NATIONAL SURVEY RESULTS ON DRUG USE
from
THE MONITORING THE FUTURE STUDY, 1975-1993

Volume II

College Students and Young Adults

by

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Preface

This is the second of two volumes presenting the results of the 1993 Monitoring the Future surveys. Prior to 1991, the results of both the high school senior surveys and follow-up surveys of panels drawn from previous graduating senior classes were presented in the same volume. However, this caused a delay in reporting the findings from seniors because the follow-up data collections are not completed until September of each year, whereas the senior data are collected by June. Senior data, and beginning in 1991, data from eighth and tenth grade students, can be presented earlier with the publication of two volumes. There are many readers, in fact, who are interested only in these results from secondary school students. In addition, the growing awareness of drug use on the nation's college campuses has resulted in an increasing number of readers who are interested in the results from college students, and for whom the results of seniors are less relevant. Each of the Volumes, I and II, now may be ordered separately to meet these more specific needs.

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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 1993 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 1993 follow-up surveys of the graduating high school classes of 1976 through 1992 as respondents have progressed through young adulthood.

In order for this volume to stand alone, some material from Volume I is repeated here for the reader who does not have it. 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 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, since there is such 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 data on 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 1993 are reported in Chapter 8, and Chapter 9 presents the *trends* in substance use among college students over the past fourteen 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 1979, all surveyed in 1993. 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 only up to age 32, and then less frequently beginning at age 35, the graduating classes of 1976 through 1978 were not surveyed in 1993. 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 the health-related disciplines such work is usually labeled as 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 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;

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[1]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.

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

This monograph reports findings through 1993 from the ongoing research and reporting series entitled Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth. The study has consisted of in-school surveys of nationally representative samples of high school seniors each year since 1975 and of eighth and tenth grade students each year since 1991. In addition, follow-up surveys, conducted by mail, have been carried out on representative subsamples of the respondents from each previously participating twelfth grade (beginning in 1976). (Beginning in 1993, follow-up surveys have been conducted of subsamples of eighth and tenth grade classes initially surveyed two years earlier. Results from these surveys are not included in this report.)

Findings on the prevalence and trends in drug use and related factors are presented in this report for secondary school students and also for young adult high school graduates 19-32 years old. Trend data are presented for varying time intervals, covering the past nineteen years in the case of the high school senior population. For college students, a particularly important subset of the young adult population on which there currently exist no other nationally representative data, we present detailed prevalence and trend results covering a fourteen year interval (since 1980) in Volume II of this report. 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[2]. An appendix to Volume I of 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. However the detailed findings on eighth, tenth, and twelfth grade students are presented separately in Volume I of this report. Because so many populations, drugs, and prevalence intervals are discussed here, a single integrative table is included in this chapter (Table 1) showing the 1991-1993 two-year trends for all drugs on all five populations.

[2]Data from the follow-up panels of participants in eighth and tenth grade should soon permit us to correct this omission by providing prospective data on the drug-using behaviors of dropouts.

TABLE 1

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

	Lifetime				Annual				30-Day				Daily			
	1991	1992	1993	'92–'93 change	1991	1992	1993	'92–'93 change	1991	1992	1993	'92–'93 change	1991	1992	1993	'92–'93 change
Any Illicit Drug[a]																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	44.1	40.7	42.9	+2.2s	29.4	27.1	31.0	+3.9sss	16.4	14.4	18.3	+3.9sss	—	—	—	—
College Students	50.4	48.8	45.9	−2.9	29.2	30.6	30.6	+0.1	15.2	16.1	15.1	−1.0	—	—	—	—
Young Adults	62.2	60.2	59.6	−0.6	27.0	28.3	28.4	+0.1	15.1	14.8	14.9	+0.1	—	—	—	—
Any Illicit Drug[b] Other Than Marijuana																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	26.9	25.1	26.7	+1.6	16.2	14.9	17.1	+2.2ss	7.1	6.3	7.9	+1.6sss	—	—	—	—
College Students	25.8	26.1	24.3	−1.8	13.2	13.1	12.5	−0.6	4.3	4.6	5.4	+0.7	—	—	—	—
Young Adults	37.8	37.0	34.6	−2.4ss	14.3	14.1	13.0	−1.1	5.4	5.5	4.9	−0.6	—	—	—	—
Any Illicit Drug[c] Including Inhalants																
8th Grade	28.5	29.6	32.3	+2.7ss	16.7	18.2	21.1	+2.9sss	8.8	10.0	12.0	+2.0ss	—	—	—	—
10th Grade	36.1	36.2	38.7	+2.5ss	23.9	23.5	27.4	+3.9sss	13.1	12.6	15.5	+2.9sss	—	—	—	—
12th Grade	47.6	44.4	46.5	+2.1s	31.2	28.8	32.5	+3.7sss	17.8	15.5	19.3	+3.8sss	—	—	—	—
College Students	52.0	50.3	49.1	−1.2	29.8	31.1	31.7	+0.6	15.1	16.5	15.7	−0.8	—	—	—	—
Young Adults	63.4	61.2	61.2	0.0	27.8	29.2	28.9	−0.3	15.4	15.3	15.1	−0.2	—	—	—	—
Marijuana/Hashish																
8th Grade	10.2	11.2	12.6	+1.4ss	6.2	7.2	9.2	+2.0sss	3.2	3.7	5.1	+1.4sss	0.2	0.2	0.4	+0.2ss
10th Grade	23.4	21.4	24.4	+3.0ss	16.5	15.2	19.2	+4.0sss	8.7	8.1	10.9	+2.8sss	0.8	0.8	1.0	+0.2
12th Grade	36.7	32.6	35.3	+2.7s	23.9	21.9	26.0	+4.1sss	13.8	11.9	15.5	+3.6sss	2.0	1.9	2.4	+0.5s
College Students	46.3	44.1	42.0	−2.1	26.5	27.7	27.9	+0.2	14.1	14.6	14.2	−0.4	1.8	1.6	1.9	+0.2
Young Adults	58.6	56.4	55.9	−0.6	23.8	25.2	25.1	−0.1	13.5	13.3	13.4	+0.2	2.3	2.3	2.4	+0.1
Inhalants[d,e]																
8th Grade	17.6	17.4	19.4	+2.0s	9.0	9.5	11.0	+1.5s	4.4	4.7	5.4	+0.7	0.2	0.3	0.3	0.0
10th Grade	15.7	16.6	17.5	+0.9	7.1	7.5	8.4	+0.9	2.7	2.7	3.3	+0.6s	0.1	0.1	0.2	+0.1
12th Grade	17.6	16.6	17.4	+0.8	6.6	6.2	7.0	+0.8	2.4	2.3	2.5	+0.2	0.2	0.1	0.1	0.0
College Students	14.4	14.2	14.8	+0.6	3.5	3.1	3.8	+0.7	0.9	1.1	1.3	+0.2	—	—	—	—
Young Adults	13.4	13.5	14.1	+0.6	2.0	1.9	2.1	+0.2	0.5	0.6	0.7	+0.1	*	*	*	0.0
Hallucinogens[e]																
8th Grade	3.2	3.8	3.9	+0.1	1.9	2.5	2.6	+0.1	0.8	1.1	1.2	+0.1	0.1	0.1	0.1	0.0
10th Grade	6.1	6.4	6.8	+0.4	4.0	4.3	4.7	+0.4	1.6	1.8	1.9	+0.1	*	0.1	0.1	0.0
12th Grade	9.6	9.2	10.9	+1.7ss	5.8	5.9	7.4	+1.5ss	2.2	2.1	2.7	+0.6s	0.1	0.1	0.1	0.0
College Students	11.3	12.0	11.8	−0.1	6.3	6.8	6.0	−0.8	1.2	2.3	2.5	+0.2	—	—	—	—
Young Adults	15.7	15.7	15.4	−0.4	4.5	5.0	4.5	−0.4	1.1	1.5	1.2	−0.3	0.0	0.0	*	0.0
LSD																
8th Grade	2.7	3.2	3.5	+0.3	1.7	2.1	2.3	+0.2	0.6	0.9	1.0	+0.1	*	*	*	0.0
10th Grade	5.6	5.8	6.2	+0.4	3.7	4.0	4.2	+0.2	1.5	1.6	1.6	0.0	*	0.1	*	0.0
12th Grade	8.8	8.6	10.3	+1.7ss	5.2	5.6	6.8	+1.2ss	1.9	2.0	2.4	+0.4	0.1	0.1	0.1	0.0
College Students	9.6	10.6	10.6	0.0	5.1	5.7	5.1	−0.6	0.8	1.8	1.6	−0.2	—	—	—	—

(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 19-28 Years Old

	Lifetime				Annual				30-Day				Daily			
	1991	1992	1993	'92–'93 change	1991	1992	1993	'92–'93 change	1991	1992	1993	'92–'93 change	1991	1992	1993	'92–'93 change
PCP[f]																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	2.9	2.4	2.9	+0.5	1.4	1.4	1.4	0.0	0.5	0.6	1.0	+0.4	0.1	0.1	0.1	+0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	3.1	2.0	1.9	0.0	0.3	0.3	0.2	–0.1	0.1	0.2	0.2	0.0	*	0.0	0.1	+0.1
Hallucinogens Other than LSD																
8th Grade	1.4	1.7	1.7	0.0	0.7	1.1	1.0	–0.1	0.3	0.4	0.5	+0.1	*	*	*	0.0
10th Grade	2.2	2.5	2.8	+0.3	1.3	1.4	1.9	+0.5s	0.4	0.5	0.7	+0.2	*	*	*	0.0
12th Grade	3.7	3.3	3.9	+0.6	2.0	1.7	2.2	+0.5s	0.7	0.5	0.8	+0.3s	*	*	*	0.0
College Students	6.0	5.7	5.4	–0.3	3.1	2.6	2.7	+0.1	0.6	0.7	1.1	+0.4	—	—	—	—
Young Adults	8.4	8.0	7.6	–0.4	1.7	1.9	1.9	0.0	0.3	0.5	0.6	0.0	0.0	0.0	*	0.0
Ecstasy[g]																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	2.0	2.9	2.3	–0.6	0.9	2.0	0.8	–1.2	0.2	0.4	0.3	–0.1	—	—	—	—
Young Adults	3.2	3.9	3.8	–0.1	0.8	1.0	0.8	–0.2	0.1	0.3	0.3	0.0	0.0	0.0	*	0.0
Cocaine																
8th Grade	2.3	2.9	2.9	0.0	1.1	1.5	1.7	+0.2	0.5	0.7	0.7	0.0	0.1	*	0.1	0.0
10th Grade	4.1	3.3	3.6	+0.3	2.2	1.9	2.1	+0.2	0.7	0.7	0.9	+0.2	0.1	*	0.1	0.0
12th Grade	7.8	6.1	6.1	0.0	3.5	3.1	3.3	+0.2	1.4	1.3	1.3	0.0	0.1	0.1	0.1	0.0
College Students	9.4	7.9	6.3	–1.6	3.6	3.0	2.7	–0.3	1.0	1.0	0.7	–0.2	*	0.0	0.0	0.0
Young Adults	21.0	19.5	16.9	–2.6sss	6.2	5.7	4.7	–1.1ss	2.0	1.8	1.4	–0.5s	0.1	*	0.1	0.0
Crack																
8th Grade	1.3	1.6	1.7	+0.1	0.7	0.9	1.0	+0.1	0.3	0.5	0.4	–0.1	*	*	0.1	0.0
10th Grade	1.7	1.5	1.8	+0.3	0.9	0.9	1.1	+0.2	0.3	0.4	0.5	+0.1	*	*	*	0.0
12th Grade	3.1	2.6	2.6	0.0	1.5	1.5	1.5	0.0	0.7	0.6	0.7	+0.1	0.1	0.1	0.1	0.0
College Students	1.5	1.7	1.3	–0.4	0.5	0.4	0.6	+0.2	0.3	0.1	0.1	0.0	—	—	—	—
Young Adults	4.8	5.1	4.3	–0.8s	1.2	1.4	1.3	–0.1	0.4	0.4	0.4	0.0	*	*	0.1	+0.1
Other Cocaine[h]																
8th Grade	2.0	2.4	2.4	0.0	1.0	1.2	1.3	+0.1	0.5	0.5	0.6	+0.1	*	*	*	0.0
10th Grade	3.8	3.0	3.3	+0.3	2.1	1.7	1.8	+0.1	0.6	0.6	0.7	+0.1	*	*	*	0.0
12th Grade	7.0	5.3	5.4	+0.1	3.2	2.6	2.9	+0.3	1.2	1.0	1.2	+0.2	0.1	*	0.1	0.0
College Students	9.0	7.6	6.3	–1.3	3.2	2.4	2.5	+0.1	1.0	0.9	0.6	–0.3	—	—	—	—
Young Adults	19.8	18.4	15.1	–3.3sss	5.4	5.1	3.9	–1.2ss	1.8	1.7	1.1	–0.7s	0.1	*	*	0.0
Heroin																
8th Grade	1.2	1.4	1.4	0.0	0.7	0.7	0.7	0.0	0.3	0.4	0.4	0.0	*	*	*	0.0
10th Grade	1.2	1.2	1.3	+0.1	0.5	0.6	0.7	+0.1	0.2	0.2	0.3	+0.1	*	*	*	0.0
12th Grade	0.9	1.2	1.1	–0.1	0.4	0.6	0.5	–0.1	0.2	0.3	0.2	–0.1	*	*	*	0.0
College Students	0.5	0.5	0.6	+0.1	0.1	0.1	0.1	0.0	0.1	0.0	*	0.0	—	—	—	—
Young Adults	0.9	0.9	0.9	–0.1	0.1	0.2	0.2	0.0	*	0.1	0.1	0.0	0.0	*	*	0.0

(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 19-28 Years Old

	Lifetime				Annual				30-Day				Daily			
	1991	1992	1993	'92–'93 change	1991	1992	1993	'92–'93 change	1991	1992	1993	'92–'93 change	1991	1992	1993	'92–'93 change
Ice[g]																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.3	2.9	3.1	+0.2	1.4	1.3	1.7	+0.4	0.6	0.5	0.6	+0.1	0.1	0.1	0.1	−0.1
College Students	1.3	0.6	1.6	+1.0	0.1	0.2	0.7	+0.6	0.0	0.0	0.3	+0.3	—	—	—	—
Young Adults	2.9	2.2	2.7	+0.5	0.3	0.4	0.8	+0.4	*	0.1	0.3	+0.1	0.0	0.0	0.0	0.0
Other Opiates																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.6	6.1	6.4	+0.3	3.5	3.3	3.6	+0.3	1.1	1.2	1.3	+0.1	0.1	*	*	0.0
College Students	7.3	7.3	6.2	−1.1	2.7	2.7	2.5	−0.2	0.6	1.0	0.7	−0.3	—	—	—	—
Young Adults	9.3	8.9	8.1	−0.8	2.5	2.5	2.2	−0.3	0.6	0.7	0.7	0.0	*	*	*	0.0
Stimulants																
8th Grade	10.5	10.8	11.8	+1.0	6.2	6.5	7.2	+0.7	2.6	3.3	3.6	+0.3	0.1	0.1	0.1	0.0
10th Grade	13.2	13.1	14.9	+1.8ss	8.2	8.2	9.6	+1.4s	3.3	3.6	4.3	+0.7	0.1	0.1	0.3	+0.2s
12th Grade	15.4	13.9	15.1	+1.2	8.2	7.1	8.4	+1.3ss	3.2	2.8	3.7	+0.9ss	0.2	0.2	0.2	0.0
College Students	13.0	10.5	10.1	−0.4	3.9	3.6	4.2	+0.6	1.0	1.1	1.5	+0.4	0.1	0.0	0.1	+0.1
Young Adults	22.4	20.2	18.7	−1.6s	4.3	4.1	4.0	−0.1	1.5	1.5	1.5	0.0	0.1	0.1	0.1	0.0
Tranquilizers[h]																
8th Grade	3.8	4.1	4.4	+0.3	1.8	2.0	2.1	+0.1	0.8	0.8	0.9	+0.1	*	*	0.1	0.0
10th Grade	5.8	5.9	5.7	−0.2	3.2	3.5	3.3	−0.2	1.2	1.5	1.1	−0.4s	*	*	*	0.0
12th Grade	7.2	6.0	6.4	+0.4	3.6	2.8	3.5	+0.7s	1.4	1.0	1.2	+0.2	0.1	*	*	0.0
College Students	6.8	6.9	6.3	−0.6	2.4	2.9	2.4	−0.5	0.6	0.6	0.4	−0.1	—	—	—	—
Young Adults	11.8	11.3	10.5	−0.9	3.5	3.4	3.1	−0.3	0.9	1.0	1.0	0.0	0.0	*	*	0.0
Nitrites[f]																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.6	1.5	1.4	−0.1	0.9	0.5	0.9	+0.4	0.4	0.3	0.6	+0.3	0.2	0.1	0.1	0.0
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	1.4	1.2	1.3	+0.1	0.2	0.1	0.4	+0.3	*	0.1	0.2	+0.2	*	0.0	0.2	+0.2
Barbiturates																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.2	5.5	6.3	+0.8	3.4	2.8	3.4	+0.6	1.4	1.1	1.3	+ 0.2	0.1	*	0.1	0.0
College Students	3.5	3.8	3.5	−0.3	1.2	1.4	1.5	+0.1	0.3	0.7	0.4	−0.3	—	—	—	—
Young Adults	8.2	7.4	6.5	−0.9s	1.8	1.6	1.9	+0.3	0.5	0.5	0.6	+0.1	0.0	*	0.0	0.0
Alcohol																
Any use[i]																
8th Grade	70.1	69.3	67.1	−2.2	54.0	53.7	51.6	−2.1	25.1	26.1	26.2	+0.1	0.5	0.6	0.8	+0.2
10th Grade	83.8	82.3	80.8	−1.5	72.3	70.2	69.3	−0.9	42.8	39.9	41.5	+1.6	1.3	1.2	1.6	+0.4s
12th Grade	88.0	87.5	87.0	−0.5	77.7	76.8	76.0	−0.8	54.0	51.3	51.0	−0.3	3.6	3.4	2.5	−0.9s
College Students	93.6	91.8	91.2	−0.5	88.3	86.9	86.5	−0.3	74.7	71.4	72.0	+0.6	4.1	3.7	3.2	−0.6
Young Adults	94.1	93.4	93.7	+0.3	86.9	86.2	86.5	+0.3	70.6	69.0	69.7	+0.8	4.9	4.5	4.5	+0.1

(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 19-28 Years Old

	Lifetime				Annual				30-Day				Daily			
	1991	1992	1993	'92–'93 change	1991	1992	1993	'92–'93 change	1991	1992	1993	'92–'93 change	1991	1992	1993	'92–'93 change
Alcohol																
Been Drunk[g]																
8th Grade	26.7	26.8	26.4	−0.4	17.5	18.3	18.2	−0.1	7.6	7.5	7.8	+0.3	0.1	0.1	0.2	+0.1
10th Grade	50.0	47.7	47.9	+0.2	40.1	37.0	37.8	+0.8	20.5	18.1	19.8	+1.7s	0.2	0.3	0.4	+0.1
12th Grade	65.4	63.4	62.5	−0.9	52.7	50.3	49.6	−0.7	31.6	29.9	28.9	−1.0	0.9	0.8	0.9	+0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5+ drinks in last 2 weeks																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	12.9	13.4	13.5	+0.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	22.9	21.1	23.0	+1.9s
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	29.8	27.9	27.5	−0.4
College Students	—	—	—	—	—	—	—	—	—	—	—	—	42.8	41.4	40.2	−1.2
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	34.7	34.2	34.4	+0.2
Cigarettes																
Any use																
8th Grade	44.0	45.2	45.3	+0.1	—	—	—	—	14.3	15.5	16.7	+1.2	7.2	7.0	8.3	+1.3s
10th Grade	55.1	53.5	56.3	+2.8s	—	—	—	—	20.8	21.5	24.7	+3.2ss	12.6	12.3	14.2	+1.9s
12th Grade	63.1	61.8	61.9	+0.1	—	—	—	—	28.3	27.8	29.9	+2.1s	18.5	17.2	19.0	+1.8ss
College Students	—	—	—	—	35.6	37.3	39.1	+1.8	23.2	23.5	24.7	+1.3	13.8	14.1	15.4	+1.3
Young Adults	—	—	—	—	37.7	37.9	37.8	−0.1	28.2	28.3	28.0	−0.3	21.7	20.9	20.8	−0.2
1/2 pack+/day																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	3.1	2.9	3.5	+0.6s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	6.5	6.0	7.0	+1.0
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	10.7	10.0	10.9	+0.9
College Students	—	—	—	—	—	—	—	—	—	—	—	—	8.0	8.9	9.0	+0.1
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	16.0	15.7	15.5	−0.2
Smokeless Tobacco[j]																
8th Grade	22.2	20.7	18.7	−2.0s	—	—	—	—	6.9	7.0	6.6	−0.4	1.6	1.8	1.5	−0.3
10th Grade	28.2	26.6	28.1	+1.5	—	—	—	—	10.0	9.6	10.4	+0.8	3.3	3.0	3.3	+0.3
12th Grade	—	32.4	31.0	−1.4	—	—	—	—	—	11.4	10.7	−0.7	—	4.3	3.3	−1.0ss
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[g,k]																
8th Grade	1.9	1.7	1.6	−0.1	1.0	1.1	0.9	−0.2	0.4	0.5	0.5	0.0	*	*	0.1	0.0
10th Grade	1.8	1.7	1.7	0.0	1.1	1.1	1.0	−0.1	0.6	0.6	0.5	−0.1	0.1	*	*	0.0
12th Grade	2.1	2.1	2.0	−0.1	1.4	1.1	1.2	+0.1	0.8	0.6	0.7	+0.1	0.1	0.1	0.1	+0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	1.7	1.9	1.5	−0.4	0.5	0.4	0.3	−0.1	0.2	0.1	0.0	−0.1	0.0	0.1	0.0	−0.1

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.

Footnotes for Table 1

[a]Use of "any illicit drugs" includes any use of: marijuana, hallucinogens, cocaine (powder or crack), or heroin; **or** any use of opiates other than heroin, stimulants, barbiturates, or tranquilizers not under a doctor's orders.

[b]"Use of any illicit drugs other than marijuana" includes any use of: hallucinogens, cocaine (powder or crack), or heroin; **or** any use of opiates other than heroin, stimulants, barbiturates, or tranquilizers not under a doctor's orders.

[c]For 12th graders, college students and young adults, "Use of any illicit drugs, including inhalants" includes any use of: marijuana, inhalants, hallucinogens, cocaine (powder or crack), or heroin; **or** any use of opiates other than heroin, 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).

[d]12th grade, college students, and young adults only: Data based on five questionnaire forms in 1991-1993; N for 12th graders is five-sixths of N indicated. N for college students is 1250 in 1993, and N for young adults is 5480.

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

[f]12th grade and young adults only: Data based on a single questionnaire form; N for 12th graders is one-sixth of N indicated in 1991-1993. N for young adults is 1250 in 1993.

[g]12th grade, college students, and young adults only: This drug was asked about in two of the six questionnaire forms. N is one-third of N indicated for 12th graders. In 1993, N for college students is 500, and N for young adults is 2500.

[h]12th grade, college students, and young adults only: Data based on four questionnaire forms in 1990-1993; N is four-sixths of N indicated for 12th graders. In 1993, N for college students is 1000, and N for young adults is 4230.

[i]8th, 10th, 12th grades: In 1993, data based on one of two questionnaire forms for the 8th and 10th grades and on three of six questionnaire forms for the 12th grade. N is one-half of N indicated for these three groups. College students and young adults: In 1993, data were based on three questionnaire forms. N for college students in 1993 is 750. N for young adults is 3700.

[j]Data based on one questionnaire form. For 12th graders, N is one-sixth of N indicated. For 8th and 10th graders, N is one-half of N indicated.

[k]Young adults only: Data based on one questionnaire form. N in 1993 is 1250.

Approximate N's:

8th Grade = 17,500 in 1991; 18,600 in 1992; 18,300 in 1993
10th Grade = 14,800 in 1991; 14,800 in 1992; 15,300 in 1993
12th Grade = 15,000 in 1991; 15,800 in 1992; 16,300 in 1993
College Students = 1410 in 1991; 1490 in 1992; 1490 in 1993
Young Adults = 6600 in 1991; 6800 in 1992; 6700 in 1993

TRENDS IN ILLICIT DRUG USE

- In the previous volume in this series we noted that there was an increase in 1992 in the use of a number of illicit drugs among the eighth graders and some reversals among the seniors in key attitudes and beliefs. More specifically, the proportions seeing great risk in using drugs began to decline as did the proportions saying they disapproved of use. We stated that these developments were "very important because they could presage an end to the improvements in the drug situation that the nation may be taking for granted". Unfortunately, that is exactly what it presaged: The use of illicit drugs rose sharply in 1993 in all three grade levels as attitudes and beliefs about them eroded further. So, 1993 was a year in which a turnaround in the long decline occurred for a number of drugs among the nation's secondary school students.

- ***Marijuana*** use rose sharply in all three grade levels. In the case of eighth graders, this was the second year of increase. Among college students and all young adults, however, marijuana use leveled in 1993, following an earlier rise in use. One in forty high school seniors is a daily marijuana user (2.4%, up from 1.9% in 1992, see Table 1). This is still far below the peak rate of 10.7% daily use reached in 1978.

- Among seniors, the proportions using ***any illicit drug other than marijuana*** in the past year rose from 14.9% to 17.1%, a rate which is still substantially below the 34% peak rate in 1981. There was little further change for college students or young adults, 13% of whom report such use in 1993.

- Since 1989 there has been an increase in the use of ***LSD***–a drug of the late 1960s and early 1970s–among college students and young adults. In 1992, all five populations showed an increase in annual prevalence of LSD use though the one-year increase was statistically significant only among eighth graders (from 1.7% to 2.1%). In 1993, the eighth, tenth, and twelfth graders showed further increase, though this time only the twelfth grade change was significant. 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.

  Just prior to the significant increase in use among seniors, there was a significant 4.3% decline in 1992 and a nonsignificant, but continued decline in 1993 in the proportion seeing great risk associated with trying LSD. In 1992 there was also a two percentage point decline (nonsignificant) in the proportion disapproving it and this trend continued in 1993. 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.

- 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 turnaround in 1993, with annual and 30-day prevalence rates increasing among four of the five populations. (Young adults were the exception.) Annual prevalence had fallen from 20% in 1982 to 7% in 1992 among seniors and from 21% to 4% among college students. The increase in use among seniors in 1993 followed a sharp drop in perceived risk a year earlier. In 1993, perceived risk continued to decline and disapproval of amphetamine use began to decline as well. This pattern is consistent with our theoretical position that perceived risk can drive both use *and* disapproval.

- The ***inhalants*** constitute another class of abusable substance where we observe a troublesome increase in 1993. This class of drugs is defined by the form of the substance and its mode of administration–fumes or gases which are inhaled to get high. It includes common household substances such as glues, aerosols, butane, solvents, and so on. One class of inhalants, ***amyl and butyl nitrites***, became somewhat popular in the late 1970s, but their use has almost been eliminated. For example, annual prevalence among twelfth grade students was 6.5% in 1979 but 0.9% in 1993.

  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 7.0% in 1993. It appears from the retrospective usage data supplied by twelfth grade students that the increase in inhalant use (unadjusted to include the nitrites) also increased at lower grade levels, where inhalant use is more common, during the late 1980s. In 1993 all five populations showed some modest increase in inhalant use, though only the increases in eighth and tenth grade (both of which increased last year as well) reached statistical significance. Some 11% of the 1993 eighth graders and 8% of the tenth graders indicated some inhalant use in the prior 12 months, making inhalants the most widely used class of illicitly used drugs for eighth graders and the third most widely used (after marijuana and stimulants) for the tenth graders. The inhalants can and do cause death, and tragically, this often occurs among youngsters in their early teens.

- The use of ***crack*** cocaine appeared to level in 1987 at relatively low prevalence rates, at least within these populations. (This occurred despite the fact that the crack phenomenon continued a process of diffusion to new communities that year.) In 1993, annual prevalence held steady at 1.5% for seniors (down from 3.9% in 1987). Among young adults one to ten years past high school, annual prevalence was

1.3%, but only 0.6% 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 (1.2% vs. 2.7%). There is now rather little regional variation in crack use.

We believe that the particularly intense media coverage of the hazards of crack cocaine, which took place quite early in what could have been a considerably more serious epidemic, likely had the effect of "capping" that epidemic early by deterring many would-be users and by motivating many experimenters to desist use. While 2.6% of seniors report ever having tried crack, only 0.7% report use in the past month, indicating noncontinuation by 73% of those who try it. The longer-term downward trend can be explained both in terms of lower initiation rates among students and higher noncontinuation rates.

Unfortunately, while use did not rise in 1993, perceived risk and disapproval dropped in all three grade levels, which could presage an increase in use in 1994.

- ***Cocaine*** 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 studied.[3] As we had predicted earlier, the decline occurred when young people began to see experimental and occasional use—the type of use in which they are most likely to engage—as more dangerous; and this happened 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.

  As with crack, the story regarding attitudes and beliefs is more troubling. Having risen substantially since 1986, the perceived risk of using cocaine in general showed no further change in 1991 among seniors and actually showed some (nonsignificant) decline in 1992. 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. As with crack, these changes in attitudes and beliefs do not auger well for usage rates next year.

[3]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 decreased 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. Eighth and tenth graders reported a significant increase in the availability of crack and other cocaine in 1992, but there was no significant change in 1993.

As with all the illicit drugs, lifetime cocaine prevalence climbs with age, exceeding 30% 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, from an annual prevalence of 7.0% in 1979 to 2.2% in 1982 among high school seniors. It reached a low point of 1.2% in 1988, increased a bit to 2.4% in 1989, and then fell back to 1.4% by 1991, where it has remained through 1993. For the young adults, the annual prevalence rate is now only 0.2%.

- The annual prevalence of ***heroin*** use has been very steady since 1979 among seniors at 0.4% to 0.6%. (Earlier, it had fallen from 1.0% in 1975.) It stands at 0.5% in 1993. The heroin statistics for young adults and college students have also remained quite stable in recent years at low rates (about 0.1% to 0.2%). Eighth and tenth graders have an annual prevalence about the same as, or slightly higher than twelfth graders (0.7%) which is probably due to the fact that the eventual dropouts are captured in the lower grades but not in twelfth grade. Their rates remained unchanged in 1993.

- 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 3% to 6% since 1975. In 1991, however, the first recent significant decline (from 4.5% to 3.5%) was observed, though no further changes occurred in 1992 or 1993. Young adults in their twenties have generally shown a very gradual decline from 3.1% in 1986 to 2.2% in 1993; college students have likewise shown a slow decrease, from 3.8% in 1982-1984 to 2.5% in 1993. 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%. For the young adult sample, annual prevalence has now declined to 3.1% and for the college student sample to 2.4%.

- The long-term gradual decline in ***barbiturate*** use, which began at least as early as 1975, when the study began, halted in 1988; the annual prevalence among seniors fell to 3.2%, compared to 10.7% in 1975. (It stands at 3.4% in 1993.) Annual prevalence of this class of sedative drugs is even lower among the young adult sample (1.9%), and lower still among college students specifically (1.5%). For these groups there has been little further change since 1988. As with the opiates other than heroin, we do not include data 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 0.5% by 1991 and stands at 0.2% in 1993. 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 recent years, 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 which have had an impact on appreciable proportions of young Americans in their late teens and twenties are ***marijuana***, ***cocaine***, ***stimulants***, ***LSD***, and ***inhalants***. In 1993, high school seniors showed annual prevalence rates of 26%, 3%, 8%, 7%, and 7%, respectively. Among college students in 1993, the comparable annual prevalence rates are 28%, 3%, 4%, 5%, and 4%; and for all high school graduates one to ten years past high school (young adults) the rates are 25%, 5%, 4%, 4%, and 2%. It is worth noting that LSD has climbed in the rankings because it either has not declined, or in some cases has increased, during a period in which cocaine, amphetamines, and other drugs have 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, inhalants are the most widely used of the illicit drugs in eighth grade.

- 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 back some to 19% in 1993. Increases also occurred among the college-age young adult population (ages 19-22), where annual prevalence had been as high as 26% in 1989, but is now down to 19% in 1993.

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 23% of the females have tried diet pills by the end of senior year, 12% have used them in the past year, and 5% in just the past month.

College-Noncollege Differences

- 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 two-thirds what it is for the rest of their age group, i.e., 1.9% vs. 2.7%), ***hallucinogens***, ***MDMA***, ***heroin***, ***LSD***, ***opiates other than heroin***, and ***tranquilizers***. 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, and ***barbiturates***. They have a slightly higher rate of use for ***inhalants*** (3.8% vs. 2.7%).

  Since college-bound seniors had below average rates of use on all of these illicit drugs while they were in high school, their eventually attaining parity on many of them reflects some closing 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 to have left the parental home and less likely to have gotten married than their age peers.

- In general, the trends since 1980 in illicit substance use among American college students have been found to parallel those of their age peers not in college. That means that for most drugs there has been a decline in use over the interval. 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 over the decade of the 1980s was proportionately larger in these two older populations than among high school seniors. In 1993, this general parallel in trends was not evident; the upturn seen among the secondary school students was not replicated in the post-high school population.

Male-Female Differences

- Regarding sex differences in the three older populations (seniors, college students, and young adults), males are more likely to use ***most illicit***

drugs, and the differences tend to be largest at the higher frequency levels. ***Daily marijuana use*** among high school seniors in 1993, for example, is reported by 3.3% of males vs. 1.5% of females; among all young adults aged 19-32 by 3.5% of males vs. 1.6% of females; and among college students, specifically, by 2.6% of males vs. 1.3% 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. The sexes also attain near parity on ***stimulant, tranquilizer, barbiturate, heroin,*** and ***other opiate*** use among the college and young adult populations.

- In the eighth and tenth grade samples, however, 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, for example, 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

- Regarding ***alcohol*** use in these age groups, several findings are noteworthy. First, despite the fact that it is illegal for virtually all high school students and most college students to purchase alcoholic beverages, experience with alcohol is almost universal among them (67% of eighth graders have tried it, 81% of tenth graders, 87% of twelfth graders, and 91% 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 14%, among tenth graders at 23%, among twelfth graders at 28%, and among college students at 40%. After the early twenties this behavior recedes somewhat, reflected by the 32% found in the entire young adult sample aged 19-32.

- Regarding trends in alcohol use, during the period of recent decline in the use of marijuana and other illicit drugs there appears not to have been any "displacement effect" in terms of any increase in alcohol use among seniors. (It was not uncommon 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 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*** during the prior two-week interval fell from 41% in 1983 to 28% in 1993–nearly a one-third decline.

  In 1993 there were no statistically significant changes in any of the populations in the prevalence of drinking in the prior 30-days, i.e.,

"current prevalence." There was a significant increase in the binge drinking rate for the tenth grade population. Eighth graders showed increases on both measures, though they were not statistically significant.

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 is at 40% in 1993—considerably higher than the 28% among high school seniors. Since both their noncollege-age peers and high school seniors have been showing a net decrease in occasions of heavy drinking since 1980, the college students stand out in 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 reflects their "catching up and passing" their peers after high school in their rates of binge drinking.

- In most surveys from 1980 onward, college students have had a ***daily drinking*** rate (3.2% in 1993) which is slightly lower than that of their age peers (4.3% in 1993), suggesting that they are more likely to confine their drinking to weekends, on which occasions they tend to drink a lot. Again, college men have much higher rates of daily drinking than college women: 5.9% vs. 1.1%. The rate of daily drinking has fallen considerably among the noncollege group, from 8.7% in 1981 to 4.3% in 1993.

Male-Female Differences

- There remains a quite substantial sex difference among high school seniors in the prevalence of ***occasions of heavy drinking*** (21% for females vs. 35% for males in 1993); this difference generally has been diminishing very gradually since the study began over a decade ago.

- There also remain very substantial sex differences in alcohol use among college students and young adults generally, with males drinking more. For example, 49% of college males report having five or more drinks in a row over the previous two weeks vs. 33% of college females. However, there has been little change in the differences between 1980 and 1993.

TRENDS IN CIGARETTE SMOKING

- A number of important findings have emerged from the study concerning ***cigarette smoking*** among American adolescents and young adults. Of greatest importance is the fact that by late adolescence

sizeable proportions of young people still are establishing regular cigarette habits, despite the demonstrated health risks associated with smoking. 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.

- While the ***daily smoking*** rate for seniors did drop considerably between 1977 and 1981 (from 29% to 20%), it has dropped very little during the intervening twelve years (by only another 1.0%, to 19% in 1993) despite the appreciable downturn which has occurred in most other forms of drug use (including alcohol) during this period. And, despite all the adverse publicity and restrictive legislation addressed to the subject during the 1980's, the proportion of seniors who perceive "great risk" to the user of suffering physical (or other) harm from pack-a-day smoking has risen only by 5.8% since 1980 (to 70% in 1993). That means that nearly a third of seniors still do not feel there is a great risk associated with smoking.

- The story may be even more troublesome at the lower grade levels. While we do not have long-term trends from eighth and tenth graders, their current smoking rates were up significantly in the past year to 17% and 25%, respectively. Of particular concern, only 53% of the eighth grade students and 61% of the tenth grade students think that a pack-a-day smoker runs a great risk of harm from that behavior. This fact suggests that the health message has not reached American youngsters at the ages when most of the eventual smokers first initiate smoking. Further, there is no indication of any increase in perceived risk (or of disapproval) of smoking in these age groups. Given that cigarette smoking is the greatest preventable cause of death and disease in the country, the need for a more intense and effective prevention effort aimed at younger children is clearly very great.

Age and Cohort-Related Differences

- 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. 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 overestimate their own ability to quit. And with the addition of eighth and tenth grade students to the study, we now know that younger children are even more likely than older ones to underestimate the dangers of smoking.

College-Noncollege Differences

- 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 (19% 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 20% and 9%, respectively.

Male-Female Differences

- 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.

RACIAL/ETHNIC COMPARISONS

While we have published articles elsewhere on ethnic differences in drug use, this is only the third volume in this series to include prevalence and trend data for the three largest ethnic groupings–whites, blacks, and Hispanics taken as a group. (Sample size limitations simply do not allow finer subgroup breakdowns unless many years are combined.) Further, 1991 was the first year in which we had data on eighth and tenth graders, for whom ethnic comparisons would be less likely to be affected by differential dropout rates among the three groups, than would be true for seniors. 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; and we now know that 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 (4% vs. 21% in senior year) 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 (13%) than by white (31%) or Hispanic students (27%).

- In twelfth grade, of the three groups, whites have the highest rates of use on a number of drugs, including ***inhalants, hallucinogens, LSD*** specifically, ***barbiturates, amphetamines, tranquilizers, opiates other than heroin, alcohol*** and ***cigarettes***. In 1993 ***marijuana*** usage rates are about equivalent for whites and Hispanics, but whites have previously had the highest rates.

- However, in senior year, Hispanics have the highest usage rate for a number of the most dangerous drugs: ***cocaine, crack, other cocaine,*** and ***heroin***. 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, whites, and blacks is 20%, 11%, and 9% for ***marijuana***; 7%, 4%, and 1% for ***hallucinogens***; 52%, 47%, and 34% for ***cigarettes***; 21%, 13%, and 11% 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. Hispanics on average also may have a tendency to begin use earlier—a hypothesis yet to be tested.

- With regard to trends, seniors in all three racial/ethnic groups exhibited the recent decline in ***cocaine*** use, although black seniors did not show as large an increase in use as did whites and Hispanics; therefore, their decline was less steep.

- 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.

- Important racial/ethnic differences in ***cigarette smoking*** have emerged among seniors during the life of the study. In the late 70's, the three groups were fairly similar in their smoking rates; all three mirrored the general decline in smoking from 1977-1981. Since 1981, however, a considerable divergence has emerged: Smoking rates have declined very little, if at all, for whites and Hispanics, but the rates for blacks continued to decline steadily. As a result, in 1993 the daily smoking rates for blacks is one-fifth that for whites.

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 this country has to continue to address the problems of substance abuse among its young.

- By eighth grade 67% of youngsters report having tried ***alcohol*** and more than a quarter (26%) say they have already been drunk at least once.

- ***Cigarettes*** have been tried by nearly half of eighth graders (45%) and 17%, or one in six, say they have smoked in the prior month. Only 53% 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 11% of them, and is used daily by 2.9%. Rates are far lower among the female eighth graders.

- Among eighth graders, almost one in five (19%) have used ***inhalants*** and 5% 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 eight eighth graders (13%), and has been used in the prior month by 5.1%.

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

- Consistent with the retrospective reports from seniors, which have been included in this series in previous years, relatively few eighth graders say they have tried most of the other illicit drugs yet.

  But the proportions having at least some experience with them still is not inconsequential: ***tranquilizers*** (4.4%), ***LSD*** (3.5%), ***other hallucinogens*** (1.7%), ***crack*** (1.7%), ***other cocaine*** (2.4%), ***heroin*** (1.4%), and ***steroids*** (1.6% overall, and 2.5% 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 along the fairly orderly progression of involvement.

SUMMARY AND CONCLUSIONS

To summarize the findings on trends, over the last decade or so there have been 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 more generally. 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 serve as a reminder that these improvements are not inevitable and cannot be taken for granted.

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 we heard a number of alarm bells sounding. 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 ***marijuana, cocaine, LSD***, and ***hallucinogens other than LSD***, 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 still more alarms went off. The eighth graders continued to show an increase in their use of a number of drugs and (as their prior shifts in attitudes and beliefs foretold) the tenth graders and twelfth graders joined them. Rises are seen in a number of the so-called "gateway drugs"—in this case ***marijuana, cigarettes,*** and ***inhalants***—which may bode ill for the use of later drugs in the usual sequence of involvement. The softening of attitudes about ***crack*** and other forms of ***cocaine*** also is a basis for concern.

As this study has demonstrated over the years, changes in perceived risk and disapproval have been important causes of the downturns which have occurred in the use of a number of drugs. These beliefs and attitudes surely are in turn influenced by the amount and nature of the public attention being paid to the drug issue. The fact that this attention has declined so substantially in the past few years may help to explain why the increases in perceived risk and disapproval among students ceased, and some clear backsliding has begun.

Of particular concern here is not only the possibility that there may be an increase in the use of particular drugs like LSD and inhalants, but that we may 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 is a danger that, as the drug epidemic has subsided considerably, newer cohorts 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.

Monitoring the Future

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

- By the end of eighth grade, one-third (32%) of American secondary school students have tried an ***illicit drug*** (if inhalants are included as an illicit drug). Almost two-fifts of tenth graders hae done so (39%), and nearly one-half of twelfth graders (47%).

- By their late twenties, 75% to 80% of America's young adults today have tried an ***illicit drug***, including over 50% who have tried some ***illicit drug other than*** (usually in addition to) ***marijuana***. Even for high school seniors these proportions are 43% and 31%, respectively.

- By age 28, about one-third of young Americans have tried ***cocaine***; and as early as the senior year of high school 6% have done so. Roughly one in every forty seniors (2.6%) have tried the particularly dangerous form of cocaine called ***crack***: in the young adult sample one in twenty-five (4.3%) have tried it.

- One in forty (2.4%) of high school seniors in 1993 smoke ***marijuana daily***, as is true among young adults aged 19 to 28 (2.4%). Among seniors in 1993, 9.6% had been daily marijuana smokers at some time for at least a month, and among young adults the comparable figure is 12.8%.

- Some 28% of seniors have had ***five or more drinks in a row*** at least once in the prior two weeks, 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 49%.

- Some 30% of seniors are current ***cigarette*** smokers and 19% already are current daily smokers, and these numbers are *rising*. In addition, many of the lighter smokers will convert to heavy smoking after high school. For example, more than one in every five young adults aged 19 to 28 is a daily smoker (21%).

- Thus, despite the improvements in recent years, 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 continually be preparing for, and remaining vigilant against, the opening of new fronts, as well as the re-emergence of trouble on older ones.

- In sum, 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.

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 19 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.[4]

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 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

[4]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.

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, which 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 1989-1993 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 will return to a more simplified design beginning in 1995 in which eighth grade schools will be drawn independently of the tenth grade school sample, and *all* follow-ups of eighth graders will be completed by mail.

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.[5] 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

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

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.

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 for $5.00, made payable to the respondent, is attached to the front of each questionnaire.[6] 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 1993 panel retention from the class of 1979–the oldest of the panels, now aged 32 (14 years past their first data collection in high school) is 66%.

Corrections for panel attrition. Since, to a modest degree, attrition is 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.[7]

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[6]Note that, beginning with the Class of 1992, the follow-up checks have been raised to $10.00 to compensate for the effects of inflation over the life of the study. An experiment conducted on recent classes suggested that the increased payment was justified based on the increased panel retention it achieved.

[7]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.

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, 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 data from the more recent classes will 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.[8] The 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

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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.

[8]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. 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.

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 in the year-to-year trend estimates due to school turnover. 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 1993, completed questionnaires were obtained from 90% of all sampled students in eighth grade, 86% 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[9] provides a discussion of this point and Appendix 1 of Volume of the present report shows trend and prevalence estimates which would result if corrections for absentees had been included.

Of course, some students are not absent from class, but simply refuse when asked to complete a questionnaire. However, the proportion of explicit refusals amounts to less than 1% 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.[10]

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[9]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.

[10]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.,

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.[11] 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 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 in much the same way from one year to the next. In other words, biases in the survey estimates will tend to be consistent from one year to another, which means that our measurement of *trends* should be affected very little by any such biases. The smooth and consistent nature of most trend curves reported for the various drugs provides rather compelling empirical support for this assertion.

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. (in press). Validity of self-reports in student-based studies on minority populations: Issues and concerns. In M. de LaRosa (Ed.), *Drug abuse among minority youth: Advances in research and methodology.* NIDA Research Monograph. Rockville, MD: National Institute on Drug Abuse.

[11]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.

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 1993, this meant that representative samples of the classes of 1979 through 1992 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, 1977, and 1978 were not included in the 1993 follow-up surveys. They will be surveyed at age 35 and at five year intervals thereafter.

In this section we present the results of the 1993 follow-up survey–results 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%, 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 1993 *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.[12]

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.

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.

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[12]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.

- *In 1993 the adjusted lifetime prevalence figures among 31 to 32 year olds reach 81% for **any illicit drug**; 63% for **any illicit drug other than marijuana**; 78% for **marijuana**; and 42% for **cocaine**, specifically. Put another way, among young Americans who graduated high school in 1979 and 1980 less than one-fifth (19%) have never tried an illegal drug.*

  The 1993 survey responses, *unadjusted* for previous answers, show somewhat lower lifetime prevalence: 75% for ***any illicit drug***, 51% for ***any illicit drug other than marijuana***, 73% for ***marijuana***, and 36% for ***cocaine***.

- Despite the higher levels of lifetime use among older age groups, these groups 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***.[13]

- For the use of ***any illicit drug***, lifetime prevalence is 81% among 31 to 32 year olds vs. "only" 43% among the 1993 high school seniors. Annual prevalence, however, is highest among the seniors and the 19 to 20 year-olds (31%) 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 (18%), 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 rates during the later twenties. Current ***daily marijuana use***, which ranges between 2% and 3% across the age band, shows the least variation. (See Table 6).

- Statistics on the use of ***any illicit drug other than marijuana*** (Figure 2) have a similar pattern. Like marijuana and the

[13]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.

any-illicit-drug-use index, corrected lifetime rates on this index also show an appreciable rise with age, reaching 63% among the 31 to 32 year old age group. Current use shows less variation across all age bands, ranging from 3% to 8%. Annual use declines gradually with increased age of the respondent. Most of the drugs which 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 7% for high school seniors (Figure 7). 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, active 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.

- In 1993, 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 0.7% reported some use in the prior year–lower than the 1.7% 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*** presents a unique case among the illicit drugs in that lifetime, annual, and current use are higher among the older age groups (Figure 5). Annual and current use appear to reach a plateau in the mid-20's and then remain fairly constant through age 32. In 1993, lifetime (adjusted) prevalence by age 31 to 32 was 42% vs. 6% among today's high school seniors, and 15% to 16% among the 31 to 32 year old cohorts when they were seniors in 1979-1980. Annual prevalence for 31 to 32 year olds today is 5% and 30-day prevalence is 2%–again,

higher than for the 1993 seniors. Clearly, cocaine is used more frequently among people in their twenties than among those in their late teens. This fact continues to distinguish cocaine from all of the other illicit drugs.

- The standard set of three prevalence questions was introduced for ***crack*** use for the first time in 1987 (see Figure 6). In 1993, lifetime prevalence reached 7%-8% among those in their late twenties and early thirties, vs. 2.6% among seniors. However, current prevalence for the follow-up respondents is at or below that for seniors. On average, the follow-up respondents one to fourteen years out of high school have an annual prevalence of 1.2% vs. 1.5% among seniors, and a 30-day prevalence of 0.4% vs. 0.7% 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.

  As with the senior data, however, we expect that the omission of high school dropouts is likely to have a greater than average impact on the prevalence estimates for crack.

- 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 to a "ceiling effect," changes very little after age 21 to 22. Current (30-day) use is highest among the 21 to 22 and 23 to 24 year olds and gradually gets lower for each higher age group. Even among the oldest group, 31 to 32, the current usage rate is higher than among 1993 seniors. Current ***daily drinking*** shows no decline after age 23 to 24; it remains fairly constant at 4%-5% through the twenties and early thirties (Figure 18b).

- ***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 (40%). Then there is a fall-off with each subsequent age group, dropping to 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).[14]

[14]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.*

- ***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 twenties 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 daily or 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 during their twenties.[15] While slightly more than a third of the current smokers in high school smoke at the rate of half-pack a day or more, almost three-quarters (72%) of the current smokers in the 31 to 32 age group do so.

- In 1989, ***MDMA*** (ecstasy) was added to two forms only 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.

