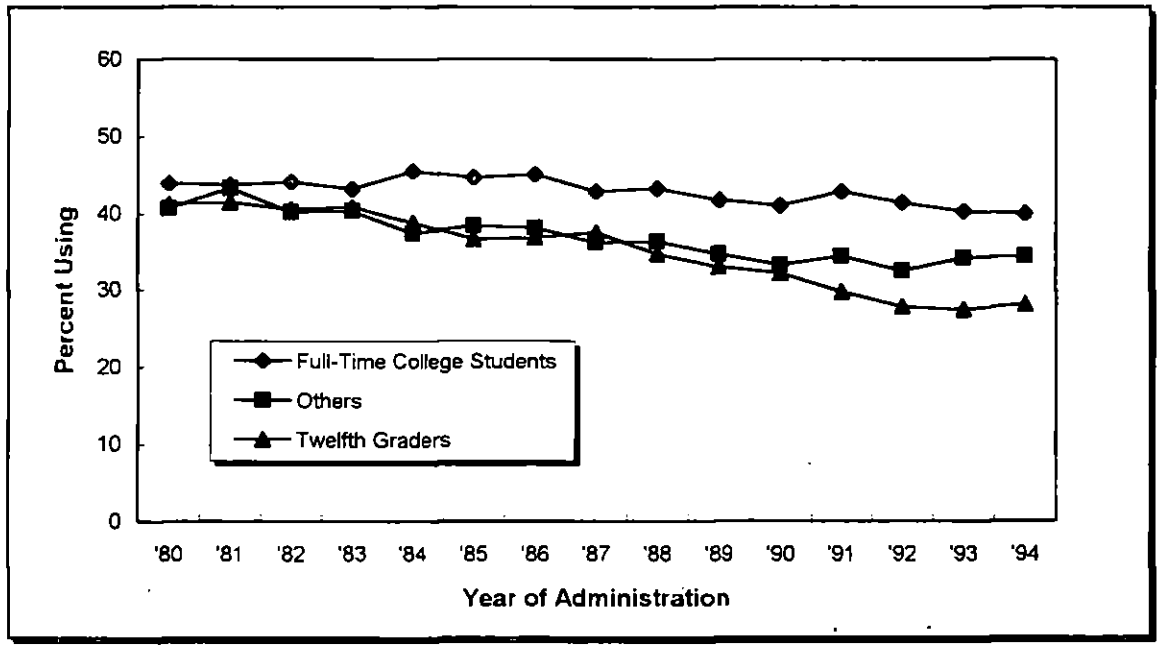


Note: 1993 data points are based on the data from the questionnaire forms containing the original wording of the alcohol questions. 1994 data points are based on the revised alcohol question. See text for details.

Figure 47c

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 and Female College Students