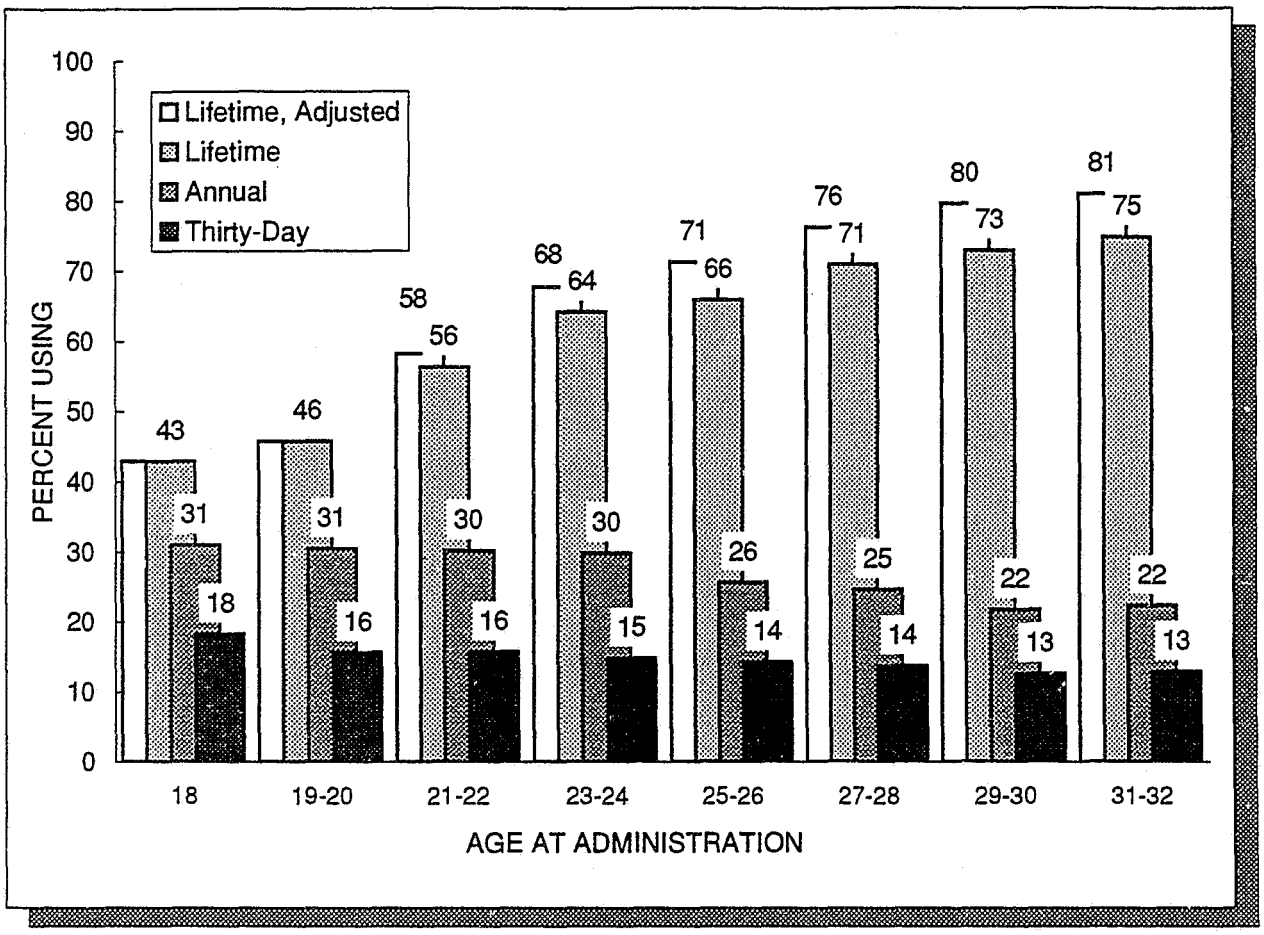
  Relatively few 1993 follow-up respondents report any use of MDMA: among 19 to 32 year-olds 3.6% (Table 3) have ever tried it and only 2 in 1000 (0.2%) have used in the prior 30 days (Table 5). Annual use is highest among 23 to 24 year-olds (about 1.2%) (see Figure 14). The fact that lifetime use is highest in the post-college years may reflect its declining popularity on campus.

- Questions about use of ***steroid***s were added in 1989 to one form only, making it more difficult to determine age-related differences with much accuracy. Overall, 1.6% of 19 to 32 year olds in 1993 reported having used steroids in their lifetime. Annual and 30-day use levels were very low, at 0.2% and 0.0%, respectively. (See Tables 3 to 5.)

[15]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

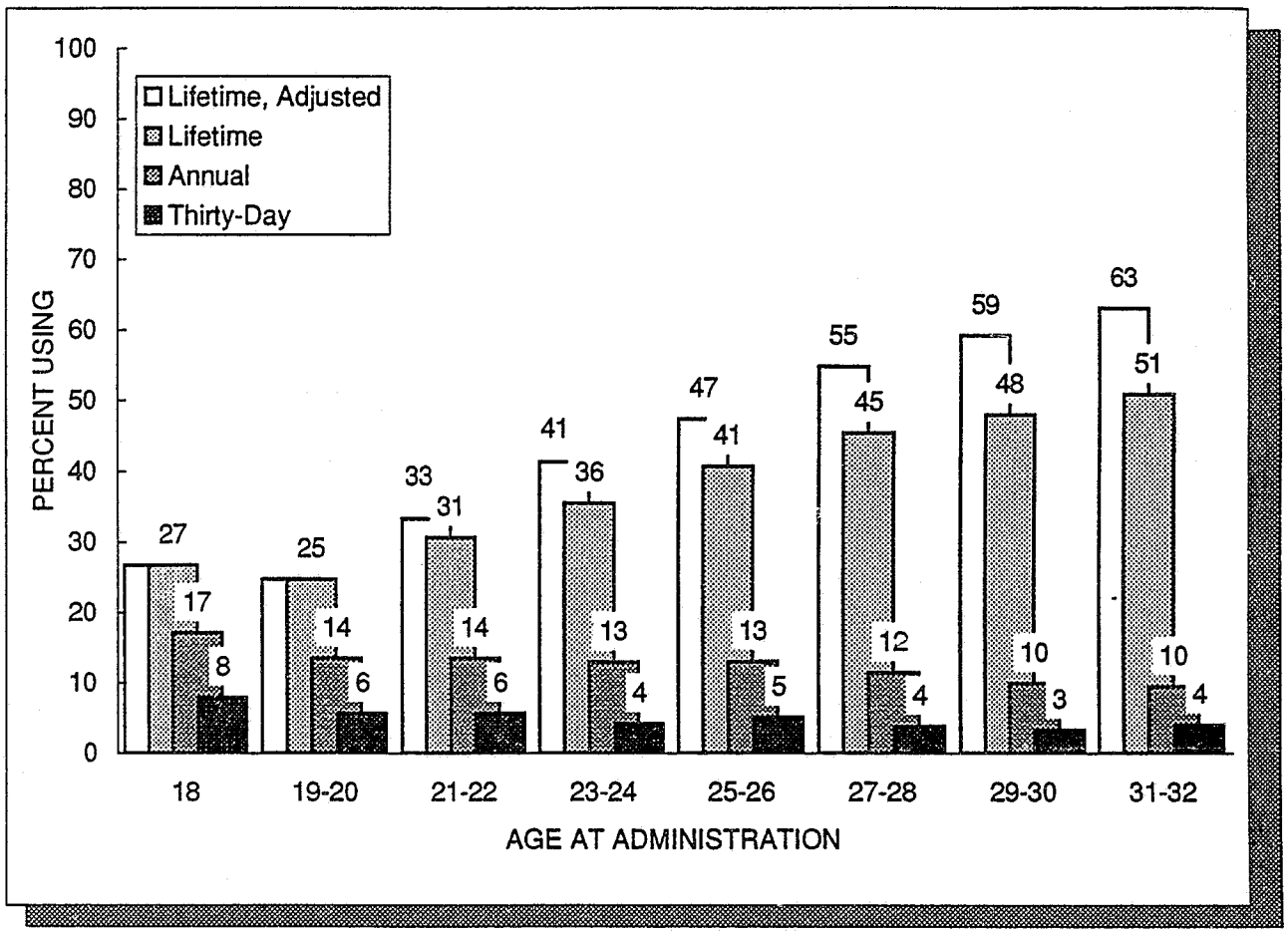
Any Illicit Drug: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1993
by Age Group



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

Figure 2

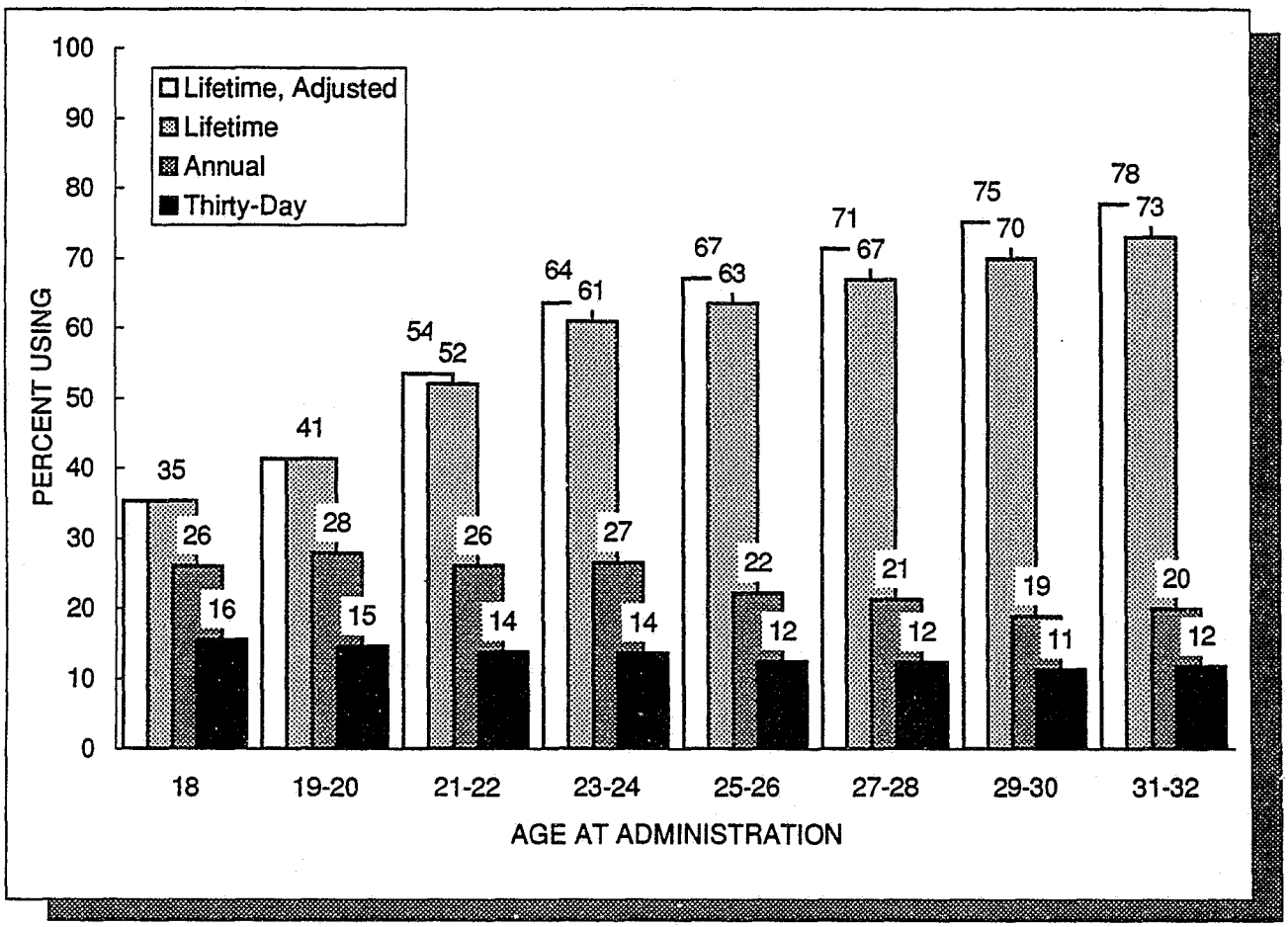
Any Illicit Drug Other than Marijuana: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1993
by Age Group



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

Figure 3

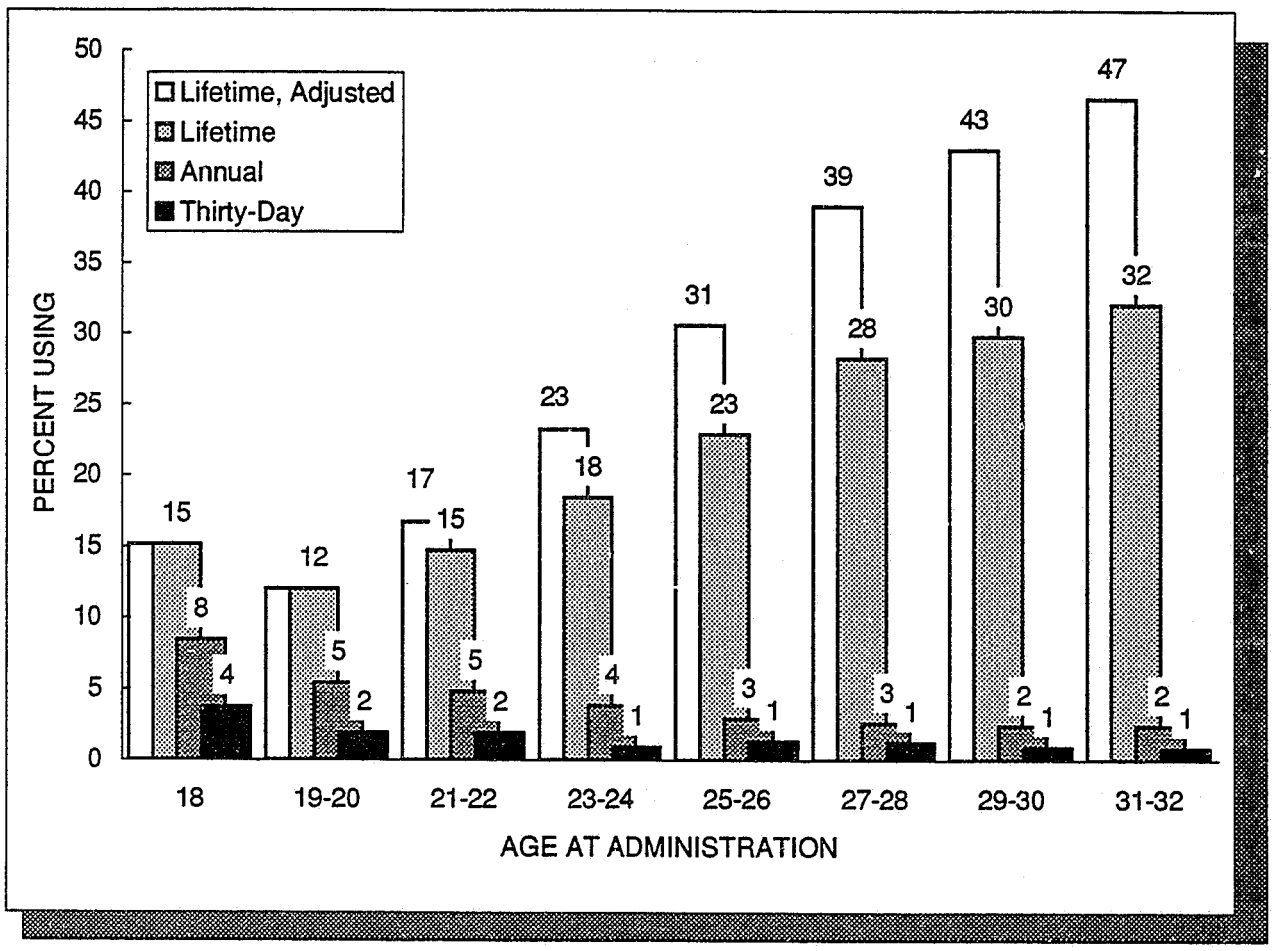
Marijuana: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1993
by Age Group



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

Figure 4

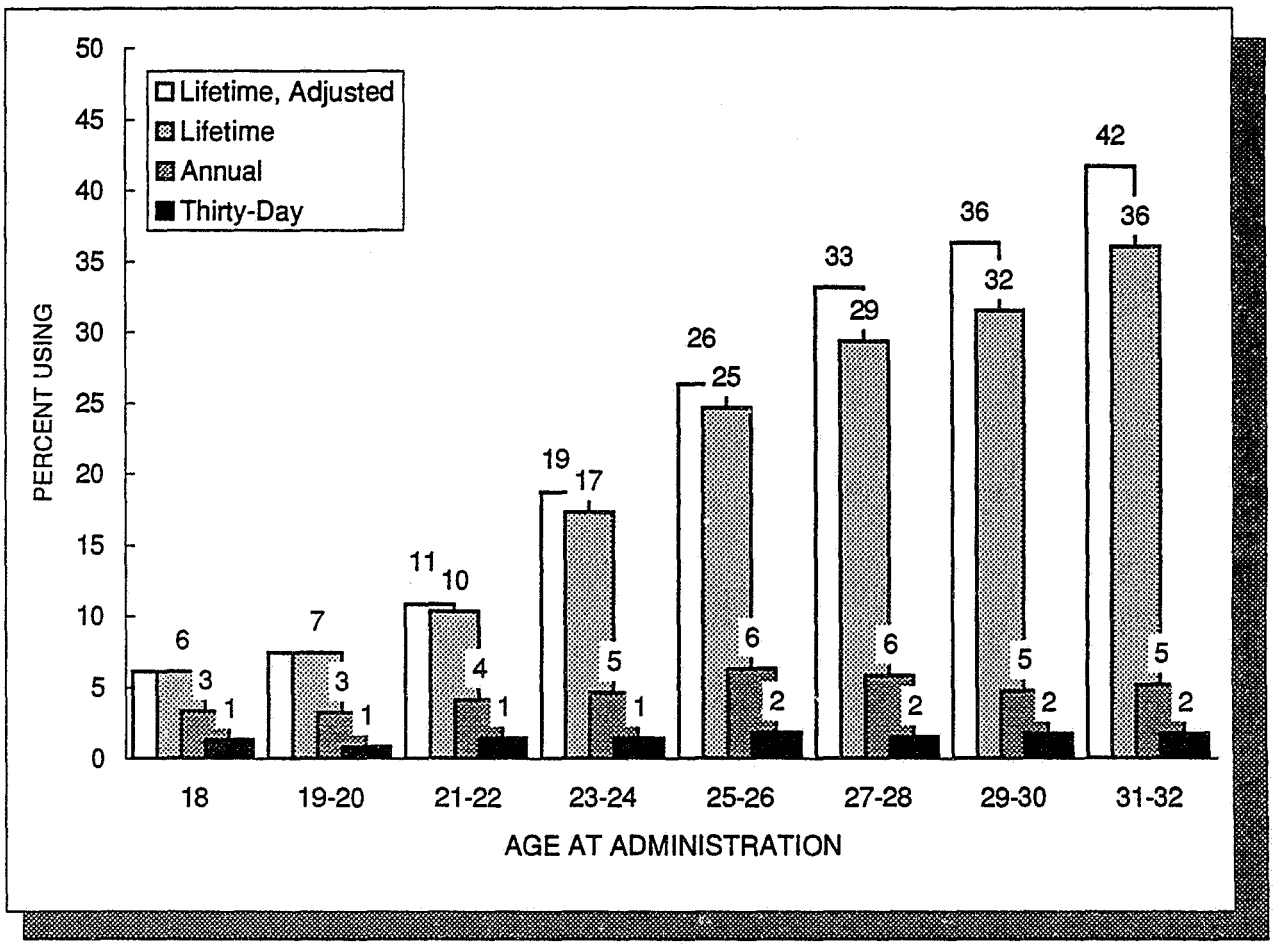
Stimulants: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1993
by Age Group



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

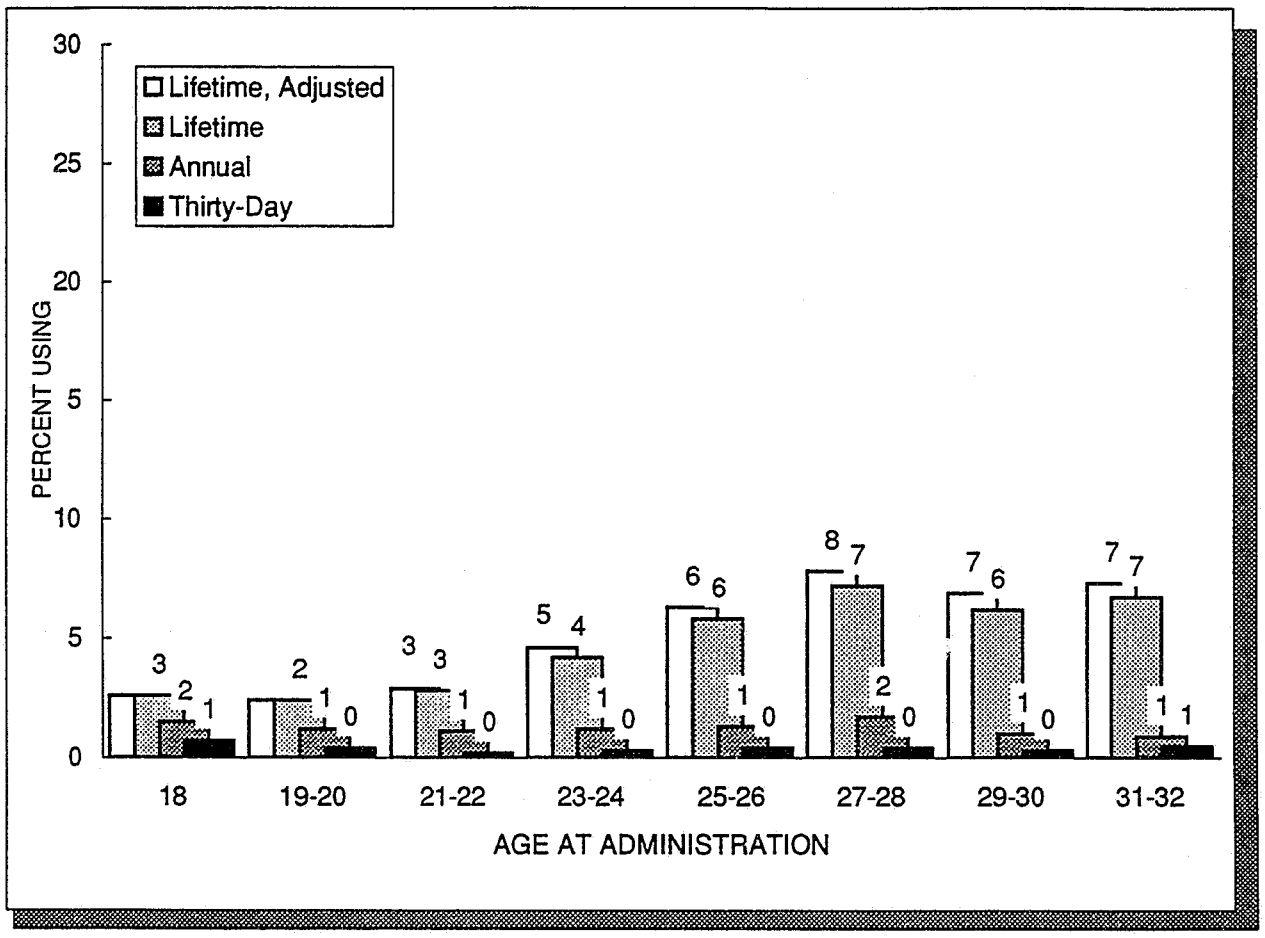
Cocaine: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1993
by Age Group



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

Figure 6

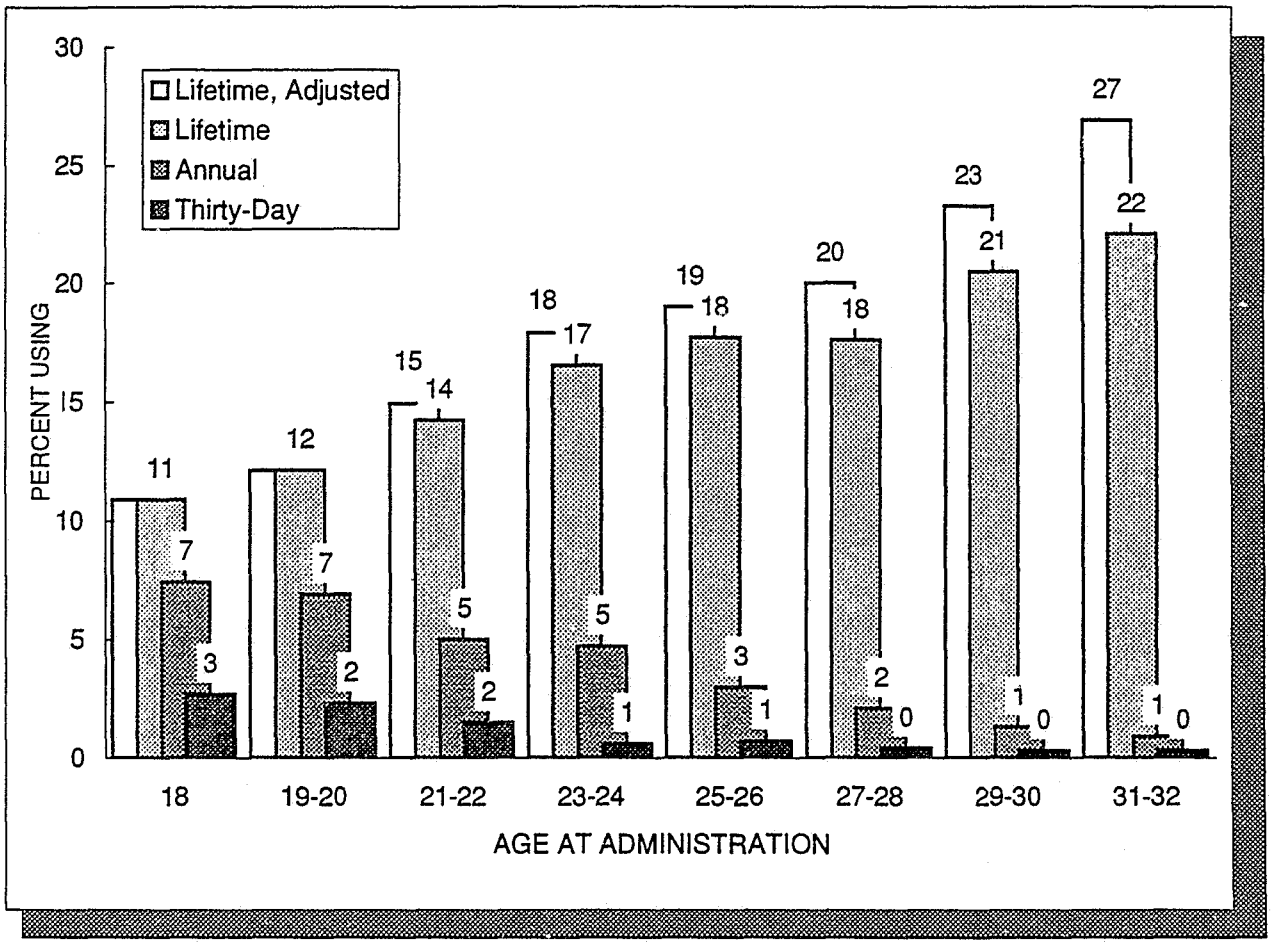
Crack Cocaine: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1993
by Age Group



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, 1993
by Age Group

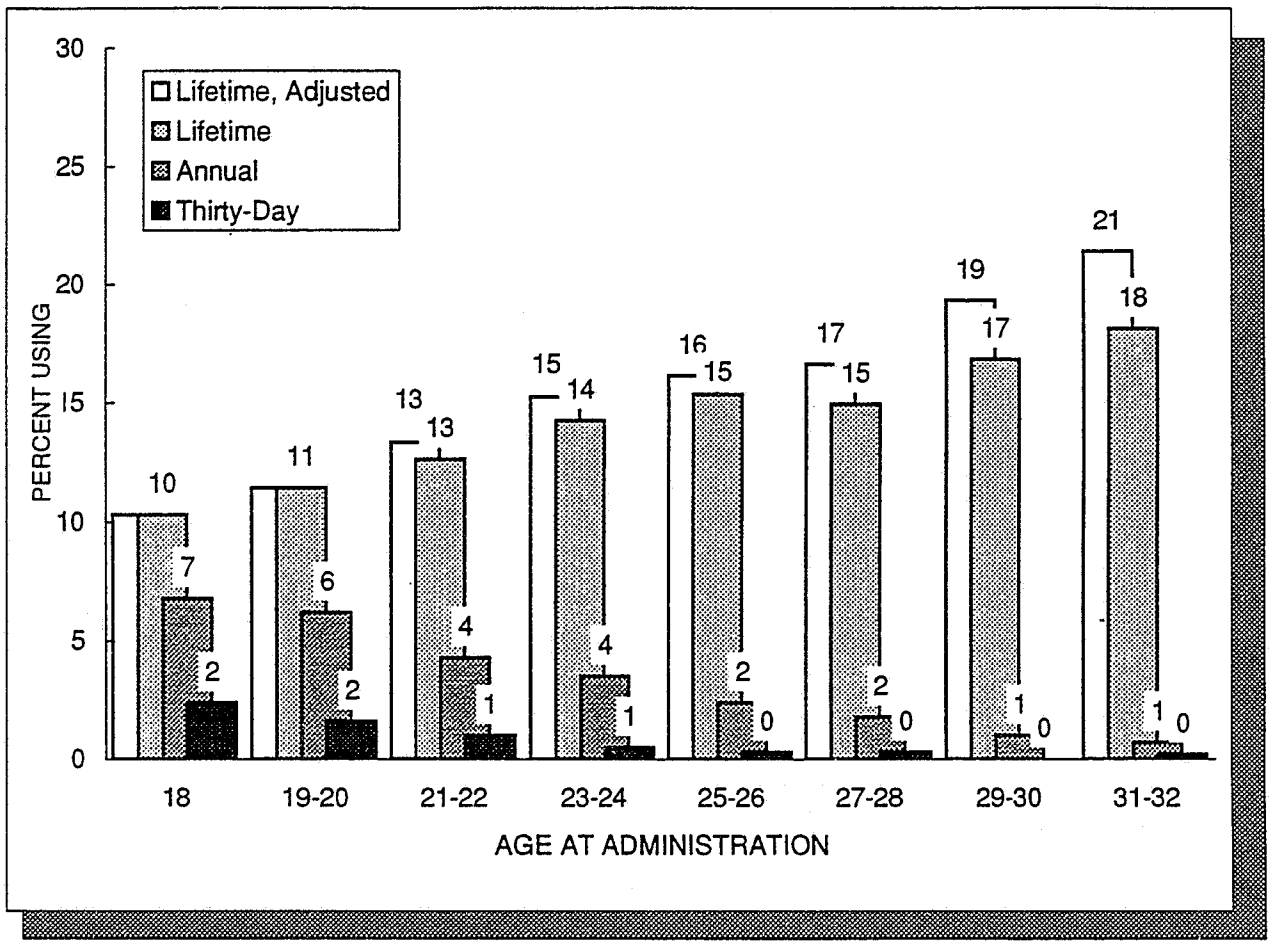


*Unadjusted for the possible underreporting of PCP.

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

Figure 8

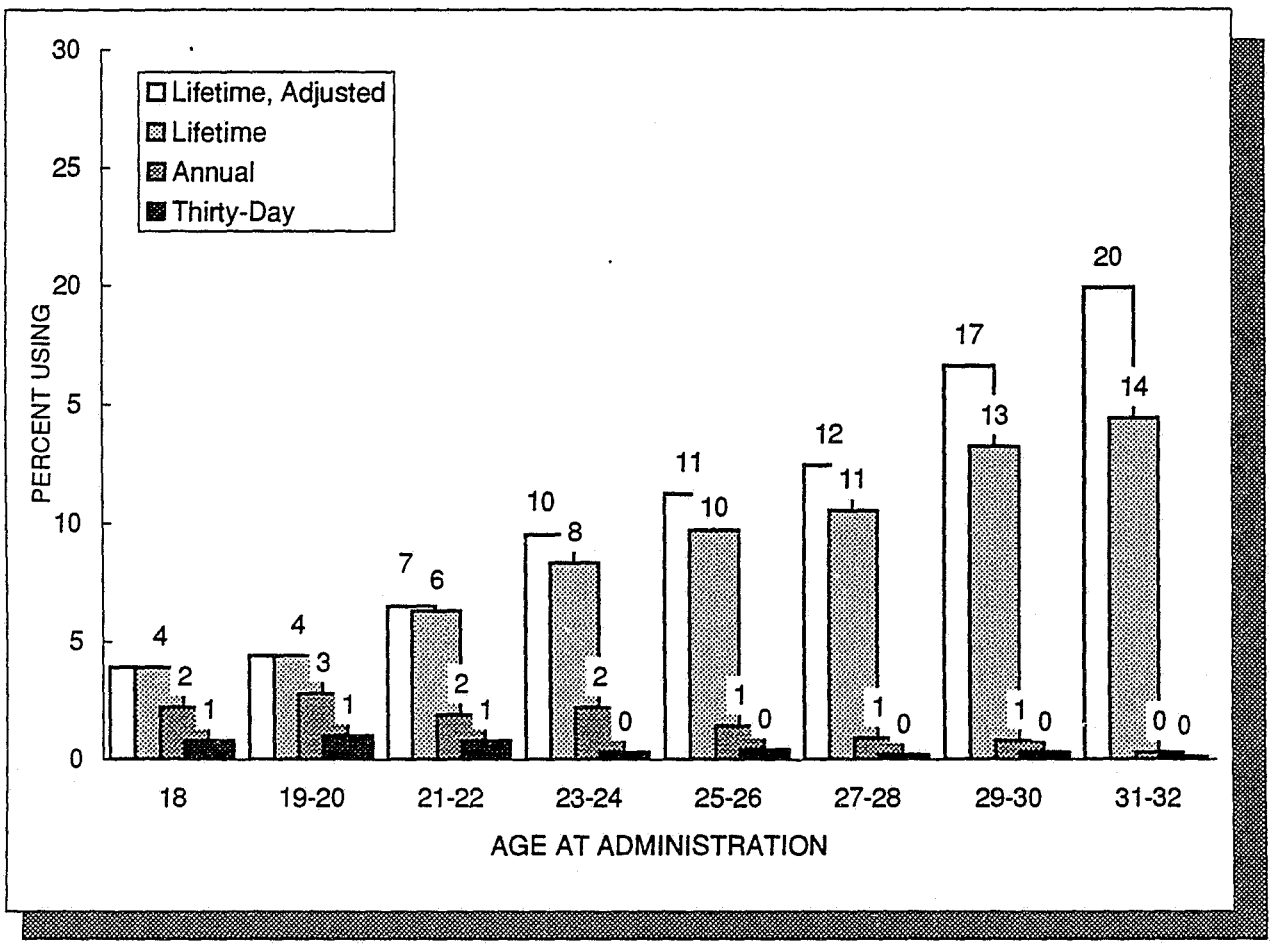
LSD: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1993
by Age Group



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

Figure 9

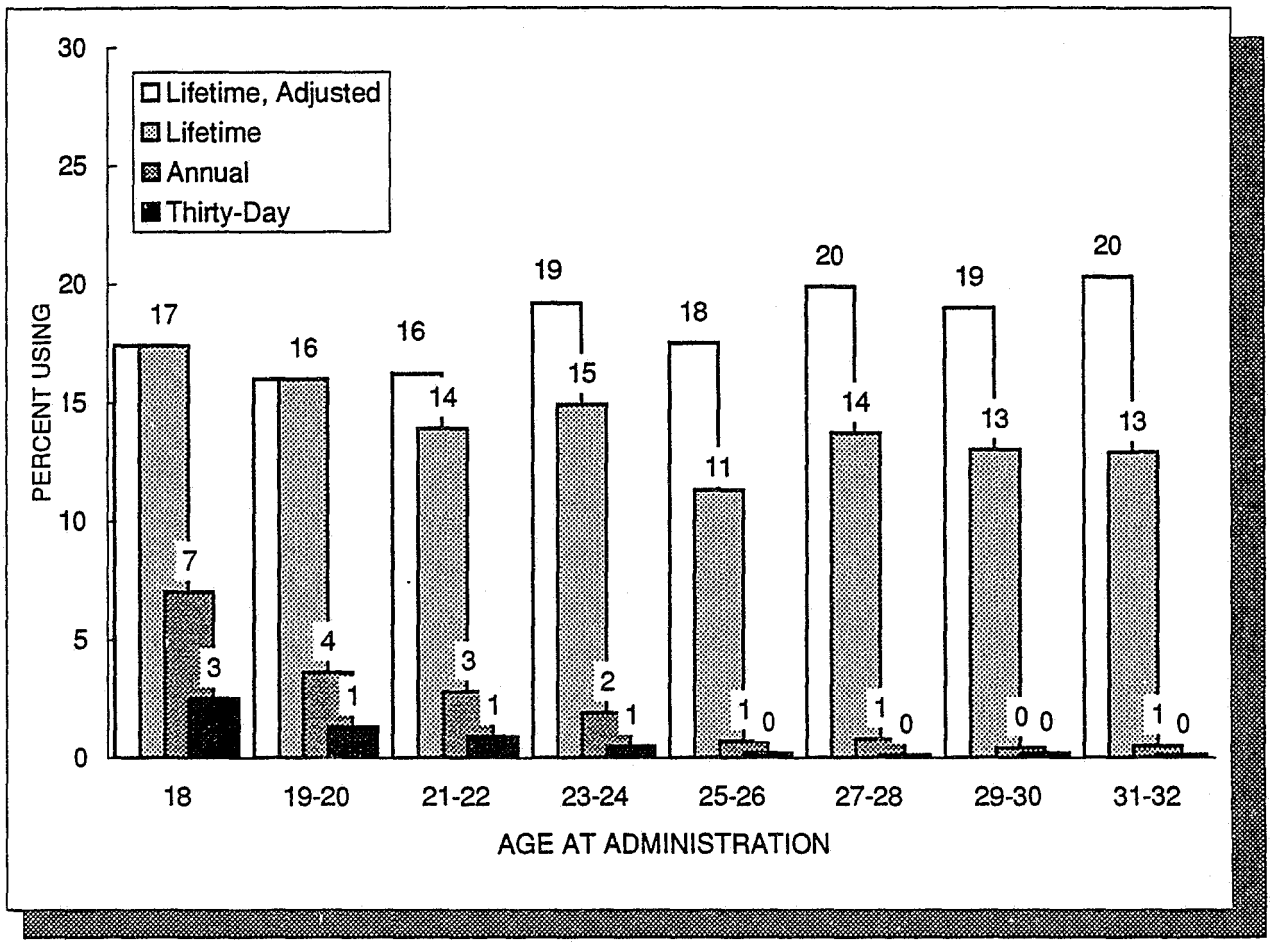
Hallucinogens Other than LSD: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1993
by Age Group



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, 1993
by Age Group

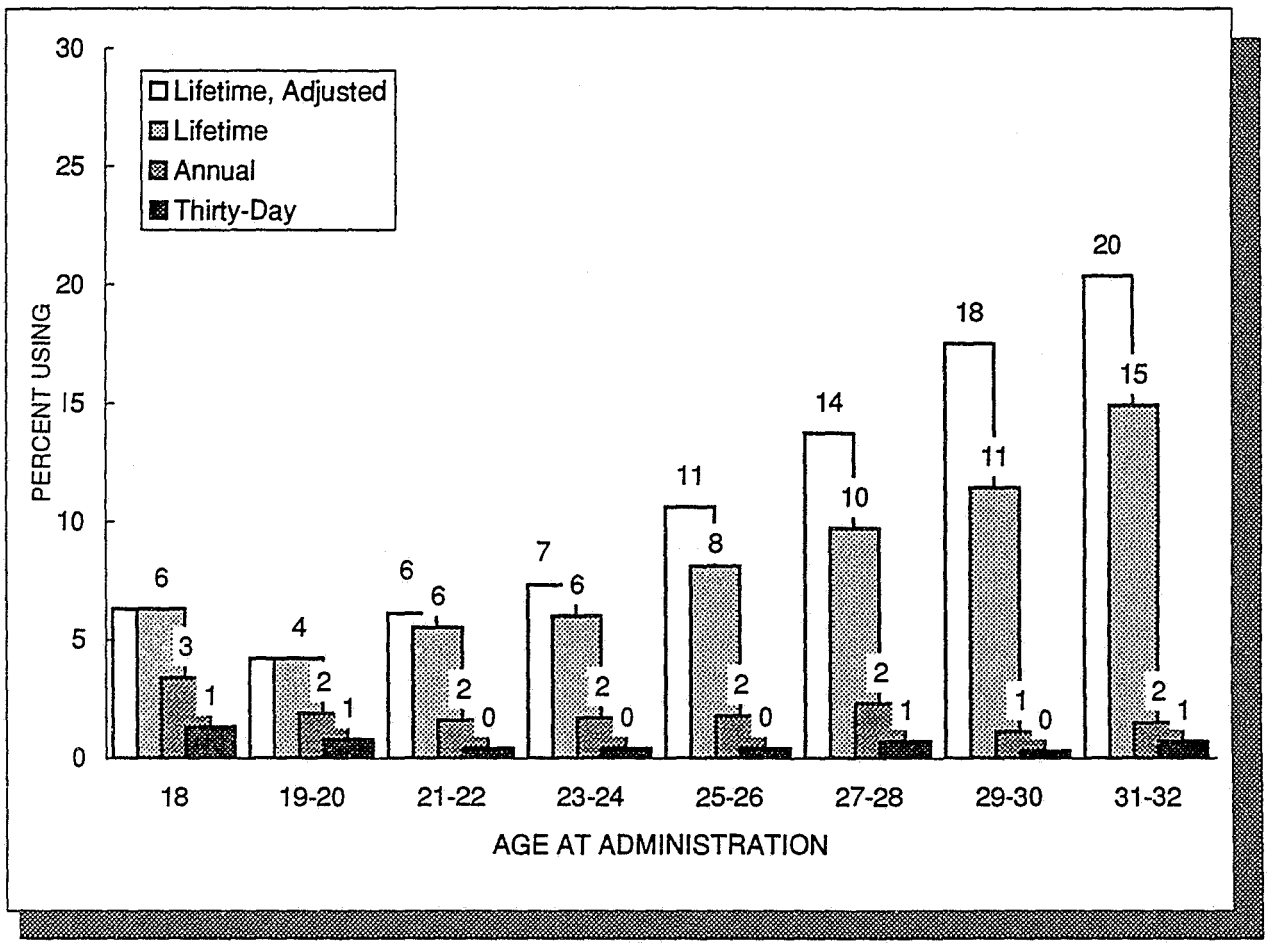


*Unadjusted for the possible underreporting of amyl and butyl nitrites.