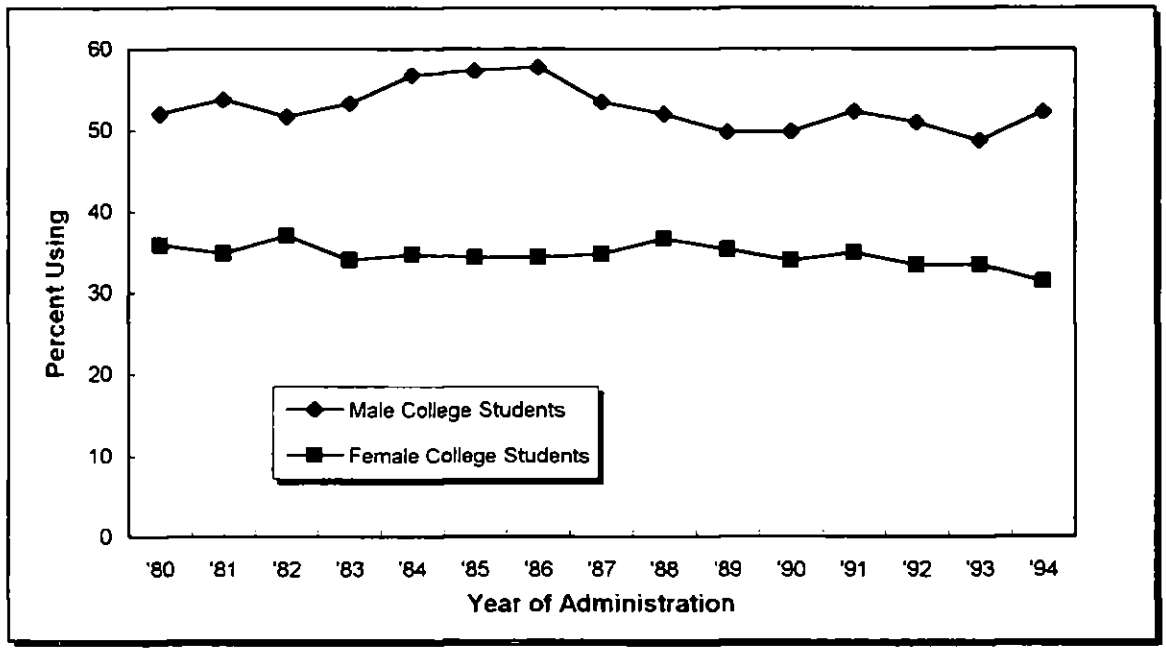
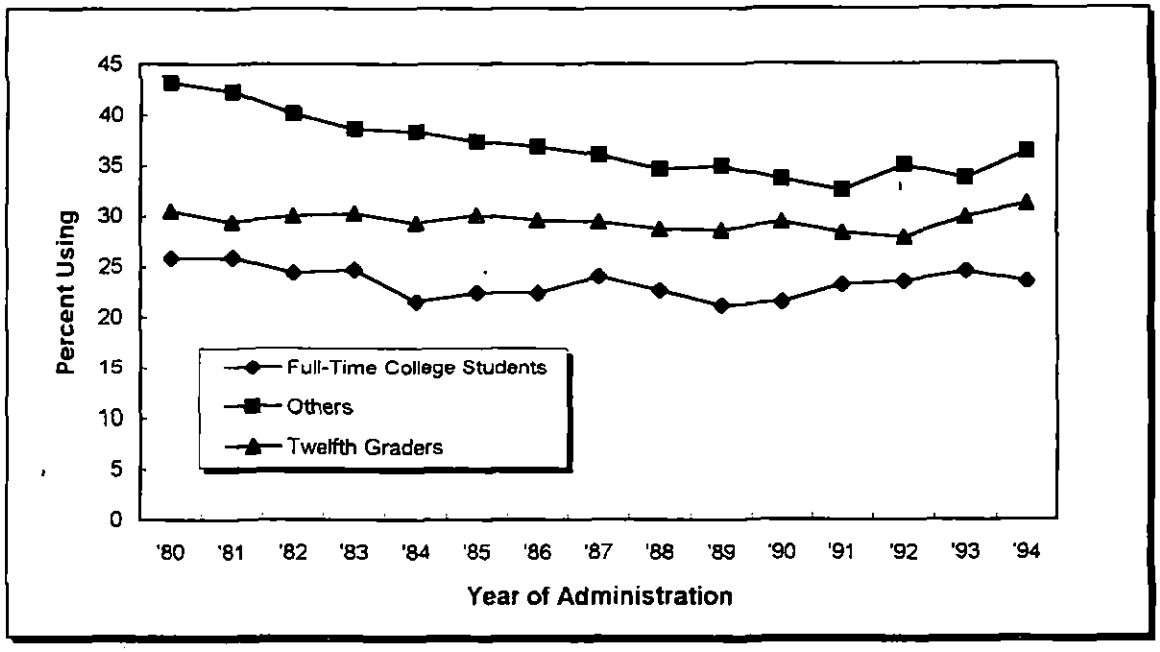


Figure 48a

Cigarettes: Trends in Thirty-Day Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



Cigarettes: Trends in Thirty-Day Prevalence
Among Male and Female College Students

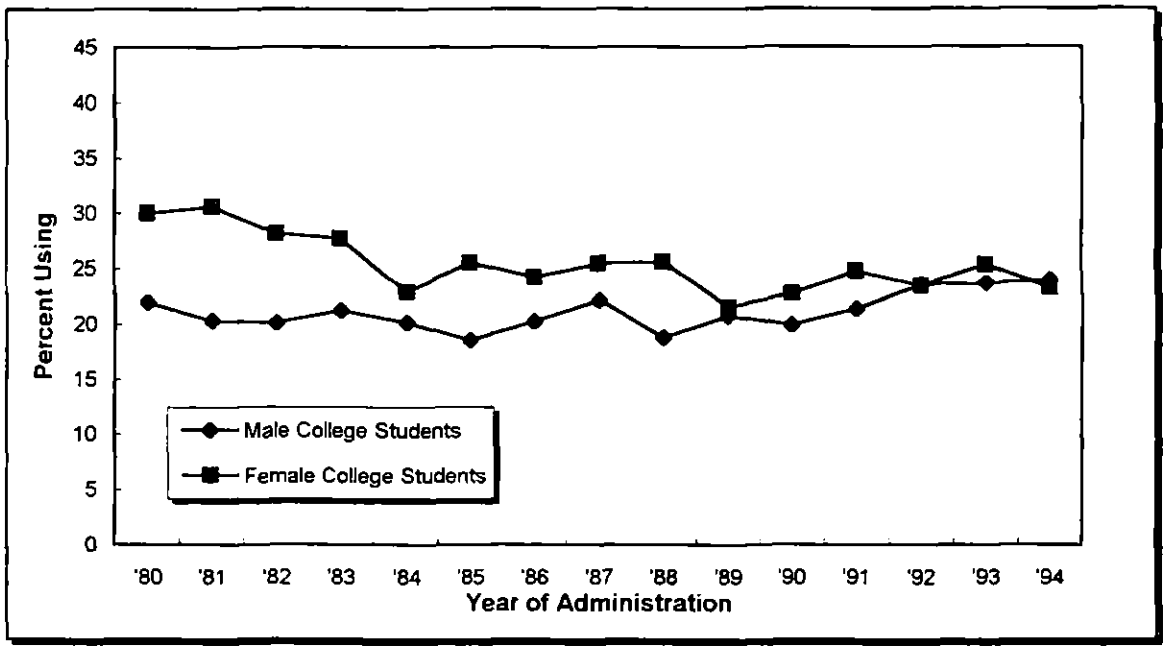
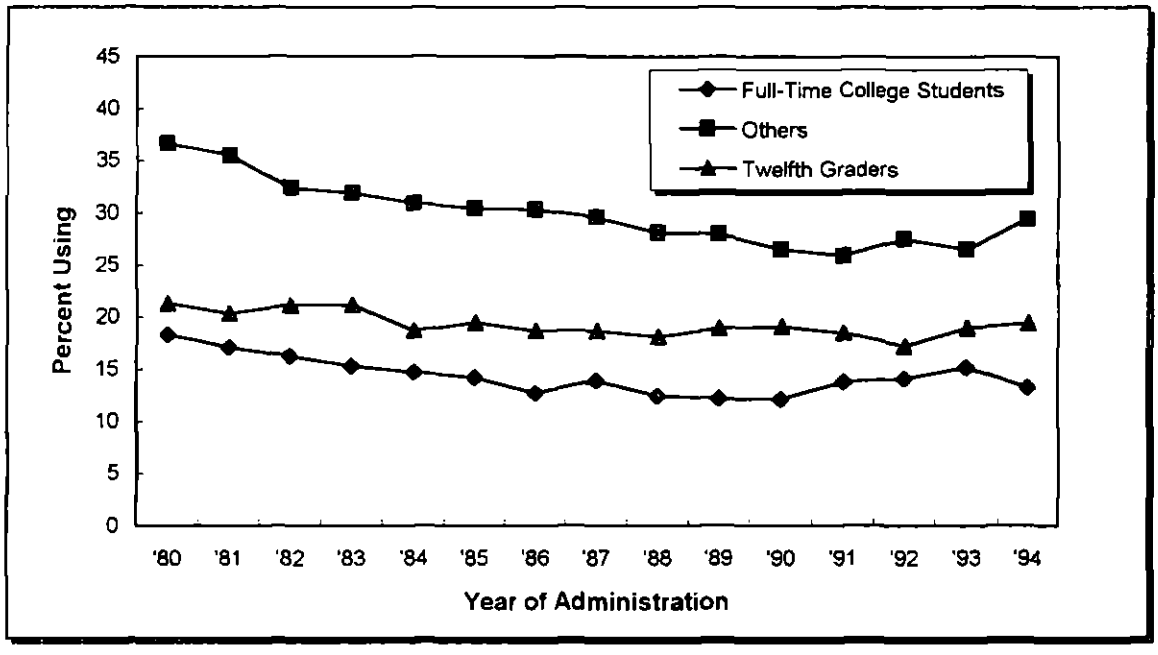