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

Figure 11

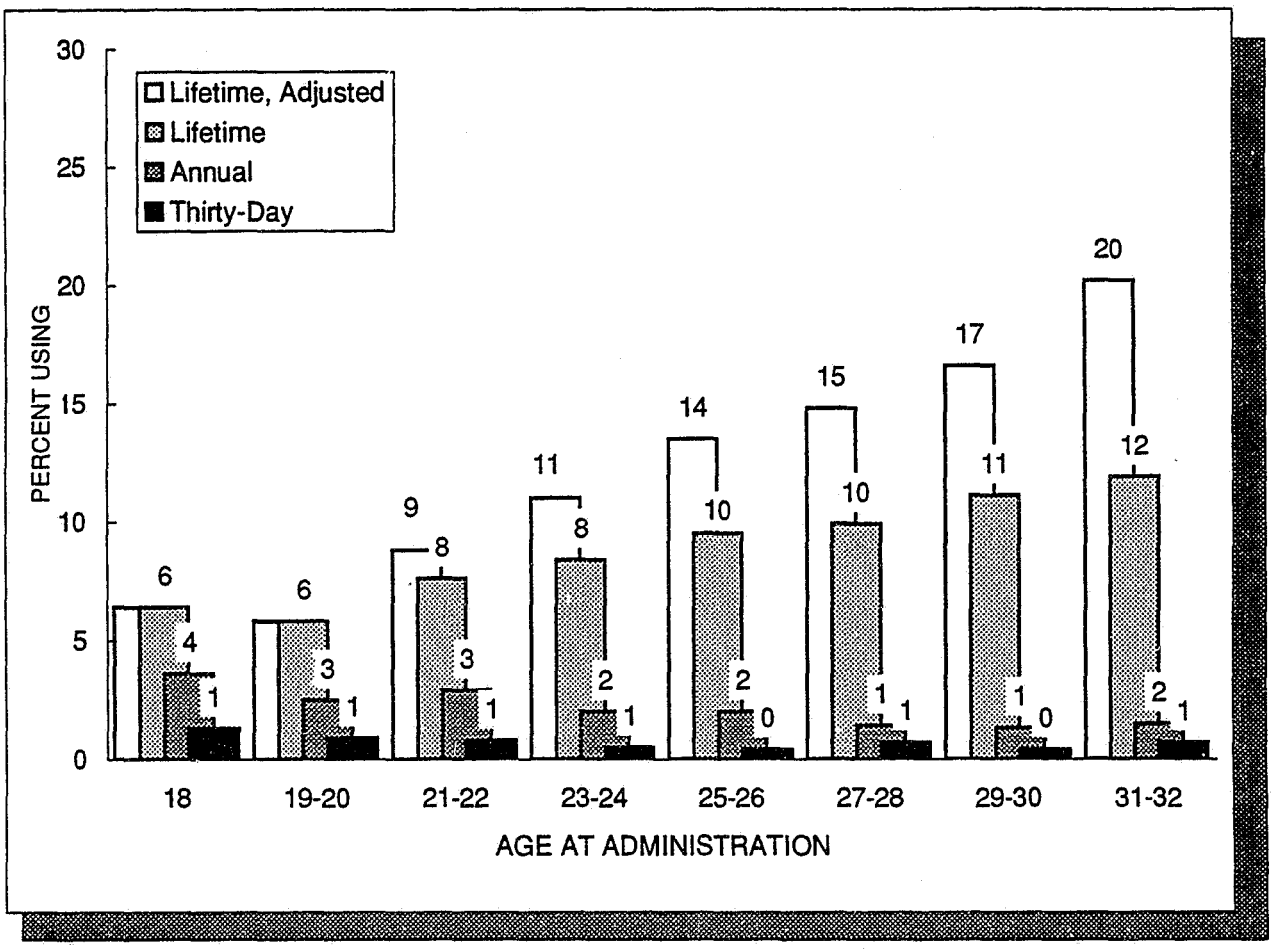
Barbiturates: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1993
by Age Group



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

Figure 12

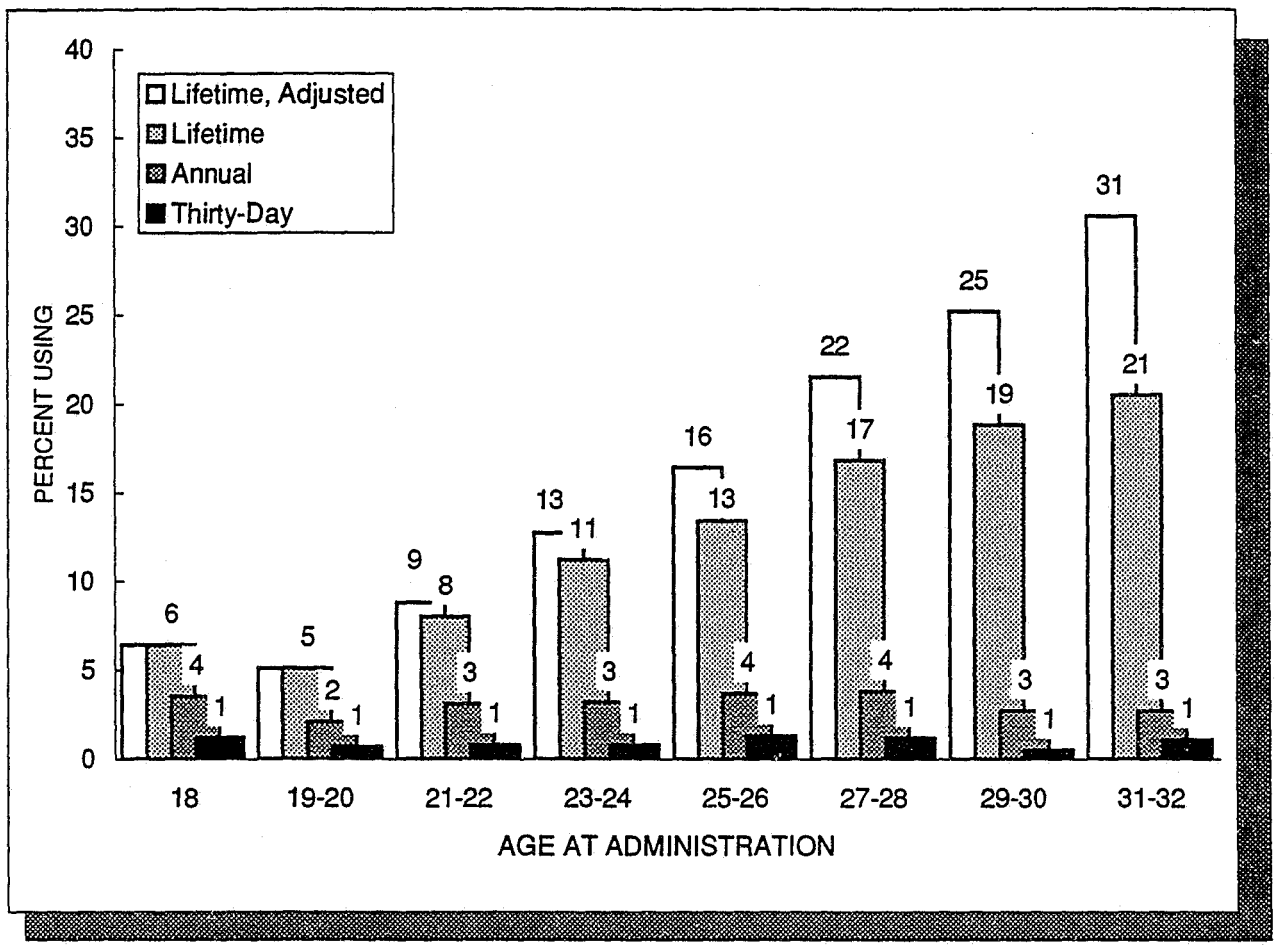
Other Opiates: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1993
by Age Group



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, 1993
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, 1993
by Age Group

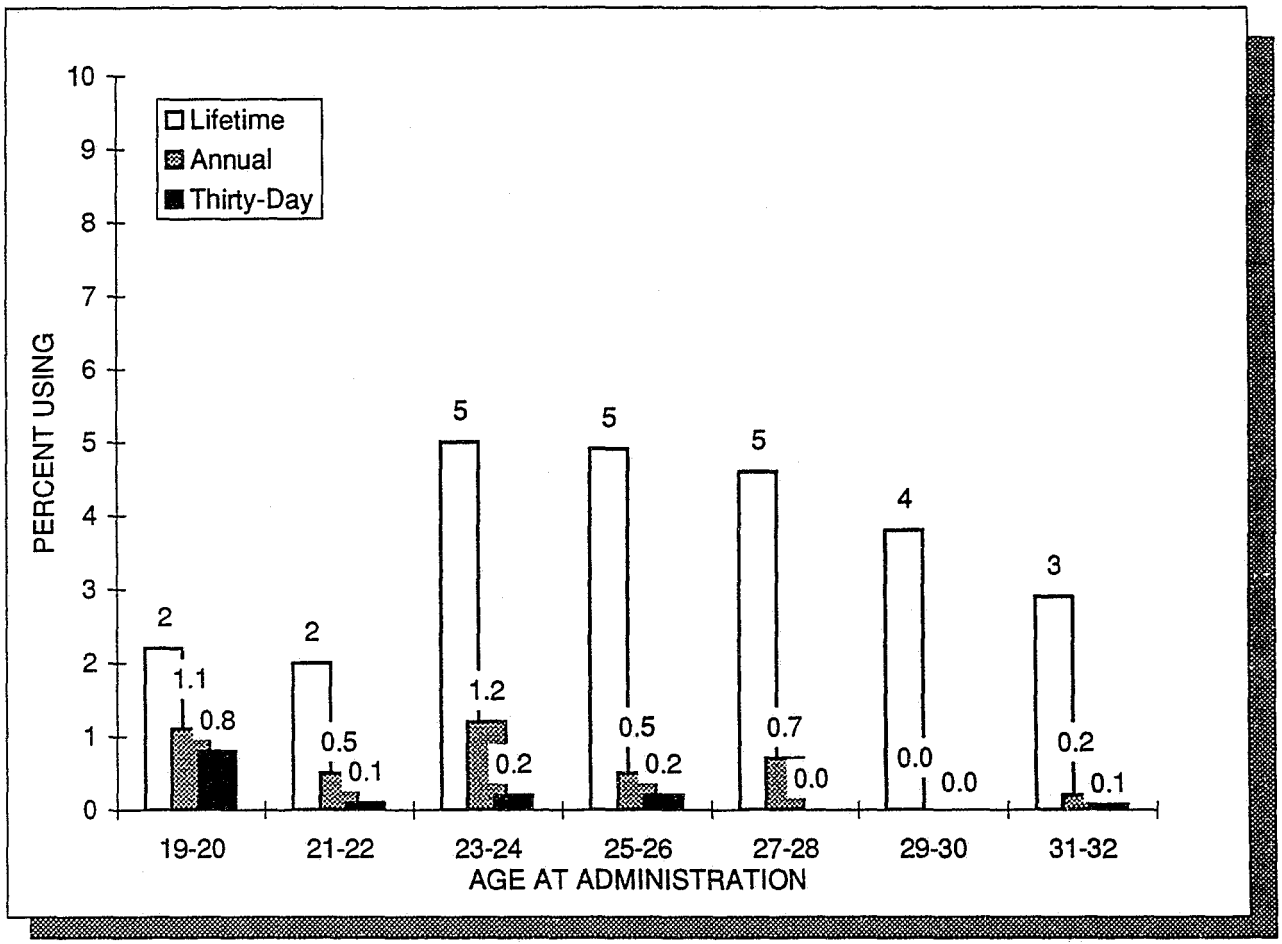


Figure 15

Crystal Methamphetamine ("Ice"): Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1993
by Age Group

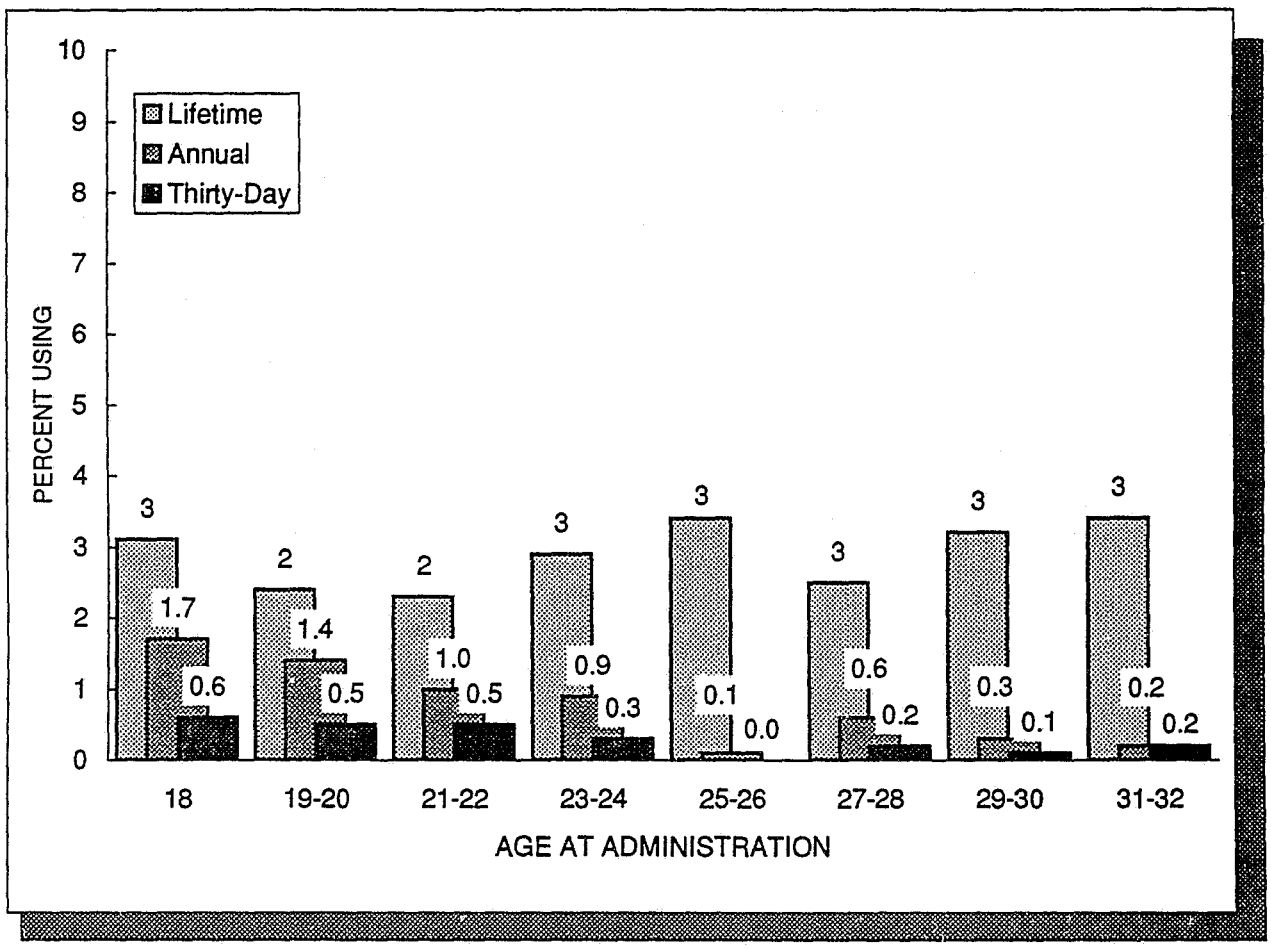


Figure 16

Steroids: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1993
by Age Group

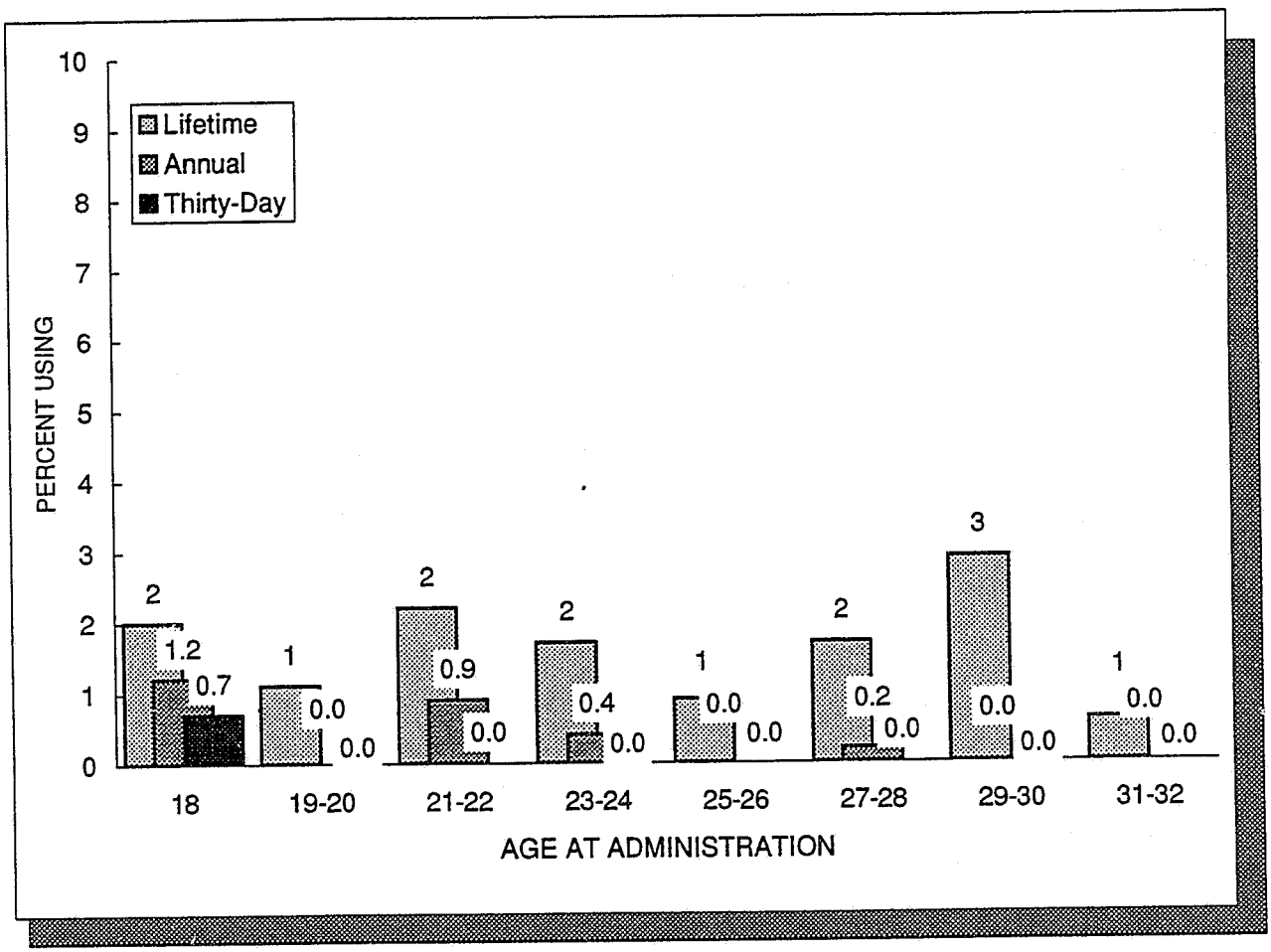
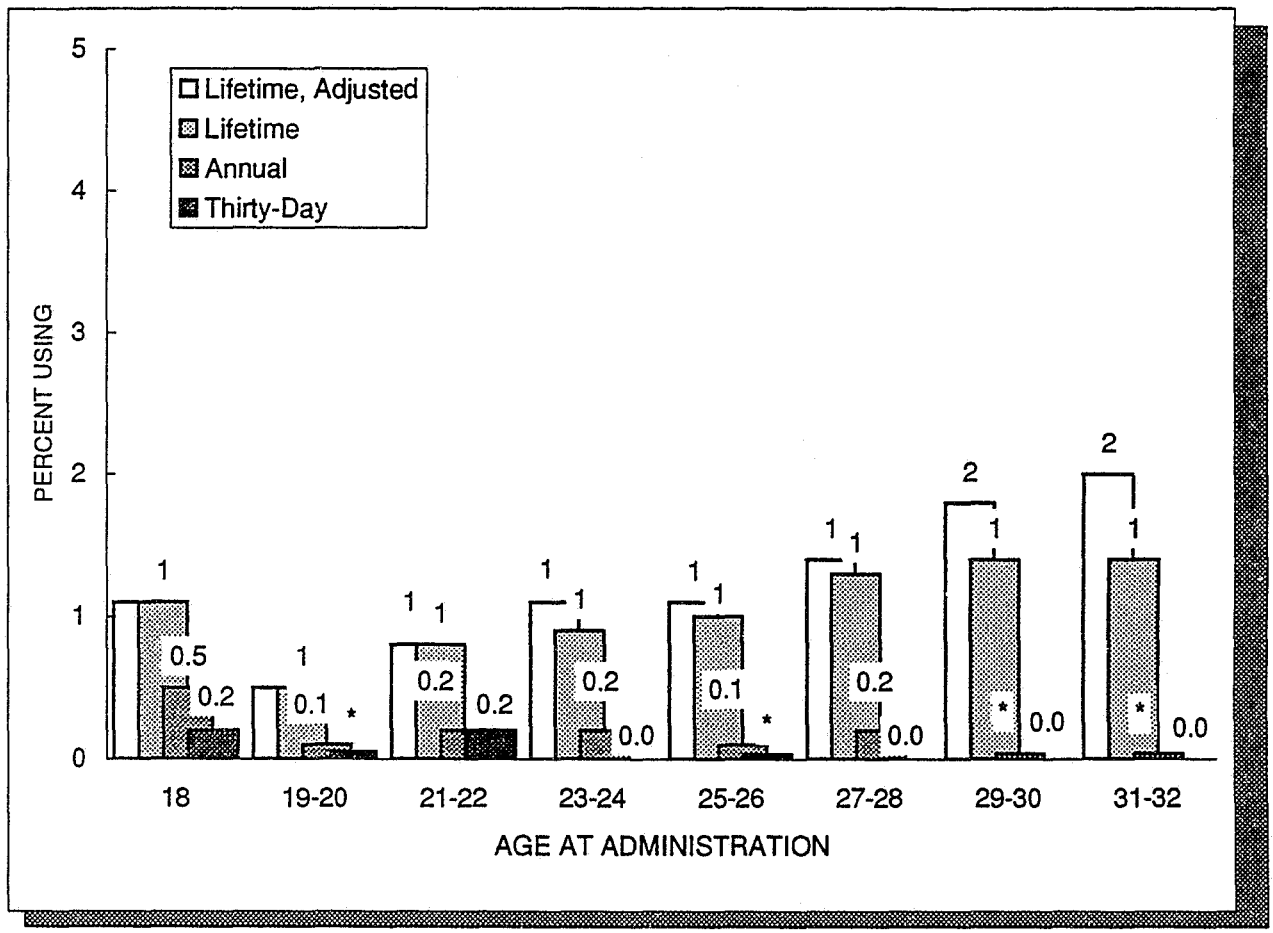


Figure 17

Heroin: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1993
by Age Group

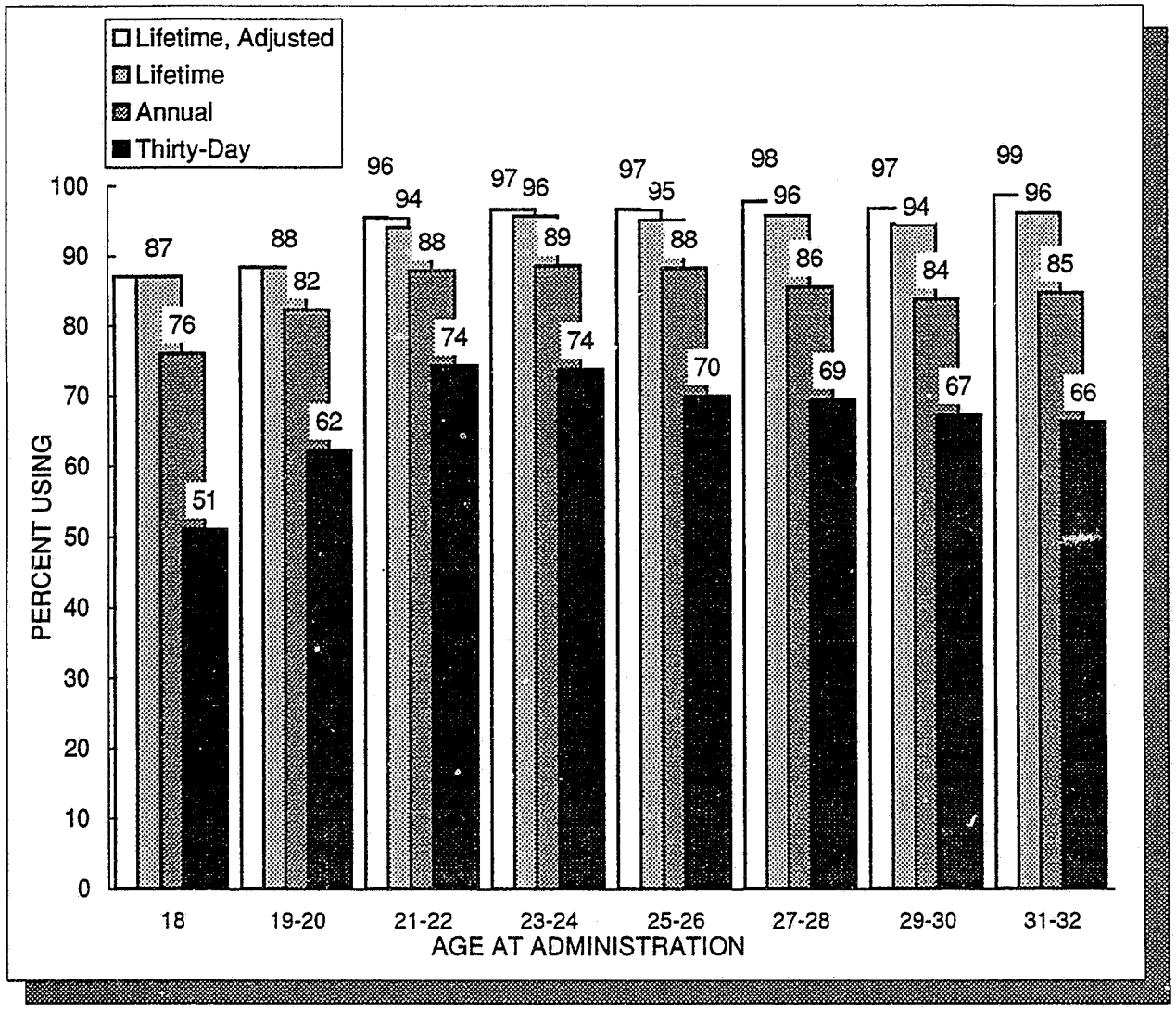


*An asterisk indicates a percentage of less than .05%, but greater than true zero.

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

Figure 18a

Alcohol: Various Prevalence Rates Among Young Adults, 1993
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, 1993
by Age Group

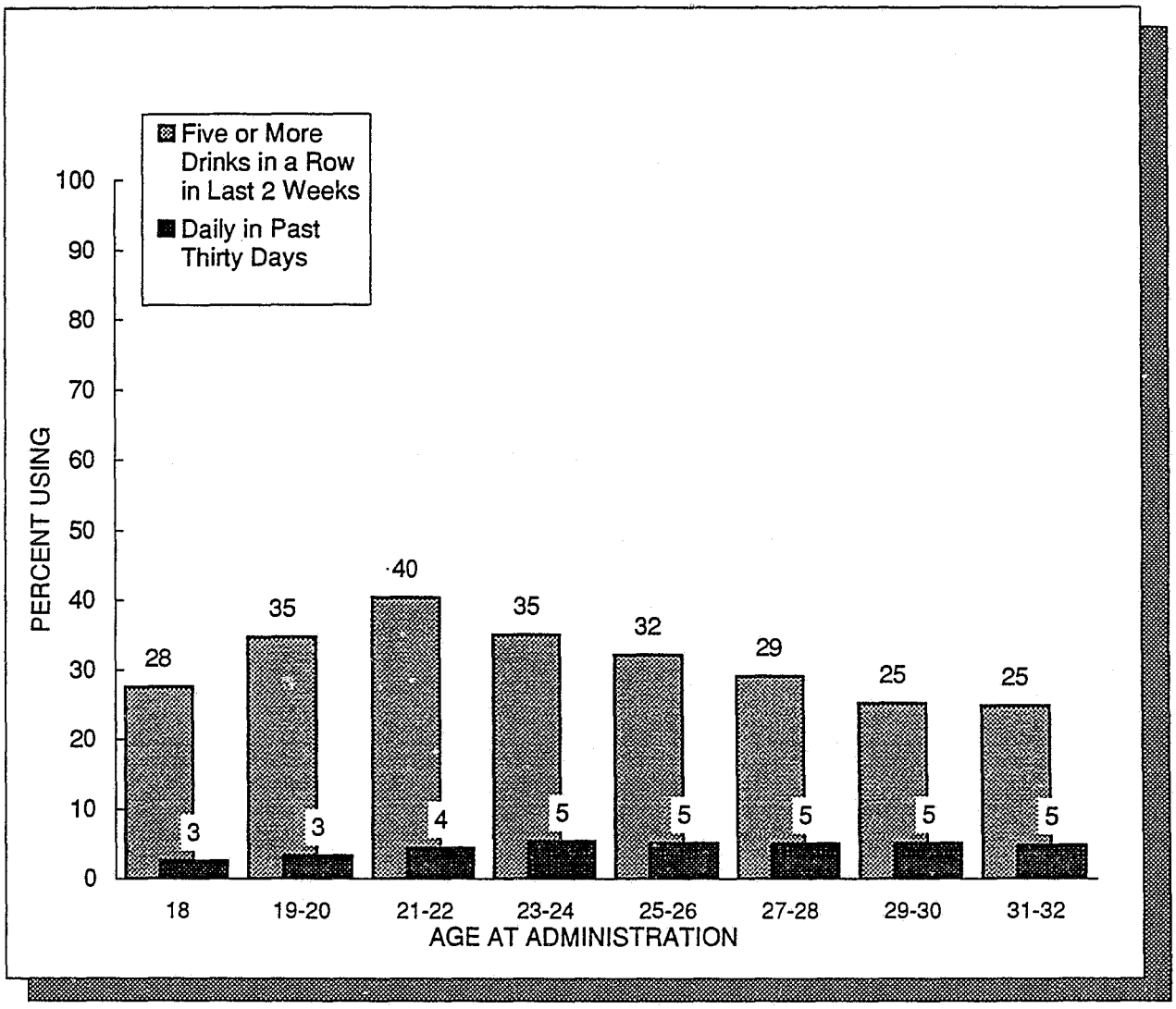
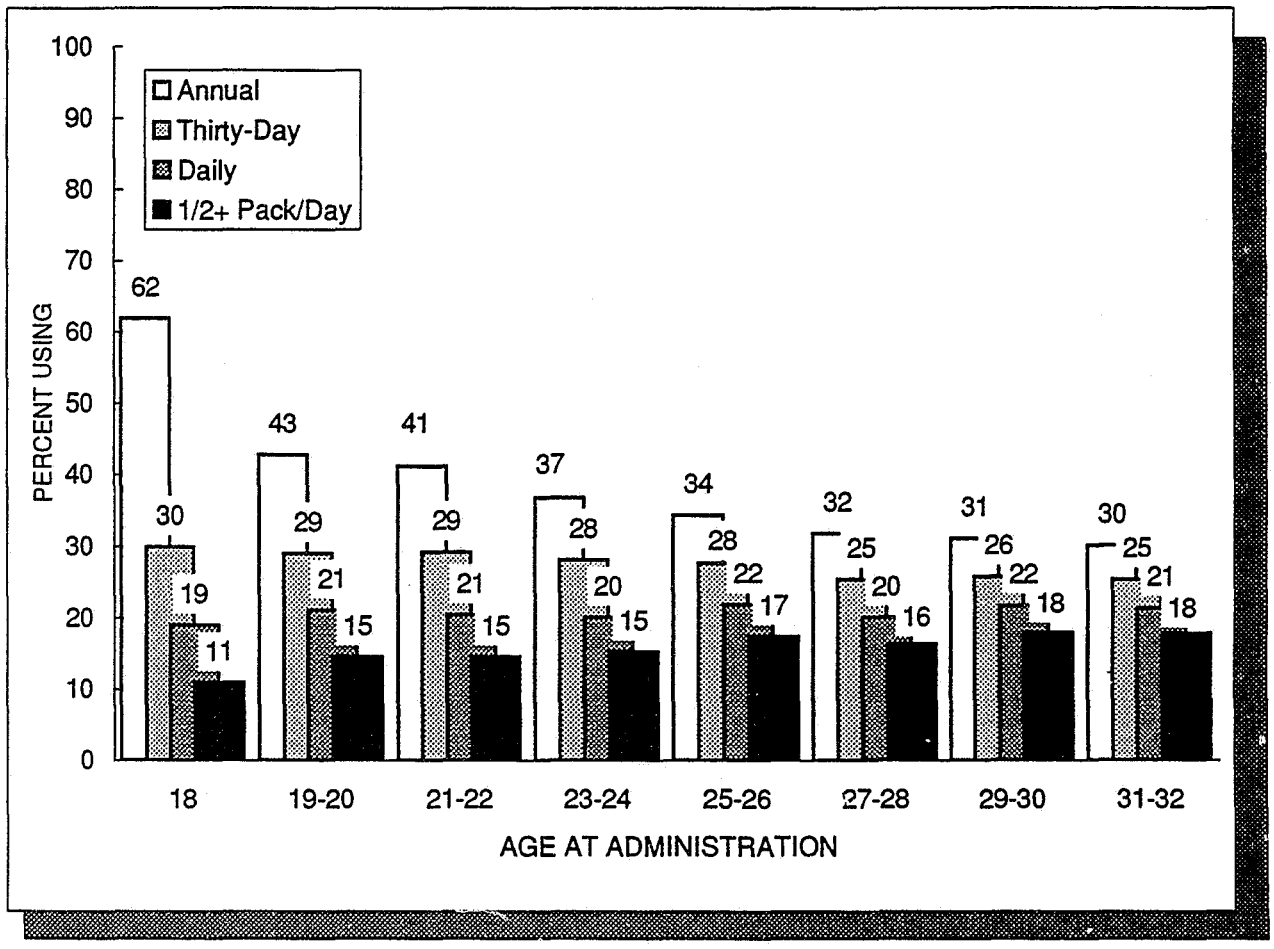


Figure 19

Cigarettes: Annual, Thirty-Day, Daily, and Half-Pack-a-Day Prevalence Among Young Adults, 1993
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 (30% vs. 24%). Males have higher annual prevalence rates in most of the specific illicit drugs–with the highest ratios 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 4.4% of males vs. 2.0% 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 1.5% of the males and 0.9% of the females; cocaine by 6.0% of the males and 3.7% of the females.

- Other large sex differences are found in ***daily marijuana use*** (3.5% for males vs. 1.6% for females in 1993), ***daily alcohol use*** (7.3% vs. 2.6%), and occasions of drinking ***five or more drinks in a row*** in the prior two weeks (42% vs. 23%). This sex difference in occasions of heavy drinking is even greater among young adults than among high school seniors, where it is 35% for males vs. 21% 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 4.0% vs. 3.3% respectively).

- ***Crystal methamphetamine*** (ice) is used by equally small percentages of males (0.8% annual prevalence) and females (0.6%).

- There are few differences between males and females in rates of ***cigarette use.*** Among high school seniors in 1993, males and females were about equally likely to have smoked cigarettes in the past month (31%-29%), and to have smoked daily in the past month (19%-18%). Male seniors were slightly more likely than females to smoke at the half-pack level (12% vs. 10%). These sex differences are very similar among young adults age 19 to 32. Males are as likely as females to have smoked at all in the past month (28% vs. 27%), to smoke daily (21%), and are only slightly more likely to smoke at the half-pack-a-day level (17% vs. 15%).

- ***Steroid*** use among young adults is much more prevalent among males than females, as is true for seniors. Among seniors, 2.5% of the males reported steroid use in the past year vs. 0.1% of the females. These statistics are much lower among the 19 to 32 year olds–0.4% vs. 0.0%–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. 0.4%, 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, or Appendix 2, 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 1993, 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 primarily concentrated in the Western region of the country, 2.3% annual prevalence vs. 0.2%-0.4% for all other regions.

- ***Hallucinogens*** are used annually by slightly more of the respondents in the Western region (5%) than those in the other three regions (3%-4%). Slightly higher rates in the West also exist for ***LSD*** specifically, 4% vs. 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, 1993
Among Respondents of Modal Age 19-32
(Entries are Percentages)

	Males	Females	Total
Approx. Weighted N =	(4000)	(4900)	(9000)
Any Illicit Drug[a]			
Annual	29.7	24.3	26.7
Thirty-Day	16.9	12.2	14.3
Any Illicit Drug[a] Other than Marijuana			
Annual	13.7	10.8	12.1
Thirty-Day	5.4	3.9	4.6
Marijuana			
Annual	27.2	20.6	23.6
Thirty-Day	16.0	10.4	12.9
Daily	3.5	1.6	2.5
Inhalants[b]			
Annual	2.4	1.1	1.7
Thirty-Day	0.8	0.4	0.5
Nitrites[c]			
Annual	0.6	0.1	0.3
Thirty-Day	0.3	0.1	0.2
Hallucinogens			
Annual	5.3	2.4	3.7
Thirty-Day	1.6	0.4	0.9
LSD			
Annual	4.4	2.0	3.0
Thirty-Day	1.0	0.3	0.6
PCP[c]			
Annual	0.2	0.2	0.2
Thirty-Day	0.2	0.1	0.2
Cocaine			
Annual	6.0	3.7	4.7
Thirty-Day	2.0	1.0	1.4
Crack			
Annual	1.5	0.9	1.2
Thirty-Day	0.4	0.3	0.4
Other Cocaine[d]			
Annual	5.1	3.0	3.9
Thirty-Day	1.6	0.7	1.1
MDMA ("Ecstasy")[e]			
Annual	0.9	0.4	0.6
Thirty-Day	0.3	0.1	0.2
Heroin			
Annual	0.1	0.1	0.1
Thirty-Day	*	0.1	*
Other Opiates[f]			
Annual	2.2	1.8	2.0
Thirty-Day	0.6	0.6	0.6

(Table continued on next page)

TABLE 2 (Cont.)

Prevalence of Use of Various Types of Drugs, by Sex, 1993
Among Respondents of Modal Age 19-32
(Entries are Percentages)

	Males	Females	Total
Approx. Weighted N =	(4000)	(4900)	(9000)
Stimulants, Adjusted[f,g]			
Annual	4.0	3.3	3.6
Thirty-Day	1.3	1.4	1.3
Crystal Methamphetamine ("Ice")[e]			
Annual	0.8	0.6	0.7
Thirty-Day	0.2	0.3	0.2
Barbiturates[f]			
Annual	1.8	1.7	1.7
Thirty-Day	0.6	0.6	0.6
Tranquilizers[f]			
Annual	3.0	3.1	3.0
Thirty-Day	0.8	1.0	0.9
Steroids[c]			
Annual	0.4	0.0	0.2
Thirty-Day	0.0	0.0	0.0
Alcohol			
Annual[h]	86.8	85.1	85.9
Thirty-Day[h]	74.7	64.2	68.9
Daily	7.3	2.6	4.7
5+ drinks in a row in last 2 weeks	42.4	23.3	32.0
Cigarettes			
Annual	36.2	35.8	35.9
Thirty-Day	28.0	26.9	27.4
Daily (Any)	21.1	20.9	21.0
Half-pack or more/day	16.9	15.4	16.1

---

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

[a]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and 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 7400.

[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1700.

[d]This drug was asked about in four of the six questionnaire forms. Total N is approximately 5600.

[e]This drug was asked about in two of the six questionnaire forms. Total N is approximately 3500.

[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]This drugs was asked about in three of the six questionnaire forms. Total N is approximately 5000.

- 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: 36%, 37%, 29% and 27% for the Northeast, North Central, South, and West, respectively (see Table 6).

- ***Cigarette smoking*** in these older age groups 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 in which they resided 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 the footnote. Examinations 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. For most of the illicit drugs, there is no positive association between size of community and prevalence of use. See Tables 4 through 6 for the exceptions and the relevant results discussed below.

- ***Marijuana*** used to show a modest positive association with population density. In 1993 only the farm/country stratum stood out as having slightly lower use. (See annual and 30-day prevalence rates in Tables 4 and 5).

- Annual use of ***hallucinogens***, including ***LSD*** and ***MDMA***, is also lower than average in the farm/country. It is also higher than average in the large and very large cities.

- ***Inhalants*** are also used by fewer respondents in the farm/country stratum, slightly more in the small towns, and still slightly more in the next three strata.

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

- The use of ***crystal methamphetamine*** (ice) is not associated with population density. All strata have rates of less than 1%.

- Lifetime, annual, and 30-day ***alcohol*** use measures show a slight positive association with population density. ***Occasions of heavy drinking***, however, are about the same across all strata except farm/country, which has a slightly lower rate. ***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 23% and 15%, respectively).

TABLE 3
Lifetime[e] Prevalence of Use of Various Types of Drugs by Subgroups, 1993 Among Respondents of Modal Age 19-32

(Entries are percentages)

	Approx. Weighted N	Any Illicit Drug	Any Illicit Drug Other than Marijuana	Marijuana	Inhalants[a,b]	Nitrites[c]	Hallucinogens[a]
Total	9000	63.3	38.4	59.8	13.8	2.2	16.9
Sex:							
Male	4000	64.5	39.2	61.6	18.4	3.6	21.1
Female	4900	62.3	37.7	58.4	10.1	1.1	13.5
Modal Age:							
19-20	1600	45.8	24.7	41.4	16.0	1.4	12.1
21-22	1400	56.3	30.6	52.0	13.9	1.4	14.2
23-24	1300	64.1	35.5	60.9	14.9	0.7	16.5
25-26	1200	65.9	40.6	63.4	11.3	1.7	17.7
27-28	1200	70.9	45.4	66.9	13.7	1.6	17.6
29-30	1100	72.9	47.9	69.9	13.0	3.4	20.5
31-32	1200	74.9	50.8	72.9	12.9	5.7	22.1
Region:							
Northeast	1800	67.0	40.0	64.9	13.9	1.6	18.6
Northcentral	2500	64.0	36.8	61.0	14.7	1.8	15.9
South	2900	59.0	34.6	54.4	11.9	2.8	13.7
West	1700	66.2	45.6	62.5	15.9	2.0	21.9
Population Density[d]:							
Farm/Country	1100	56.4	32.9	52.6	11.1	2.1	12.5
Small Town	2600	61.7	37.2	58.2	13.3	2.1	15.9
Medium City	1900	64.9	38.8	61.4	13.4	1.4	17.5
Large City	1900	65.6	39.7	62.4	15.7	2.0	18.1
Very Large City	1300	67.2	43.2	63.7	15.5	4.4	20.1

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

[a]Unadjusted for known underreporting of certain drugs. See text for details.
[b]This drug was asked about in five of the six questionnaire forms. Total N is approximately 7400.
[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1700.
[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 continued on next page)

TABLE 3, cont.
Lifetime[d] Prevalence of Use of Various Types of Drugs by Subgroups, 1993 Among Respondents of Modal Age 19-32

(Entries are percentages)

	LSD	PCP[a]	MDMA[b]	Cocaine	Crack	Heroin	Other Opiates
Total	14.6	2.7	3.6	21.3	4.9	1.0	9.0
Sex:							
Male	18.8	4.1	5.1	24.2	6.2	1.4	10.1
Female	11.1	1.7	2.4	18.9	3.8	0.7	8.0
Modal Age:							
19-20	11.4	1.1	2.2	7.4	2.4	0.5	5.8
21-22	12.6	1.5	2.0	10.3	2.8	0.8	7.6
23-24	14.2	2.6	5.0	17.3	4.2	0.9	8.4
25-26	15.3	2.6	4.9	24.6	5.8	1.0	9.5
27-28	14.9	1.8	4.6	29.3	7.2	1.3	9.9
29-30	16.8	4.8	3.8	31.5	6.2	1.4	11.1
31-32	18.1	5.0	2.9	36.0	6.7	1.4	11.9
Region:							
Northeast	14.1	3.2	2.3	26.8	4.9	1.4	8.7
Northcentral	14.2	2.3	1.7	17.2	3.9	0.8	8.7
South	12.5	2.6	4.9	17.0	4.7	0.8	7.9
West	18.9	2.7	5.6	29.1	6.6	1.1	11.2
Population Density[c]:							
Farm/Country	11.2	1.6	1.8	14.7	3.6	0.9	7.1
Small Town	14.1	3.3	2.7	19.3	4.7	0.7	8.2
Medium City	15.1	1.8	2.7	22.5	4.5	1.1	9.0
Large City	15.4	2.8	5.2	22.9	5.9	1.0	9.6
Very Large City	16.1	3.7	6.3	26.6	5.3	1.7	11.2

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

[a]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1700.
[b]This drug was asked about in two of the six questionnaire forms. Total N is approximately 3500.
[c]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density, suburban and urban respondents are combined.
[d]Lifetime prevalence is uncorrected for any cross-time inconsistencies in responding.

(Table continued on next page)

TABLE 3, cont.
Lifetime[e] Prevalence of Use of Various Types of Drugs by Subgroups, 1993 Among Respondents of Modal Age 19-32

(Entries are percentages)

	Stimulants[a]	Barbiturates	"Ice"[b]	Tranquilizers	Steroids[c]	Alcohol[f]	Cigarettes
Total	21.8	8.2	2.9	12.9	1.6	94.1	NA
Sex:							
Male	22.3	9.6	3.7	13.0	3.3	94.2	NA
Female	21.5	7.1	2.2	12.7	0.1	94.1	NA
Modal Age:							
19-20	12.0	4.2	2.4	5.1	1.1	88.4	NA
21-22	14.7	5.5	2.3	8.0	2.2	94.1	NA
23-24	18.4	6.0	2.9	11.2	1.7	95.7	NA
25-26	22.9	8.1	3.4	13.4	0.9	95.1	NA
27-28	28.3	9.7	2.5	16.8	1.7	95.7	NA
29-30	29.8	11.4	3.2	18.8	2.9	94.4	NA
31-32	32.1	14.9	3.4	20.5	0.6	96.0	NA
Region:							
Northeast	19.7	8.9	2.2	12.9	1.5	96.2	NA
Northcentral	23.5	7.3	2.5	10.0	1.1	96.3	NA
South	19.4	8.6	1.9	14.5	1.9	92.5	NA
West	25.9	8.2	5.9	13.9	1.9	91.9	NA
Population Density[d]:							
Farm/Country	21.8	7.8	2.5	10.6	2.9	92.3	NA
Small Town	22.1	8.2	2.8	12.4	2.0	93.6	NA
Medium City	21.5	8.1	3.3	12.6	0.7	94.0	NA
Large City	21.3	8.6	2.9	14.3	1.7	94.5	NA
Very Large City	22.6	8.2	2.8	14.4	0.7	96.4	NA

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

[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 3500.
[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1700.
[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.
[f]This drug was asked about in three of six questionnaire forms. Total N is approximately 5000.

TABLE 4
Annual Prevalence of Use of Various Types of Drugs by Subgroups, 1993 Among Respondents of Modal Age 19-32

(Entries are percentages)

	Approx. Weighted N	Any Illicit Drug	Any Illicit Drug Other than Marijuana	Marijuana	Inhalants[a,b]	Nitrites[c]	Hallucinogens[a]
Total	9000	26.7	12.1	23.6	1.7	0.3	3.7
Sex:							
Male	4000	29.7	13.7	27.2	2.4	0.6	5.3
Female	4900	24.3	10.8	20.6	1.1	0.1	2.4
Modal Age:							
19-20	1600	30.5	13.5	27.9	3.6	0.5	6.9
21-22	1400	30.2	13.5	26.1	2.8	0.6	5.0
23-24	1300	29.8	12.9	26.5	1.9	0.4	4.7
25-26	1200	25.6	13.0	22.2	0.7	0.6	3.0
27-28	1200	24.6	11.5	21.3	0.8	0.0	2.1
29-30	1100	21.7	9.9	18.8	0.4	0.2	1.3
31-32	1200	22.3	9.5	19.9	0.5	0.0	0.9
Region:							
Northeast	1800	29.6	11.9	27.4	1.7	0.6	3.7
Northcentral	2500	25.9	11.5	22.8	1.5	0.0	3.4
South	2900	24.3	11.3	20.8	1.6	0.3	3.3
West	1700	29.3	14.7	25.7	2.1	0.6	4.7
Population Density[d]:							
Farm/Country	1100	20.8	10.8	17.4	1.0	0.7	3.2
Small Town	2600	26.0	11.5	23.0	1.5	0.0	2.9
Medium City	1900	27.9	12.4	24.9	1.8	0.0	4.0
Large City	1900	29.2	12.6	25.8	1.9	0.2	4.0
Very Large City	1300	27.9	13.7	24.9	2.2	1.4	4.7

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

[a]Unadjusted for known underreporting of certain drugs. See text for details.
[b]This drug was asked about in five of the six questionnaire forms. Total N is approximately 7400.
[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1700.
[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 4, cont.
Annual Prevalence of Use of Various Types of Drugs by Subgroups, 1993
Among Respondents of Modal Age 19-32

(Entries are percentages)

	LSD	PCP[a]	MDMA[b]	Cocaine	Crack	Heroin	Other Opiates
Total	3.0	0.2	0.6	4.7	1.2	0.1	2.0
Sex:							
Male	4.4	0.2	0.9	6.0	1.5	0.1	2.2
Female	2.0	0.2	0.4	3.7	0.9	0.1	1.8
Modal Age:							
19-20	6.2	0.4	1.1	3.2	1.2	0.1	2.5
21-22	4.3	0.0	0.5	4.1	1.1	0.2	2.9
23-24	3.5	0.5	1.2	4.6	1.2	0.2	2.0
25-26	2.4	0.0	0.5	6.3	1.3	0.1	2.0
27-28	1.8	0.1	0.7	5.8	1.7	0.2	1.4
29-30	1.0	0.2	0.0	4.7	1.0	*	1.3
31-32	0.7	0.2	0.2	5.1	0.9	*	1.5
Region:							
Northeast	3.0	0.4	0.5	6.4	1.1	0.4	1.9
Northcentral	2.9	0.0	0.2	3.9	1.0	*	1.8
South	2.6	0.1	0.6	3.7	1.3	0.1	1.9
West	4.1	0.4	1.5	6.0	1.5	*	2.6
Population Density[c]:							
Farm/Country	2.9	0.5	0.6	3.8	0.8	0.2	1.3
Small Town	2.2	0.0	0.3	4.1	0.8	*	2.0
Medium City	3.6	0.2	0.6	4.5	1.5	0.2	2.3
Large City	3.2	0.1	0.4	5.4	1.7	0.1	1.9
Very Large City	3.8	0.6	1.7	5.9	1.2	0.3	2.3

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]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1700.
[b]This drug was asked about in two of the six questionnaire forms. Total N is approximately 3500.
[c]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density, suburban and urban respondents are combined.

(Table continued on next page)

TABLE 4, cont.
Annual Prevalence of Use of Various Types of Drugs by Subgroups, 1993 Among Respondents of Modal Age 19-32

(Entries are percentages)

	Stimulants[a]	Barbiturates	"Ice"[b]	Tranquilizers	Steroids[c]	Alcohol[e]	Cigarettes
Total	3.6	1.7	0.7	3.0	0.2	85.9	35.9
Sex:							
Male	4.0	1.8	0.8	3.0	0.4	86.8	36.2
Female	3.3	1.7	0.6	3.1	0.0	85.1	35.8
Modal Age:							
19-20	5.4	1.9	1.4	2.1	0.0	82.3	42.7
21-22	4.8	1.6	1.0	3.1	0.9	87.9	41.1
23-24	3.8	1.7	0.9	3.2	0.4	88.6	36.8
25-26	2.9	1.8	0.1	3.7	0.0	88.2	34.4
27-28	2.6	2.3	0.6	3.8	0.2	85.5	31.8
29-30	2.4	1.1	0.3	2.7	0.0	83.7	31.1
31-32	2.4	1.5	0.2	2.7	0.0	84.7	30.1
Region:							
Northeast	2.1	1.7	0.2	3.1	0.7	91.1	36.0
Northcentral	4.2	1.6	0.4	2.1	0.0	90.1	41.0
South	3.3	2.0	0.2	3.8	0.0	81.5	34.5
West	5.1	1.5	2.3	2.9	0.3	82.1	30.6
Population Density[d]:							
Farm/Country	3.2	2.2	0.8	3.0	0.0	79.6	34.9
Small Town	3.9	1.5	0.6	2.7	0.4	85.4	38.4
Medium City	3.8	2.0	0.8	3.5	0.3	84.8	36.5
Large City	3.8	1.8	0.8	2.9	0.1	88.9	34.9
Very Large City	2.9	1.4	0.4	3.1	0.0	90.2	32.6

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

[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 3500.
[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1700.
[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]This drug was asked about in three of six questionnaire forms. Total N is approximately 5000.

TABLE 5
Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups, 1993 Among Respondents of Modal Age 19-32

(Entries are percentages)

	Approx. Weighted N	Any Illicit Drug	Any Illicit Drug Other than Marijuana	Marijuana	Inhalants[a,b]	Nitrites[c]	Hallucinogens[a]
Total	9000	14.3	4.6	12.9	0.5	0.2	0.9
Sex:							
Male	4000	16.9	5.4	16.0	0.8	0.3	1.6
Female	4900	12.2	3.9	10.4	0.4	0.1	0.4
Modal Age:							
19-20	1600	15.6	5.6	14.6	1.3	0.4	2.3
21-22	1400	15.7	5.6	13.8	0.9	0.0	1.5
23-24	1300	14.8	4.2	13.6	0.5	0.4	0.6
25-26	1200	14.2	5.1	12.4	0.2	0.4	0.7
27-28	1200	13.7	3.8	12.3	0.1	0.0	0.4
29-30	1100	12.6	3.3	11.2	0.2	0.2	0.3
31-32	1200	12.8	4.0	11.7	0.1	0.0	0.3
Region:							
Northeast	1800	16.5	4.8	15.6	0.7	0.3	1.0
Northcentral	2500	13.5	3.9	12.3	0.5	0.0	0.7
South	2900	12.7	4.5	10.9	0.4	0.3	0.9
West	1700	16.3	5.6	14.7	0.7	0.3	1.3
Population Density[d]:							
Farm/Country	1100	12.2	3.9	10.8	0.1	0.7	0.6
Small Town	2600	14.5	4.5	13.1	0.6	0.0	0.9
Medium City	1900	13.6	4.1	12.5	0.5	0.0	0.8
Large City	1900	16.0	5.3	14.0	0.6	0.0	1.0
Very Large City	1300	14.7	5.0	13.6	0.7	0.9	1.3

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

[a]Unadjusted for known underreporting of certain drugs. See text for details.
[b]This drug was asked about in five of the six questionnaire forms. Total N is approximately 7400.
[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1700.
[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, cont.
Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups, 1993 Among Respondents of Modal Age 19-32

(Entries are percentages)

	LSD	PCP[a]	MDMA[b]	Cocaine	Crack	Heroin	Other Opiates
Total	0.6	0.2	0.2	1.4	0.4	*	0.6
Sex:							
Male	1.0	0.2	0.3	2.0	0.4	*	0.6
Female	0.3	0.1	0.1	1.0	0.3	0.1	0.6
Modal Age:							
19-20	1.6	0.4	0.8	0.8	0.4	*	0.9
21-22	1.0	0.0	0.1	1.4	0.2	0.2	0.8
23-24	0.5	0.5	0.2	1.4	0.3	0.0	0.5
25-26	0.3	0.0	0.2	1.8	0.4	*	0.4
27-28	0.3	0.0	0.0	1.5	0.4	0.0	0.7
29-30	*	0.2	0.0	1.7	0.3	0.0	0.4
31-32	0.2	0.0	0.1	1.7	0.5	0.0	0.7
Region:							
Northeast	0.7	0.4	0.0	2.0	0.3	0.1	0.6
Northcentral	0.5	0.0	*	1.1	0.3	0.0	0.6
South	0.5	0.0	0.3	1.3	0.4	0.1	0.6
West	0.8	0.4	0.6	1.6	0.5	0.0	0.8
Population Density[c]:							
Farm/Country	0.3	0.5	0.3	0.9	0.1	0.1	0.4
Small Town	0.5	0.0	0.0	1.1	0.3	0.0	0.5
Medium City	0.7	0.2	0.2	1.3	0.5	0.0	0.7
Large City	0.5	0.0	0.1	2.1	0.6	*	0.6
Very Large City	0.9	0.4	0.6	2.0	0.2	0.2	0.9

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]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1700.
[b]This drug was asked about in two of the six questionnaire forms. Total N is approximately 3500.
[c]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density, suburban and urban respondents are combined.