Figure 48b

Cigarettes: Trends in Thirty-Day Prevalence of Daily Use
Among College Students Vs. Others
1-4 Years Beyond High School



Cigarettes: Trends in Thirty-Day Prevalence of Daily Use
Among Male and Female College Students

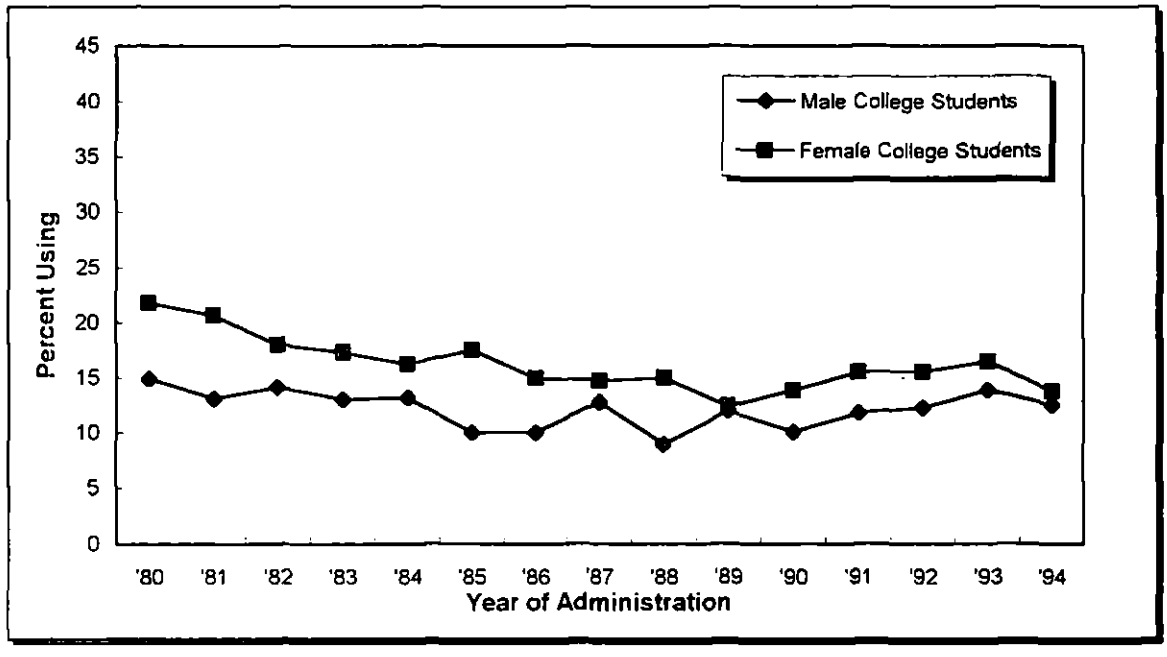
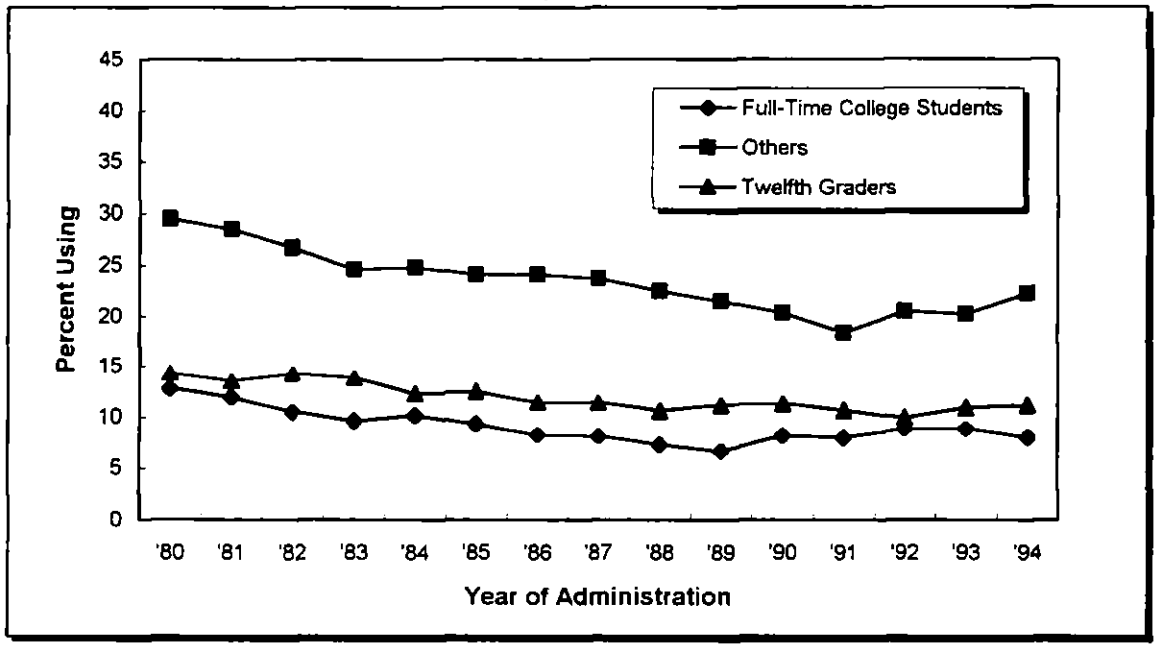