(Table continued on next page)

TABLE 5, cont.
Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups, 1993 Among Respondents of Modal Age 19-32

(Entries are percentages)

	Stimulants[a]	Barbiturates	"Ice"[b]	Tranquilizers	Steroids[c]	Alcohol[e]	Cigarettes
Total	1.3	0.6	0.2	0.9	0.0	68.9	27.4
Sex:							
Male	1.3	0.6	0.2	0.8	0.0	74.7	28.0
Female	1.4	0.6	0.3	1.0	0.0	64.2	26.9
Modal Age:							
19-20	1.9	0.8	0.5	0.7	0.0	62.2	29.0
21-22	1.9	0.4	0.5	0.8	0.0	74.2	29.2
23-24	0.9	0.4	0.3	0.8	0.0	73.7	28.1
25-26	1.3	0.4	0.0	1.3	0.0	69.9	27.7
27-28	1.2	0.7	0.2	1.2	0.0	69.4	25.4
29-30	0.9	0.3	0.1	0.5	0.0	67.2	25.8
31-32	0.8	0.7	0.2	1.1	0.0	66.3	25.3
Region:							
Northeast	0.6	0.7	0.1	1.0	0.0	75.8	28.6
Northcentral	1.3	0.4	0.1	0.5	0.0	73.0	31.2
South	1.3	0.7	0.0	1.2	0.0	62.4	26.5
West	2.1	0.5	1.1	1.0	0.0	67.5	21.8
Population Density[d]:							
Farm/Country	1.2	1.0	0.1	1.0	0.0	57.8	28.5
Small Town	1.4	0.5	0.1	0.8	0.0	67.6	29.4
Medium City	1.2	0.5	0.4	1.0	0.0	69.5	28.2
Large City	1.7	0.5	0.4	0.9	0.0	73.2	26.4
Very Large City	1.0	0.4	0.1	1.0	0.0	75.2	22.5

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

[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 3500.
[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1700.
[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]This drug was asked about in three of six questionnaire forms. Total N is approximately 5000.

TABLE 6
Thirty-Day Prevalence of Daily Use of Various Types of Drugs by Subgroups, 1993 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	9000	2.5	4.7	32.0	21.0	16.1
Sex:						
Male	4000	3.5	7.3	42.4	21.1	16.9
Female	4900	1.6	2.6	23.3	20.9	15.4
Modal Age:						
19-20	1600	2.3	3.3	34.6	21.1	14.5
21-22	1400	2.3	4.8	40.3	20.5	14.5
23-24	1300	2.7	4.9	35.0	20.1	15.2
25-26	1200	2.5	5.1	32.1	21.9	17.4
27-28	1200	2.3	4.7	29.0	20.1	16.3
29-30	1100	2.7	4.6	25.1	21.7	17.9
31-32	1200	2.6	5.7	24.8	21.4	17.8
Region:						
Northeast	1800	2.9	4.8	36.2	23.2	18.5
Northcentral	2500	2.4	5.0	36.8	24.0	18.9
South	2900	2.0	4.2	28.5	20.3	15.5
West	1700	3.0	4.8	26.6	15.3	10.6
Population Density[a]:						
Farm/Country	1100	2.8	4.8	26.4	23.3	19.0
Small Town	2600	2.2	4.8	33.3	23.2	18.6
Medium City	1900	2.5	3.8	33.1	21.5	16.5
Large City	1900	2.4	5.1	32.5	19.6	13.7
Very Large City	1300	2.7	5.0	31.9	15.2	11.0

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, an important upturn in the use of a number of illicit drugs, and in the use of cigarettes, was observed among secondary school students. Is this upturn also observable among the young adult segment of the population? That, and other questions will be addressed in this chapter.

Trends in the use of the various licit and illicit drugs by all high school graduates from 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 1993 data, the 19 to 20 year old stratum is comprised of participating respondents from the classes of 1992 and 1991, respectively, the 21 to 22 year old stratum contains data from the classes of 1990 and 1989, 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 from 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 (age 19-28), as well as in Figures 20 through 34 (age 19-32).

- 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, annual prevalence for most drugs remained steady, with the important exception of ***cocaine other then crack***.

- ***Marijuana*** remained at 25% 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 of

2.0% among eighth graders, 4.0% among tenths graders, and 4.1% among twelfth graders—all statistically significant.

- ***LSD*** use, which had been gradually rising since 1989 among young adults, did not continue the increase in 1993 (down 0.5% to 3.8% annual prevalence), and, in fact, 30-day use declined significantly. ***PCP*** use remained constant at extremely low levels.

- 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 has generally been true for the longer term declines, and the more recent leveling, for 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 these 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***.

- Figure 23 shows that ***inhalant*** use drops sharply with age. In fact, of all of the populations in this study, the eighth graders have the highest rate of use. It also shows the long-term gradual increase in annual inhalant use (unadjusted for underreporting of nitrite inhalants) among the youngest three age groups (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 do not exhibit the same increase in use as the younger respondents.

- The ***alcohol*** trends for the older age groups (see Figure 33) have been somewhat different than for the younger ones. The declines during the 80's 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 only be expected to affect the younger age groups. However, because similar (though weaker) trends are 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 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 decline in annual and 30-day prevalence rates and no recent decline 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 since 1987, and then among those 1-2 years past high school since 1989. 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 statistics for ***cigarette smoking*** do not tend to show parallel trends across age groups (Figure 34). While the curves are of the same general shape for each age group, each curve tends to be displaced to the right of the immediately preceding age group, which was two years younger. Note that this pattern is very similar to the one described earlier for lifetime smoking rates for various grade levels below senior year; it is the classic pattern exhibited for the presence of a cohort effect–that is, one cohort differs from other cohorts in a consistent way across much or all of the life span. This is how we interpret the cigarette data;[6] and we believe that the cohort differences tend to remain throughout the lifespan due to the highly addictive nature of nicotine. The declining levels of ***cigarette smoking*** at age 18, which was observed when the classes of 1978, 1979, and 1980

[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.

[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.

became seniors, were later observable in the early thirties age band, as those same classes reached their early thirties (see Figure 34b). This was true, at least, through 1991. Since then a convergence of the rates for several age groups–largely due to the leveling in use among graduating cohorts since the mid-80s–makes the cohort effect harder to see.

- 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 70s and early 80s. (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 decline observed for ***MDMA*** (ecstasy) among the young adult sample in 1991 did not continue; annual use has remained at between 0.8% to 1.0% since 1991. (See Table 8.) MDMA was not included in the surveys of high school seniors.

- 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); but further decreases occurred in 1993 for all except the 18 year olds. The proportion of 19 to 28 year olds reporting any ***cocaine*** use in the prior year dropped a significant 1.1% (to 4.7%) in 1993, while seniors held steady.

- In particular, 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 went from 1.4% to 1.3%, which, is down by over one-half from the peak levels in 1986 through 1988.

- ***Stimulant*** use, which has shown a long and substantial decline since 1981, has been flat among the young adult sample since 1991 (Figure 30). As Table 8 shows, 19 to 28 year olds now average a 4.0% annual prevalence rate. (Use by adolescents, however, increased in 1993.)

- 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 0.8% in 1993.

- ***LSD*** was the only drug to show a statistically significant increase in 1990 among 19 to 28 year olds. Annual prevalence rose from 2.7% to 3.3%. It again rose in 1991 to 3.8%, and by 1992 reached 4.3%. In 1993, however, it dropped to its 1991 level. Among seniors LSD use continued to rise–from 5.6% in 1992 to 6.8% in 1993, which is

statistically significant. In Figure 25, it may be seen that the increase in recent years in LSD use did not occur among the older age groups (those in their late 20s and early 30s). This had the effect of expanding the fairly large age differences which already existed in the use of this drug.

- 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***, high school seniors and young adults have shown longer-term trends in substance use 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, 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 "generational 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. Information on region of the country was included in the follow-up surveys beginning in 1987, so trend data are available for the four regions since then. These subgroup trend data are not presented here in tabular form because of the amount of space that would require.

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 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).

- The downward trend in ***marijuana*** use since 1980 among 19 to 22

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. Wtd. N =	1986 (6900)	1987 (6800)	1988 (6700)	1989 (6600)	1990 (6700)	1991 (6600)	1992 (6800)	1993 (6700)	'92-'93 change
Any Illicit Drug[h]	70.5	69.9	67.9	66.4	64.5	62.2	60.2	59.6	-0.6
Any Illicit Drug[h] Other than Marijuana	48.4	47.0	44.6	42.7	40.8	37.8	37.0	34.6	-2.4ss
Marijuana	66.5	66.0	63.8	62.8	60.2	58.6	56.4	55.9	-0.6
Inhalants[b]	12.3	12.7	12.6	13.2	12.5	13.4	13.5	14.1	+0.6
Inhalants, Adjusted[e]	18.6	15.7	15.0	NA	13.5	14.1	13.9	14.5	+0.6
Nitrites[f]	12.6	6.9	6.2	NA	1.9	1.4	1.2	1.3	+0.1
Hallucinogens	18.5	17.1	17.0	15.9	16.1	15.7	15.7	15.4	-0.4
Hallucinogens, Adjusted[g]	20.1	17.2	17.2	NA	16.5	16.0	15.9	15.5	-0.3
LSD	14.6	13.7	13.8	12.7	13.5	13.5	13.8	13.6	-0.2
PCP[f]	8.4	4.8	5.0	NA	2.5	3.1	2.0	1.9	-0.0
Cocaine	32.0	29.3	28.2	25.8	23.7	21.0	19.5	16.9	-2.6sss
Crack[c]	NA	6.3	6.9	6.1	5.1	4.8	5.1	4.3	-0.8s
Other Cocaine[j]	NA	28.2	25.2	25.4	22.1	19.8	18.4	15.1	-3.3sss
MDMA ("Ecstasy")[i]	NA	NA	NA	3.3	3.7	3.2	3.9	3.8	-0.1
Heroin	1.3	1.3	1.1	1.0	0.9	0.9	0.9	0.9	-0.1
Other Opiates[a]	10.7	10.6	9.8	9.6	9.4	9.3	8.9	8.1	-0.8
Stimulants, Adjusted[a,d]	32.3	30.8	28.8	25.3	24.4	22.4	20.2	18.7	-1.6s
"Ice"[i]	NA	NA	NA	NA	2.5	2.9	2.2	2.7	+0.5
Sedatives[a]	16.7	15.0	13.2	12.1	NA	NA	NA	NA	NA
Barbiturates[a]	11.1	9.7	8.9	7.9	8.7	8.2	7.4	6.5	-0.9s
Methaqualone[a]	13.1	11.6	9.7	8.7	NA	NA	NA	NA	NA
Tranquilizers[a]	17.6	16.5	15.1	13.5	12.9	11.8	11.3	10.5	-0.9
Alcohol[l]	94.8	94.9	94.8	94.5	94.3	94.1	93.4	93.7	+0.3
Cigarettes	NA	NA	NA	NA	NA	NA	NA	NA	NA
Steroids[f]	NA	NA	NA	1.1	1.2	1.7	1.9	1.5	-0.4

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 1990-1993. Total N is approximately 5500.

[c]This drug was asked about in two of the five questionnaire forms in 1987-89, and in all six questionnaire forms in 1990-1993.

[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 1993 is approximately 1250.

[g]Adjusted for underreporting of PCP.

[h]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and 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 questionnaire forms. Total N in 1993 is approximately 2500.

[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 1990-1993. Total N in 1993 is approximately 4200.

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

[l]In 1993 only, this drug was asked about in three questionnaire forms. Total N in 1993 is approximately 3700.

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								
Approx. Wtd. N =	1986 (6900)	1987 (6800)	1988 (6700)	1989 (6600)	1990 (6700)	1991 (6600)	1992 (6800)	1993 (6700)	'92-'93 change
Any Illicit Drug[h]	41.9	39.3	36.3	32.8	30.7	27.0	28.3	28.4	+0.1
Any Illicit Drug[h] Other than Marijuana	27.0	23.9	21.3	18.3	16.7	14.3	14.1	13.0	-1.1
Marijuana	36.5	34.8	31.8	29.0	26.1	23.8	25.2	25.1	-0.1
Inhalants[b]	1.9	2.1	1.8	1.9	1.9	2.0	1.9	2.1	+0.2
Inhalants, Adjusted[e]	3.0	2.8	2.4	NA	2.1	2.2	1.9	2.3	+0.5
Nitrites[f]	2.0	1.3	1.0	NA	0.4	0.2	0.1	0.4	+0.3
Hallucinogens	4.5	4.0	3.9	3.6	4.1	4.5	5.0	4.5	-0.4
Hallucinogens, Adjusted[g]	4.9	4.1	3.9	NA	4.2	4.6	5.1	4.6	-0.5
LSD	3.0	2.9	2.9	2.7	3.3	3.8	4.3	3.8	-0.5
PCP[f]	0.8	0.4	0.4	NA	0.2	0.3	0.3	0.2	-0.1
Cocaine	19.7	15.7	13.8	10.8	8.6	6.2	5.7	4.7	-1.1ss
Crack[c]	3.2	3.1	3.1	2.5	1.6	1.2	1.4	1.3	-0.1
Other Cocaine[j]	NA	13.6	11.9	10.3	8.1	5.4	5.1	3.9	-1.2ss
MDMA ("Ecstasy")[i]	NA	NA	NA	1.4	1.5	0.8	1.0	0.8	-0.2
Heroin	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.0
Other Opiates[a]	3.1	3.1	2.7	2.8	2.7	2.5	2.5	2.2	-0.3
Stimulants, Adjusted[a,d]	10.6	8.7	7.3	5.8	5.2	4.3	4.1	4.0	-0.1
"Ice"[i]	NA	NA	NA	NA	0.4	0.3	0.4	0.8	+0.4
Sedatives[a]	3.0	2.5	2.1	1.8	NA	NA	NA	NA	NA
Barbiturates[a]	2.3	2.1	1.8	1.7	1.9	1.8	1.6	1.9	+0.3
Methaqualone[a]	1.3	0.9	0.5	0.3	NA	NA	NA	NA	NA
Tranquilizers[a]	5.4	5.1	4.2	3.7	3.7	3.5	3.4	3.1	-0.3
Alcohol[l]	88.6	89.4	88.6	88.1	87.4	86.9	86.2	86.5	+0.3
Cigarettes	40.1	40.3	37.7	38.0	37.1	37.7	37.9	37.8	-0.1
Steroids[f]	NA	NA	NA	0.5	0.3	0.5	0.4	0.3	-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								
Approx. Wtd. N =	1986 (6900)	1987 (6800)	1988 (6700)	1989 (6600)	1990 (6700)	1991 (6600)	1992 (6800)	1993 (6700)	'92-'93 change
Any Illicit Drug[h]	25.8	23.4	20.5	17.7	15.9	15.1	14.8	14.9	+0.1
Any Illicit Drug[h] Other than Marijuana	13.0	10.7	9.5	7.5	6.0	5.4	5.5	4.9	-0.6
Marijuana	22.0	20.7	17.9	15.5	13.9	13.5	13.3	13.4	+0.2
Inhalants[b]	0.4	0.6	0.6	0.5	0.6	0.5	0.6	0.7	+0.1
Inhalants, Adjusted[e]	0.7	0.9	0.9	NA	0.7	0.6	0.7	0.7	0.0
Nitrites[f]	0.5	0.5	0.4	NA	0.1	*	0.1	0.2	+0.2
Hallucinogens	1.3	1.2	1.1	1.1	0.9	1.1	1.5	1.2	-0.3
Hallucinogens, Adjusted[g]	1.4	1.2	1.1	NA	1.0	1.2	1.6	1.2	-0.4
LSD	0.9	0.8	0.8	0.8	0.6	0.8	1.1	0.8	-0.4s
PCP[f]	0.2	0.1	0.3	NA	0.2	0.1	0.2	0.2	0.0
Cocaine	8.2	6.0	5.7	3.8	2.4	2.0	1.8	1.4	-0.5s
Crack[c]	NA	1.0	1.2	0.7	0.4	0.4	0.4	0.4	0.0
Other Cocaine[j]	NA	4.8	4.8	3.4	2.1	1.8	1.7	1.1	-0.7s
MDMA ("Ecstasy")[i]	NA	NA	NA	0.4	0.2	0.1	0.3	0.3	0.0
Heroin	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	0.0
Stimulants, Adjusted[a,d]	4.0	3.2	2.7	2.1	1.9	1.5	1.5	1.5	0.0
"Ice"[l]	NA	NA	NA	NA	0.1	*	0.1	0.3	+0.1
Sedatives[a]	0.9	0.8	0.7	0.5	NA	NA	NA	NA	NA
Barbiturates[a]	0.7	0.7	0.7	0.5	0.6	0.5	0.5	0.6	+0.1
Methaqualone[a]	0.3	0.2	0.1	0.0	NA	NA	NA	NA	NA
Tranquilizers[a]	1.8	1.6	1.4	1.2	1.1	0.9	1.0	1.0	0.0
Alcohol[l]	75.1	75.4	74.0	72.4	71.2	70.6	69.0	69.7	+0.8
Cigarettes	31.1	30.9	28.9	28.6	27.7	28.2	28.3	28.0	-0.3
Steroids[f]	NA	NA	NA	0.2	0.1	0.2	0.1	0.0	-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.
An asterisk indicates a percentage of less than .05%. 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								
Approx. Wtd. N =	1986 (6900)	1987 (6800)	1988 (6700)	1989 (6600)	1990 (6700)	1991 (6600)	1992 (6800)	1993 (6700)	'92-'93 change
Marijuana	4.1	4.2	3.3	3.2	2.5	2.3	2.3	2.4	+0.1
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	+0.0
Alcohol									
Daily[l]	6.1	6.6	6.1	5.5	4.7	4.9	4.5	4.5	+0.1
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	+0.2
Cigarettes									
Daily	25.2	24.8	22.7	22.4	21.3	21.7	20.9	20.8	-0.2
Half-pack or more per day	20.2	19.8	17.7	17.3	16.7	16.0	15.7	15.5	-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.
An asterisk indicates a prevalence rate of less than .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	'92-'93 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	+0.1
Males	45.3	42.6	39.5	35.7	33.6	30.0	31.4	31.1	-0.3
Females	39.0	36.5	33.6	30.5	28.3	24.5	25.8	26.1	+0.4
Any Illicit Drug Other than Marijuana	27.0	23.9	21.3	18.3	16.7	14.3	14.1	13.0	-1.1
Males	30.4	26.5	23.8	21.0	19.1	16.4	16.3	14.7	-1.6
Females	24.0	21.6	19.4	16.2	14.7	12.5	12.2	11.6	-0.7
	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	+0.1
Males	29.9	27.1	23.7	21.1	18.8	18.3	17.9	17.4	-0.5
Females	22.2	20.2	17.8	15.0	13.5	12.5	12.4	12.9	+0.5
Any Illicit Drug Other than Marijuana	13.0	10.7	9.5	7.5	6.0	5.4	5.5	4.9	-0.6
Males	15.2	12.3	10.6	9.1	6.8	6.6	6.5	5.9	-0.6
Females	11.0	9.4	8.7	6.2	5.3	4.4	4.7	4.0	-0.6
	Approximate Weighted Ns								
All Respondents	(6900)	(6800)	(6700)	(6600)	(6700)	(6600)	(6800)	(6700)	
Males	(3200)	(3100)	(3000)	(2900)	(3000)	(3000)	(3000)	(3000)	
Females	(3700)	(3700)	(3700)	(3700)	(3700)	(3600)	(3700)	(3700)	

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, and 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

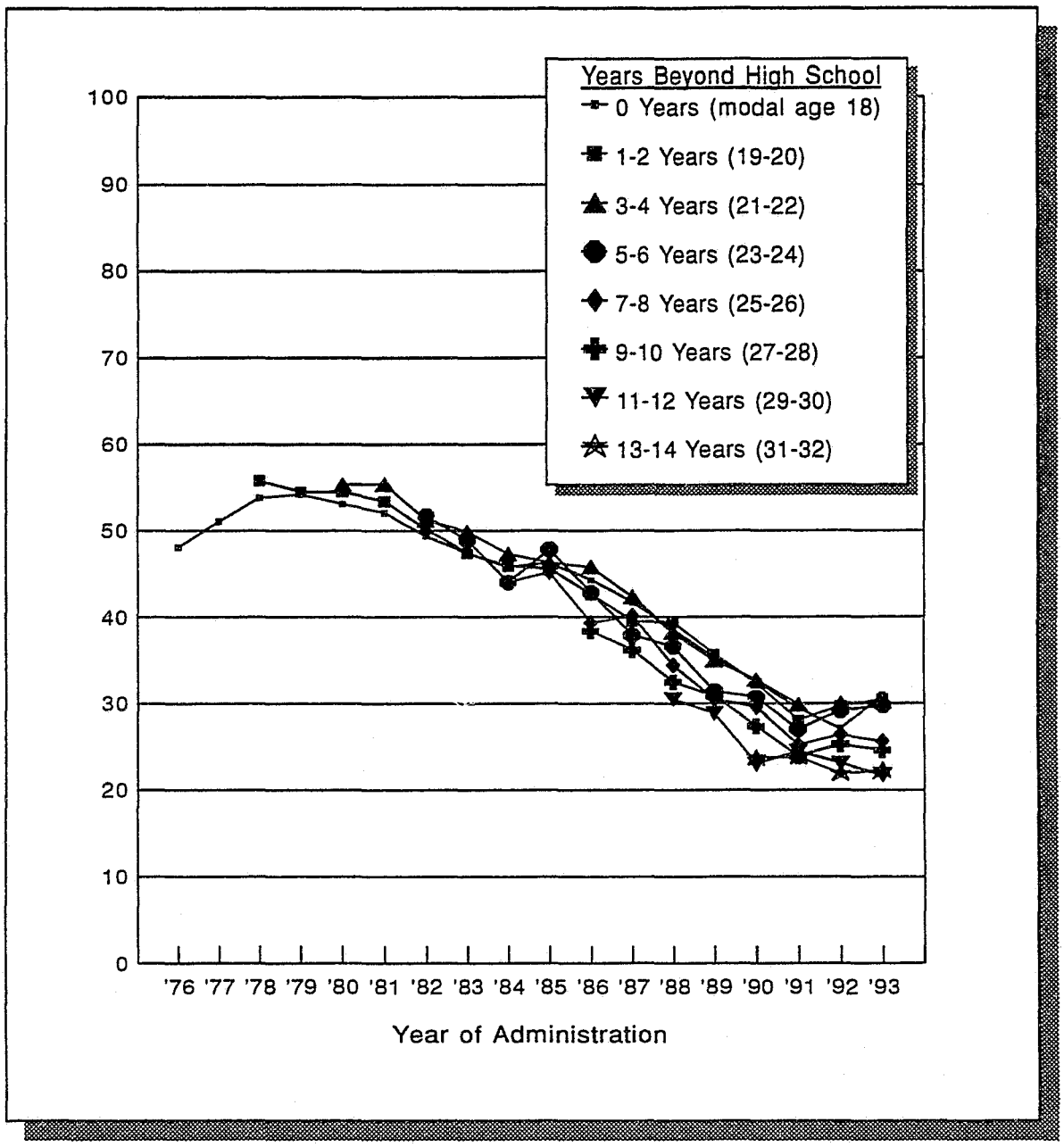


Figure 21
Any Illicit Drug Other than Marijuana: Trends in Annual Prevalence Among Young Adults
by Age Group

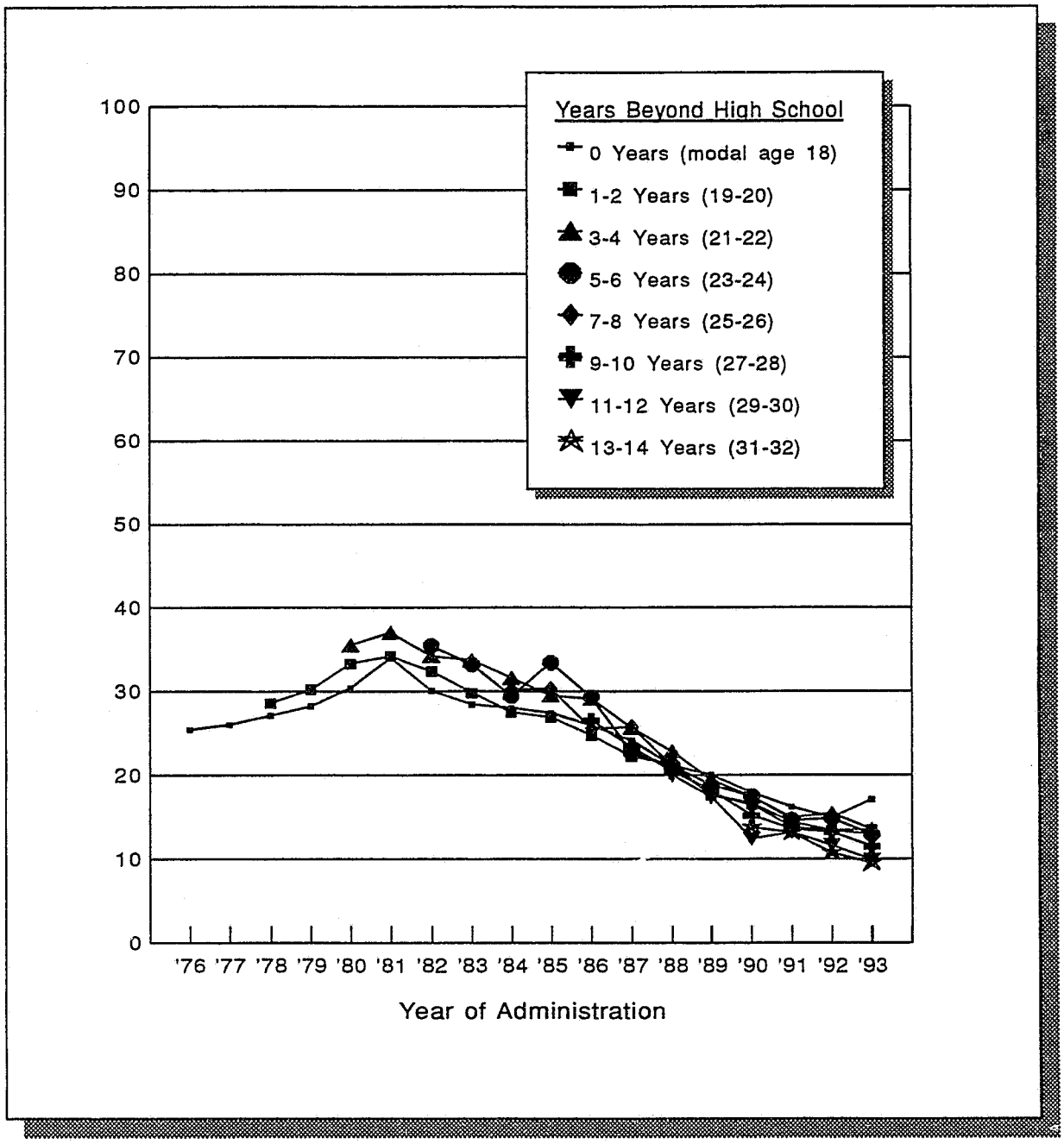


Figure 22a
Marijuana: Trends in Annual Prevalence Among Young Adults
by Age Group

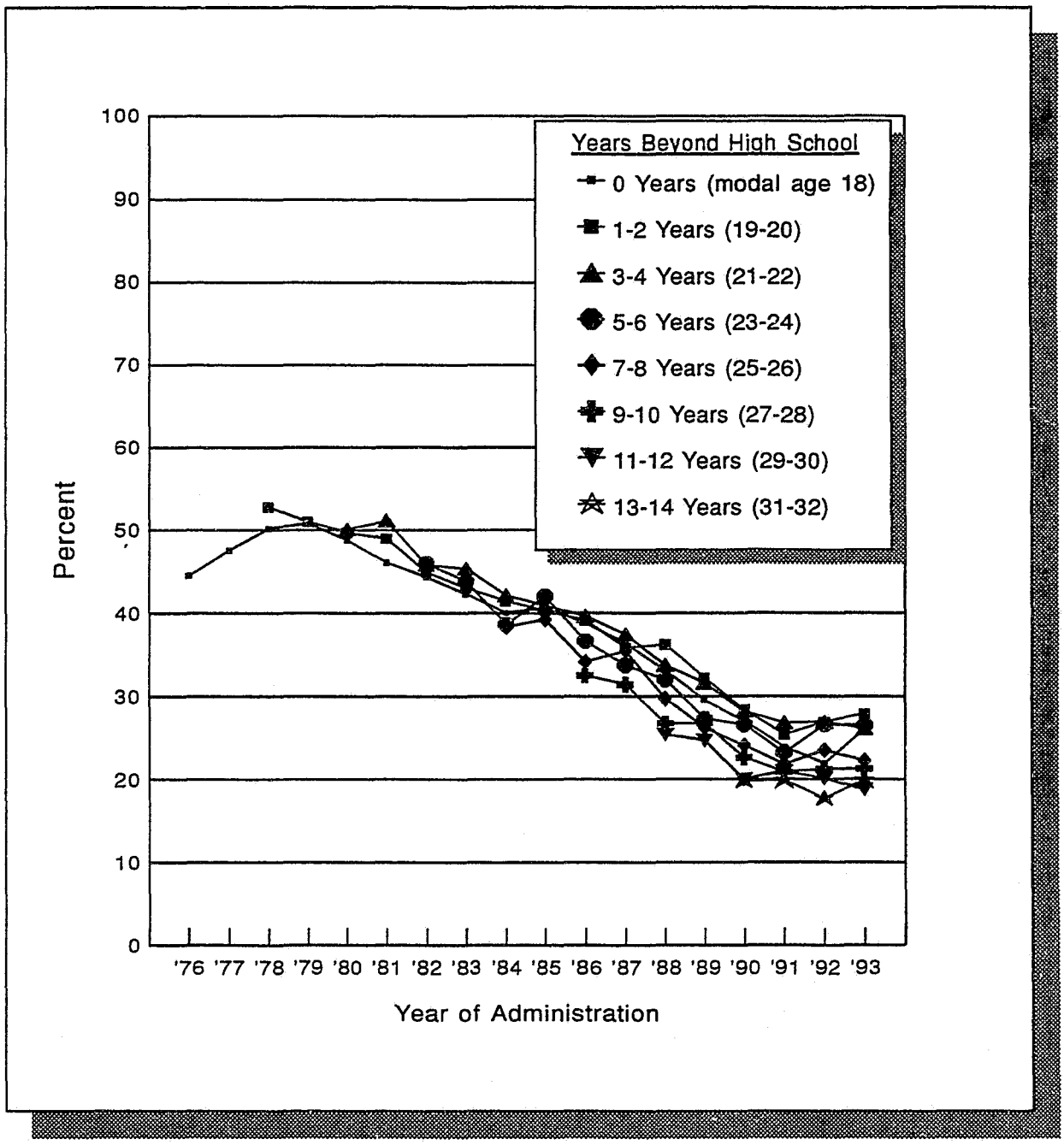


Figure 22b
Marijuana: Trends in Thirty-Day Prevalence Among Young Adults
by Age Group

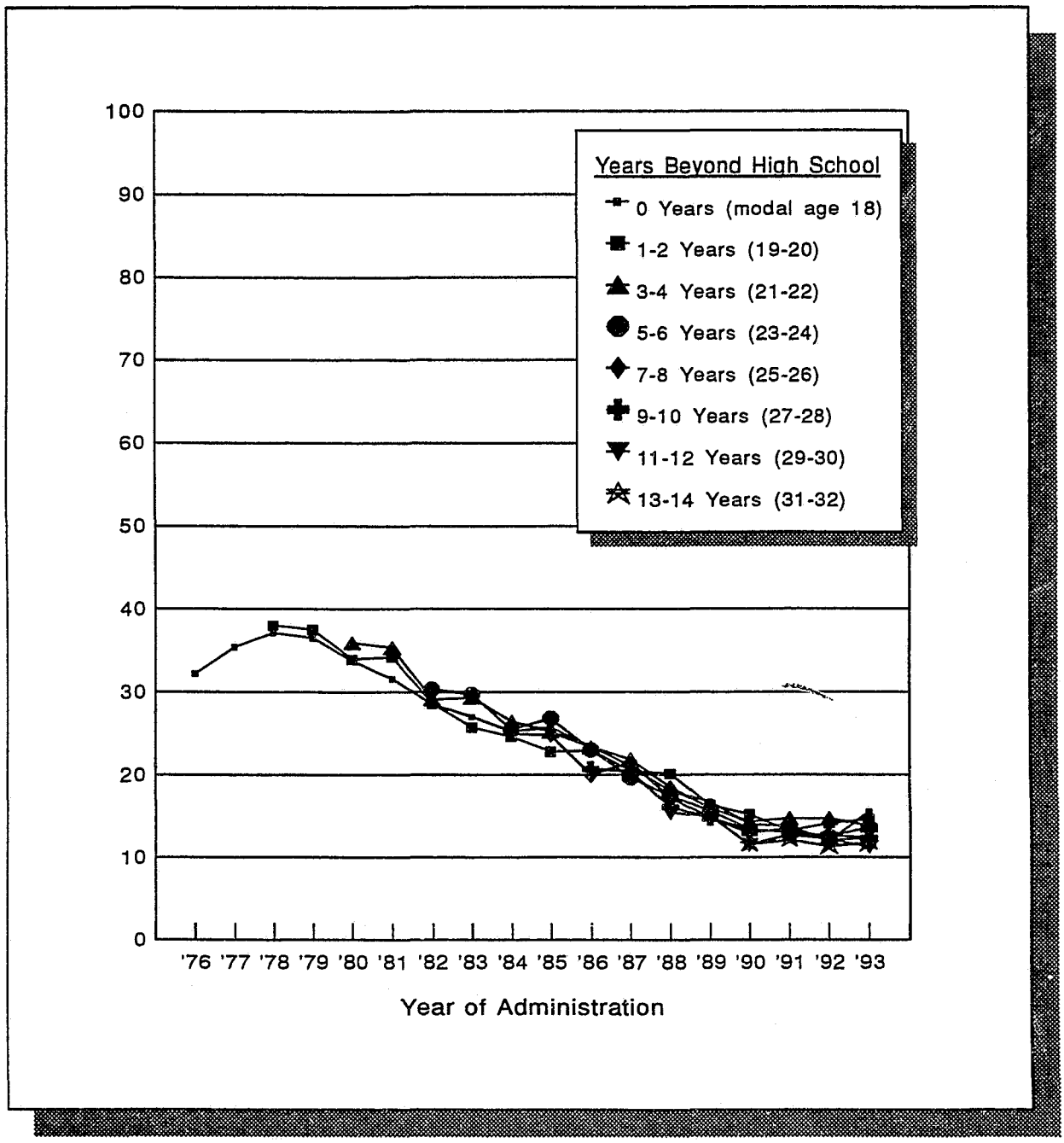


Figure 22c
Marijuana: Trends in Thirty-Day Prevalence of Daily Use Among Young Adults by Age Group

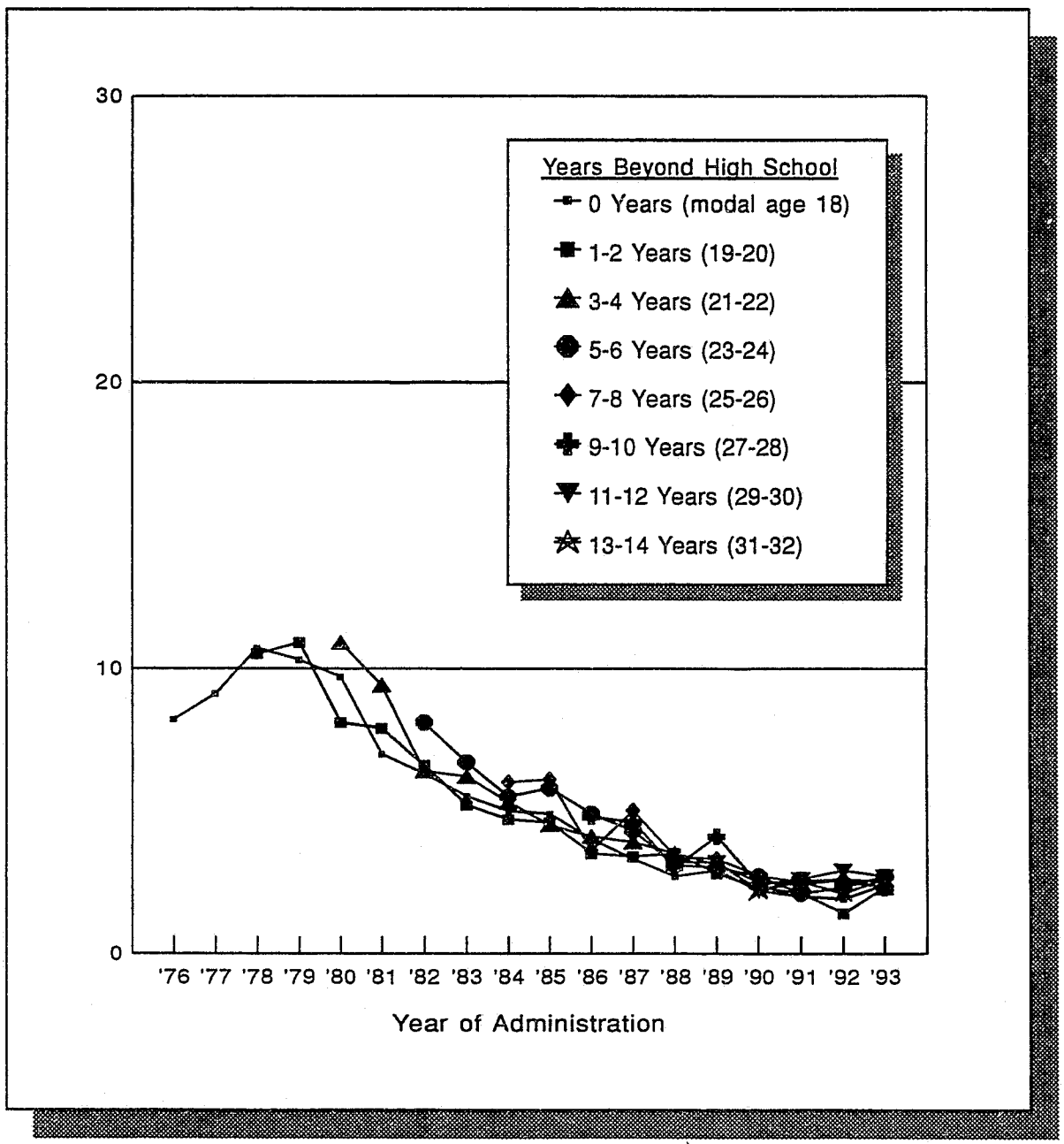
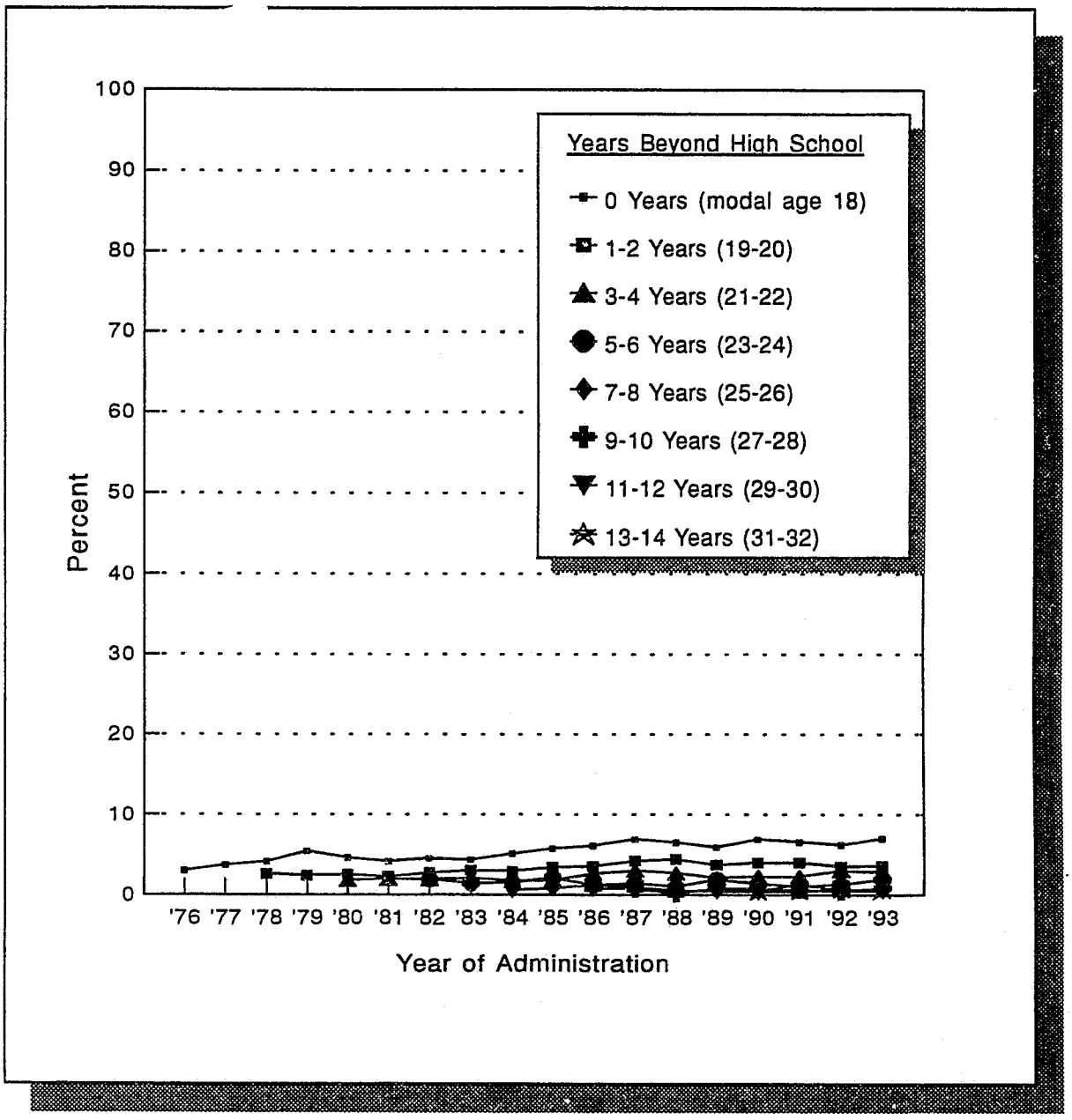
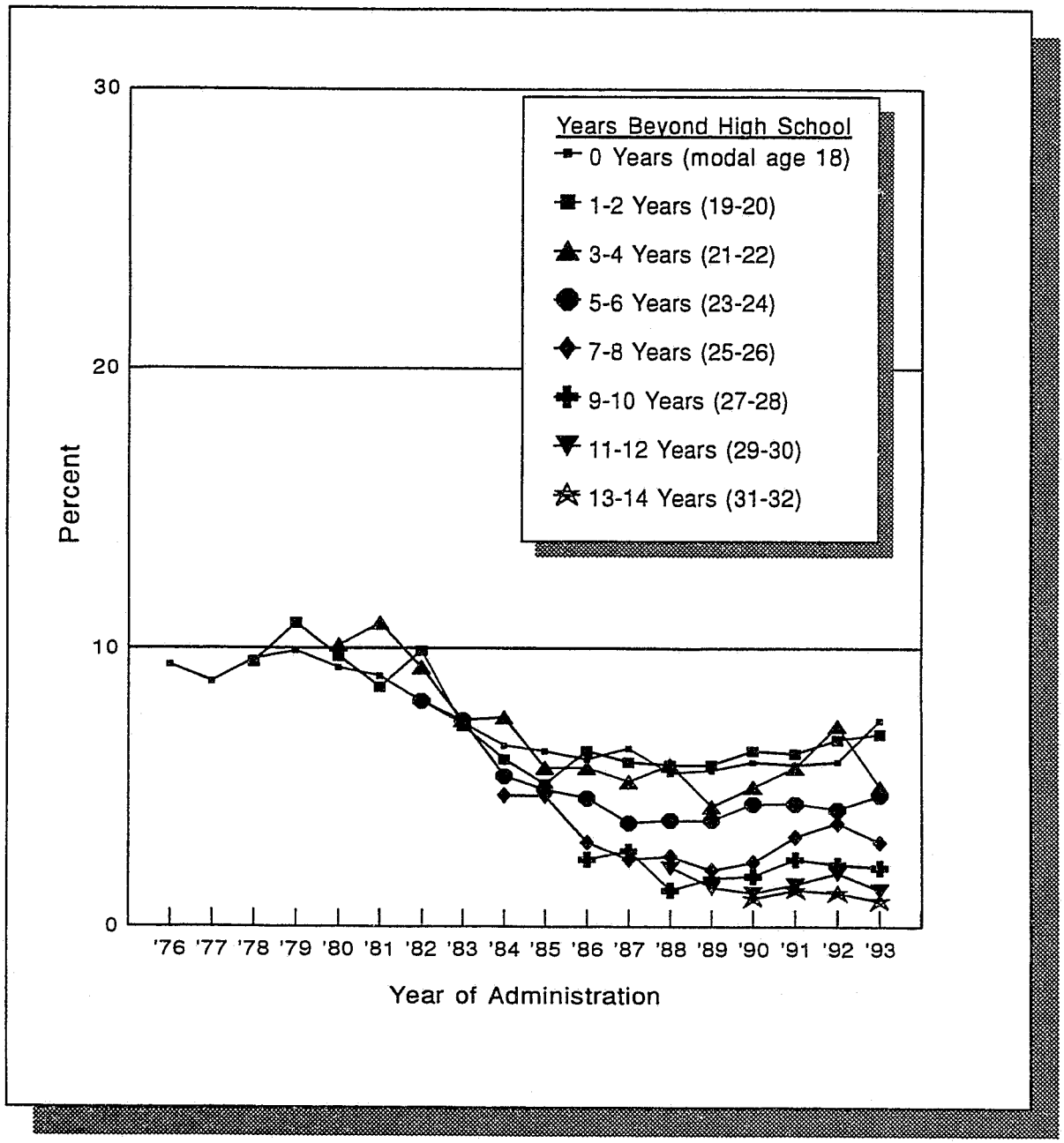


Figure 23
Inhalants*: Trends in Annual Prevalence Among Young Adults by Age Group



*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

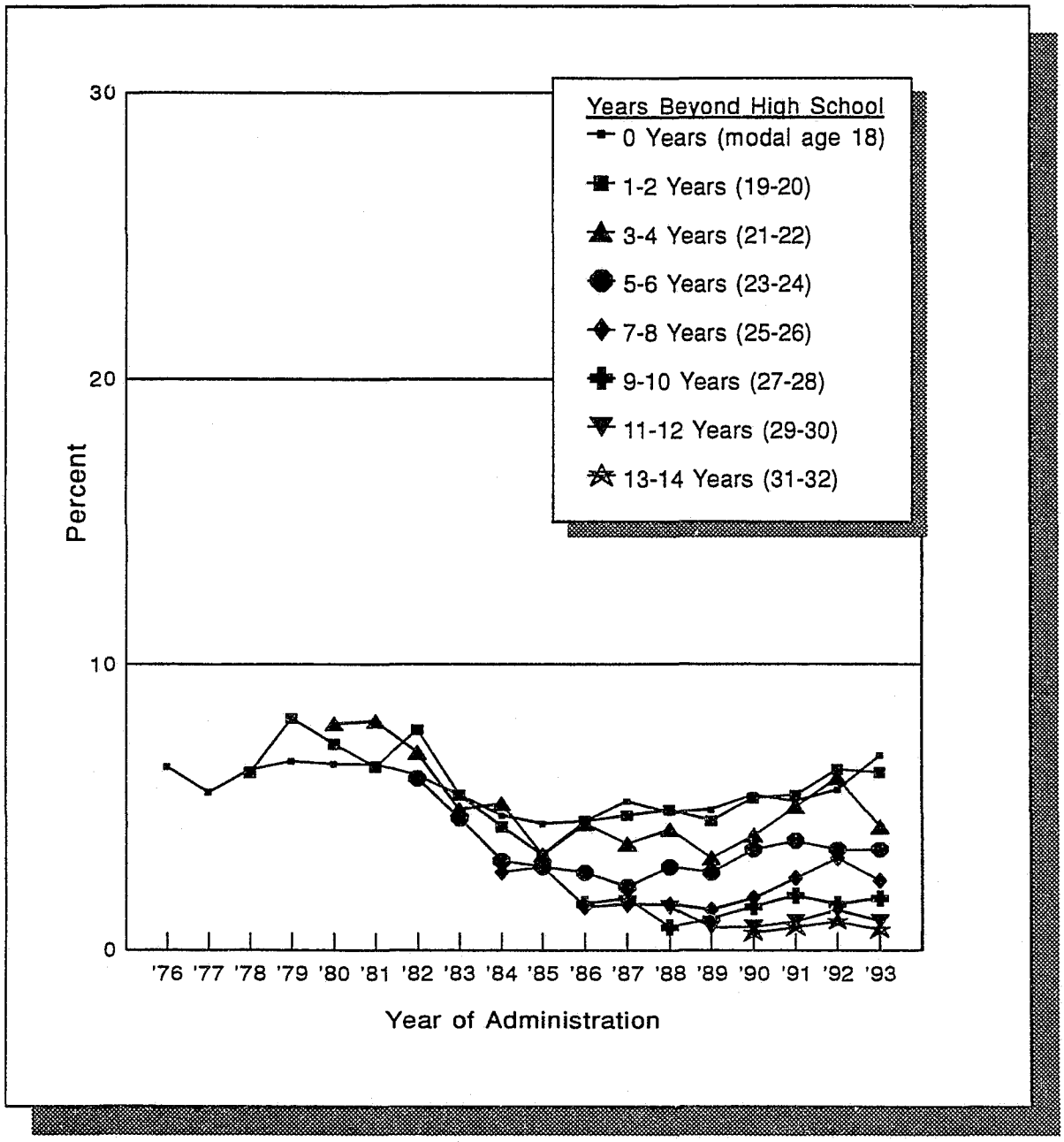


Figure 26
Hallucinogens Other than LSD: Trends in Annual Prevalence Among Young Adults by Age Group

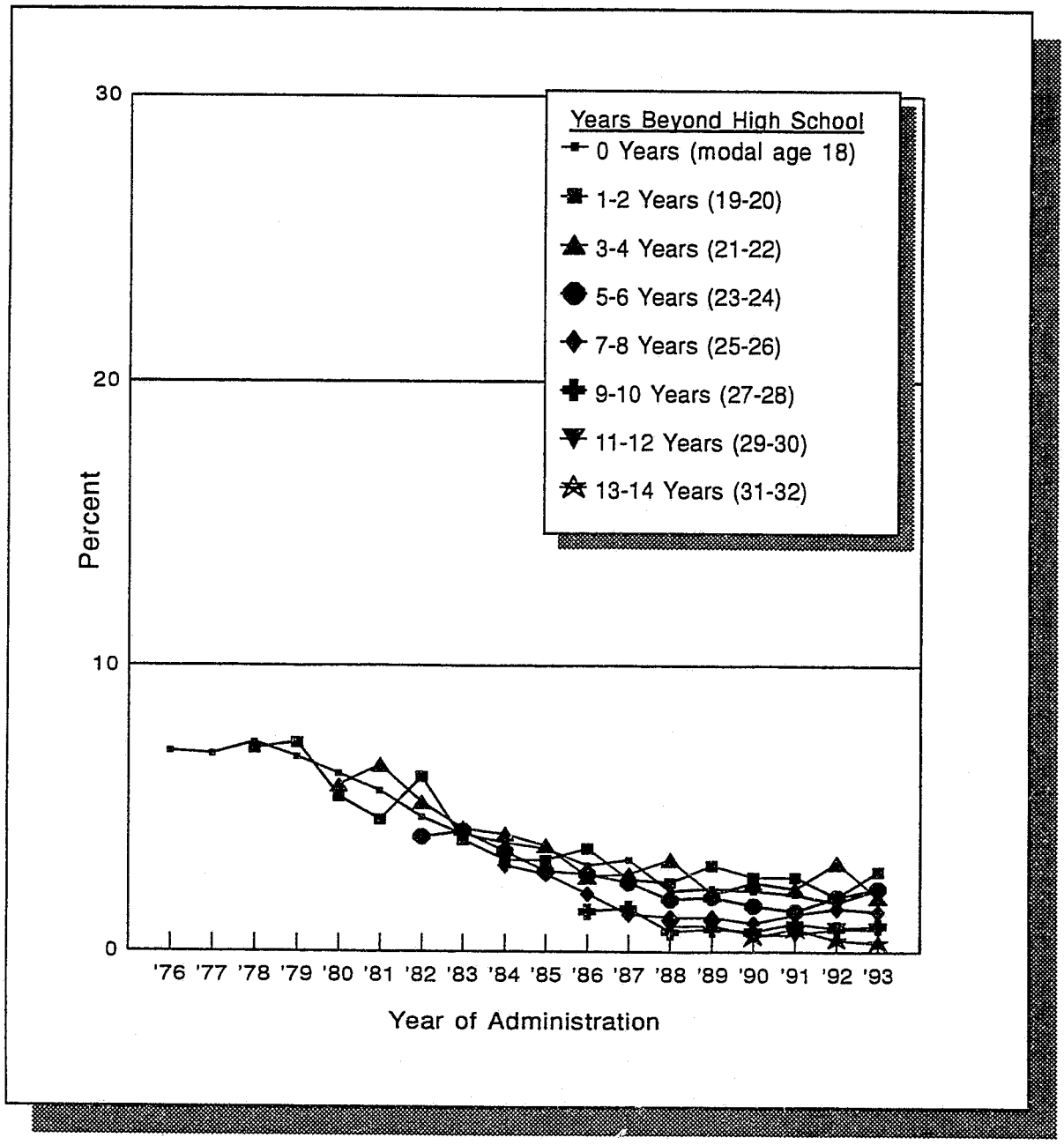


Figure 27
Cocaine: Trends in Annual Prevalence Among Young Adults by Age Group

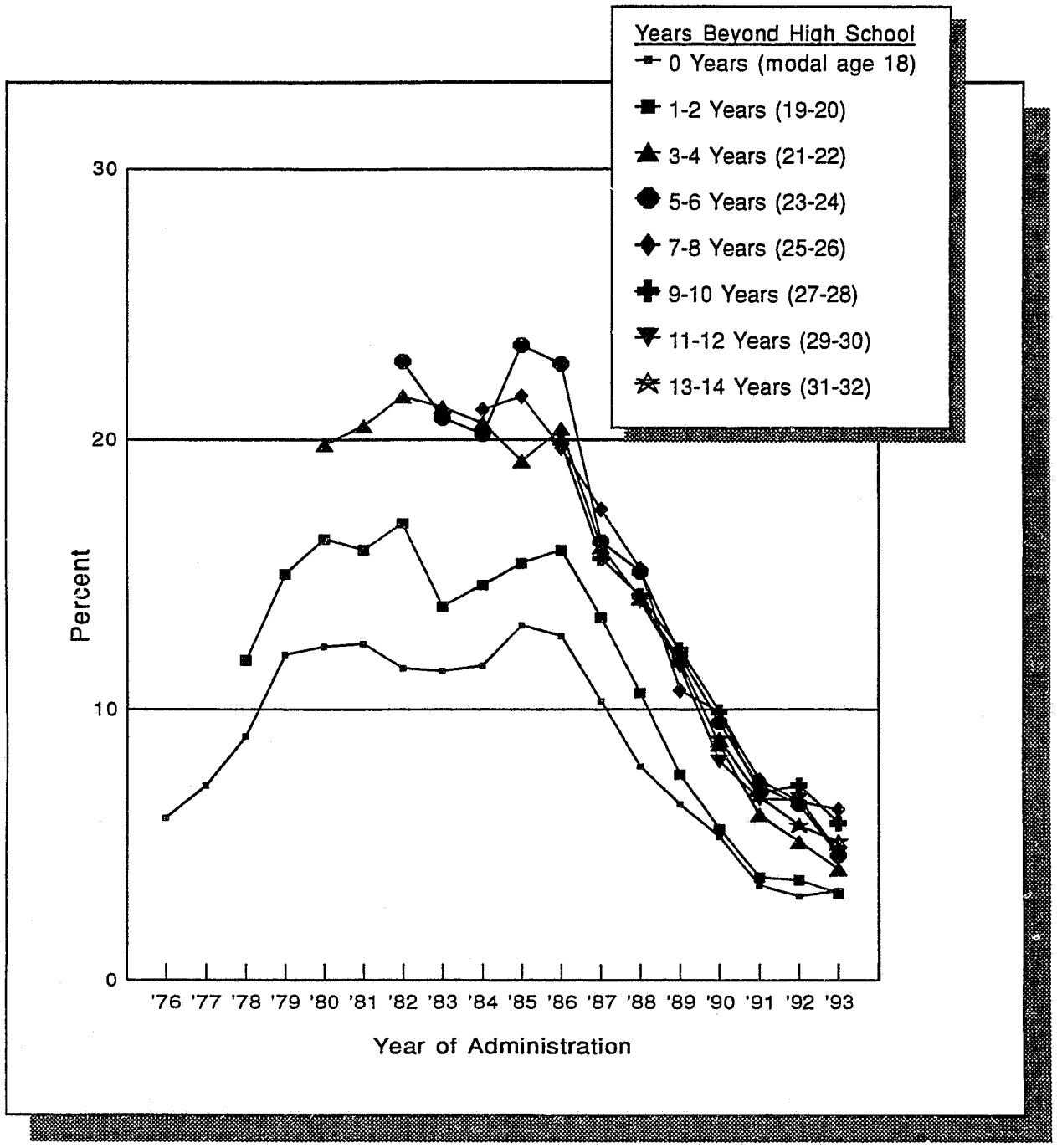


Figure 28
Crack Cocaine: Trends in Annual Prevalence Among Young Adults by Age Group

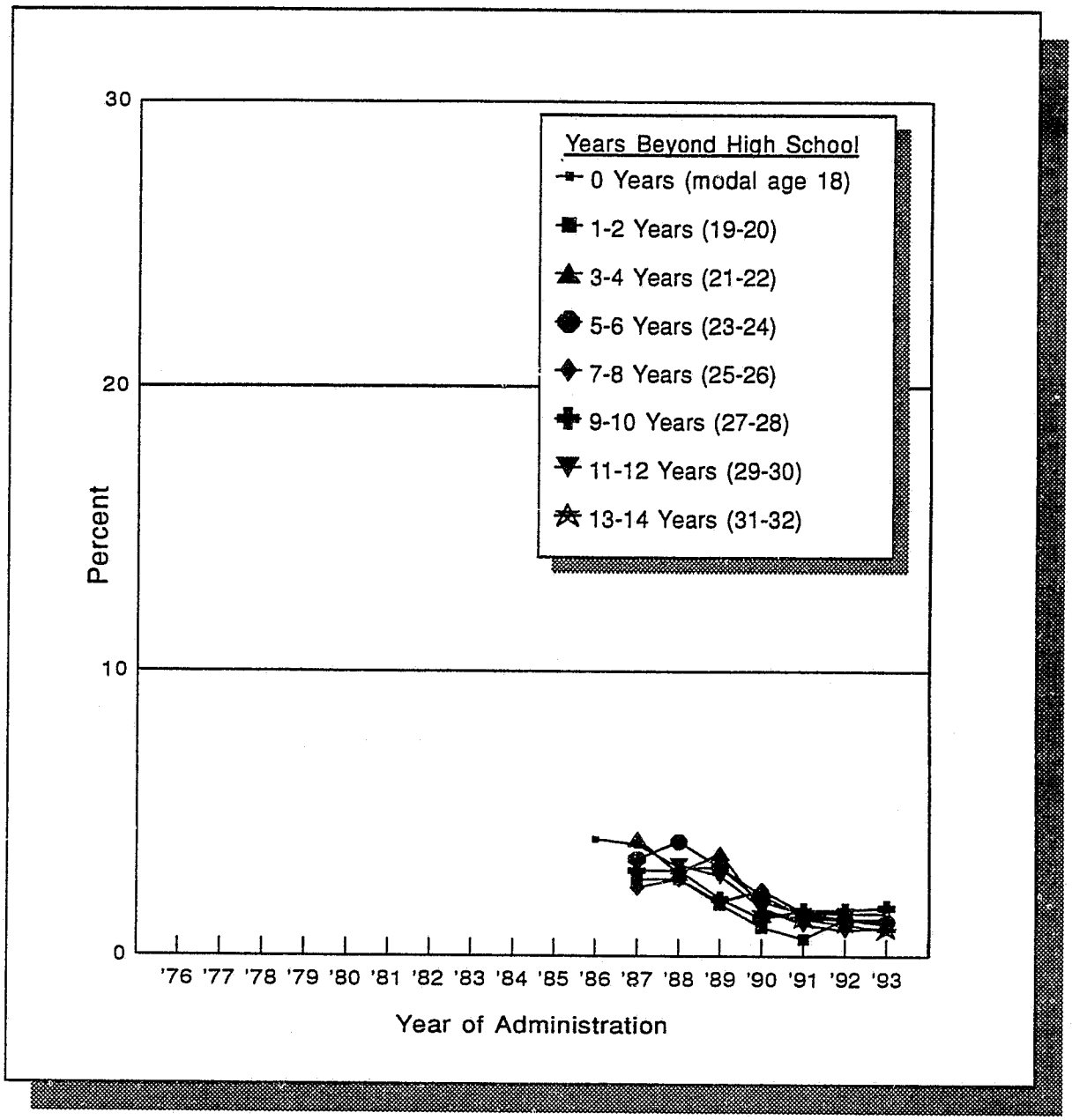


Figure 29
Other Opiates: Trends in Annual Prevalence Among Young Adults by Age Group

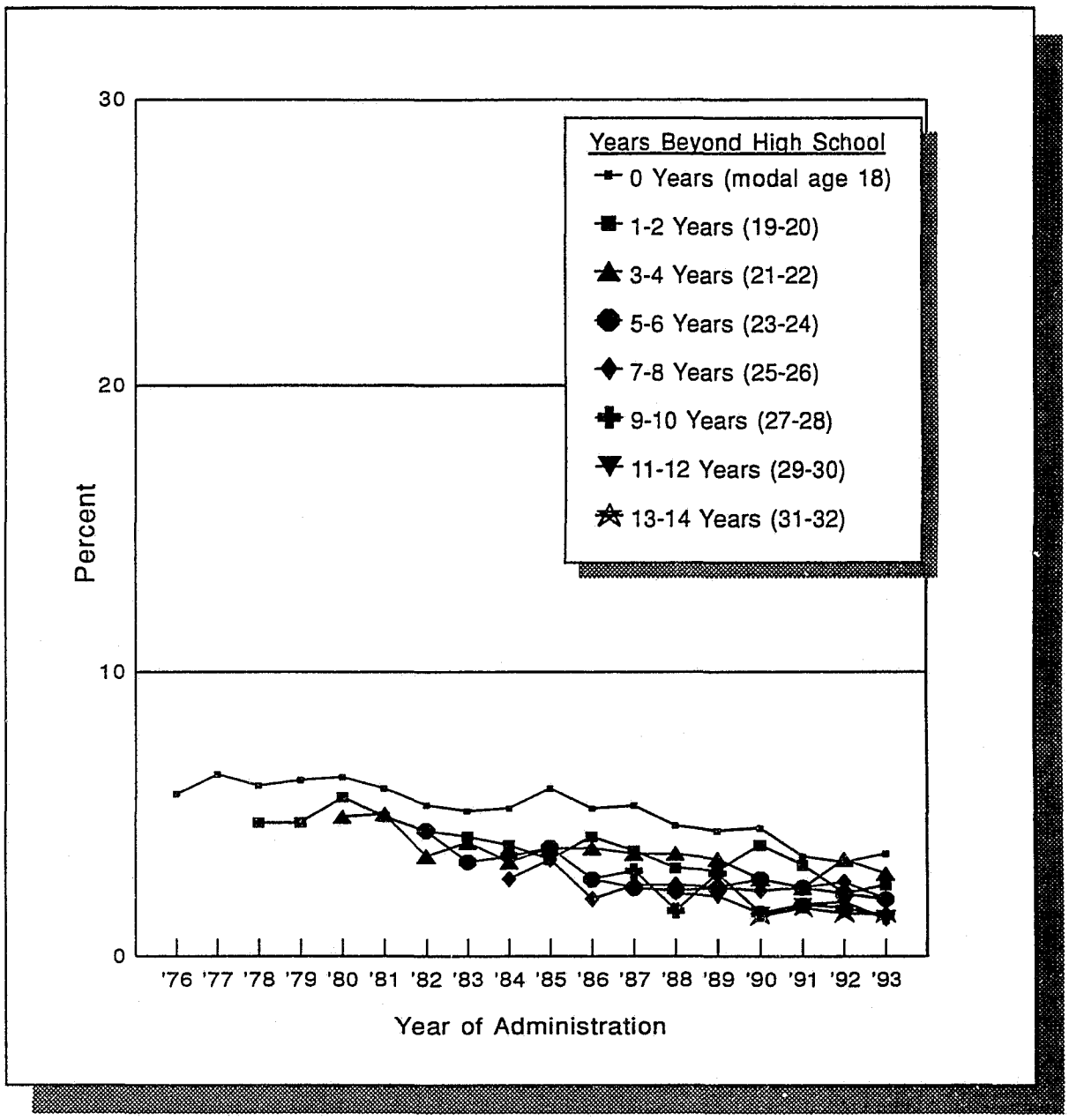


Figure 30
Stimulants: Trends in Annual Prevalence Among Young Adults by Age Group

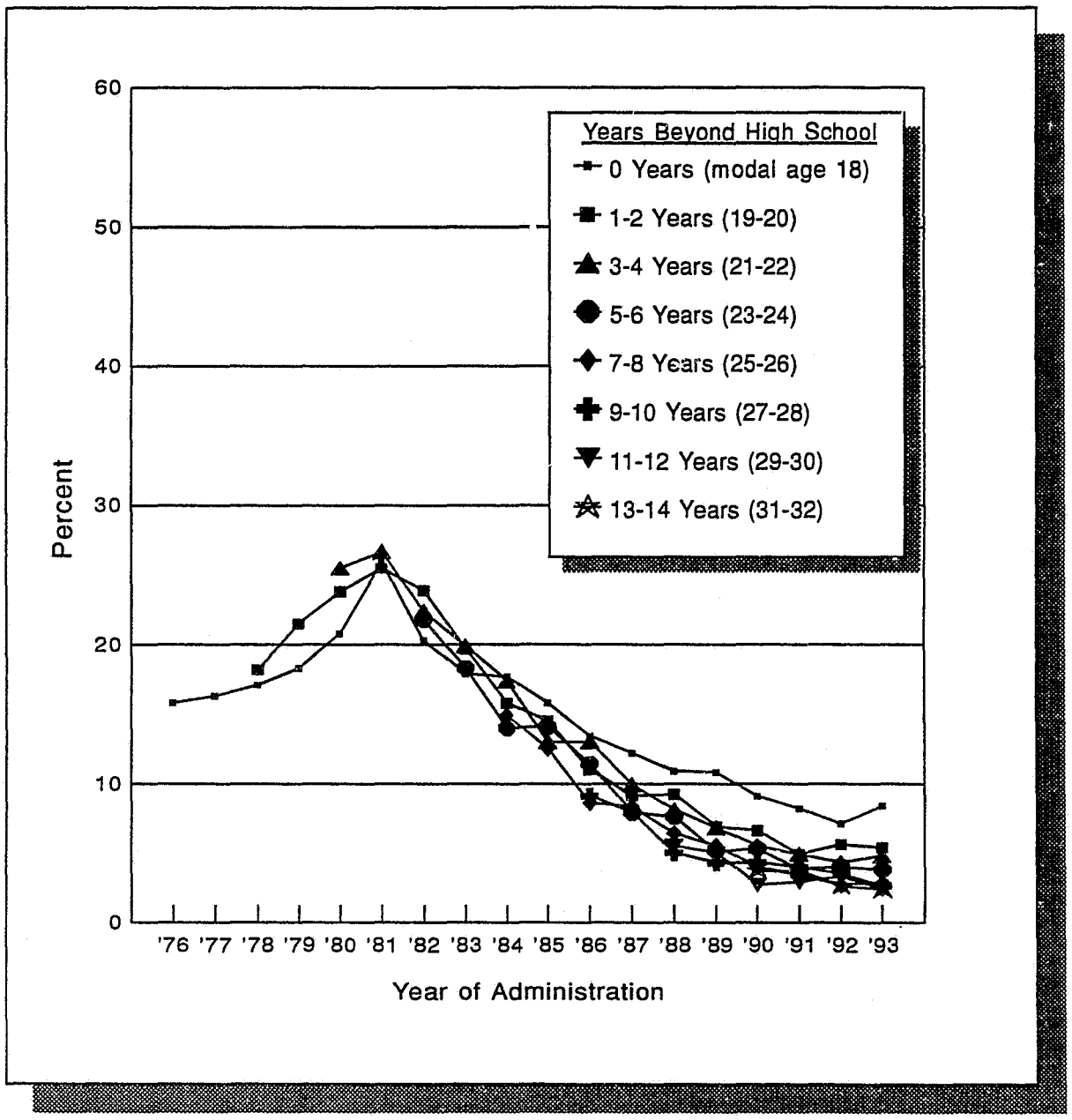


Figure 31
Barbiturates: Trends in Annual Prevalence Among Young Adults by Age Group

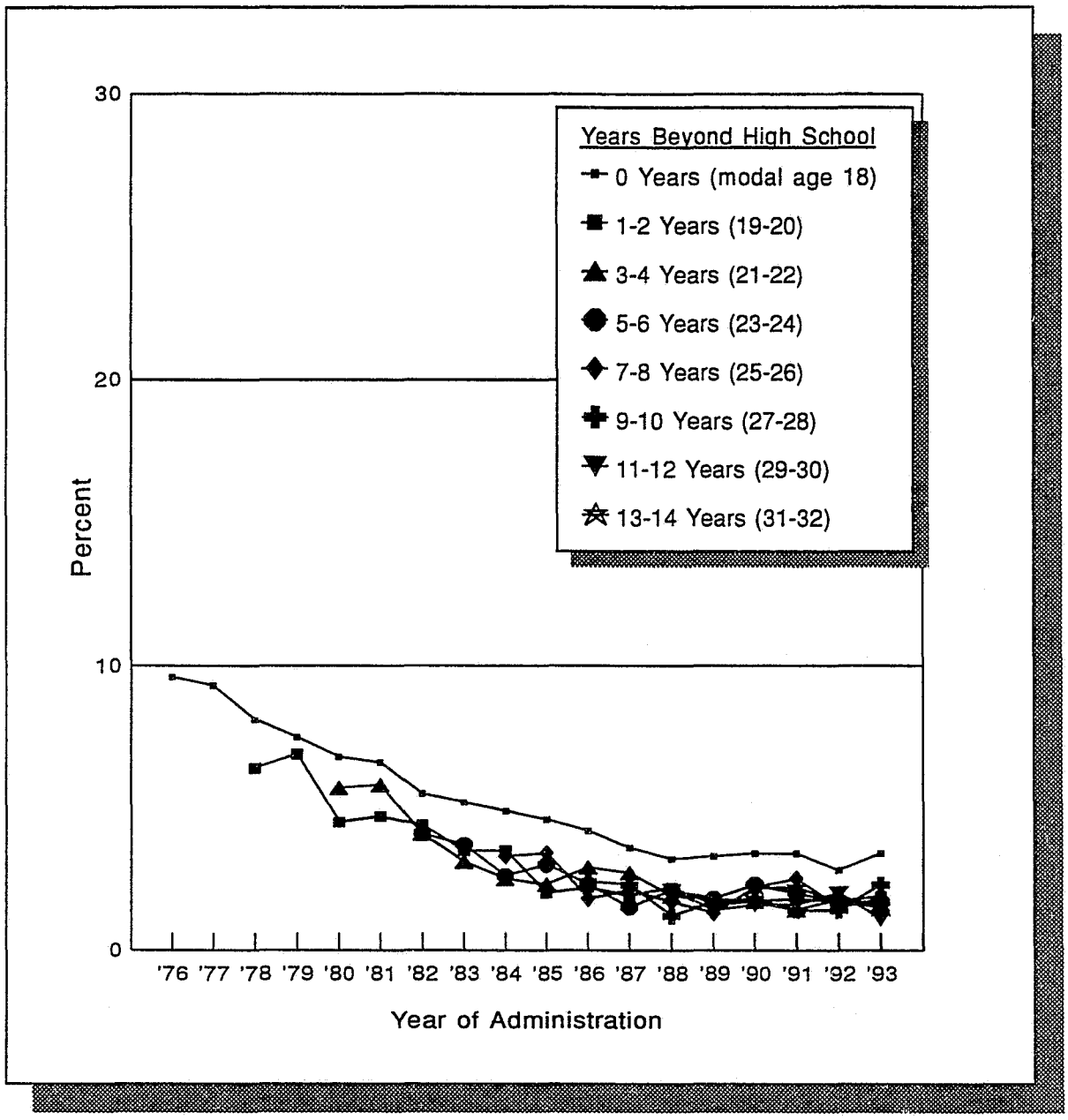


Figure 32
Tranquilizers: Trends in Annual Prevalence Among Young Adults by Age Group

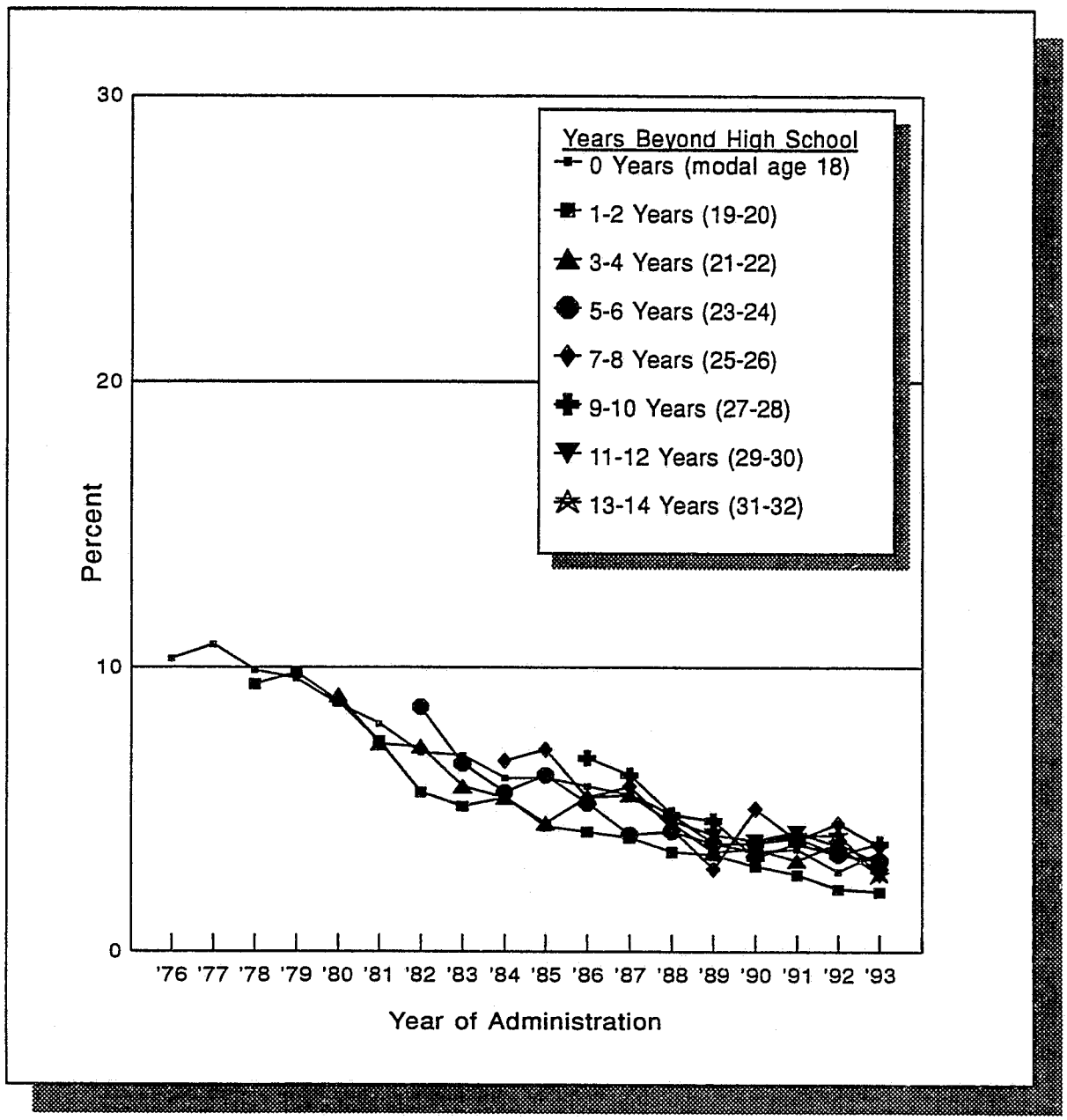


Figure 33a
Alcohol: Trends in Annual Prevalence Among Young Adults by Age Group

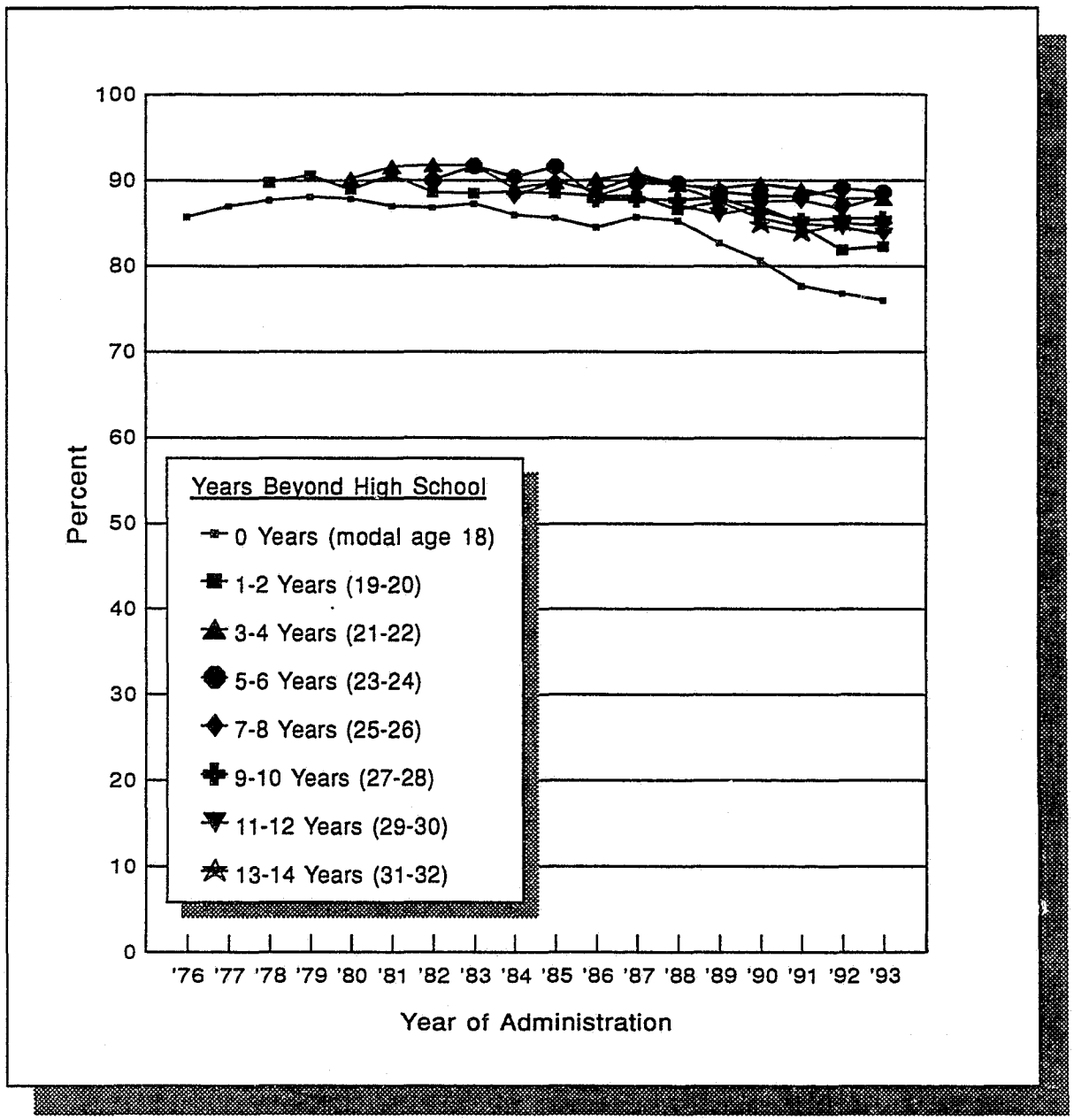


Figure 33b
Alcohol: Trends in Thirty-Day Prevalence Among Young Adults by Age Group

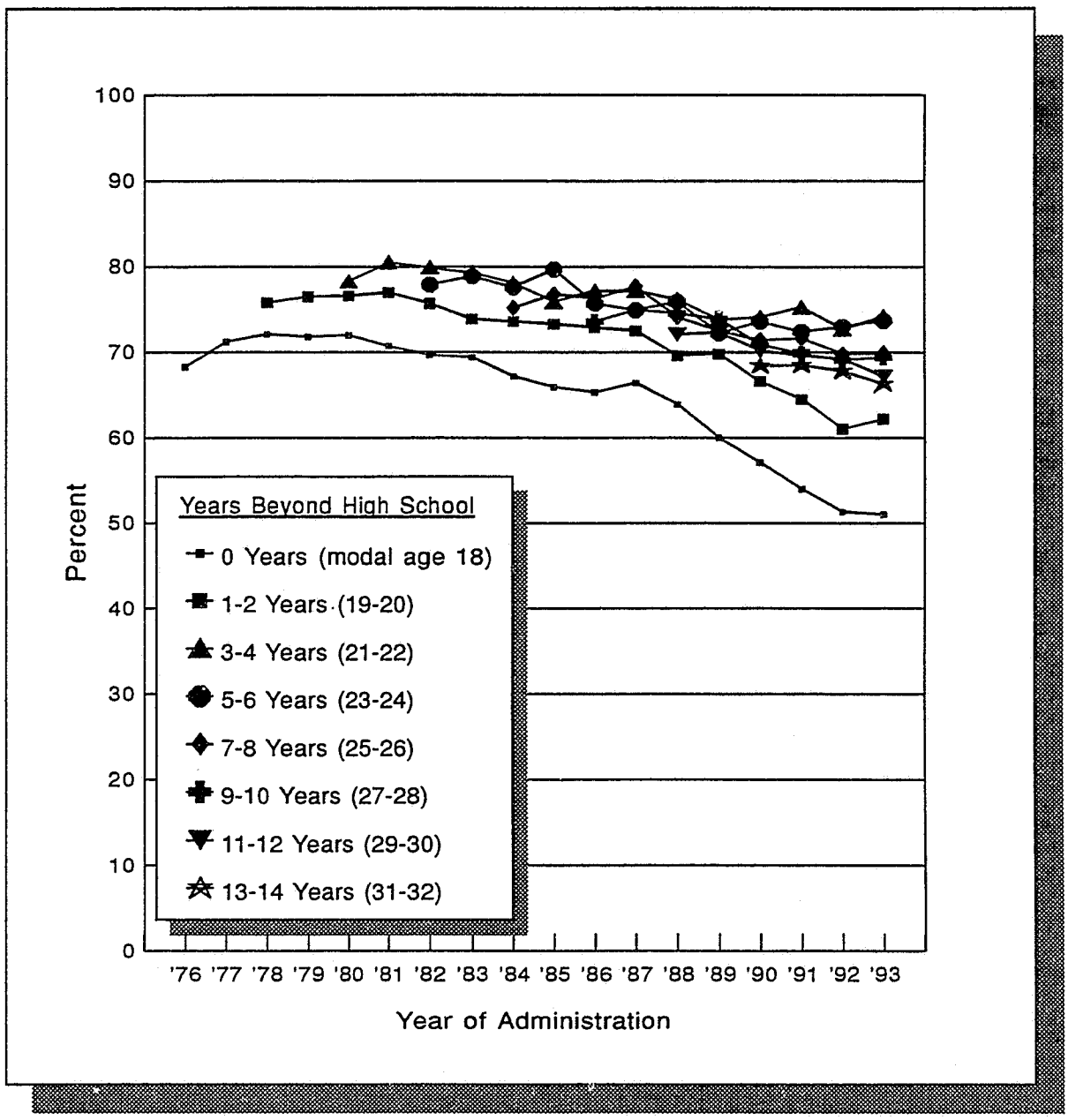


Figure 33c
Alcohol: Trends in Thirty-Day Prevalence of Daily Use Among Young Adults by Age Group

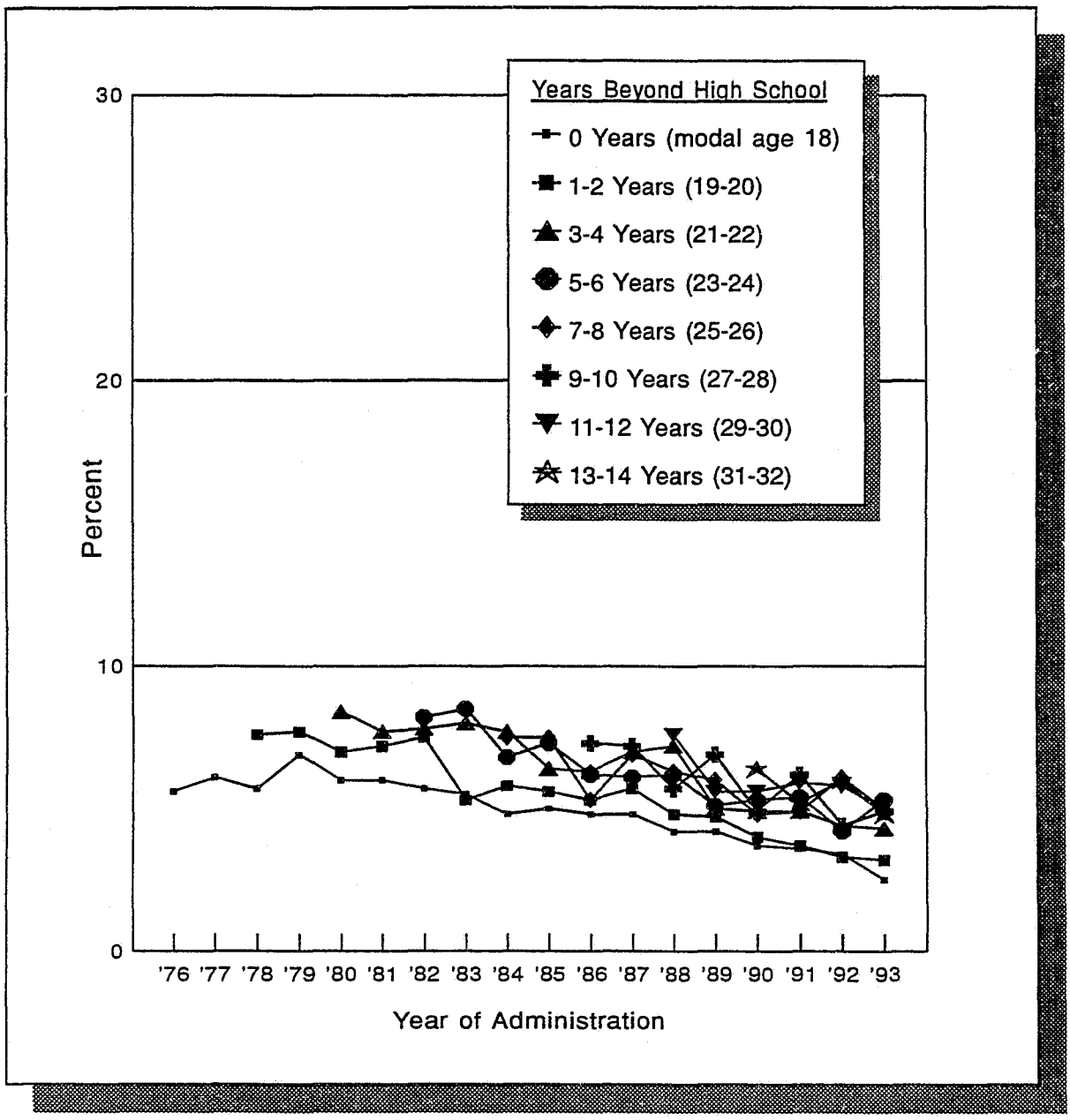


Figure 33d
Alcohol: Trends in Two-Week Prevalence of Having Five or More Drinks in a Row at Least Once Among Young Adults, by Age Group

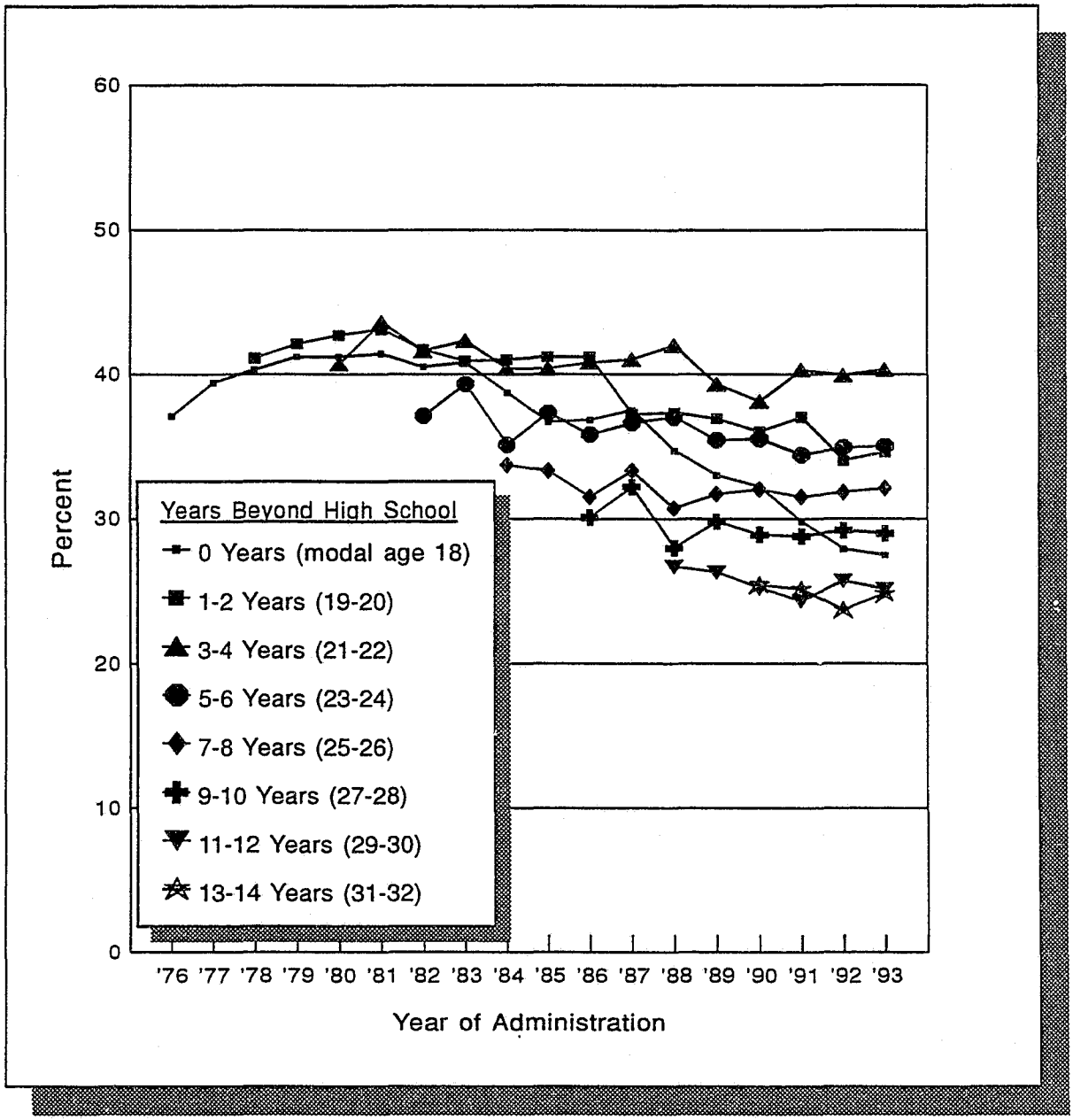


Figure 34a
Cigarettes: Trends in Thirty-Day Prevalence Among Young Adults by Age Group

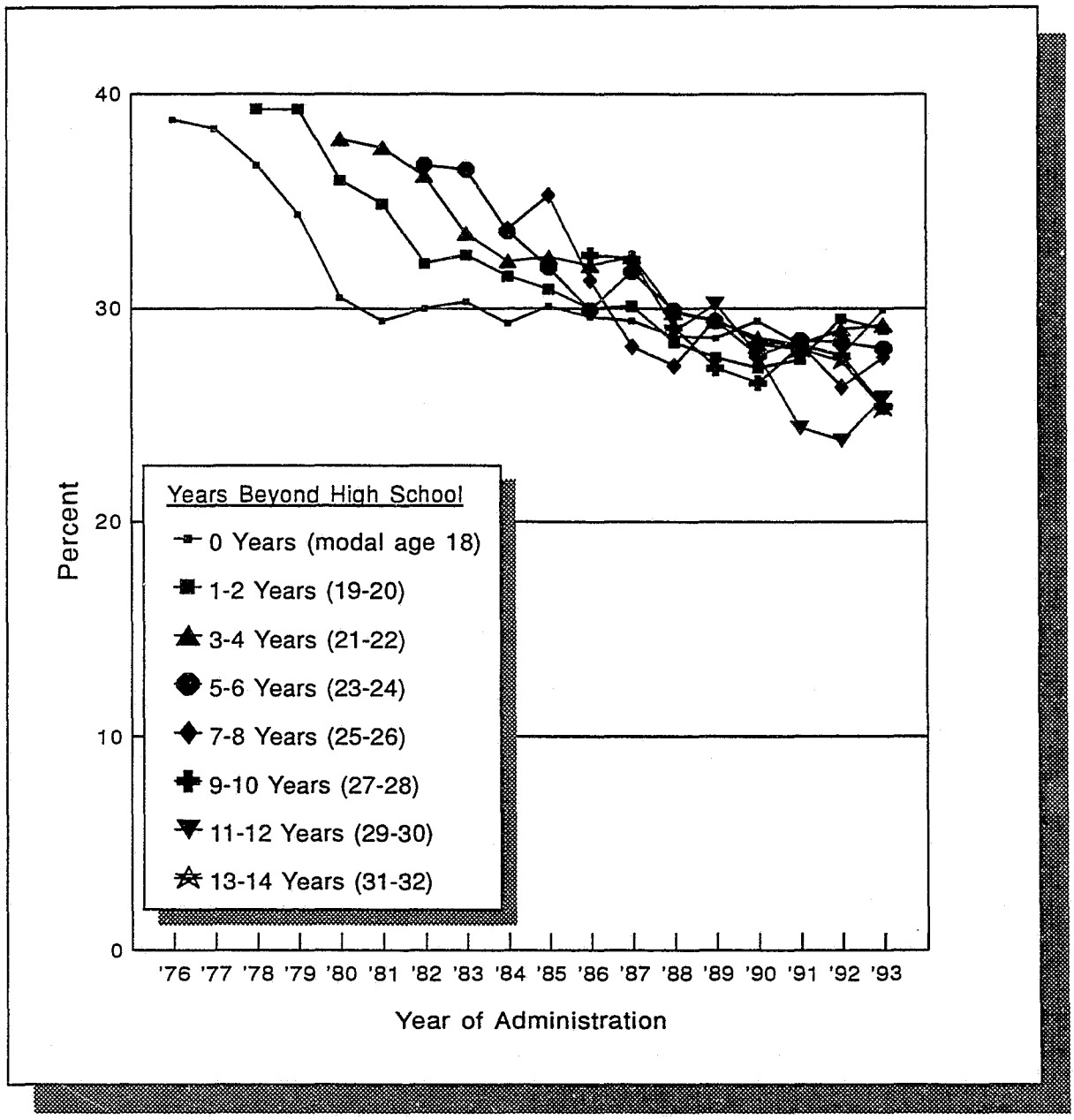


Figure 34b
Cigarettes: Trends in Thirty-Day Prevalence of Daily Use Among Young Adults by Age Group

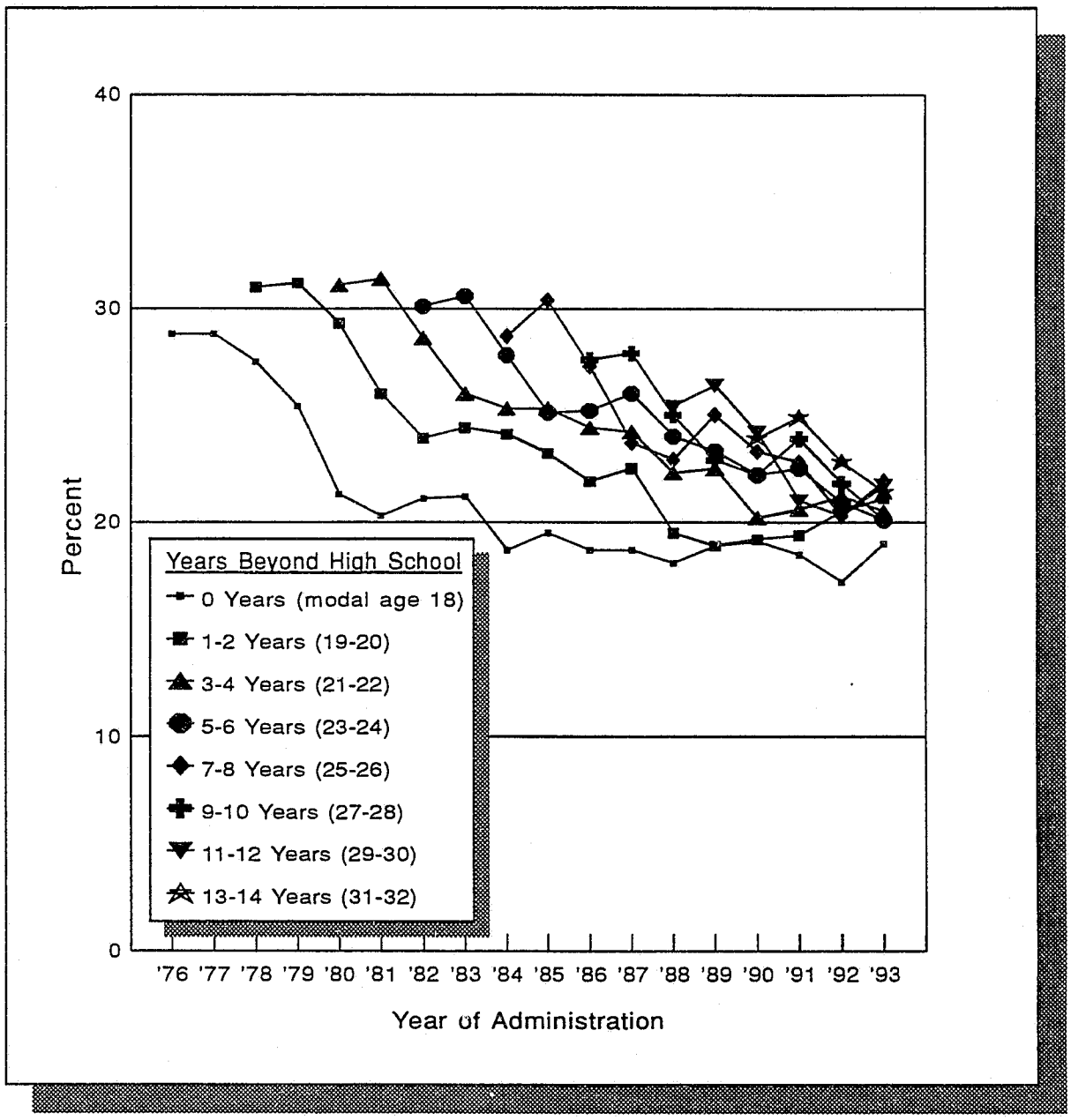
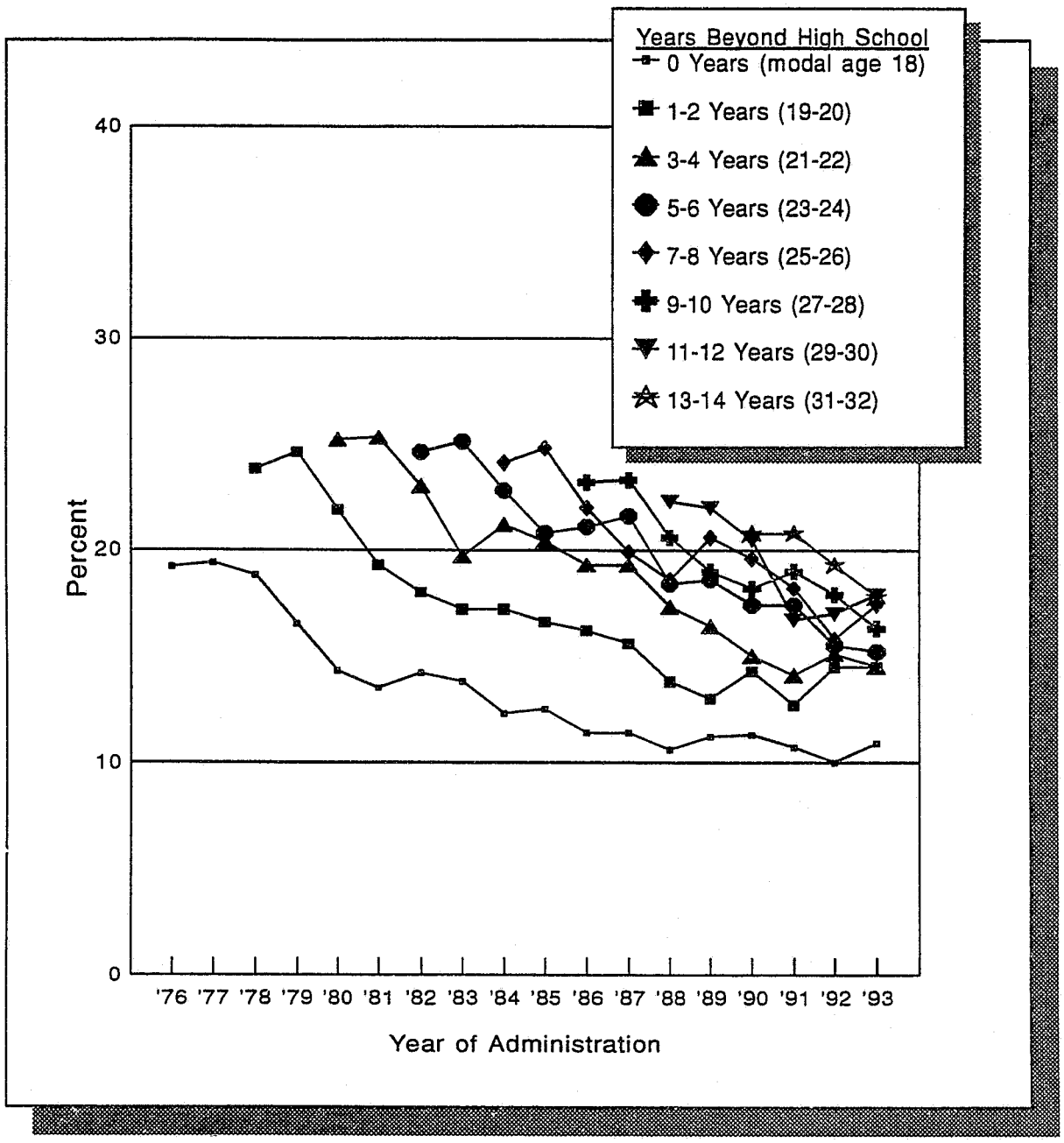


Figure 34c
Cigarettes: Trends in Thirty-Day Prevalence of Smoking a Half Pack or More Daily Among Young Adults, by Age Group



year olds had been sharper among males than females, thus narrowing the sex difference. Annual prevalence fell by 27 percentage points (to 29%) among males between 1980 and 1991, while it fell by only 21 percentage points among females (to 24%). In 1992, males held steady while females rose slightly, narrowing the gap still more. In both 1992 and 1993 about 29% of males and 25% of females reported marijuana use in the past year.