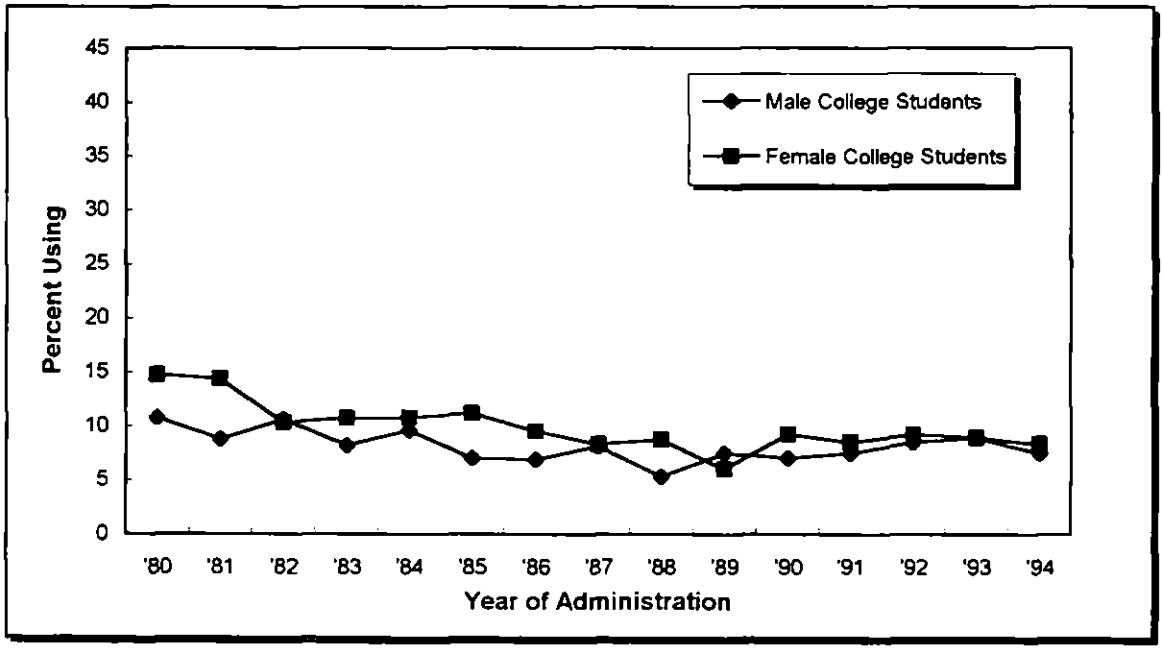
Figure 48c

Cigarettes: Trends in Thirty-Day Prevalence of Use of Half-Pack or More per Day Among College Students Vs. Others

1-4 Years Beyond High School



Cigarettes: Trends in Thirty-Day Prevalence of Use of Half-Pack or More per Day Among Male and Female College Students



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