Also since 1980, ***daily marijuana use*** for this age group fell from 13% to 3% among males vs. from 6% to 2% among females–again narrowing the sex difference, but by no means eliminating it.

- For ***LSD***, the male-female differences diminished as use declined (from 1980-85), increased as use increased (1985-1991), and started to converge again as use began to decline (1992-1993). This is because use among males has been more labile, as well as higher, particularly in the older age bands.

- Since 1986 annual ***cocaine*** prevalence dropped more among males than females. In the 19 to 22 year age band, the 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).

- 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 2% 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 1993). Rates for females remained very low at 0.1% to 0.3%. All three age bands show very stable rates of use since 1990.

- 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. Annual prevalence has remained at between 2% and 3% for both sexes in all age groupings since 1991.

- 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 21.7 percentage points in annual prevalence (to 5.6% in 1993), and females have dropped 20.7 points (to 4.6% in 1993).

- For ***tranquilizers*** both sexes also have shown a long, gradual decline (and similar rates of use) since 1980. In recent years, rates hovered between 3% 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 some 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 64% among females. 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 since 1987 in the case of the 27 to 30 year olds.

  There is still a large sex difference for ***daily drinking*** among this age group in 1993: 5.3% for males vs. 2.3% for females; but not nearly as large as it was in 1981 (11.8% vs. 4.0%). The sex differences have been larger for each older age group: In 1993, 9.0% vs. 2.3% for 23 to 26 year olds, 7.8% vs. 2.6% for 27 to 30 year olds, and there has been less evidence of a convergence. But both sexes have shown some decline in daily drinking in both of these age groups.

  There also are large sex differences in all age groups on ***occasional heavy drinking*** (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 46% in 1993, thus narrowing the gap slightly (from 24.3 percentage points in 1986 to 16.9 points in 1993). Among females in this age group, there has been practically no change in the rate of binge drinking (29.4% in 1993) since 1985. In the two older age groups, there is little evidence of a change in binge drinking by either sex.

- All three age groups have shown a longer-term decline in ***daily smoking*** rates since data were first available for each: 19 to 22 year olds from 1980 to 1991; 23 to 26 year olds from 1984 to 1992; and 17 to 30 year olds from 1988-1993. Males and females have moved very much in parallel and have had very similar rates of smoking (except that males have been a couple of percentage points lower for daily smoking among the 19 to 22 year olds, but no lower in their ***half-pack-a-day*** rates).

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. 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 since 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.

- The declines in ***cocaine*** use in all regions between 1987 and 1991 were greatest in the two regions which had attained the highest levels of use by the mid-80's–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, especially in the South and West. Less regional variability remains in 1993 than in 1987, but the West and Northeast still have the highest annual prevalence rates (6.1% and 6.3%, respectively), while the South and North Central regions are tied at 3.7%.

- All four regions also have shown an appreciable drop in ***crack*** use between 1987 and 1991, and then leveling since. As was true for cocaine generally, the two regions with the highest rates (the West and the Northeast) have had large absolute and proportional declines, as did the North Central region, resulting in less regional variability in this form of drug use than was the case earlier. Among 19 to 28 year olds the West now has the highest annual prevalence rate (at 1.5%), but this is not much different from the other regions (1.1% - 1.4%).

- Rates of ***inhalant*** use have remained relatively stable and quite low in all four regions among 19 to 28 year olds. The West, however, has shown a modest increase in use. (Recall that most of the increase in inhalant use among 19 to 22 year olds, discussed in the previous section, occurred *prior* to 1987.)

- 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%). The West remains highest in 1993, at 2.1% vs. 0.8% in the South, 0.6% in the Northeast, and 0.2% in the North Central region.

- ***LSD*** use rose in all four regions between 1989 and 1992, before leveling. Fairly consistently, the West has had the highest rate of use,

though there are not large regional differences, and in general the regions have moved in parallel.

- 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 1.5% to 3.0%) and some evidence of an increase in use between 1991 (0.9%) and 1993 (3.0%).

- With respect to ***alcohol*** use there have been modest declines in all four regions between 1987 and 1990 (when the first measurement is available for 19 to 28 year olds) in current drinking and daily drinking. Since then rates have leveled. ***Occasional heavy drinking*** remained fairly level in all regions since 1987. The rates are appreciably higher in the North Central (40%) and the Northeast (39%) than in the South (30%) and the West (29%).

- 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 (24% in 1993) and the Northeast (23%) have higher rates than the South (20%) and the West (15%).

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 in recent years 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; rates have, in general, been fairly level since then except that the large cities show some rise in use in all three age strata. The farm/country and small town strata continue to have lower use than all of the other strata. In 1993 the proportions of 19 to 22 year olds reporting use of an illicit drug in the past year were 21% for the farm/country strata, 30% for small town, 35% for medium city, 31% for large city, and 32% for very large cities. (The absolute differences among these strata narrowed as usage rates fell.) For young adults aged 23 to 26, the difference also has become smaller in recent years (only 8% in 1993 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 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, remaining level through 1993. The two largest urban strata have declined by 25 to 26 percentage points since 1980, the small town and medium city strata by 22 to 23 percentage points, and the farm/country by 20 percentage points.

- Among the 19 to 22 year olds (the age group with the highest rates of ***LSD*** use of the young adults) use in communities of all sizes declined appreciably in the 80s. Since 1989 there has been some increase in use in all strata.

  The use of ***other hallucinogens***, 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 continued into 1993 among almost all strata within all three age groupings, with no significant decreases in the last year. Usage rates among the strata have tended to converge during this period of decline, though the large and very large cities still have the highest rates of cocaine use.

- ***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 exceptin is that among 19 to 22 year olds, use has generally been highest in the very large cities.)

- ***Stimulant*** use showed large drops since 1981 among 19 to 22 year olds in communities of all sizes; since 1984 (the first time point available) among the 23 to 26 year olds; and since 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 1993 is less than 3% in all size strata for all three age bands. Unlike methaqualone it has not 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 overall annual prevalence rates of between 2% and 5% in all three age strata.

- Annual ***heroin*** prevalence in 1993 stands at less than 1.0%–usually much less–in all strata for all three age bands, and shows little systematic relationship with urbanicity. In the early eighties 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 eighties; however, it has shown rather little association since then, due to a greater decline in use in the variously sized city strata. For each of the strata, annual prevalence stands at between 1% and 4% among the 19 to 22 year olds, and from 1% to 3% among the two older age bands.

- While the absolute levels of ***inhalant*** use still remain low in these age groups, between 1984 and 1987 there was a gradual increase among 19 to 22 year olds in all strata (except the very large cities, where it started out highest). There has been no systematic association with population density since, other than slightly lower rates in the farm/country stratum (2.0% in 1993 vs. 2.7% to 4.1% in the three city strata). Among respondents in the next older age band 23 to 26 year old, rates have been consistently low in all strata since 1984 (ranging from 0.5% to 2.7% in 1993); rates are lower still for the oldest age band (27 to 30 year old) (0.1% to 1.1% in 1993). Since 1987 levels of inhalant use have remained relatively stable across strata and age groups.

- In the four years for which data on ***MDMA*** (ecstasy) have been available, use has generally been lower in the farm/country and small town stratum than in the three urban strata. In general there has been a decline in use for most regions among the two younger age strata.

- 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 remains only a slightly positive one for 30-day prevalence; there is no systematic association for daily prevalence; and there is a very slightly positive one for occasions of heavy drinking among all age groups. The farm/country stratum stands apart for fairly consistently having the lowest monthly prevalence of drinking and the lowest prevalence of occasional heavy drinking.

- ***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 high school senior data some 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 the 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 cell) 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

- As Table 12 illustrates, there are considerable differences in the degree of risk young adults associate with the 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 1993, experimental use is perceived as being of "great risk" by only 13%-19% of high school graduates (age 19 to 30), whereas regular use is perceived to be that risky by 64%-69% of them, roughly two-thirds..

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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	Percentage saying "great risk"[a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	'92-'93 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	–2.6
	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	–0.3
	23-26					9.6	10.0	12.4	14.5	16.0	14.0	17.7	14.0	15.0	13.0	–2.0
	27-30									14.6	16.0	17.0	15.7	15.1	14.0	–1.1
Smoke marijuana occasionally	18	14.7	19.1	18.3	20.6	22.6	24.5	25.0	30.4	31.7	36.5	36.9	40.6	39.6	35.6	–4.0s
	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	+0.9
	23-26					15.8	16.3	20.9	20.8	26.8	25.3	30.4	26.2	27.4	24.0	–3.4
	27-30									24.2	25.7	28.7	27.4	27.5	26.8	–0.7
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	–4.0ss
	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	–0.1
	23-26					52.9	57.5	59.4	65.3	68.3	72.1	71.0	70.9	67.3	64.1	–3.2
	27-30									67.5	69.1	69.2	67.5	68.8	69.4	+0.6
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	–2.8
	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	–3.2
	23-26					48.3	46.9	47.9	51.5	53.7	50.7	52.0	50.1	49.7	49.0	–0.7
	27-30									53.3	55.6	54.6	52.5	53.0	51.5	–1.5
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	–2.4
	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	–5.7s
	23-26					89.0	86.6	88.7	90.0	89.2	89.0	88.2	89.1	87.3	85.3	–2.0
	27-30									89.1	91.2	92.0	87.1	88.5	89.0	+0.5
Try PCP once or twice	18								55.6	58.8	56.6	55.2	51.7	54.8	50.8	–4.0s
	19-22								63.6	63.8	NA	NA	NA	NA	NA	NA
	23-26								64.8	63.2	NA	NA	NA	NA	NA	NA
	27-30									65.9	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	+0.8
	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	+4.4
	23-26					31.3	31.1	35.9	48.0	47.1	51.3	51.5	50.5	53.5	54.1	+0.7
	27-30									45.3	53.0	51.6	52.6	51.8	54.7	+2.8
Take cocaine occasionally	18							54.2	66.8	69.2	71.8	73.9	75.5	75.1	73.3	–1.8
	19-22							53.8	61.3	67.1	72.6	74.6	72.6	74.9	75.4	+0.5
	23-26							50.9	62.6	63.2	69.9	69.9	70.3	69.9	72.8	+2.9
	27-30									62.6	66.6	66.6	69.1	69.9	69.1	–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	–0.1
	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	–1.2
	23-26					75.6	76.9	83.0	88.9	90.9	91.2	91.2	92.7	89.9	91.9	+2.0
	27-30									88.9	92.0	91.4	90.9	92.0	91.6	–0.3
Try crack once or twice	18								57.0	62.1	62.9	64.3	60.6	62.4	57.6	–4.8ss
	19-22								59.4	67.3	68.5	69.4	66.9	65.4	63.5	–1.9
	23-26								59.1	63.5	69.8	67.3	66.9	67.1	64.2	–2.9
	27-30									66.5	64.9	68.7	66.8	64.3	68.8	+4.5
Take crack occasionally	18								70.4	73.2	75.3	80.4	76.5	76.3	73.9	–2.4
	19-22								75.0	77.3	81.8	82.3	82.7	81.9	83.6	+1.8
	23-26								70.3	74.0	79.9	81.1	83.9	84.4	81.6	–2.8
	27-30									76.4	76.7	82.6	81.8	79.1	83.6	+4.5
Take crack regularly	18								84.6	84.8	85.6	91.6	90.1	89.3	87.5	–1.8
	19-22								89.6	91.1	94.1	94.9	95.6	93.4	96.2	+2.8s
	23-26								88.0	89.2	91.5	94.2	95.4	94.1	93.4	–0.7
	27-30									89.6	89.5	95.3	94.4	93.3	93.5	+0.2

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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	Percentage saying "great risk"[a]														'92-'93 change
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	
Try cocaine powder once or twice	18								45.3	51.7	53.8	53.9	53.6	57.1	53.2	–3.9s
	19-22								44.0	48.6	51.1	54.5	52.7	56.2	49.7	–6.5s
	23-26								41.0	43.6	48.4	48.9	47.4	45.9	45.6	–0.3
	27-30									42.0	45.1	46.2	43.3	42.3	49.9	+7.6s
Take cocaine powder occasionally	18								56.8	61.9	65.8	71.1	69.8	70.8	68.6	–2.2
	19-22								58.0	59.0	63.2	70.0	69.9	72.6	70.6	–1.9
	23-26								50.0	53.2	62.2	63.3	67.0	65.8	64.0	–1.8
	27-30									53.6	52.7	60.9	59.2	61.2	64.3	+3.1
Take cocaine powder regularly	18								81.4	82.9	83.9	90.2	88.9	88.4	87.0	–1.4
	19-22								86.6	87.6	91.3	92.5	93.8	92.1	94.0	+1.9
	23-26								82.9	84.1	88.5	92.4	93.8	91.3	92.4	+1.1
	27-30									85.1	86.7	92.7	91.1	91.5	92.5	+1.0
Try MDMA ("ecstasy") once or twice	19-22										45.2	47.1	48.8	46.4	45.0	–1.4
	23-26										49.5	47.2	47.4	45.5	41.9	–3.7
	27-30										44.9	48.7	47.7	44.2	51.7	+7.5s
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	–0.2
	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	–0.9
	23-26					58.2	59.2	60.8	66.6	65.4	62.3	64.1	62.4	63.7	65.0	+1.3
	27-30									66.0	69.7	67.5	66.1	66.5	69.3	+2.8
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	–2.2
	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	–2.7
	23-26					81.2	80.7	78.9	84.5	82.4	80.8	83.4	84.4	81.5	82.1	+0.6
	27-30									86.0	86.8	85.3	84.3	84.9	86.2	+1.3
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	–0.9
	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	–2.9
	23-26					92.0	90.1	90.6	92.8	91.5	91.3	91.0	92.6	91.3	91.6	+0.3
	27-30									92.7	93.5	93.0	90.7	91.3	92.6	+1.3
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	–1.3
	19-22	24.6	24.6	27.8	24.8	26.9	23.9	27.1	27.4	31.7	28.9	35.6	32.8	34.5	33.3	–1.2
	23-26					29.6	29.4	29.4	34.1	33.2	32.5	35.3	31.0	32.7	32.6	0.0
	27-30									35.2	37.5	36.9	36.5	36.2	34.0	–2.3
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	–2.5
	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	0.0
	23-26					75.8	77.2	75.6	78.2	77.4	76.7	77.8	79.4	76.4	76.2	–0.2
	27-30									80.6	82.9	83.3	79.4	80.3	79.8	–0.5
Try crystal meth ("ice")	18												61.6	61.9	57.5	–4.4s
	19-22											57.8	58.6	57.7	57.5	–0.2
	23-26											56.5	56.0	55.6	52.0	–3.6
	27-30											59.6	57.2	52.7	60.3	+7.6s
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	–3.0
	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	–0.1
	23-26					32.2	29.9	30.2	35.5	35.8	32.9	37.9	31.8	33.5	32.8	–0.7
	27-30									37.2	38.7	39.0	37.0	38.2	36.5	–1.8
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	–4.1ss
	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	–2.5
	23-26					77.4	77.0	74.9	79.9	79.8	76.6	80.5	77.7	76.3	75.0	–1.3
	27-30									81.5	83.7	84.0	79.6	78.6	80.2	+1.6

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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	Percentage saying "great risk"[a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	'92-'93 change
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	–0.4
	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	+0.8
	23-26					5.5	3.0	6.5	6.6	4.2	5.1	5.7	4.4	5.6	3.2	–2.4
	27-30									5.0	6.3	4.4	6.6	5.6	4.7	–0.9
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	–2.4
	19-22	22.7	22.9	23.2	23.2	25.0	26.3	27.3	26.1	26.5	28.1	30.1	29.1	30.2	28.0	–2.2
	23-26					27.8	27.4	26.9	30.2	29.1	27.8	31.1	30.4	31.6	25.9	–5.7s
	27-30									27.4	31.7	32.2	31.7	30.9	28.0	–2.8
Take four or five drinks nearly everyday	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	–2.7
	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	+0.3
	23-26					76.7	77.9	80.1	77.2	81.8	76.9	79.7	80.2	78.0	76.7	–1.3
	27-30									79.3	81.7	84.7	79.1	79.9	79.1	–0.8
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	–0.7
	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	+0.6
	23-26					38.4	39.7	39.1	39.8	35.8	37.7	40.2	39.3	37.6	36.2	–1.4
	27-30									41.0	42.3	44.1	42.2	45.1	42.9	–2.2
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	+0.3
	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	+3.4
	23-26					71.1	70.1	75.7	73.6	75.5	71.4	78.5	75.3	76.3	78.4	+2.0
	27-30									72.8	75.2	77.8	75.4	77.6	75.0	–2.6
Use smokeless tobacco regularly	18							25.8	30.0	33.2	32.9	34.2	37.4	35.5	38.9	+3.4s
	19-22							29.7	34.1	31.1	37.1	33.5	38.9	40.1	43.3	+3.2
	23-26							37.0	38.5	35.8	37.9	40.1	38.9	41.6	44.6	+3.0
	27-30									42.8	42.8	43.8	44.3	44.1	47.3	+3.2
Approximate Weighted N=	*18*	*3234*	*3604*	*3557*	*3305*	*3262*	*3250*	*3020*	*3315*	*3276*	*2796*	*2553*	*2549*	*2684*	*2759*	
	19-22	*590*	*585*	*583*	*585*	*579*	*547*	*581*	*570*	*551*	*565*	*552*	*533*	*527*	*480*	
	23-26					*540*	*512*	*545*	*531*	*527*	*498*	*511*	*505*	*518*	*503*	
	27-30									*513*	*587*	*490*	*486*	*482*	*473*	

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 fewer of the older age groups see great risk, particularly with experimental and occasional use of marijuana, than the younger age bands. Indeed, there has been a quite regular negative ordinal relationship between age and perceived risk for some years. This could reflect an age effect, but we think it is more likely a cohort effect, with the younger cohorts having come to perceive marijuana as more dangerous as they were growing up than did preceding cohorts, and then carrying these beliefs into adulthood.

- 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%-37% of young adults age 19 to 30, and 42%-52% think trying ***LSD*** or ***MDMA*** (ecstasy) involves great risk. Trying ***cocaine*** powder is seen as dangerous by 46%-50%, while using ***crack*** or ***heroin*** once or twice is seen as dangerous by 59%-69%.

- In recent years, the older age groups have been *more* likely than the younger age groups to see ***LSD, heroin,*** and ***barbiturates*** as dangerous, just the opposite of the situation with marijuana. At the end of this chapter we offer a closing note on the implications of this finding for theory and prevention.

- Regarding ***cocaine***, there is a modest age-related difference in experimental and occasional use; the older groups perceive less risk than the high school seniors, 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.

- ***Crystal methamphetamine*** (ice) was introduced to this question set 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 42% and 52% say there is "great risk" involved. This puts it close to LSD in its level of perceived risk.

- As with seniors, only a minority of the young adults see ***heavy drinking on weekends*** as dangerous (36%-43%); however, about three-fourths feel that way about ***daily heavy drinking***.

- Approximately three-quarters (75%-78%) of the young adults perceive regular pack-a-day ***cigarette smoking*** as entailing high risk, higher than the 70% of seniors who hold that belief and much higher than the 53% of eighth graders who do so.

- The use of ***smokeless tobacco*** is seen as dangerous by many fewer, about 45% of young adults and 39% 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 for 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. Among seniors, the drop in perceived risk between 1992 and 1993 was statistically significant (as it was among eighth and tenth graders, as well).

- 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, and perceived risk remained at a high level until 1992, when there was a significant downturn, followed by no change in 1993. 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. The decline among seniors in 1992 and 1993 is more difficult to interpret, but it is consistent with their lowered concern about the dangers of a number of drugs. By contrast, among the two oldest age groups, perceived risk of heroin remains very high.

- While trend data are available only since 1987 on the risks perceived to be associated with ***crack***, they 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 that an even larger shift occurred.

- In 1993 there was some divergence among the four age groups on perceived risk of ***crack*** cocaine. The seniors showed a sharp and significant drop in the perceived risk of experimental use; the 19 to 22 year olds and 23 to 26 year olds also showed some drop, though it was not statistically significant; while the 27 to 30 year olds showed a large, but not statistically significant increase.

- A similar thing happened with regard to ***cocaine powder***. In this case there was a significant drop for the two youngest of the four age groups and a significant increase for the oldest. (The eighth and tenth graders also had significant declines in the perceived risk of both crack and powdered cocaine in 1993.)

  This divergence in trends may also reflect some "generational forgetting" of the dangers of these drugs.

- With regard to ***occasional heavy drinking***, perceived risk among seniors began to rise around 1981, continuing through 1985, and then leveled off until 1989 when it again started to rise again. There was no further change in 1993. Among the 19 to 22 year olds there was some increase in perceived risk between 1981 and 1989, followed by fairly stable rates since. No group showed much change in 1993.

- In recent years, the data available from the young adult samples show a modest increase in the proportions associating great risk with ***regular smoking***. For example, over the nine-year interval from 1984 to 1993, seniors, 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. Substantial proportions still do not see such risks (between 22% and 31%). In recent years the 18 year olds have consistently showed the lowest perceived risk (and we know that tenth graders are lower and eighth graders lower still). It seems clear that there is an age effect in young people coming to understand the dangers of smoking. Unfortunately it appear that much of the learning occurs after the proverbial "horse is out of the barn" and many have become addicted.

- Since 1986, when questions about ***smokeless tobacco*** were first included, there has been some fair increase in perceived risk among seniors, 19 to 22 year olds, and 23 to 26 year olds. The lower the age, the larger the increase, which has had the effect of narrowing the age-related differences among young adults. Older respondents,however, still see the most risk.

PERSONAL DISAPPROVAL OF DRUG USE

The questions asked of seniors concerning the extent to which they personally disapprove of various drug-using behaviors are also 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 seniors 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 seniors. 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 97% or more of young adults: ***LSD, cocaine, amphetamines, barbiturates,*** and ***heroin***. Even experimentation with each of these drugs is disapproved by 84% 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 with age: among seniors and 19 to 22 year olds (93%), 23 to 26 year olds (89%), and 27 to 30 year olds (86%). These differences are consistent with age-related differences in actual use.

- Even for ***marijuana***, more than half of young adults now disapprove experimentation, between two-thirds and three-quarters disapprove occasional use, and nearly 90% disapprove regular use. Once again, there are age-related differences, with the most disapproval in the younger two age groups. Since current marijuana use is about constant across this age band (but active use *during* high school was higher in the older age groups), these age-related differences in attitudes may reflect a residual effect of cohort differences in attitudes which were formed in high school or earlier.

- Rates of disapproval for the various patterns of ***alcohol*** use listed are quite close to those observed among seniors. Seniors are much more likely to disapprove of experimentation: 30% for seniors vs. 18%-21% for the three older groups. On the question about ***occasional heavy drinking***, disapproval is slightly lower among the 19 to 22 year olds (who also have a higher prevalence of such behavior) than among the other age groups.

- Disapproval for ***cigarette smoking*** at the rate of a pack per day or more, varies little by age (between 71% and 74%).

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	Percentage disapproving[a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	'92-'93 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	–6.6sss
	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	+2.7
	23-26					41.2	38.6	42.6	49.1	48.7	52.5	57.5	58.8	55.0	54.6	–0.4
	27-30									49.0	50.9	53.8	54.6	51.9	56.8	+4.9
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	–4.2ss
	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	+1.0
	23-26					54.8	52.8	57.0	64.9	63.4	69.4	73.7	73.3	74.0	71.9	–2.1
	27-30									65.3	67.1	68.9	73.0	67.2	72.2	+5.0
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	–2.5s
	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	+0.7
	23-26					80.6	81.3	83.3	87.4	86.9	90.4	91.0	89.6	90.2	92.1	+1.9
	27-30									87.6	87.5	89.7	89.6	87.2	89.4	+2.3
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	–2.2
	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	+4.0
	23-26					87.3	87.1	88.0	89.9	91.4	91.0	90.7	89.1	88.8	86.9	–1.9
	27-30									91.0	87.2	89.7	87.9	85.6	88.8	+3.2
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	+0.3
	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	+0.8
	23-26					99.2	98.0	98.5	99.0	98.0	98.4	98.3	98.4	98.3	98.1	–0.2
	27-30									98.8	97.1	98.9	98.9	97.5	98.5	+1.1
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	–0.3
	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	+2.1
	23-26					70.2	70.5	72.1	80.0	82.9	85.5	88.3	88.0	87.3	89.2	+1.9
	27-30									82.1	81.0	85.5	86.9	83.9	85.7	+1.9
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	+0.6
	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	–0.6
	23-26					95.7	95.3	97.3	98.1	97.6	98.3	98.4	98.5	98.7	98.4	–0.3
	27-30									98.1	97.0	99.3	99.0	97.2	98.7	+1.4
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	–0.5
	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	+0.4
	23-26					96.7	94.9	96.4	97.1	97.4	96.7	96.8	96.9	96.3	95.4	–0.9
	27-30									97.9	95.8	97.5	96.6	94.8	97.3	+2.5s
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	+0.2
	19-22	98.6	97.8	98.3	98.3	98.6	98.7	98.3	98.3	98.3	97.9	99.2	98.2	98.1	98.1	0.0
	23-26					99.2	98.2	98.8	99.1	98.4	98.3	98.1	99.0	98.7	98.4	–0.3
	27-30									99.2	97.3	99.0	98.9	97.0	98.9	+1.8s
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	+0.3
	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	+0.2
	23-26					99.4	98.8	99.1	99.4	98.7	98.7	98.5	99.3	99.2	98.9	–0.3
	27-30									99.4	97.6	99.4	99.0	97.8	99.0	+1.2
Take 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	–2.7s
	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	+3.4
	23-26					74.2	74.2	74.6	80.3	83.5	83.3	84.1	84.8	83.4	84.8	+1.4
	27-30									83.5	81.0	84.3	83.7	80.9	83.5	+2.6

(Table continued on next page)

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	'92-'93 change
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	+0.4
	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	+0.6
	23-26					96.6	95.9	96.6	97.0	97.2	98.1	97.9	97.9	97.7	98.4	+0.7
	27-30									98.1	96.5	98.6	97.8	96.8	97.7	+0.9
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	−0.6
	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	+1.9
	23-26					83.9	84.5	84.4	89.8	90.7	89.4	88.8	87.9	88.8	88.5	−0.3
	27-30									90.5	88.3	88.4	88.8	86.6	88.9	+2.3
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	+0.5
	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	+0.3
	23-26					98.4	98.5	97.7	98.6	98.3	98.3	98.5	98.5	98.6	98.5	−0.1
	27-30									98.4	97.1	99.1	98.5	97.7	98.4	+0.7
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	−2.9
	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	+3.9
	23-26					17.4	16.1	13.2	17.7	13.7	17.5	18.6	19.5	17.4	18.1	+0.7
	27-30									19.5	19.1	18.7	18.8	17.9	19.5	+1.5
Take one or two drinks nearly every day	18	69.0	69.1	69.9	68.9	72.9	70.9	72.8	74.2	75.0	76.5	77.9	76.5	75.9	77.8	+1.9
	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	−1.0
	23-26					71.4	73.7	71.6	72.7	74.6	74.4	77.6	76.9	75.5	74.2	−1.3
	27-30									76.0	73.9	73.3	76.1	69.5	73.5	+4.0
Take four or five drinks nearly everyday	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	−0.2
	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	−0.4
	23-26					96.2	95.0	95.5	96.9	94.3	95.9	96.9	96.1	95.7	95.7	0.0
	27-30									97.4	94.6	96.1	95.3	94.8	94.8	0.0
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	−0.6
	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	−2.1
	23-26					66.2	68.3	66.5	67.5	65.2	63.2	66.9	64.6	69.6	66.8	−2.8
	27-30									73.9	71.4	73.1	72.1	68.4	73.4	+5.0
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	−2.9
	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	+0.2
	23-26					69.9	68.7	67.5	69.7	66.4	71.1	71.5	77.2	73.6	72.9	−0.7
	27-30									72.8	69.4	73.5	71.2	70.7	73.8	+3.1
Approximate Weighted N=	*18*	*3261*	*3610*	*3651*	*3341*	*3254*	*3265*	*3113*	*3302*	*3311*	*2799*	*2566*	*2547*	*2645*	*2723*	
	19-22	*588*	*573*	*605*	*579*	*586*	*551*	*605*	*587*	*560*	*567*	*569*	*533*	*530*	*489*	
	23-26					*542*	*535*	*560*	*532*	*538*	*516*	*524*	*495*	*538*	*514*	
	27-30									*526*	*509*	*513*	*485*	*512*	*462*	

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.

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.)

- 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 61% in 1993.) 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 58% in 1990.

- Between 1990 and 1992, there appeared to be some decline in disapproval of ***LSD*** use, but in 1993 the rates came closer to their 1990 levels.

- Most of the 1993 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 98% in 1993. 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 73% in 1984 to 93% in 1993; most of the increase occurred since 1986. Over the same period, disapproval also rose among 23 to 26 year olds–from 70% in 1984 to 89% in 1993. There has been very little change since 1990.

- 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, which means that the disapproval of amphetamine use remains quite high and the disapproval of barbiturate use remains very high among young adults.

- The story for ***alcohol*** has become quite complicated. Since 1980, increasing proportions of seniors have favored total abstention, with the percent disapproving even drinking once or twice rising from 16% in 1980 to 33% in 1992. This fell to 30% in 1993. Among 19 to 22 year

olds there has been a modest increase since 1985. For the two oldest age groups, though, 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 a couple of percentage points since then (non-significant).

Weekend ***binge drinking*** has shown a considerable increase in disapproval since the early 80's 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.

- Since 1984 there has been 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. 71% in 1993). 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 1970's and early 1980's. In the early 1970's, 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 1970's, and so on. The

[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.

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.

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 the hazards of the 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.

This caution, which was also given in an earlier volume (printed in 1992) presaged a decline in perceived risk and an increase in actual use of a number of drugs among the youngest cohort, eighth graders. Last year's volume noted a drop in perceived risk in 1992 among tenth and twelfth graders as well, and Volume I, the companion volume to the present one, reports an increase in use in all three grades in 1993, which also 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–may be taking place already.

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. Trend data are available since 1980, 1984, and 1988, respectively, for these three age bands. For comparison purposes, the table 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 (about 89% for ***LSD*** and 88% for ***cocaine***).

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

- Almost three-quarters of young adults say their friends would disapprove if they were ***daily drinkers***, and 9 out of 10 if they were

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	'92-'93 change
Try 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	–6.5sss
	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	–1.3
	23-26					47.7	47.0	49.1	53.9	58.2	62.6	61.3	64.5	65.6	65.5	–0.1
	27-30									58.6	58.7	61.4	64.6	63.5	64.4	+0.9
Smoke 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	–5.4ss
	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	–1.2
	23-26					54.3	56.4	57.1	63.1	68.1	73.2	71.8	72.5	75.3	73.5	–1.8
	27-30									67.8	69.4	71.9	73.7	76.0	75.1	–0.9
Smoke 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	–4.5sss
	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	–1.5
	23-26					77.8	78.4	80.9	82.0	85.8	89.2	88.1	87.9	90.3	89.1	–1.2
	27-30									85.4	86.0	88.4	89.2	88.7	88.2	–0.5
Try 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	–3.8ss
	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	+0.5
	23-26					87.4	90.8	88.6	89.8	88.9	91.0	90.1	92.4	88.9	87.7	–1.3
	27-30									88.8	89.7	92.3	91.1	91.4	89.9	–1.5
Try cocaine once or twice	18							79.6	83.9	88.1	88.9	90.5	91.8	92.2	91.1	–1.1
	19-22							76.4	NA	84.8	87.7	89.2	92.3	91.9	92.4	+0.5
	23-26							70.8	NA	81.4	84.5	84.1	86.7	87.4	87.7	+0.3
	27-30									81.8	81.1	83.7	83.5	84.4	86.1	+1.7
Take cocaine occasionally	18							87.3	89.7	92.1	92.1	94.2	94.7	94.4	93.7	–0.7
	19-22							84.9	NA	91.0	93.8	94.2	95.6	95.9	95.6	–0.3
	23-26							81.7	NA	88.2	91.5	92.4	94.1	93.8	93.5	–0.3
	27-30									87.7	89.5	90.0	92.2	92.3	92.8	+0.5
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	–2.5
	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	+1.2
	23-26					78.4	79.1	76.7	81.7	83.0	85.6	84.3	85.0	83.6	84.2	+0.6
	27-30									82.7	84.1	84.9	84.6	84.7	84.1	–0.6
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	–1.1
	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	–2.7
	23-26					63.6	66.8	67.7	68.3	69.2	70.8	72.7	72.5	72.1	67.6	–4.5
	27-30									71.0	68.0	70.4	71.9	68.8	73.2	+4.4
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	–0.2
	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	–3.0
	23-26					90.8	90.2	92.5	92.8	93.7	92.1	92.1	92.4	91.1	93.1	+2.0
	27-30									92.8	92.0	92.9	92.7	92.7	93.9	+1.1
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	–2.3
	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	–1.7
	23-26					53.8	57.3	61.0	57.2	58.8	57.5	55.1	56.8	58.4	57.6	–0.8
	27-30									61.9	65.1	66.3	68.2	66.2	66.7	+0.5
Smoking one or more packs of cigarettes per day	18	74.4	73.8	70.3	72.2	73.9	73.7	76.2	74.2	76.4	74.4	75.3	74.0	76.2	71.8	–4.4ss
	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	–3.0
	23-26					73.9	77.3	80.3	80.5	79.5	80.5	78.5	83.3	82.3	77.4	–4.9
	27-30									81.2	80.9	82.9	84.5	83.1	86.8	+3.7
Approximate Weighted N=	*18*	*2766*	*3120*	*3024*	*2722*	*2721*	*2688*	*2639*	*2815*	*2778*	*2400*	*2184*	*2160*	*2229*	*2220*	
	19-22	*569*	*597*	*580*	*577*	*582*	*556*	*577*	*595*	*584*	*555*	*559*	*537*	*520*	*510*	
	23-26					*510*	*548*	*549*	*540*	*510*	*513*	*516*	*516*	*507*	*481*	
	27-30									*483*	*518*	*479*	*480*	*451*	*451*	

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.

heavy daily drinkers. However, among the two young-adult-age-groups who exhibit the highest rates of such drinking, 52% of the 19-22 year olds and 58% of the 23-26 year olds say their friends would disapprove of ***heavy weekend drinking***, vs. 59% of the seniors and 67% of the 27-30 year olds. Clearly peer norms about heavy drinking become more restrictive by the time young adults reach their late twenties.

- 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, 76% of the 19 to 22 year olds, 77% of the 23 to 26 year olds, and 87% of the 27 to 30 year olds say so. It appears that 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 years 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 dropped slightly to 63% in 1993, the first decline since 1981.

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

- ***LSD*** has generally shown little change; if anything, disapproval among 19 to 26 year olds has edged downward in the past few years–in particular in 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 1993, 92% of the 19 to 22 year olds thought their friends would disapprove of their even trying cocaine (vs. 76% in 1986), and 96% thought their friends would disapprove of occasional use (vs. 85% in 1986). In the two older age bands shifts have been occurring in the same direction, but peer disapproval of experimenting with cocaine still remains negatively associated with age.

- 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. Since then, there has been little further change; friends' disapproval stood at 72% in 1993, fourteen years later (reflecting a significant 4.4% drop in 1993). There has been little change in recent years among the older groups: between 1985 and 1992, peer disapproval among 19 to 22 year olds has hovered around 80%, dropping to 76% in 1993. Among 23 to 26 year olds it increased a bit from 77% to 82% in 1992, but dropped to 77% again in 1993. Despite recent publicity about changing norms and new laws restricting smoking, in the past seven years there has been little change in rates of perceived peer disapproval of cigarette smoking, particularly among those of high school and college ages. 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 asks about proportion of close friends using each drug, the second about how often the respondent has been around people using each of a list of drugs "to get high or for kicks." These are the same questions asked of seniors, and the results from seniors are 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 illicit drugs (Table 15). In 1993, among 19 to 22 year olds, almost three-quarters (72%) had any friends who use ***some illicit drug***. The percentages are lower for the 23 to 26 year olds (65%) and lower still for the 27 to 30 year olds (60%). About 9% of the 19 to 22 year olds, and 6% of the two older groups, say that *most or all* of their friends use some illicit drug; only 1% to 3% of all three young adult age bands say most or all of their friends use any illicit drugs other than marijuana. Seniors have the highest proportion at 16%.

- With regard to ***illicit drugs other than marijuana***, taken as a whole, considerably fewer report any of their friends so involved: 49% for seniors, 51% for 19 to 22 year olds, 42% for 23 to 26 year olds, and 39% for 27 to 30 year olds. Note the descending rates with increasing age after high school. Again, seniors have the highest proportion saying that most or all of their friends use (7% vs. 1-4% 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	'92-'93 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	+3.7s
	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	+4.9
	23-26					83.6	82.7	80.3	80.9	74.4	73.8	65.8	63.0	67.3	64.6	-2.7
	27-30									74.8	72.9	69.6	67.1	61.5	60.2	-1.3
% saying most or all	18	32.5	29.8	26.5	23.8	20.9	22.7	21.5	18.6	15.8	15.7	11.6	11.7	12.0	15.5	+3.5ss
	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	+1.4
	23-26					19.6	15.4	16.2	11.7	9.5	9.7	9.5	7.4	6.2	6.4	+0.3
	27-30									8.6	6.4	5.9	2.9	5.8	5.0	-0.8
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	+1.6
	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	+6.1
	23-26					63.7	64.0	59.0	61.1	55.1	54.2	47.8	41.8	46.1	42.3	-3.8
	27-30									55.9	55.0	49.7	47.2	37.7	38.5	+0.8
% 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	+1.8s
	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	+0.6
	23-26					10.6	6.6	8.6	5.2	3.9	4.2	3.4	1.6	1.8	2.8	+1.0
	27-30									4.6	3.0	2.8	1.0	1.4	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	+4.3s
	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	+4.1
	23-26					82.0	80.8	77.7	79.4	71.6	69.8	61.8	59.6	61.3	61.2	-0.1
	27-30									71.8	68.2	65.1	62.6	58.0	57.4	-0.6
% 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	+3.6ss
	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	+0.4
	23-26					17.0	14.3	13.7	10.4	7.8	8.6	8.3	6.9	5.6	5.6	0.0
	27-30									6.8	4.4	4.0	2.8	5.1	5.2	+0.1
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	+1.5
	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	+1.2
	23-26					7.7	6.7	7.2	6.1	6.2	5.9	6.1	4.4	5.1	6.3	+1.2
	27-30									4.6	3.5	2.9	2.5	3.3	2.9	-0.4
% 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	0.0
	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	-0.1
	23-26					0.6	0.2	0.6	0.1	0.2	0.4	0.4	0.1	0.0	0.1	+0.1
	27-30									0.3	0.0	0.2	0.2	0.0	0.2	+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	+1.7
	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
	23-26					10.8	7.8	8.0	7.9	5.2	NA	NA	NA	NA	NA	NA
	27-30									6.6	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	0.0
	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
	23-26					0.8	0.3	0.4	0.3	0.1	NA	NA	NA	NA	NA	NA
	27-30									0.5	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	+3.2s
	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	+6.6s
	23-26					21.5	17.2	15.4	15.9	13.3	14.1	12.3	12.5	15.0	17.2	+2.2
	27-30									10.4	7.7	9.1	8.6	10.9	8.7	-2.2
% 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	+1.4s
	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	+0.1
	23-26					0.8	0.5	1.0	0.2	0.6	0.5	0.6	0.2	0.4	0.7	+0.3
	27-30									0.3	0.2	0.3	0.3	0.0	0.3	+0.3

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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	'92-'93 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	+2.3
	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	+3.0
	23-26					20.0	16.7	13.2	13.2	11.7	9.6	8.7	8.5	9.8	9.4	–0.4
	27-30									10.6	7.4	7.1	6.8	7.9	7.1	–0.8
% 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	+0.7
	19-22	1.5	0.9	1.1	1.2	0.7	1.0	0.7	0.6	0.9	0.2	0.5	0.8	0.7	0.9	+0.1
	23-26					0.8	0.3	0.5	0.3	0.2	0.3	0.8	0.1	0.4	0.7	+0.3
	27-30									0.2	0.1	0.3	0.2	0.0	0.2	+0.2
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	+2.9s
	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
	23-26					11.6	6.8	7.4	6.9	5.1	NA	NA	NA	NA	NA	NA
	27-30									6.7	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	+1.0s
	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
	23-26					0.6	0.0	0.4	0.0	0.2	NA	NA	NA	NA	NA	NA
	27-30									0.4	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	–1.8
	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	+1.5
	23-26					52.4	53.2	51.6	50.7	47.1	40.8	34.8	29.0	28.8	27.1	–1.7
	27-30									47.9	43.3	38.3	35.7	29.9	27.6	–2.3
% 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	+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	–0.5
	23-26					9.1	5.3	7.0	4.1	3.1	2.7	2.1	0.6	0.9	0.8	–0.1
	27-30									3.8	2.0	2.3	0.9	1.2	0.8	–0.4
Take crack																
% saying any friends	18								27.4	25.4	26.1	19.2	17.6	17.8	17.9	+0.1
	19-22								23.8	21.8	20.6	14.6	14.3	11.8	13.6	+1.8
	23-26								26.4	22.4	19.8	14.4	10.8	10.8	8.8	–2.0
	27-30									22.1	18.4	16.6	11.6	10.3	10.2	–0.1
% saying most or all	18								2.2	1.1	2.1	0.6	0.6	0.7	0.9	+0.2
	19-22								0.7	0.8	1.0	0.6	0.2	0.1	0.3	+0.2
	23-26								0.8	0.9	0.8	0.5	0.1	0.1	0.5	+0.4
	27-30									1.2	0.9	0.9	0.3	0.0	0.6	+0.6
Take MDMA ("ecstasy")																
% saying any friends	18											12.4	11.9	10.7	12.8	+2.1
	19-22										16.3	14.3	12.0	12.9	13.7	+0.8
	23-26										7.6	9.0	9.5	11.0	9.8	–1.2
	27-30										5.6	6.3	5.4	4.6	6.6	+2.0
% saying most or all	18											2.2	1.7	2.1	1.2	–0.9s
	19-22										0.4	0.7	0.2	0.7	0.7	0.0
	23-26										0.5	0.2	0.1	0.1	0.5	+0.5
	27-30										0.5	0.3	0.0	0.1	0.3	+0.2
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	+0.1
	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	+2.3
	23-26					6.1	4.4	4.3	6.5	3.6	5.2	4.2	3.6	3.8	4.5	+0.7
	27-30									3.8	2.8	4.5	2.7	3.1	3.6	+0.5
% 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	+0.4
	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	+0.1
	23-26					0.4	0.2	0.2	0.0	0.2	0.4	0.2	0.3	0.4	0.1	–0.3
	27-30									0.2	0.1	0.2	0.2	0.0	0.2	+0.2

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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	'92-'93 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	+1.2
	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	+2.4
	23-26					16.0	14.9	14.0	13.0	10.6	10.8	10.5	8.5	8.4	8.7	+0.3
	27-30									12.1	8.6	9.1	9.3	7.5	8.2	+0.7
% 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	+0.1
	19-22	0.9	0.7	0.6	0.5	0.8	1.0	0.5	0.4	0.9	0.1	0.6	0.4	0.5	0.6	+0.1
	23-26					0.4	0.3	0.7	0.0	0.3	0.2	0.2	0.0	0.0	0.0	0.0
	27-30									0.3	0.0	0.2	0.2	0.1	0.2	+0.1
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	+3.2s
	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	+1.5
	23-26					45.6	40.1	33.5	32.1	28.4	23.1	20.6	17.1	15.1	16.8	+1.7
	27-30									26.1	21.6	19.3	17.0	15.3	14.0	–1.3
% 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	+0.7
	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	–0.7
	23-26					1.9	1.8	1.7	1.2	0.3	0.6	0.7	0.8	0.4	1.5	+1.1
	27-30									0.6	0.4	0.5	0.5	0.1	0.5	+0.4
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	+1.4
	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	+1.0
	23-26					22.2	18.7	16.3	14.1	11.2	10.4	8.9	8.3	8.7	8.2	–0.5
	27-30									12.0	8.5	8.8	7.1	6.6	6.7	+0.1
% 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	+0.4
	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	0.0
	23-26					0.4	0.3	0.3	0.3	0.1	0.2	0.2	0.1	0.1	0.3	+0.2
	27-30									0.2	0.0	0.4	0.2	0.2	0.2	0.0
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	+1.1
	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	+0.8
	23-26					25.7	21.0	17.4	15.0	12.1	10.3	8.6	5.9	6.4	7.6	+1.2
	27-30									11.8	7.9	8.2	7.0	7.1	6.5	–0.6
% 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	+0.3
	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	0.0
	23-26					0.6	0.3	0.7	0.2	0.2	0.4	0.2	0.1	0.2	0.6	+0.4
	27-30									0.5	0.2	0.2	0.2	0.0	0.2	+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	+0.9
	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	+0.6
	23-26					29.3	26.3	22.3	20.8	15.5	13.1	14.8	12.1	12.5	11.0	–1.5
	27-30									20.1	16.6	16.9	14.9	12.0	12.5	+0.5
% saying most or all	18	1.9	1.4	1.1	1.2	1.5	1.2	1.3	1.0	0.7	1.5	0.5	0.4	0.7	0.9	+0.2
	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	0.0
	23-26					0.4	0.3	0.5	0.0	0.3	0.4	0 2	0.3	0.1	0.4	+0.3
	27-30									0.5	0.3	0.4	0.2	0.1	0.2	+0.1
Take steroids																
% saying any friends	18											25.9	24.7	21.5	19.0	–2.5
	19-22										23.4	21.5	22.2	19.7	20.7	+1.0
	23-26										15.3	15.0	12.3	14.5	11.1	–3.4
	27-30										9.9	10.5	7.5	8.0	8.0	0.0
% saying most or all	18											1.8	1.0	1.7	0.9	–0.8s
	19-22										0.2	0.6	0.0	0.1	0.4	+0.3
	23-26										0.4	0.0	0.0	0.2	0.1	–0.1
	27-30										0.5	0.0	0.0	0.0	0.2	+.02

(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	'92-'93 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	–1.6
	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	+2.0
	23-26					96.8	96.8	96.2	95.9	95.3	95.4	94.7	93.9	95.1	94.4	–0.7
	27-30									96.1	96.0	95.2	94.4	95.6	93.4	–2.2
% 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	+0.1
	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	–0.9
	23-26					73.2	74.4	69.5	74.9	68.9	69.8	67.1	69.3	68.8	68.7	–0.2
	27-30									66.7	67.8	62.0	62.7	63.3	61.3	–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	–0.7
	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	+4.6
	23-26					73.1	72.7	73.5	73.7	72.1	73.1	72.2	74.0	73.1	74.3	+1.2
	27-30									66.3	61.8	65.4	65.2	65.5	64.5	–1.0
% 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	–1.0
	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	+6.3s
	23-26					11.4	11.6	12.5	11.9	12.8	12.0	13.9	11.6	14.6	13.2	–1.5
	27-30									5.2	6.3	6.7	6.6	5.9	6.7	+0.8
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	+0.4
	19-22	94.4	94.3	93.4	93.1	91.9	91.6	91.1	90.3	89.3	90.0	86.1	86.1	86.7	86.7	0.0
	23-26					93.9	95.0	91.6	92.1	89.8	90.1	88.7	89.6	85.6	88.3	+2.7
	27-30									92.6	89.8	90.7	90.4	88.0	85.8	–2.2
% saying most or all	18	23.3	22.4	24.1	22.4	19.2	22.8	21.5	21.0	20.2	23.1	21.4	21.8	21.4	25.0	+3.6s
	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	+1.9
	23-26					25.6	22.7	19.7	18.5	16.5	20.5	16.9	18.1	16.0	15.5	–0.5
	27-30									15.8	14.2	11.6	12.9	11.9	14.3	+2.4
Approximate Weighted N =	*18*	*2987*	*3307*	*3303*	*3095*	*2945*	*2971*	*2798*	*2948*	*2961*	*2587*	*2361*	*2339*	*2373*	*2410*	
	19-22	*576*	*592*	*564*	*579*	*543*	*554*	*579*	*572*	*562*	*579*	*556*	*526*	*510*	*468*	
	23-26					*527*	*534*	*546*	*528*	*528*	*506*	*510*	*507*	*516*	*495*	
	27-30									*516*	*507*	*499*	*476*	*478*	*461*	

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.

- Among the individual drugs, exposure is greatest, of course, for ***marijuana*** (almost two-thirds report some friends using) followed by ***cocaine*** (24%-28%), ***LSD*** (9%-29%), ***amphetamines*** (14%-21%), and ***tranquilizers*** (11%-13%). The other illicit drugs have relatively small proportions of friends who use, ranging from 7% or less for ***heroin*** to between 3% and 15% for the other illicit drugs.

- Interestingly, some 21% of the 19 to 22 year olds know someone who is taking ***steroids***, though fewer of the 23 to 26 year olds do (11%) and fewer still of the 27 to 30 year olds (8%). Clearly, this is a phenomenon concentrated among young adults in their late teens and early twenties.

- For a number of drugs the proportion having any friends who use is lower for each higher age group. (Some of the steepest drop-offs with age occur for ***inhalants*** and ***LSD***.) These include ***marijuana***, ***inhalants***, ***LSD***, ***other hallucinogens***, ***MDMA***, ***heroin***, ***opiates other than heroin***, ***amphetamines***, ***barbiturates***, ***quaaludes***, and ***steroids***. These age-related differences are consistent with the age-related differences in self-reported use.

- ***Cocaine*** is the one illicit drug that shows an important increase in active use with age. In general it has shown the highest prevalence of friends' use in the oldest age groups and the lowest among seniors.

- 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). This is especially true of the older age band.

- 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: 79% of the high school seniors, 81% of the 19 to 22 year olds, 74% of the 23 to 26 year olds, and 65% 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, 29% of the 19 to 22 year olds, 13% of the 23 to 26 year olds, and 7% 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'," such exposure is almost universal in these four age groups: 92%, 93%, 90%, and 87%, respectively. (See Table 16.)

- Nearly all of these four groups also have at least a few friends who ***smoke cigarettes*** (85-88%), 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

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	'92-'93 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	+4.8ss
	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	–0.2
	23-26					68.9	70.2	68.0	62.4	62.7	58.3	54.6	52.1	48.2	49.9	+1.7
	27-30									52.4	50.2	47.0	39.6	41.7	38.9	–2.8
% 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	+6.0sss
	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	–5.4s
	23-26					20.7	23.3	18.5	17.4	18.2	13.8	13.7	13.3	12.2	11.1	–1.1
	27-30									13.7	12.0	10.8	8.2	10.5	9.0	–1.5
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	+1.0
	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	–7.7ss
	23-26					51.5	51.9	51.5	43.6	42.9	36.8	34.0	30.0	27.3	27.8	+0.5
	27-30									35.8	33.7	31.5	25.8	26.6	24.2	–2.4
% 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	+2.1s
	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	–1.4
	23-26					9.0	10.4	9.3	8.5	6.7	5.0	5.1	3.5	2.6	3.0	+0.3
	27-30									6.0	4.7	4.1	3.2	3.7	2.4	–1.3
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	+4.2s
	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	–1.0
	23-26					65.3	66.0	64.1	59.0	57.6	55.0	50.6	47.9	44.6	45.9	+1.3
	27-30									49.1	47.4	42.1	36.0	38.2	35.3	–2.9
% 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	+5.3sss
	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	–5.2s
	23-26					17.5	20.6	14.6	14.8	15.6	11.6	11.2	11.6	10.9	10.4	–0.5
	27-30									10.9	9.8	8.5	6.7	8.9	7.6	–1.3
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	+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	–5.9s
	23-26					8.3	9.3	8.8	7.3	6.3	6.7	8.4	8.6	8.8	7.8	–1.0
	27-30									3.6	3.2	3.3	3.6	3.9	4.9	+1.0
% 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	+0.9
	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	–0.9
	23-26					0.3	0.4	0.4	0.7	0.6	0.3	0.5	0.2	0.8	0.3	–0.5
	27-30									0.3	0.2	0.5	0.2	0.2	0.5	+0.3
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	+2.4s
	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	–3.9s
	23-26					8.4	8.9	9.1	6.0	5.1	4.8	5.7	5.5	5.1	5.7	+0.6
	27-30									5.0	3.4	3.4	3.4	2.1	3.7	+1.6
% 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	+0.8
	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	–0.3
	23-26					0.1	0.3	0.5	0.6	0.8	0.1	0.4	0.4	0.0	0.2	+0.2
	27-30									0.2	0.4	0.5	0.3	0.1	0.5	+0.4
Cocaine																
% saying any exposure	18	37.7	36.3	34.9	33.3	35.6	38.3	37.4	34.9	30.2	30.2	27.7	21.3	19.8	19.2	–0.6
	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	–6.3ss
	23-26					38.5	40.6	42.0	34.5	35.9	28.0	24.0	19.9	16.7	14.6	–2.1
	27-30									28.9	28.3	24.2	18.6	19.4	16.6	–2.8
% 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	+0.2
	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	–0.1
	23-26					5.3	8.5	7.0	6.0	5.4	3.5	2.5	1.7	1.4	1.7	+0.3
	27-30									4.4	3.9	2.9	2.2	2.0	1.2	–0.8

(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	'92-'93 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	+0.3
	19-22	4.4	3.3	4.1	2.9	3.1	4.8	2.9	2.9	2.9	2.9	2.5	3.0	2.7	2.0	–0.7
	23-26					2.3	3.3	3.2	2.9	1.7	2.3	2.3	1.8	1.7	1.5	–0.2
	27-30									2.1	1.4	1.5	0.9	1.0	2.0	+1.0
% 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	+0.4
	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	–0.2
	23-26					0.0	0.7	0.3	0.6	0.4	0.3	0.6	0.3	0.0	0.0	0.0
	27-30									0.3	0.3	0.5	0.2	0.2	0.9	+0.7
Other narcotics																
% saying any exposure	18	19.6	17.5	18.5	17.3	18.0	18.4	15.6	14.4	14.8	13.8	14.2	11.3	11.1	12.4	+1.3
	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	–1.7
	23-26					9.0	12.3	9.2	9.7	7.4	8.0	5.9	8.3	7.0	4.6	–2.4
	27-30									6.5	6.5	5.8	5.5	3.7	5.6	+1.9
% 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	+0.4
	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	–0.3
	23-26					0.4	0.5	1.3	0.8	0.8	0.5	1.6	0.7	0.1	0.3	+0.2
	27-30									0.7	0.5	1.0	0.3	0.8	1.2	+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	+0.2
	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	–6.2s
	23-26					32.3	30.5	29.1	20.9	18.8	14.0	16.8	14.6	11.8	13.2	+1.4
	27-30									15.6	14.3	13.5	10.7	11.4	11.3	–0.1
% 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	+0.9
	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	–1.1
	23-26					3.9	3.2	2.2	3.3	1.9	0.7	2.0	1.3	0.2	0.8	+0.6
	27-30									2.0	2.0	1.2	0.8	0.8	1.3	+0.4
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	+1.7
	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	–0.1
	23-26					16.1	13.1	11.0	7.1	7.1	6.6	6.9	5.9	6.5	3.8	–2.7s
	27-30									8.0	6.8	5.9	5.4	5.2	5.7	+0.5
% 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	+0.5
	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	0.0
	23-26					0.7	0.9	1.7	0.8	0.6	0.3	1.1	0.3	0.3	0.0	–0.3
	27-30									0.7	0.4	0.6	0.2	0.4	1.2	+0.9
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	+1.1
	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	–1.0
	23-26					23.1	21.0	16.9	15.9	13.4	12.9	12.0	10.4	9.7	10.9	+1.2
	27-30									15.0	11.6	11.1	9.7	10.3	10.4	+0.1
% 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	–0.2
	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	–0.4
	23-26					2.0	1.6	2.6	1.8	1.2	0.8	0.5	1.0	0.6	0.7	+0.1
	27-30									1.4	0.3	1.7	0.8	1.3	1.3	0.0
Alcoholic beverages																
% saying any exposure	18	94.7	94.0	94.0	94.0	94.0	94.0	94.1	93.9	93.1	92.3	93.6	91.7	90.6	91.8	+1.2
	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	–0.4
	23-26					90.3	92.7	91.4	90.6	91.1	92.9	91.3	91.0	91.4	90.3	–1.1
	27-30									87.1	88.4	86.2	87.7	87.3	86.6	–0.7
% 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	–1.2
	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	+0.7
	23-26					52.1	54.8	51.4	53.0	48.1	50.9	49.7	48.4	45.4	45.4	0.0
	27-30									39.9	39.5	38.7	38.0	39.9	38.1	–1.8
Approximate Weighted N =	*18*	*3259*	*3608*	*3645*	*3334*	*3238*	*3252*	*3078*	*3296*	*3300*	*2795*	*2556*	*2525*	*2630*	*2730*	
	19-22	*582*	*574*	*601*	*569*	*578*	*549*	*591*	*582*	*556*	*567*	*567*	*532*	*528*	*489*	
	23-26					*533*	*532*	*557*	*529*	*531*	*514*	*523*	*494*	*532*	*513*	
	27-30									*522*	*507*	*506*	*478*	*502*	*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]These estimates were derived from responses to the questions listed avove. For the young adult sample, "any illicit drug" includes all of the drugs listed except cigarettes and alcohol.

22% of the 19 to 22 year olds), while only 16% of the 23 to 26 year olds and 14% 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.

- Seniors' trends in exposure to use tend to parallel those observed for young adults. Since 1980 that has 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, however, some *divergence* in the trends emerged, seniors showed a significant increase in both friends' use and exposure to use (and in self-reported use), but the young adults 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. Clearly the number of friendship groupings in which marijuana use is widespread has dropped dramatically over the long term, though seniors did show a significant increase in 1993 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, however.

- All age groups have shown a longer term decline in exposure to ***barbiturate*** use, as well as the use of ***amphetamines***, ***methaqualone***, ***opiates other than heroin***, and ***tranquilizers***.

- 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 have been some modest declines since 1987 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. In fact, the 19 to 22 year olds had a significant increase on the latter measure in 1993, but there was no parallel increase in the exposure measure. We are inclined to be cautious in interpreting this change until we see if the 1994 data confirm it.

- Among 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, when there was a significant increase 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.

- 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 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 500 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 seniors.

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 83-86% of the young adult age strata saying it would be "fairly easy" or "very easy" to get. About the same proportion of seniors (83%) have access.

- ***Stimulants*** (amphetamines) are the next most available (53%-56%), and they are even more available to seniors in high school (62%); followed by ***powdered cocaine***, for which there is ascending availability with age–45%, 46%, 51%, and 55%, for seniors, 19-22 year

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)[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	'92-'93 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	+0.3
	19-22	95.6	91.1	92.4	89.7	88.3	89.5	87.2	85.9	87.1	87.1	86.2	86.0	87.8	85.6	–2.2
	23-26					92.5	88.8	88.8	90.3	86.9	88.7	83.3	82.5	83.8	84.6	+0.8
	27-30									89.3	86.0	83.1	83.8	80.7	82.8	+2.1
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	0.0
	19-22	NA	NA	NA	NA	NA	NA	NA	22.8	26.0	NA	NA	NA	NA	NA	NA
	23-26					NA	NA	NA	23.1	28.0	NA	NA	NA	NA	NA	NA
	27-30									26.7	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	+4.7ss
	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	+2.4
	23-26					32.7	29.1	30.0	27.5	32.7	32.6	30.2	32.8	33.5	33.4	–0.1
	27-30									29.4	29.9	32.3	27.0	30.9	30.5	–0.4
PCP	18	NA	NA	NA	NA	NA	NA	NA	22.8	24.9	28.9	27.7	27.6	31.7	31.7	0.0
	19-22	NA	NA	NA	NA	NA	NA	NA	21.7	24.6	NA	NA	NA	NA	NA	NA
	23-26					NA	NA	NA	21.2	27.6	NA	NA	NA	NA	NA	NA
	27-30									24.3	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	+3.9ss
	19-22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.6	24.9	27.1	23.9	–3.3
	23-26					NA	NA	NA	NA	NA	NA	21.4	23.1	26.4	24.0	–2.4
	27-30									NA	NA	27.1	20.8	22.2	22.8	+0.6
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	+3.6s
	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	+1.2
	23-26					31.8	29.6	26.4	25.6	29.6	28.7	27.0	25.7	27.7	25.3	–2.3
	27-30									28.6	29.6	30.8	24.9	24.8	25.4	+0.6
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	–4.2s
	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	–5.3
	23-26					63.7	67.2	65.8	69.0	71.7	70.0	65.6	58.0	61.1	53.8	–7.3s
	27-30									68.6	68.2	64.0	60.0	63.1	56.8	–6.3s
Crack	18	NA	NA	NA	NA	NA	NA	NA	41.1	42.1	47.0	42.4	39.9	43.5	43.6	+0.1
	19-22	NA	NA	NA	NA	NA	NA	NA	41.9	47.3	47.2	46.9	42.1	42.1	38.4	–3.7
	23-26					NA	NA	NA	44.5	53.0	49.9	46.9	42.0	42.6	42.5	–0.1
	27-30									46.5	46.8	46.8	43.1	45.2	45.8	+0.7
Cocaine powder	18	NA	NA	NA	NA	NA	NA	NA	52.9	50.3	53.7	49.0	46.0	48.0	45.4	–2.6
	19-22	NA	NA	NA	NA	NA	NA	NA	58.7	60.2	61.7	56.5	52.5	48.9	45.7	–3.2
	23-26					NA	NA	NA	64.9	69.1	60.1	58.6	53.2	56.4	50.5	–5.9
	27-30									63.5	62.8	57.9	55.8	56.8	55.0	–1.8
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	–1.2
	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	–0.2
	23-26					18.6	18.1	21.0	22.3	28.4	31.2	28.1	25.6	25.7	25.7	0.0
	27-30									23.6	27.4	29.5	22.1	25.6	28.5	+2.9
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	+0.4
	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	–1.7
	23-26					32.8	32.1	33.6	32.2	35.9	36.4	34.7	33.2	33.9	33.1	–0.8
	27-30									31.6	36.2	36.1	29.0	31.8	33.0	+1.2
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	+2.7
	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	–0.3
	23-26					65.8	66.0	64.5	65.3	62.2	60.1	55.8	54.8	54.5	52.6	–1.9
	27-30									54.3	58.6	55.3	54.4	50.4	52.9	+2.5

(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	'92-'93 change
"Ice"	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.0	24.3	26.0	26.6	+0.6
	19-22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.0	21.8	22.5	20.9	–1.6
	23-26					NA	NA	NA	NA	NA	NA	22.3	20.0	21.3	22.9	+1.6
	27-30									NA	NA	27.3	19.7	22.0	21.2	–0.8
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	+0.5
	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	–1.5
	23-26					52.7	47.7	46.4	45.9	47.4	44.8	41.6	39.6	42.0	38.8	–3.2
	27-30									43.2	44.5	44.2	38.5	37.8	39.7	+1.9
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	+0.2
	19-22	67.4	62.8	62.0	62.3	52.5	55.6	52.9	50.3	50.0	49.4	45.4	44.8	40.7	40.9	+0.2
	23-26					60.2	54.3	54.1	56.3	52.8	51.4	47.8	45.1	48.1	43.2	–4.9
	27-30									55.3	54.4	54.9	47.5	47.8	47.4	–0.5
Steroids	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	46.7	46.8	44.8	–2.0
	19-22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	44.1	44.8	46.3	41.7	–4.6
	23-26					NA	NA	NA	NA	NA	NA	37.6	35.8	39.3	35.8	–3.5
	27-30									NA	NA	36.4	30.6	35.0	31.6	–3.4
Approximate Weighted N=	*18*	*3240*	*3578*	*3602*	*3385*	*3269*	*3274*	*3077*	*3271*	*3231*	*2806*	*2549*	*2476*	*2586*	*2670*	
	19-22	*582*	*601*	*582*	*588*	*559*	*571*	*592*	*581*	*568*	*572*	*571*	*534*	*512*	*480*	
	23-26					*540*	*541*	*548*	*539*	*526*	*514*	*532*	*511*	*523*	*500*	
	27-30									*519*	*513*	*510*	*487*	*475*	*473*	

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.

olds, 23-26 year olds, and 27-30 year olds, respectively.

- ***Crack*** is available to somewhat smaller proportions than powdered cocaine–from 38%-46% for the three young adult strata (again in ascending order by age) and 44% for the high school seniors.

- ***LSD*** shows a high degree of availability among seniors (49%) and 19-22 year olds (45%) but considerably less availability in the older strata (33% for 23-26 year olds and 31% for 27-30 year olds). This large difference has emerged in recent years as availability has risen sharply in the two younger strata, but has not changed in the two older ones.

- ***Hallucinogens other than LSD*** are reported as less available than LSD from 25%-30% in the three young adult strata and 34% among seniors. Again, availability descends with age and in this case recent increases have occurred only among seniors–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 39%-42% say they could get barbiturates (compared with 45% of seniors), while 41%-47% say the could get tranquilizers (vs. 41% of seniors). While the availability of barbiturates declines a bit with age, the availability of tranquilizers seems to increase in the mid- to late twenties.

- Between a quarter and a third of young adults (26%-30%) say they could get ***heroin*** fairly easily (vs. 34% of seniors), and availability drops with increasing age until age 27, when it levels.

- A third of young adults (33%-34%) say they can get ***other narcotics*** (vs. 38% of seniors).

- Even a drug as exotic as ***ice*** is reported to be available to over one-fifth of these age groups (21%-23%) and to more than a quarter of seniors (27%).

- ***Steroids*** show descending availability with increasing age, ranging from 45% among high school seniors down to 32% among 27-30 year olds.

Trends in Perceived Availability for Young Adults

- ***Marijuana*** has been virtually universally available to all these age groups throughout the historical periods covered by the available data. There has been a slight decrease (of 7%) among seniors since the peak year of 1979, and a slightly larger decrease (of 10%) since 1980 among 19 to 22 year olds. Perceived availability is roughly the same for all four groups (83% to 86% think it would be "fairly easy" or "very easy"

to get marijuana); and there is no clear trend in 1993.

- ***Cocaine*** availability, on the other hand, had been moving up among all three age groups over the 1985 to 1987 intervals, reaching historic highs in 1987. (Recall that 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 (age 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 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.

- ***Crack*** availability increased between 1987 and 1989, but then declined a bit until leveling (or perhaps increasing slightly) in 1992. In 1993 it remained level.

- The trends in ***LSD*** availability among young adults have some parallels to those for seniors. Among seniors there was a drop of about 10% in the mid 1970's 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 seniors and the 19 to 22 year olds–particularly in 1992 and 1993. There are no clear trends, however, in the two oldest age groups since the late 80s, which may be a function of the very low levels of use of LSD in these age groups.

- In the early 1980's there was a fair decline among all age groups in the availability of ***hallucinogens other than LSD***; there was little change until 1993, when seniors reported a significant increase in availability, but the young adult strata did not.

- The availability of ***MDMA*** (ecstasy) also rose in 1993 among seniors, but not in the young adult strata. Among young adults there has been no prior 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 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 seniors.

- The reported availability of ***amphetamines*** peaked in 1982 for both seniors and 19 to 22 year olds and has been declining gradually since, having fallen by 9% among seniors and 18% among the 19 to 22 year olds. Since 1987 there has been a decline of 13% among the 23 to 26 year olds, as well. For the 27-30 year olds there has been no change 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 11% among seniors and 19% among 19 to 22 year olds. Since 1984, when data were first available for 23 to 26 year olds, availability has declined by 14%.

- Finally, ***tranquilizer*** availability has been declining gradually among seniors from 72% in 1975 to 41% in 1991, when it leveled. 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 between them in availability have been eliminated in 1992 and 1993. The older age groups have also shown a 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.

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 much 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 at the beginning of March in the year in question ***and*** *who say they are enrolled in a two- or four-year college.* Thus, the definition encompasses only those who are one to four years past high school and are active full-time undergraduate college students in the year in question. It excludes those who previously may have been college students or may have completed college.

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

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 exactly 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

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 of the same age, 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 30%). However, college students are slightly lower in their use of ***any illicit drug other than marijuana*** (13% vs. 15%). In fact, for almost all the individual illicit drugs except ***marijuana*** or ***inhalants***, use among college students is lower than among their age peers. The overall index of use shows college students as higher because marijuana is an exception to the general rule.

- Annual ***marijuana*** use is slightly higher among college students (28%) than among their fellow high school graduates of the same age (26%). However, their rate of current ***daily marijuana use*** is slightly lower, 1.9% vs. 2.7%.

- ***Cocaine*** shows the largest absolute difference in annual prevalence among the illicit drugs, 2.7% for college students vs. 4.6% for those not in college.

- The next largest absolute difference after cocaine occurs for ***stimulants***, with 4.2% of the college students vs. 6.0% of the others reporting use in the past year.

- Annual use of ***crack*** is also lower among college students than among their "noncollege" age-peers, at 0.6% vs. 1.7%, respectively. It has one of the largest proportional difference between the two groups.

- Use of ***ice*** in the past year is also lower among college students in 1993, at 0.7% vs. 1.7% for those respondents not in college.

- College students are very slightly below their noncollege age peers in annual usage rates for ***LSD*** (5.1% vs. 5.5%), ***barbiturates*** (1.5% vs. 2.0%), ***opiates other than heroin*** (2.5% vs. 2.8%), and ***tranquilizers*** (2.4% vs. 2.7%).

- The annual prevalence for ***inhalants*** is slightly higher among the respondents in college full-time, at 3.8% vs. 2.7% for the noncollege respondents.

- ***Heroin*** also shows low levels of use, but as has been true in the past, the rate is higher among the noncollege group (0.3%) than among the college students (0.1%).

- Use of ***MDMA*** (ecstasy) is almost equal among college students and their noncollege age peers: annual prevalence is 0.8% vs. 0.9%.

- Today's college students have a slightly higher annual prevalence of ***alcohol*** use compared to their age peers (87% vs. 84%), a higher monthly prevalence (72% vs. 63%), but a lower daily prevalence (3.2% vs. 4.3%). 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, even though they are a little less likely to drink on a daily basis.

- 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 15% vs. 27% for high school graduates that age who are currently not full-time college students. Smoking at the rate of half-pack a day stands at 9% vs. 20% 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]

[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.

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.

- It may be seen that 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 in high school for the most part. That means that among college students, males have higher annual prevalence rates for most drugs, with the largest proportional sex differences evident for ***MDMA*** (1.7% vs. 0.1%), ***crack*** (1.1% vs. 0.3%), ***ice*** (1.2% vs. 0.4%), ***hallucinogens*** in general (8.6% vs. 3.9%), ***barbiturates*** (2.2% vs. 1.0%), ***LSD*** (7.1% vs. 3.6%), ***cocaine*** in general (3.7% vs. 1.9%), and ***inhalants*** (5.1% vs. 2.7%).

- Males also have slightly higher rates of use on ***marijuana*** (30% vs. 26% annual prevalence), ***stimulants*** (4.9% vs. 3.7%) and ***opiates other than heroin*** (3.0% vs. 2.2%).

- Female college students had the same annual prevalence as their male counterparts on ***tranquilizers*** (2.4%) and ***heroin*** (0.1%).

- As is true for the entire young adult sample, substantial sex differences are to be found in ***daily marijuana use*** (2.6% for males vs. 1.3% for females).

- Annual and 30-day prevalence rates for ***alcohol*** are only slightly higher for male than for female college students. Males are much higher on ***daily drinking*** (5.9% vs. 1.1%), and ***occasional heavy drinking*** (49% vs. 33%).

  Among males, college students report having ***five or more drinks in a row*** more often (49%) than their noncollege counterparts (44%). This difference occurs also for females (33% and 25%, respectively).

- One drug-using behavior which has shown a sex difference among college students somewhat different from that observed in the sample of all young adults is ***cigarette smoking***. While the noncollege segment of this age group consistently has shown little or no sex difference in smoking rates in recent years, among college students there *has* been a consistent sex difference, with college women a bit more likely to smoke than college men. In 1993, 16% of the females vs. 14% of the males indicated daily smoking. A glance at Figure 48 in the next chapter shows that there has been a sex difference among college students fairly consistently since our first measurement in 1980.

TABLE 18

Lifetime[c] Prevalence for Various Types of Drugs, 1993: 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]	45.9	55.5	45.7	57.8	46.0	53.4
Any Illicit Drug[e] Other than Marijuana	24.3	30.6	24.3	31.8	24.3	29.5
Marijuana	42.0	50.8	42.6	52.5	41.5	49.2
Inhalants[d]	14.8	15.2	18.4	21.2	12.0	9.9
Hallucinogens	11.8	14.4	13.4	17.9	10.6	11.3
LSD	10.6	13.5	12.1	17.0	9.4	10.3
Cocaine	6.3	11.3	7.7	12.4	5.3	10.2
Crack	1.3	3.9	1.7	4.9	1.1	3.0
MDMA ("Ecstasy")[f]	2.3	1.9	4.6	3.5	0.7	0.4
Heroin	0.6	0.8	0.5	0.9	0.6	0.7
Other Opiates[a]	6.2	7.2	6.4	7.7	6.1	6.7
Stimulants, Adjusted[a,b]	10.1	16.4	9.8	17.2	10.3	15.8
"Ice"[f]	1.6	3.1	2.3	4.8	1.1	1.6
Barbiturates[a]	3.5	6.1	4.3	7.0	2.9	5.3
Tranquilizers[a]	6.3	6.6	6.4	6.9	6.2	6.3
Alcohol[g]	91.2	90.9	92.5	90.8	90.3	90.9
Cigarettes	NA	NA	NA	NA	NA	NA
Approximate Weighted N =	1490	1490	660	710	830	770

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 1993 for college students is approximately 1260.
[e]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and 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 questionnaire forms. Total N in 1993 for college students is approximately 530.
[g]This drug was asked about in three questionnaire forms. Total N in 1993 for college students is approximately 750.

TABLE 19

Annual Prevalence for Various Types of Drugs, 1993: 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]	30.6	30.0	32.6	33.1	29.1	27.2
Any Illicit Drug[e] Other than Marijuana	12.5	14.6	15.0	16.4	10.5	13.0
Marijuana	27.9	26.4	30.0	28.8	26.2	24.1
Inhalants[d]	3.8	2.7	5.1	3.8	2.7	1.8
Hallucinogens	6.0	6.1	8.6	7.9	3.9	4.5
LSD	5.1	5.5	7.1	7.1	3.6	4.0
Cocaine	2.7	4.6	3.7	5.4	1.9	3.8
Crack	0.6	1.7	1.1	2.3	0.3	1.1
MDMA ("Ecstasy")[f]	0.8	0.9	1.7	1.7	0.1	0.1
Heroin	0.1	0.3	0.1	0.2	0.1	0.3
Other Opiates[a]	2.5	2.8	3.0	2.8	2.2	2.8
Stimulants, Adjusted[a,b]	4.2	6.0	4.9	6.4	3.7	5.7
"Ice"[f]	0.7	1.7	1.2	2.0	0.4	1.5
Barbiturates[a]	1.5	2.0	2.2	2.6	1.0	1.6
Tranquilizers[a]	2.4	2.7	2.4	2.8	2.4	2.6
Alcohol[g]	86.5	83.5	86.9	84.2	86.3	82.8
Cigarettes	38.8	45.2	38.0	44.6	39.3	45.7
Approximate Weighted N =	1490	1490	660	710	830	770

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 1993 for college students is approximately 1260.
[e]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and 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 questionnaire forms. Total N in 1993 for college students is approximately 530.
[g]This drug was asked about in three questionnaire forms. Total N in 1993 for college students is approximately 750.

TABLE 20

Thirty-Day Prevalence for Various Types of Drugs, 1993: 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]	15.1	16.3	16.0	18.9	14.5	13.9
Any Illicit Drug[e] Other than Marijuana	5.4	5.8	7.3	6.8	3.8	4.8
Marijuana	14.2	14.4	15.4	16.9	13.3	12.0
Inhalants[d]	1.3	0.9	1.7	1.1	0.9	0.8
Hallucinogens	2.5	1.4	4.2	2.3	1.1	0.6
LSD	1.6	1.0	2.4	1.7	0.9	0.4
Cocaine	0.7	1.5	1.0	1.8	0.5	1.1
Crack	0.1	0.5	0.2	0.5	0.0	0.6
MDMA ("Ecstasy")[f]	0.3	0.6	0.5	1.2	0.1	0.0
Heroin	*	0.2	0.0	0.2	*	0.3
Other Opiates[a]	0.7	1.0	0.6	0.9	0.7	1.1
Stimulants, Adjusted[a,b]	1.5	2.3	1.2	2.0	1.9	2.7
"Ice"[f]	0.3	0.7	0.2	0.9	0.4	0.4
Barbiturates[a]	0.4	0.9	0.6	0.9	0.2	0.9
Tranquilizers[a]	0.4	1.0	0.5	0.8	0.4	1.2
Alcohol[g]	72.0	63.3	75.0	69.3	69.6	57.4
Cigarettes	24.5	33.7	23.6	34.1	25.3	33.3
Approximate Weighted N =	1490	1490	660	710	830	770

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.
[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 1993 for college students is approximately 1260.
[e]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and 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 questionnaire forms. Total N in 1993 for college students is approximately 530.
[g]This drug was asked about in three questionnaire forms. Total N in 1993 for college students is approximately 750.

TABLE 21

Thirty-Day Prevalence of Daily Use for Various Types of Drugs, 1993: 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	1.9	2.7	2.6	3.3	1.3	2.1
Cocaine	0.0	0.1	0.0	0.1	0.0	0.1
Stimulants, Adjusted[a,b]	0.1	0.2	0.0	0.1	0.1	0.3
Alcohol						
Daily[c]	3.2	4.3	5.9	4.8	1.1	3.7
5+ drinks in a row in past 2 weeks	40.2	34.2	48.7	43.8	33.4	25.2
Cigarettes						
Daily (any)	15.2	26.5	13.8	25.6	16.4	27.3
Half-pack or more per day	8.9	20.2	8.9	20.6	8.9	19.9
Approximate Weighted N =	1490	1490	660	710	830	770

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 three questionnaire forms. Total N in 1993 for college students is approximately 750.

TABLE 22

Lifetime, Annual, and Thirty-Day Prevalence of an Illicit Drug Use Index[a], 1993: 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	45.9	55.5	45.7	57.8	46.0	53.4
Any Illicit Drug Other than Marijuana	24.3	30.6	24.3	31.8	24.3	29.5
	Percent Reporting Use in Last Twelve Months					
Any Illicit Drug	30.6	30.0	32.6	33.1	29.1	27.2
Any Illicit Drug Other than Marijuana	12.5	14.6	15.0	16.4	10.5	13.0
	Percent Reporting Use in Last Thirty Days					
Any Illicit Drug	15.1	16.3	16.0	18.9	14.5	13.9
Any Illicit Drug Other than Marijuana	5.4	5.8	7.3	6.8	3.8	4.8
Approximate Weighted N =	1490	1490	660	710	830	770

NOTE: NA indicates data not available.

[a]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and 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 1960's and early 1970's 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 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 1980-1993: COLLEGE STUDENTS

- The proportion of college students using ***any illicit drug*** in the prior year dropped steadily from 1980 to 1984 (from 56% to 45%), leveled from 1984 to 1986, declined significantly from 45% to 29% between 1986 and 1991, and increased in 1992 and 1993 to 31%. (The increase was statistically nonsignificant.) (See Table 24 and Figure 35.)

- ***Marijuana*** use has shown a similar pattern (see Table 24), and in both cases the trend curves have been almost identical for both college students and those not enrolled in college (see Figures 35 and 37a). Except for the increase in 1992, they also track almost exactly the trend curves for high school seniors.

- ***Use of any illicit drugs other than marijuana*** declined more steadily between 1980 and 1986, with annual prevalence among college

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)	'92-'93 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	-2.9
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	-1.8
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	-2.1
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	+0.6
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	-0.1
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	0.0
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	-1.6
Crack[c]	NA	NA	NA	NA	NA	NA	NA	3.3	3.4	2.4	1.4	1.5	1.7	1.3	-0.4
MDMA ("ecstasy")[g]	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.8	3.9	2.0	2.9	2.3	-0.6
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
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	-1.1
Stimulants[a]	29.5	29.4	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	-0.4
Crystal meth. (ice)[h]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0	1.3	0.6	1.6	+1.0
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
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	-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
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	-0.6
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	91.2	-0.5
Cigarettes	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.
An asterisk 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 1990-1993. Total N in 1993 (for college students) is 1260.
[c]This drug was asked about in two of the five questionnaire forms in 1987-89, and in all six questionnaire forms in 1990-1993.
[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, and 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 1990-1993. Total N in 1993 (for college students) is 500.
[h]This drug was asked about in two of the six questionnaire forms. Total N in 1993 (for college students) is 500.
[i]In 1993 only, this drug was asked about in three of the six questionnaire forms. Total N in 1993 (for college students) is 750.

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)	'92-'93 change
Any Illicit Drug[e]	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	+0.1
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	-0.6
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	+0.2
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	+0.7
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	-0.8
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	-0.6
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	-0.3
Crack[c]	NA	NA	NA	NA	NA	NA	1.3	2.0	1.4	1.5	0.6	0.5	0.4	0.6	+0.2
MDMA ("ecstasy")[f]	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.3	2.3	0.9	2.0	0.8	-1.2
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	0.0
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	-0.2
Stimulants[a]	22.4	22.2	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	+0.6
Crystal meth. (ice)[g]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1	0.1	0.2	0.7	+0.6
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
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	+0.1
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
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	-0.5
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	86.5	-0.3
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	39.1	+1.8

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.
An asterisk 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 1990-1993. Total N in 1993 (for college students) is 1260.
[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 1990-1993.
[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, and 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 1990-1993. Total N in 1993 (for college students) is 500.
[g]This drug was asked about in two of the six questionnaire forms. Total N in 1993 (for college students) is 500.
[h]In 1993 only, this drug was asked about in three of the six questionnaire forms. Total N in 1993 (for college students) is 750.

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)	'92-'93 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	-1.0
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	+0.7
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	-0.4
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	+0.2
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	+0.2
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	-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	-0.2
Crack[c]	NA	NA	NA	NA	NA	NA	NA	0.4	0.5	0.2	0.1	0.3	0.1	0.1	0.0
MDMA ("ecstasy")[f]	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.3	0.6	0.2	0.4	0.3	-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
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	-0.3
Stimulants[a]	13.4	12.3	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	+0.4
Crystal meth. (ice)[g]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	0.3	+0.3
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
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	-0.3
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
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	-0.1
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	72.0	+0.6
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	24.7	+1.3

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.
An asterisk 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 1990-1993. Total N in 1993 (for college students) is 1260.
[c]This drug was asked about in two of the five questionnaire forms in 1987-89, and in all six questionnaire forms in 1990-1993.
[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, and 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 1990-1993. Total N in 1993 (for college students) is 500.
[g]This drug was asked about in two of the six questionnaire forms. Total N in 1993 (for college students) is 500.
[h]In 1993 only, this drug was asked about in three of the six questionnaire forms. Total N in 1993 (for college students) is 750.

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														
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)	'92-'93 change
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	+0.2
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	0.0
Stimulants[a]	0.5	0.4	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
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	3.2	-0.6
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	-1.2
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	15.4	+1.3
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	9.0	+0.1

NOTES: For all drugs not included here (but in tables 23-25), thirty-day prevalence of daily use is below 0.5% 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.
An asterisk 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 only, this drug was asked about in three of the six questionnaire forms. Total N in 1993 (for college students) is 750.

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	'92-'93 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	-2.9
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	-5.1
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	-1.1
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	-1.8
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	-2.0
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	-1.7
							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	+0.1
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	-0.1
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	+0.3
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	-0.6
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	+1.2
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	-2.0
							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	-1.0
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	-2.0
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	0.0
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	+0.7
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	+2.2
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	-0.4
							Approximate Weighted N								
All Respondents	1040	1130	1150	1170	1110	1080	1190	1220	1310	1300	1400	1410	1490	1490	
Males	520	530	550	550	540	490	540	520	560	580	620	640	680	660	
Females	520	600	610	620	570	600	650	700	750	720	780	770	810	830	

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

[a]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and 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.

students 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 1993 (Table 24). Again, this parallels the trend for the noncollege group (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, 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.) Again, noncollege respondents' use 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 a percent or two in use.

- ***Daily marijuana*** use among college students 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 has decelerated and after 1990 it ceased. The rate stands at 1.9% in 1993. In sum, the proportion of American college students who actively smoke marijuana on a daily basis has dropped by about three-fourths since 1980 (see Figure 37b).

- An appreciable and ongoing decline occurred for ***stimulant*** use between 1980 and 1991. Annual prevalence dropped by more than eight-tenths, from 21% in 1982 to 4% in 1991. Proportionately this was a larger drop than among seniors, but fairly parallel to the overall change among their age-peers not in college (Figure 44). 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. Over the years, those not in college have consistently reported a higher rate of stimulant use than the college students, and since the mid-eighties 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. 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 eighties, 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. Similar trends have been observed in those young adults not in college (Figure 40), and among high school seniors, with both groups increasing between 1985 and 1993; noncollege adults went from 4.1% to 5.5%, and high school seniors went from 4.4% to 6.8%.

- ***Barbiturate*** use was already 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 has remained essentially unchanged since 1985 among college students and among their age peers and high school seniors, as well (see Figure 45).

- 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 is down to 2.4% in 1993. Use in the noncollege segment dropped more sharply, eliminating the difference between the two groups by 1990. Tranquilizer use also dropped steadily among seniors, from 10.8% in 1977 to 2.8% in 1992, before rising slightly to 3.5% in 1993.

- In 1993, the use of ***opiates other than heroin*** by college students is about half what it was in 1980 (2.5% in 1993 vs. 5.0% in 1980) as a result of gradual decline over the interval. This trend closely parallels use among noncollege young adults and seniors (Figure 43).

- Like the high school seniors, college students showed a relatively stable pattern of ***cocaine*** use between 1980 and 1986, followed by a large decline from an annual prevalence of 17% in 1986 to 3% in 1992–a drop of over eight-tenths (Figure 42). Their noncollege counterparts also showed a large decline from 19% in 1986 to 4.6% in 1993. 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 1993, though it is clearly decelerating.

- It is in regard to ***alcohol*** use that college students appear to be showing some shifts in use which are different from those observed

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

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 1993 this measure of heavy drinking dropped by 14 percentage points for high school seniors, by 9 percentage points for the noncollege 19 to 22 year olds, but by only 3.4 percentage points among college students. As a result, a substantial difference between college students and each of the other groups has emerged.

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 in 1991 and 1992 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 4.3% in 1993). The daily drinking estimates for college students–which appear a little less stable, perhaps due to smaller sample sizes in the eighties–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 3.2% by 1993; 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, but has increased gradually since, reaching 25% by 1993 (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 15.4% in 1993.

  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, when smoking rates stabilized among college students and continued to decline among young adults not in college (Figure 48a). Since 1990, the noncollege group stabilized as college

students increased their rate of smoking. The net effect has been to narrow the differences in smoking rates between the college students and their noncollege age peers since 1980.

- 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, daily marijuana use***, and ***cigarettes***) there has been a narrowing of differences over the years between college students and their noncollege age peers. 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.

  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 (1980-1990) were proportionately larger among college students, and for that matter among all young adults of college age, than among seniors. Despite parallel trends up to 1991, only seniors continue to show a decline in ***marijuana*** use in 1992 as the older two groups began to show an increase in use. In 1993, the seniors followed with a sharp increase, making their rate once again equal that to the two 19-22 year-old subgroups.

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 56% of our 1993 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 1993 the rates were 2.6% vs. 1.3% 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 not yet paralleled by any increase among females.

- 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. ***Binge drinking*** among college females has fluctuated very little since 1980 (contrary to recent reports in the press) while drinking among college males increased some in the mid-eighties (widening the sex difference) and then narrowed some since (narrowing the sex difference). See Figure 47c.

  There are also some interesting comparisons by sex which can be made between college students and their same-sex noncollege peers. Among college males, occasions of heavy drinking clearly became more prevalent (by about 5%) in the 1984-1986 period than they had been at the beginning of the eighties; and, if anything, they became less prevalent among noncollege males (by about 4%). This led to college males overtaking and surpassing noncollege males in occasions of heavy drinking (58% vs. 52%, respectively, in 1986). At the same time the prevalence for college females held steady while for noncollege females it dropped about 3%. The result of these trends was that college students looked somewhat more different from the noncollege segment on this measure in the mid-eighties and beginning of the nineties than they had in the early eighties.

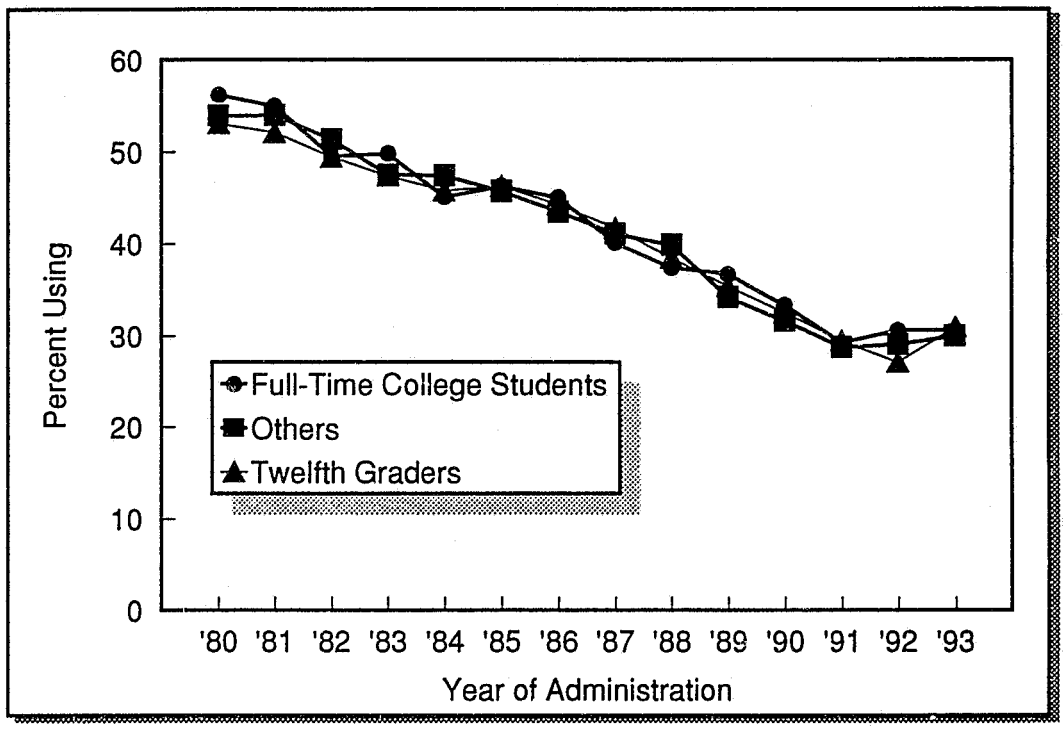
- Between 1980 and 1988, ***cigarette smoking*** has consistently been higher among females than males in college, despite decreases for both sexes during the first half of the decade (Figures 48a-c). However, since about 1984 the gap has been narrower than it was in the early eighties,

because use by female college students declined some, while use by male college students did not. There was a fairly stable period from about 1984-1990, but college students of both sexes have shown increases in use since 1989.

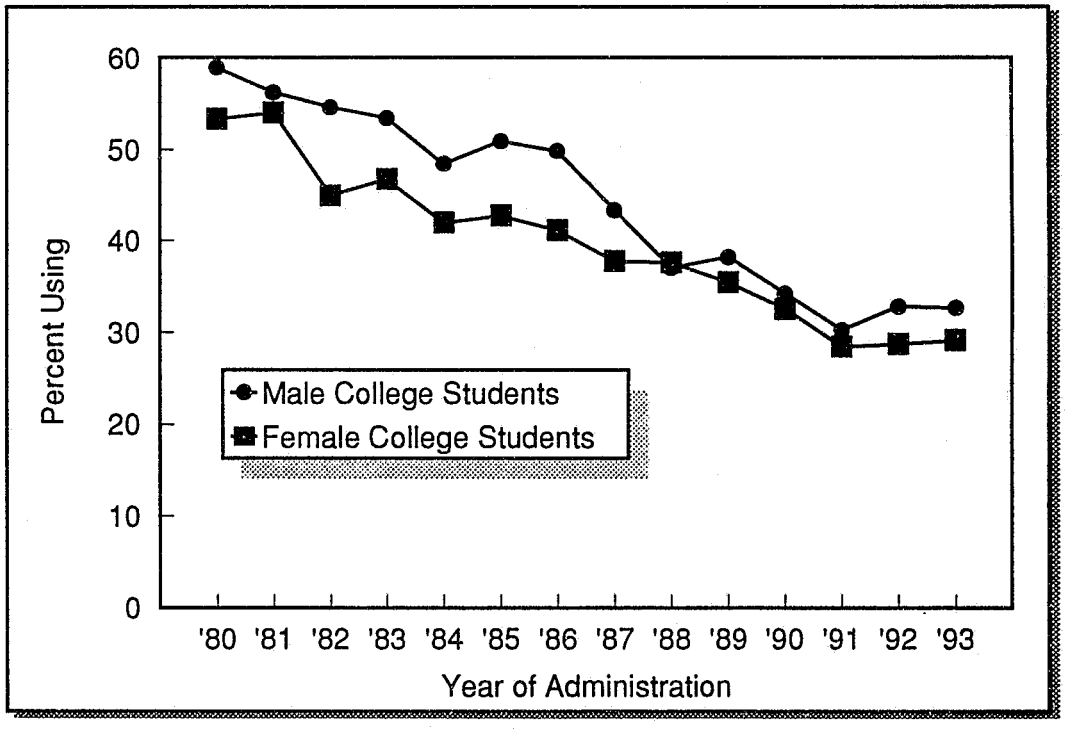
Figure 35

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

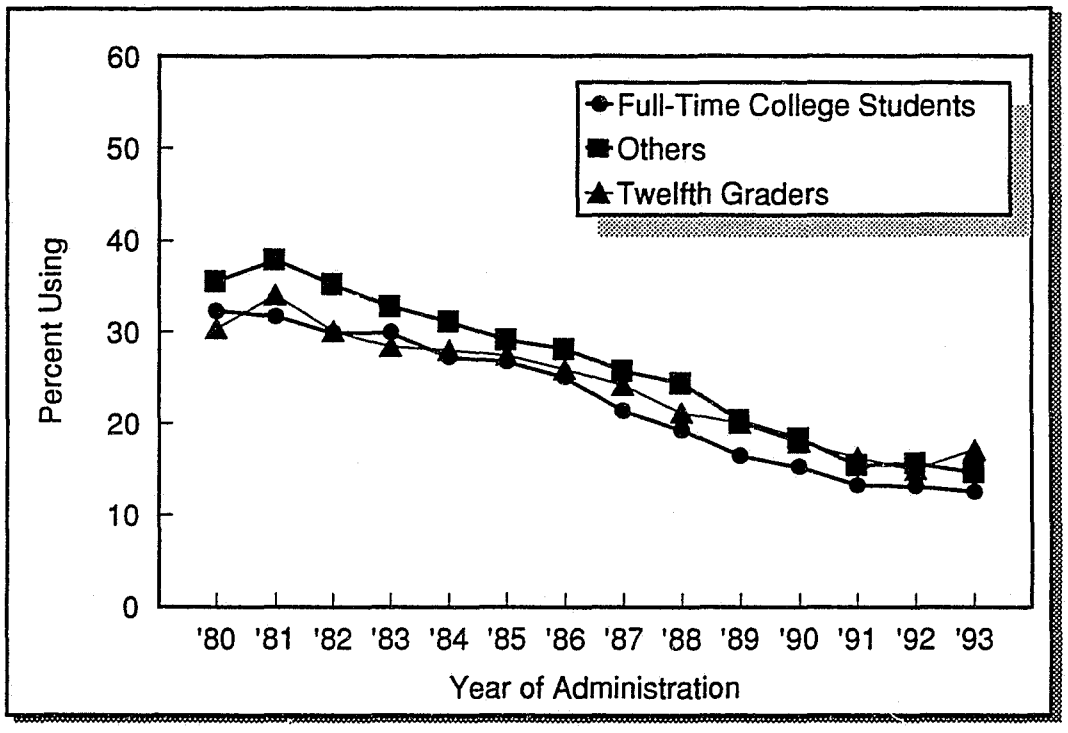


NOTE: "Others" refers to high school graduates 1-4 years beyond high school not currently enrolled full-time in college.

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

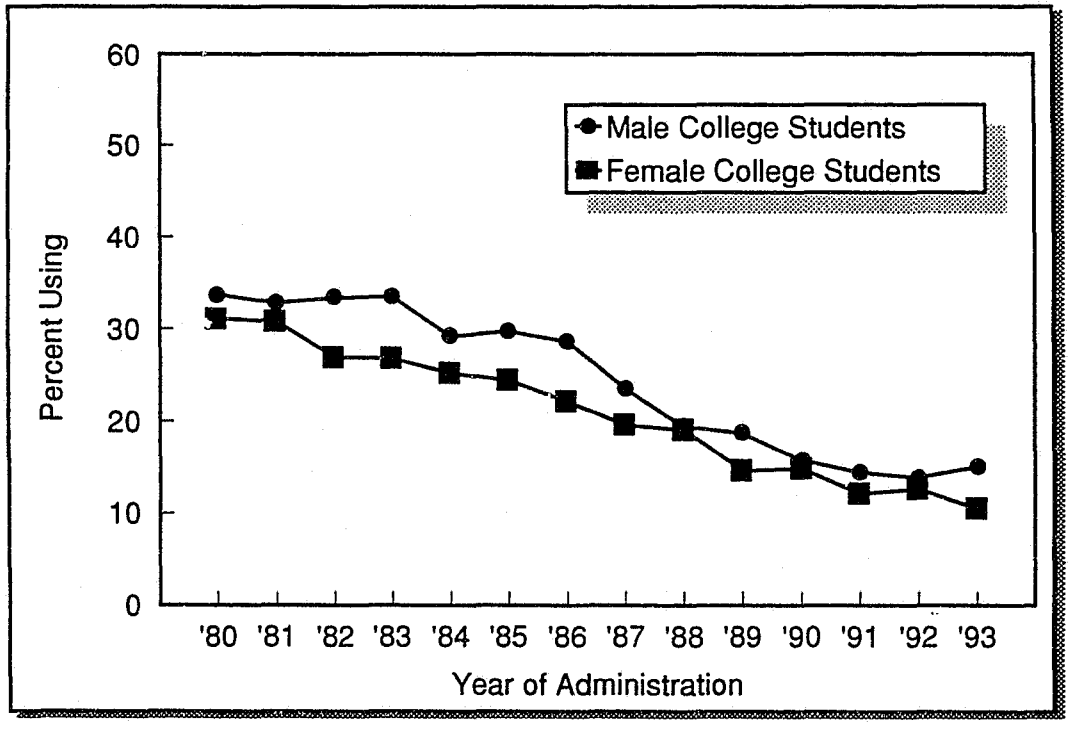
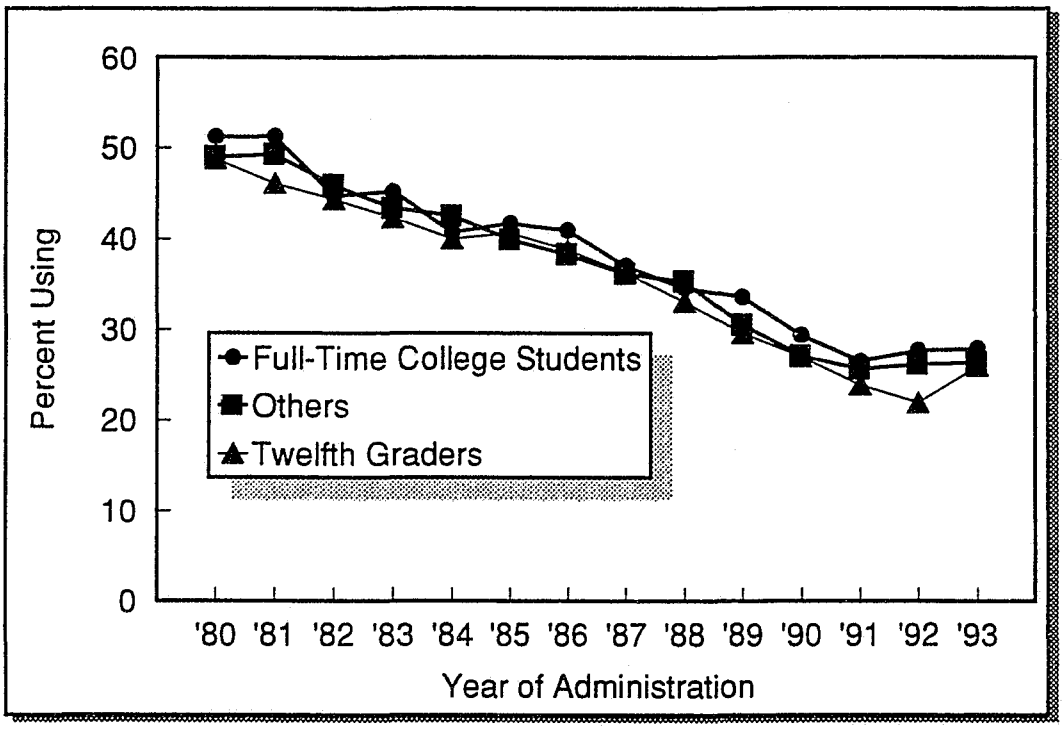


Figure 37a

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

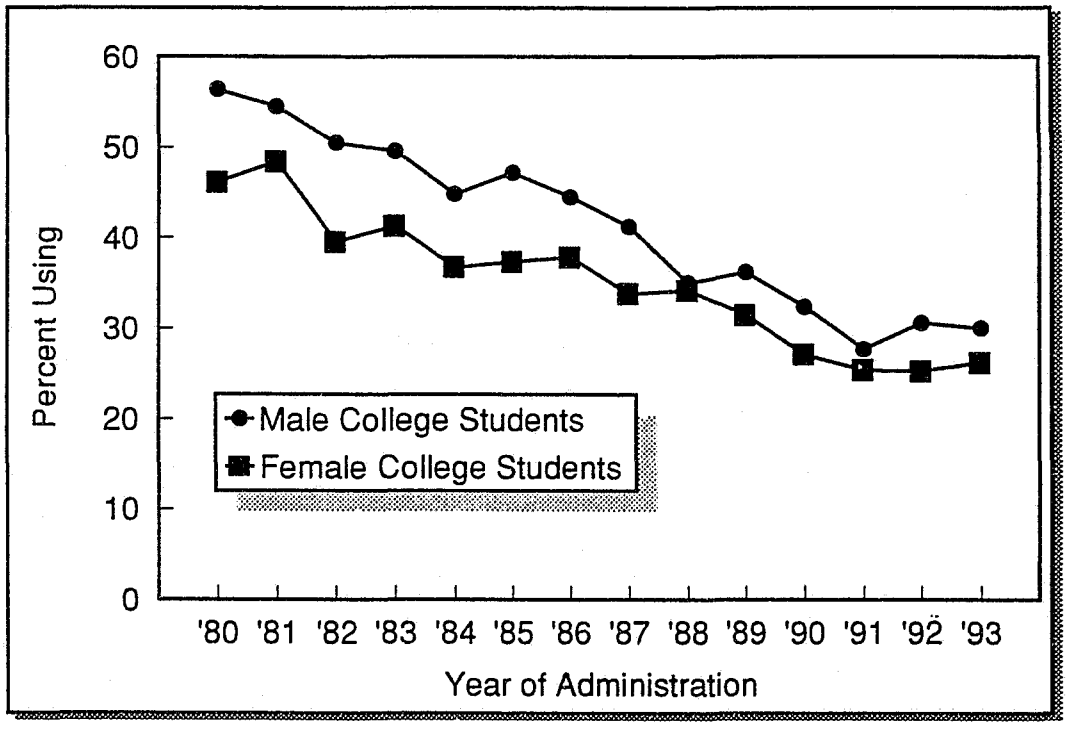
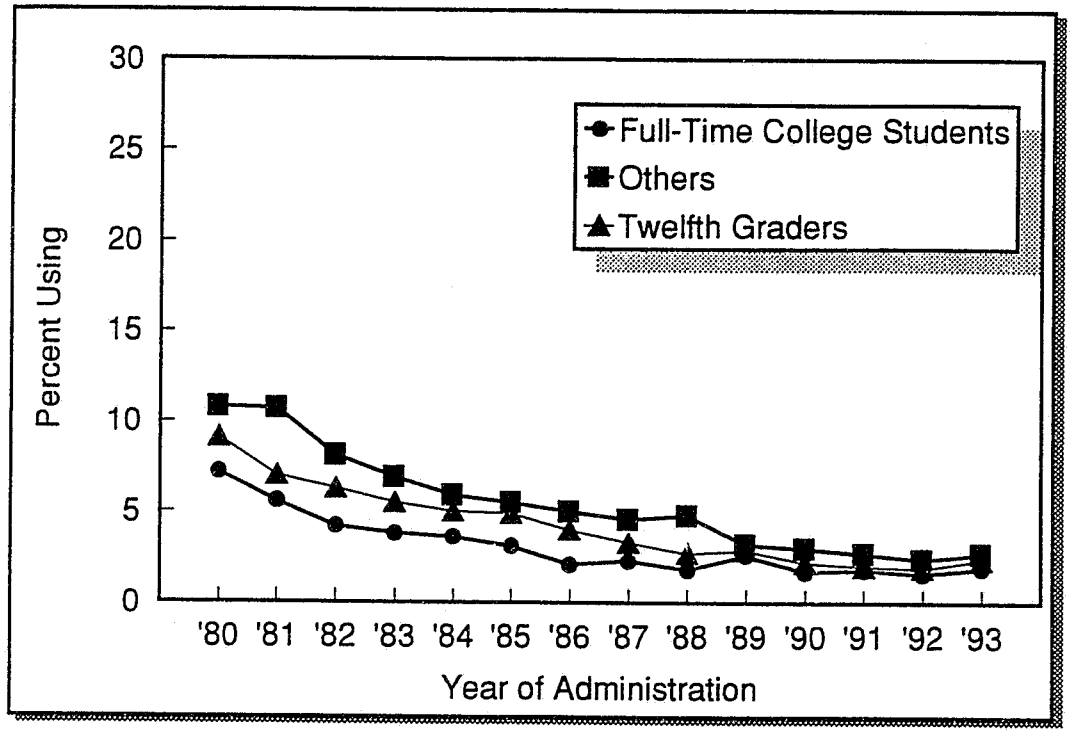


Figure 37b

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

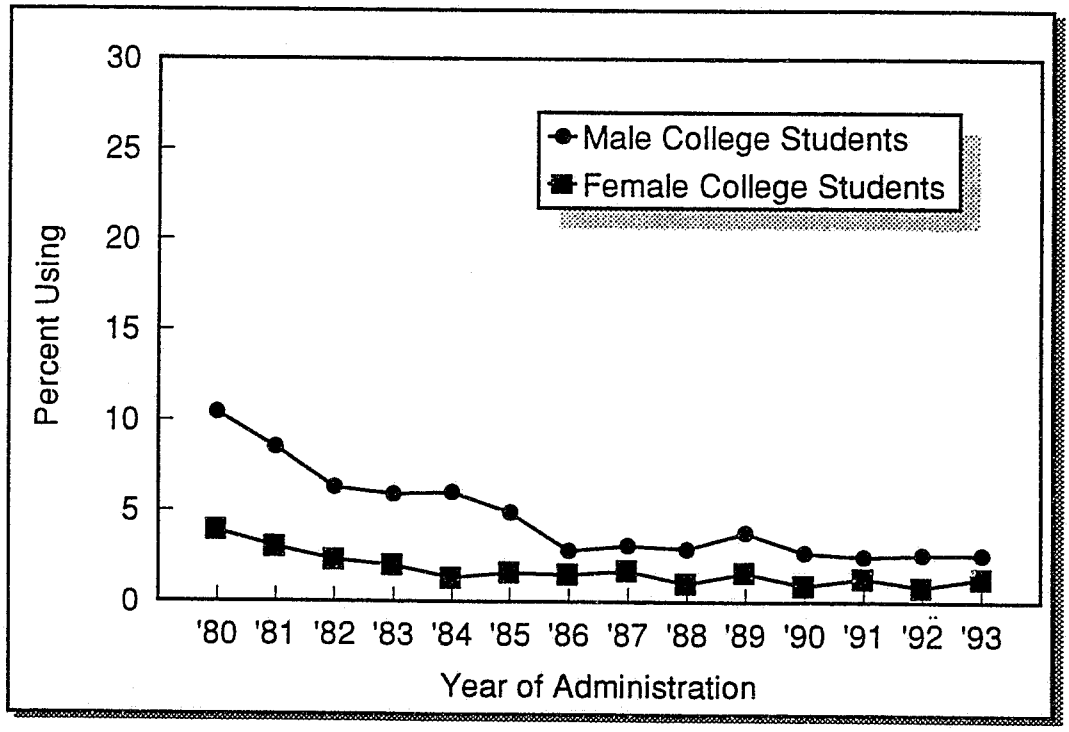
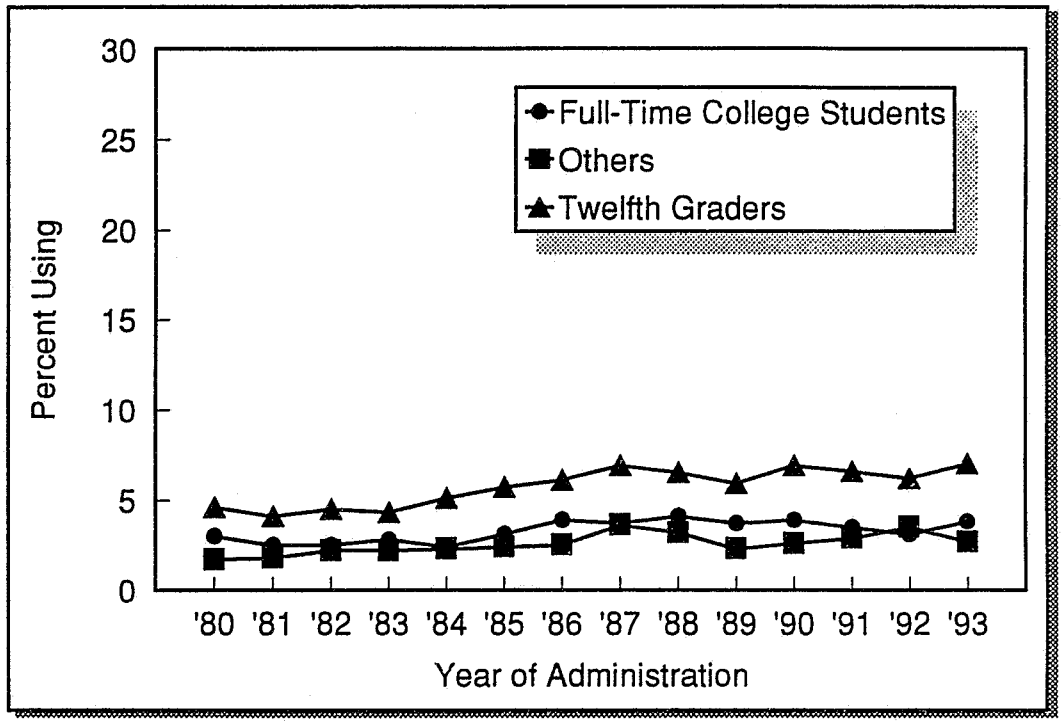


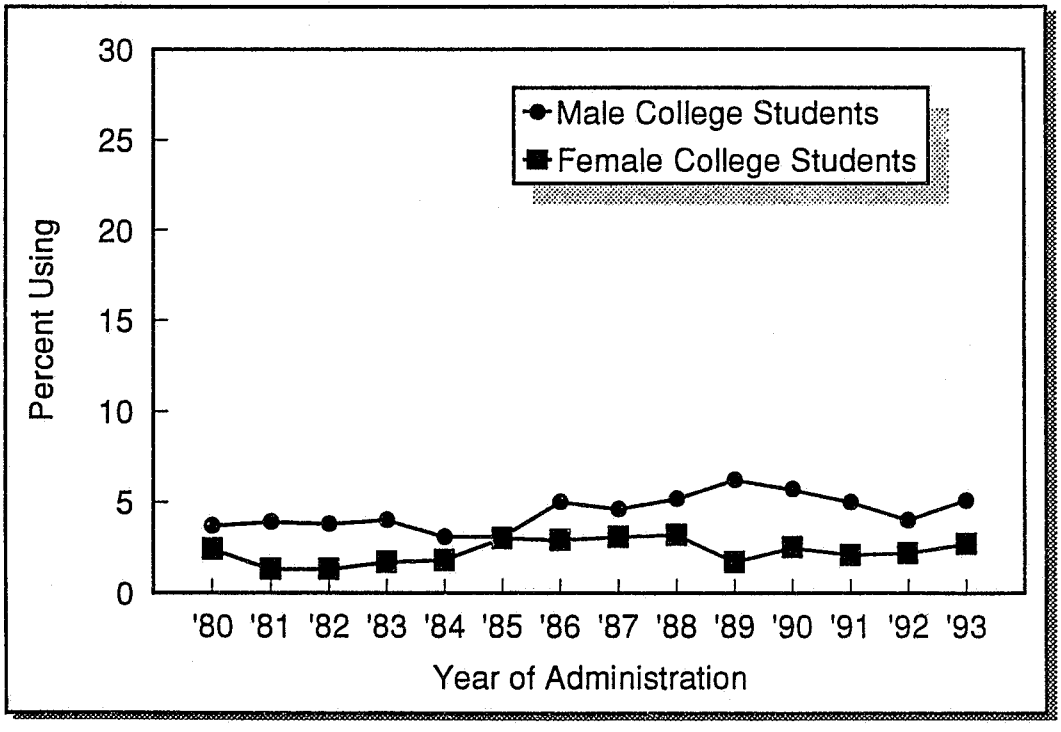
Figure 38

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

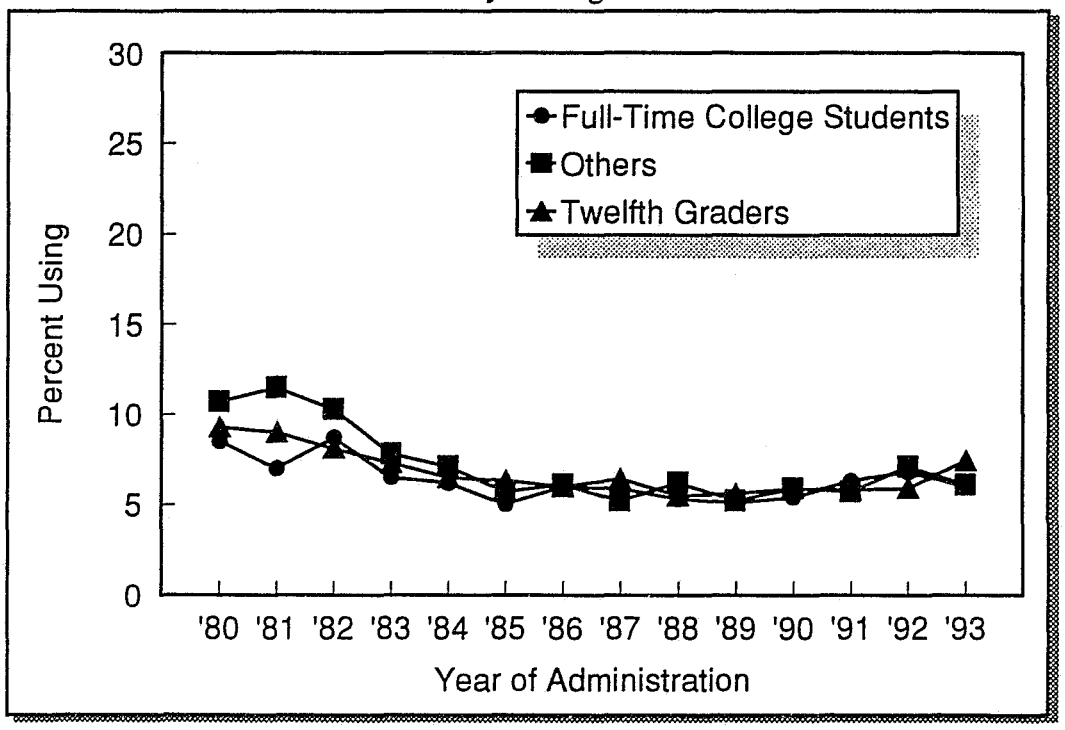


*Unadjusted for the possible underreporting of amyl and butyl nitrites.

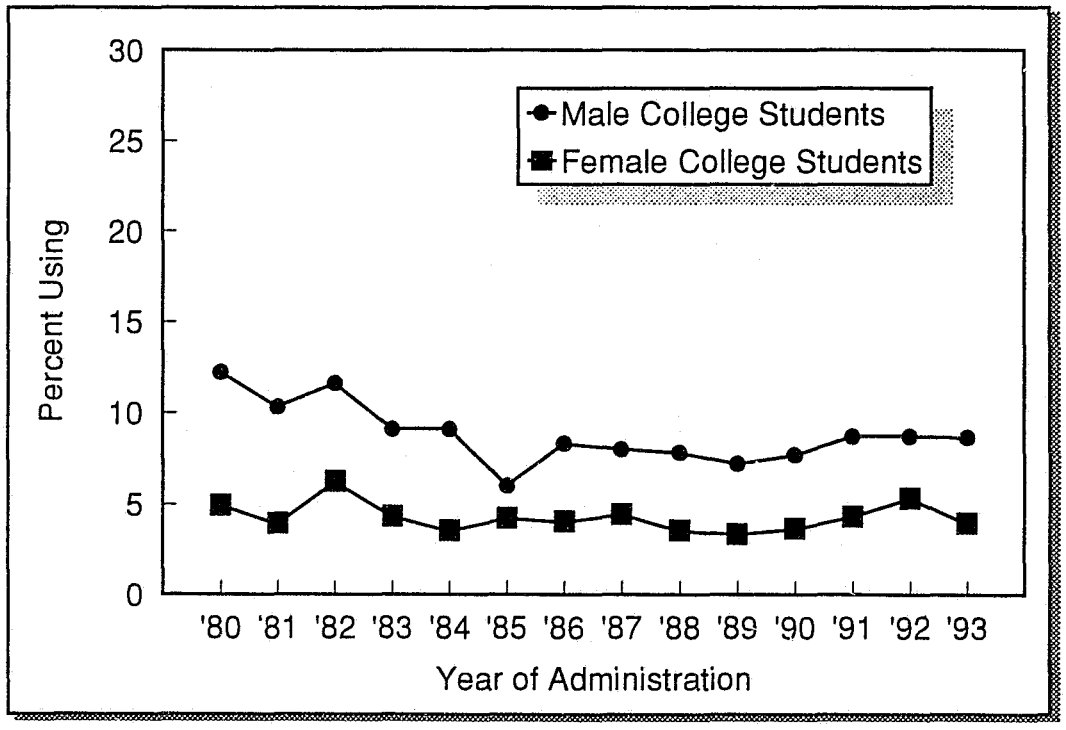
Figure 39

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

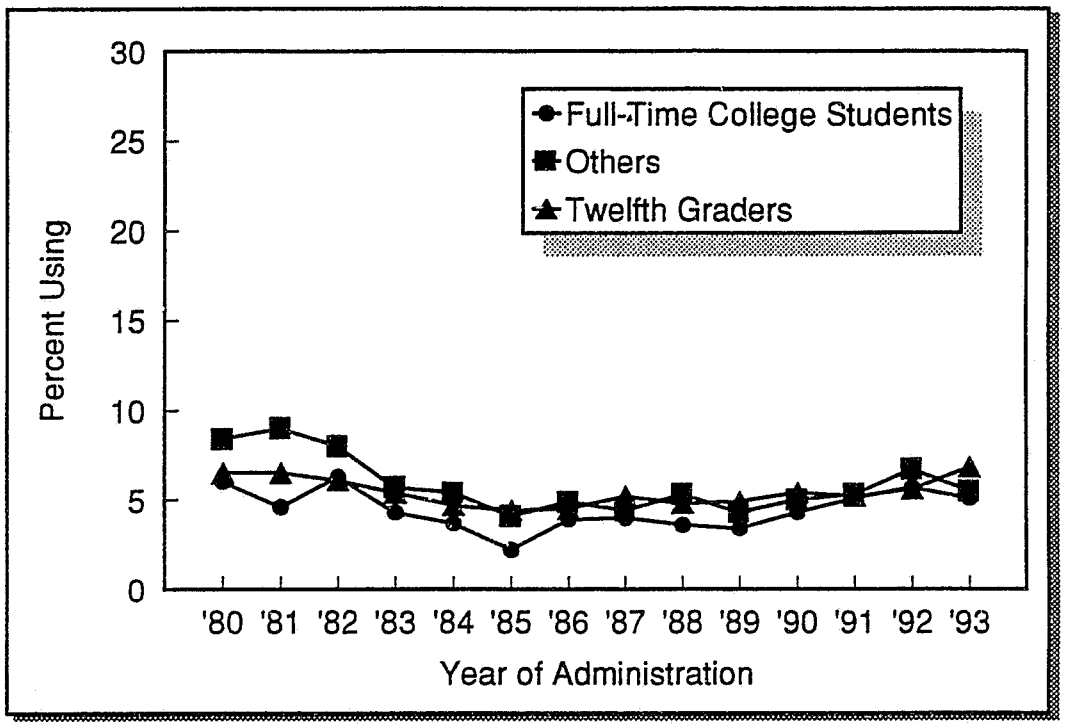


*Unadjusted for the possible underreporting of PCP.

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

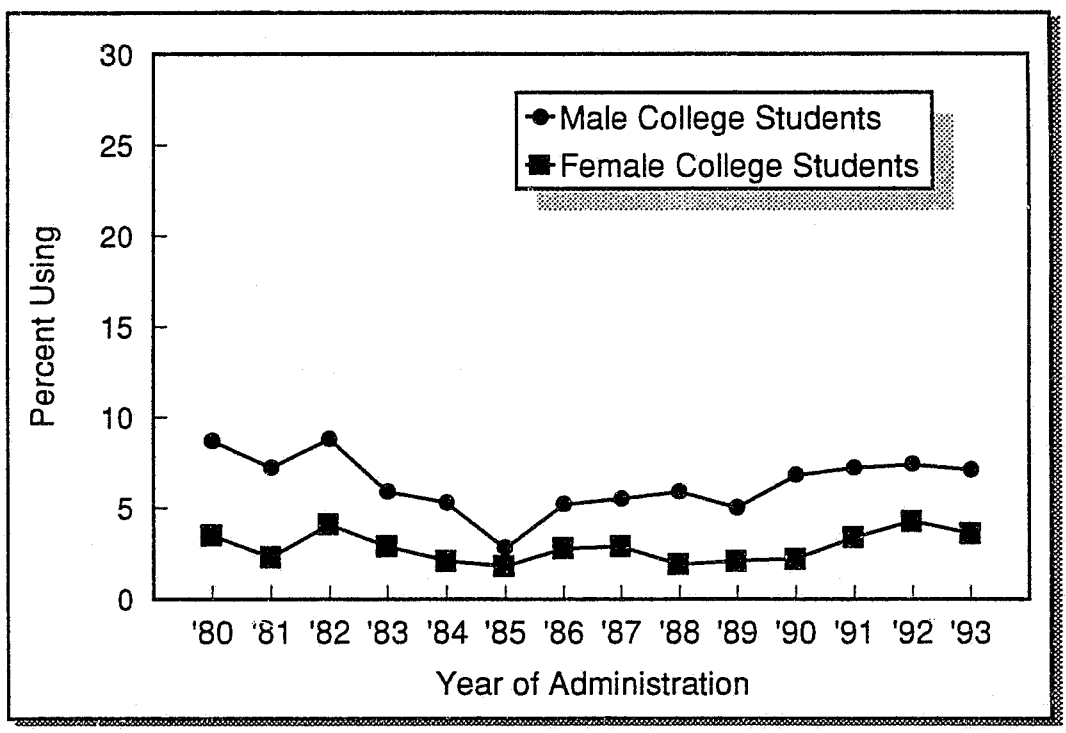
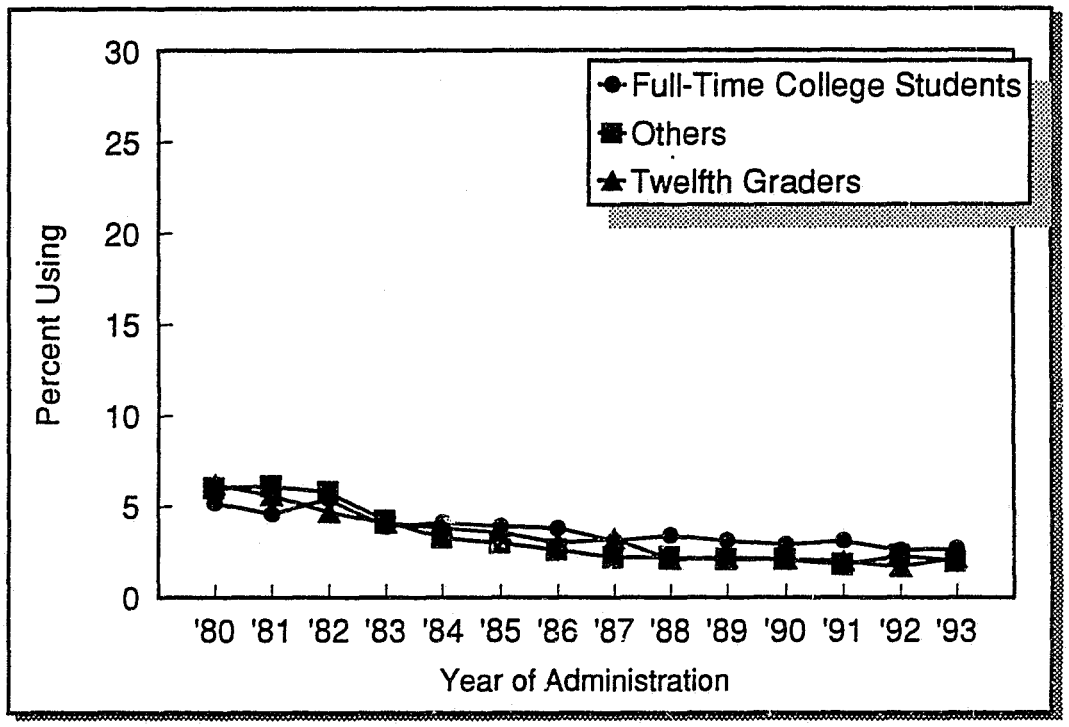


Figure 41

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

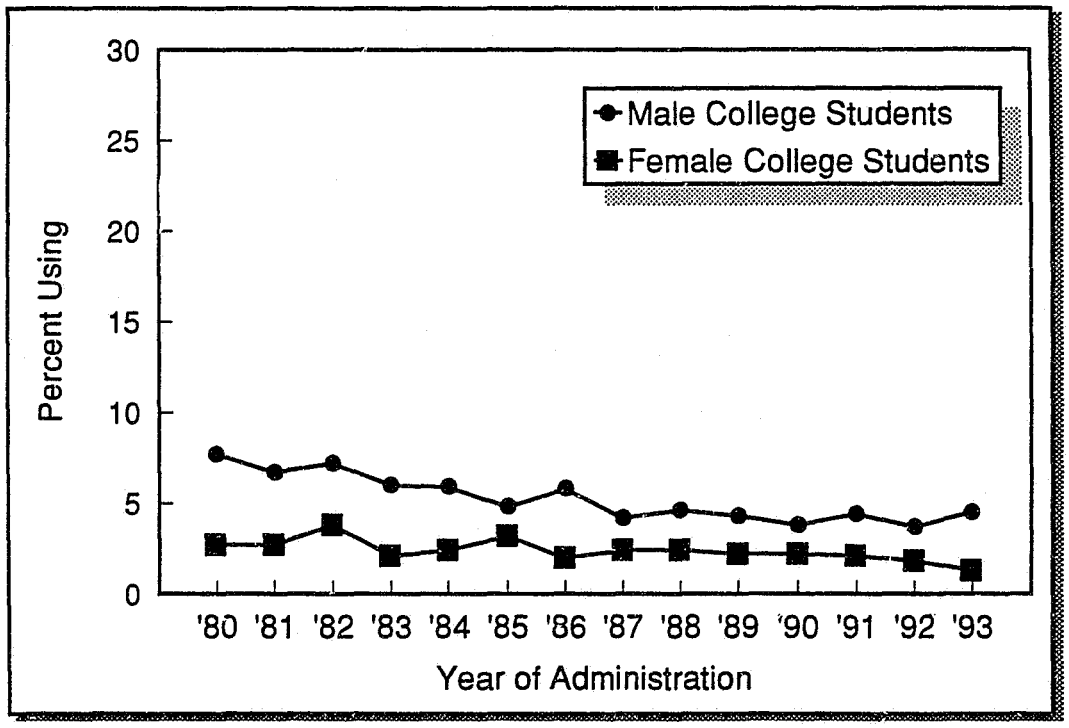
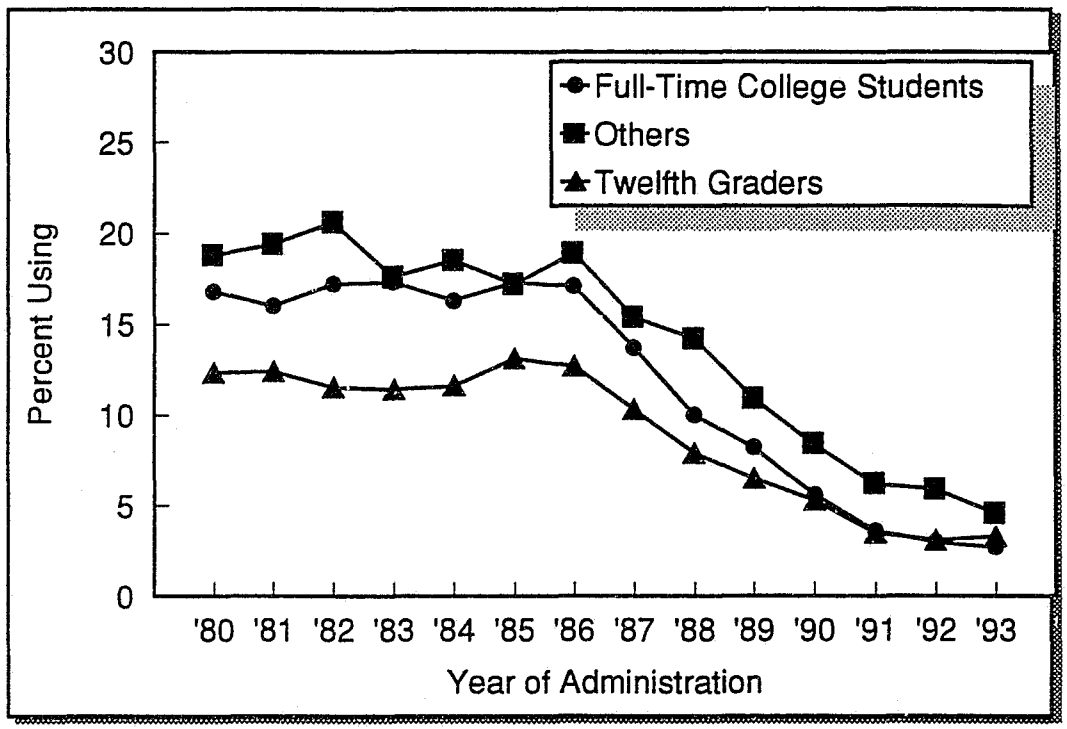


Figure 42

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

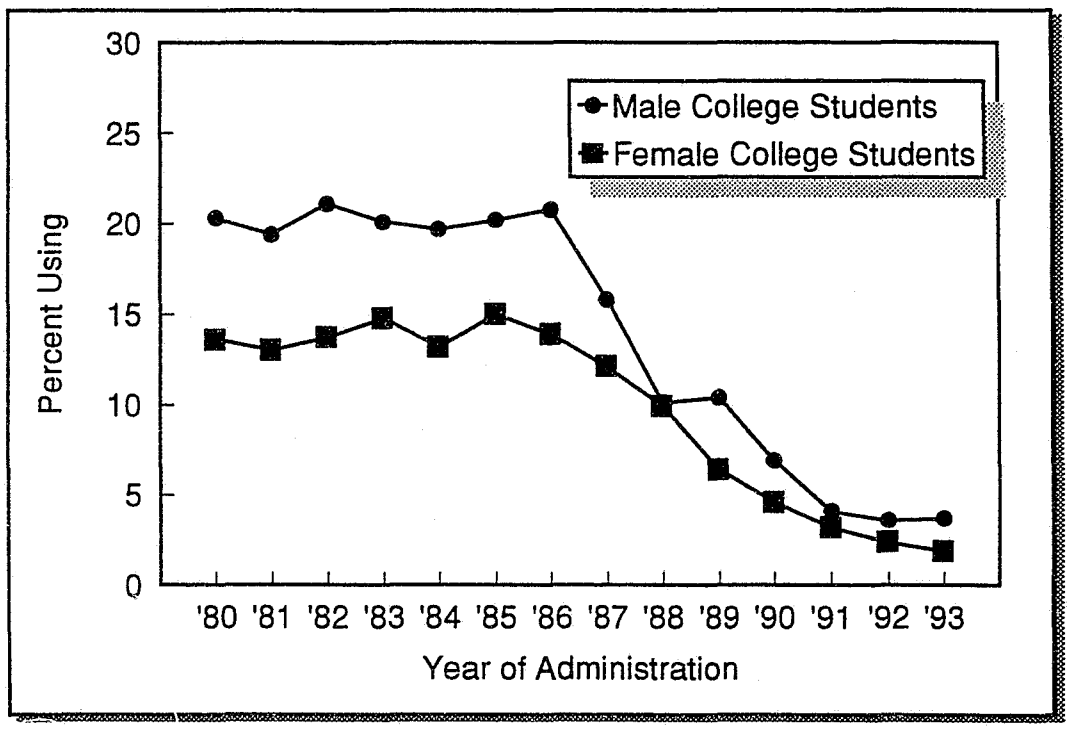
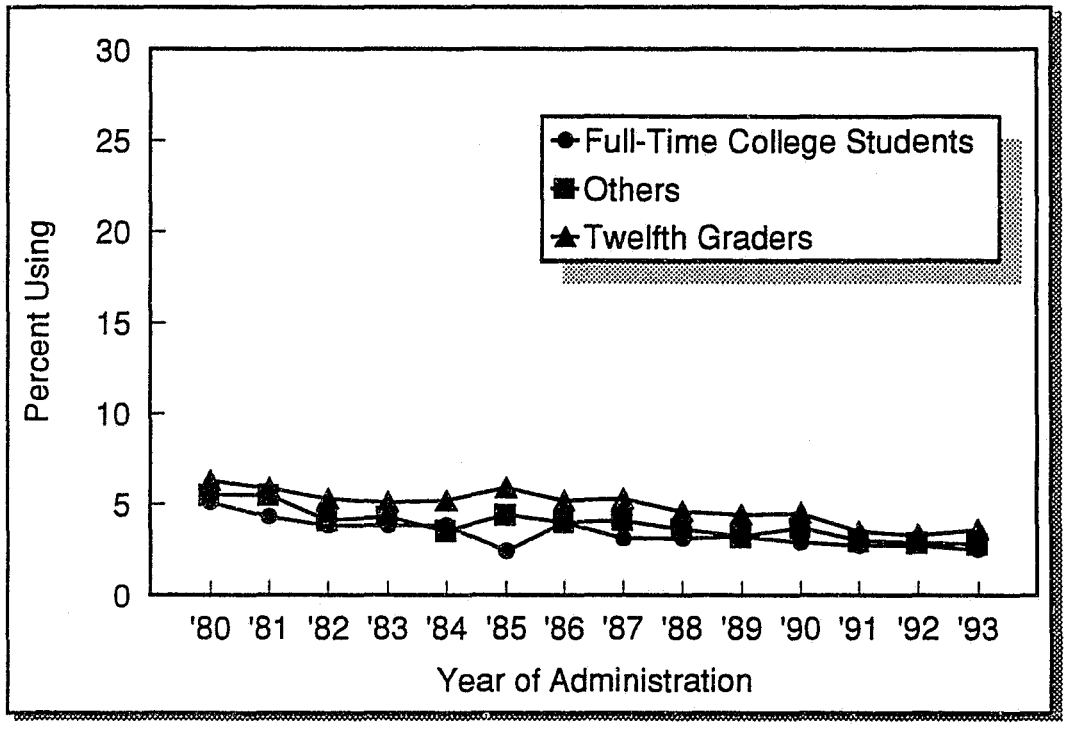


Figure 43

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

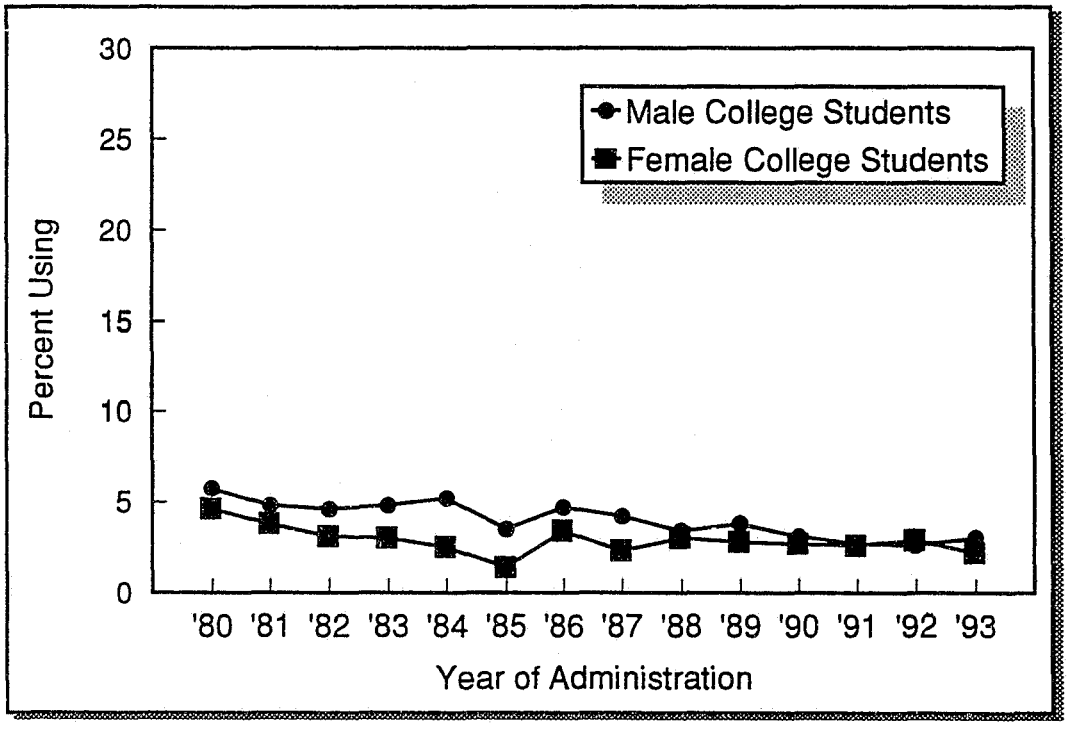
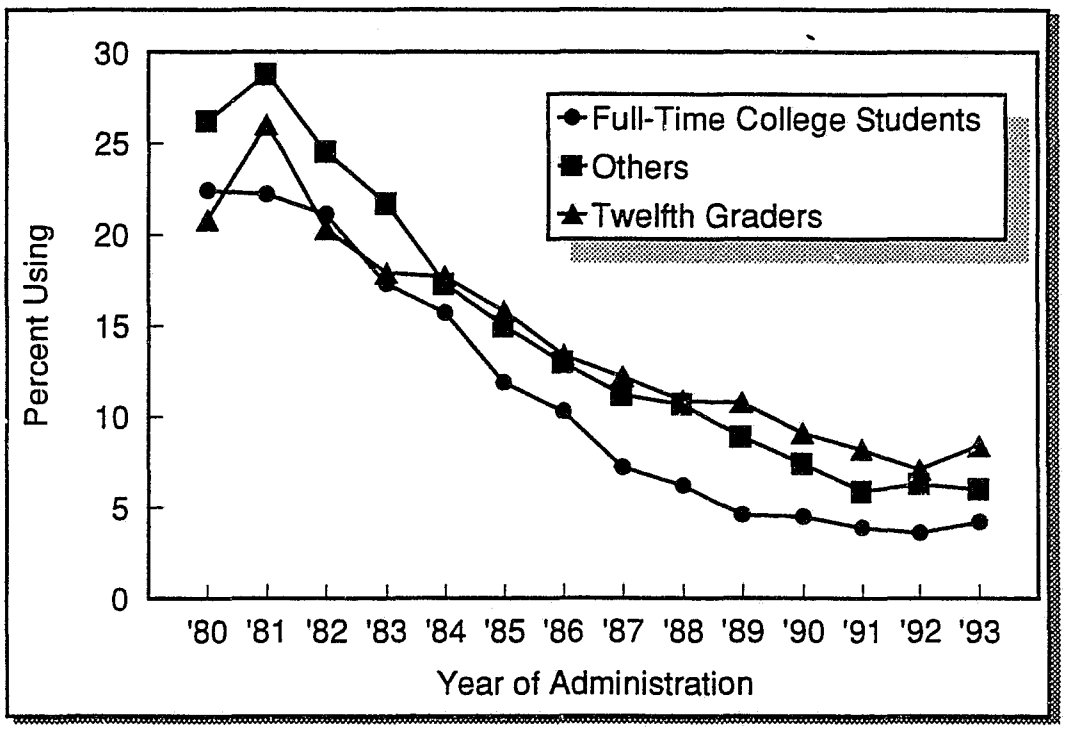


Figure 44

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

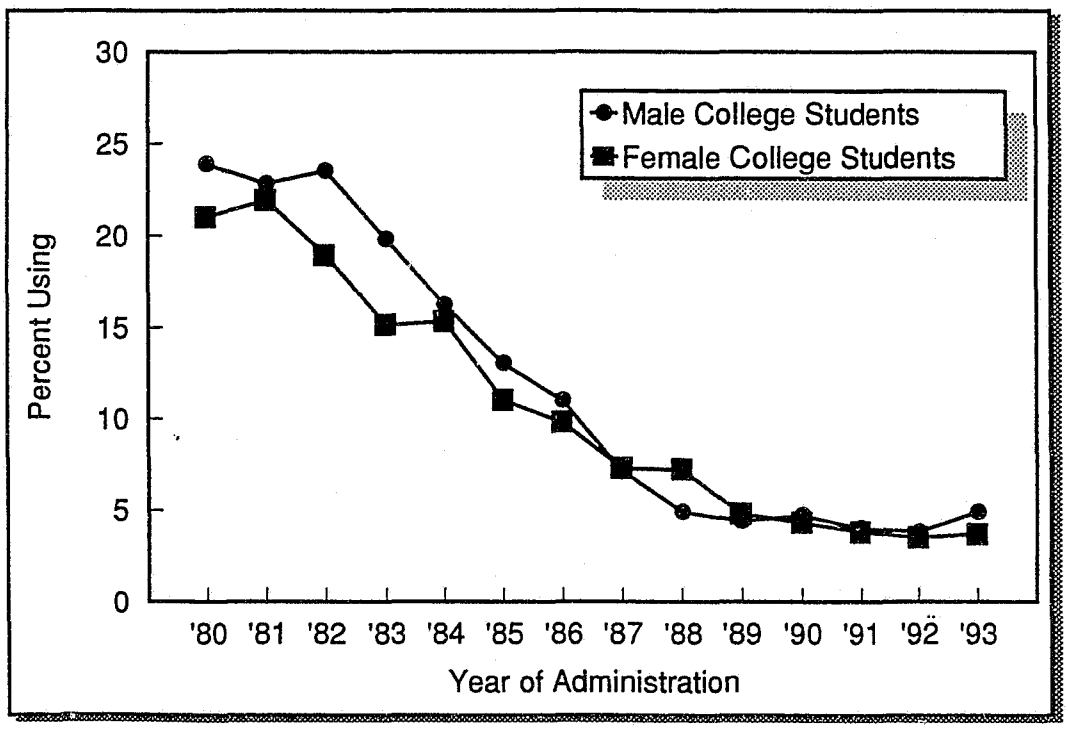
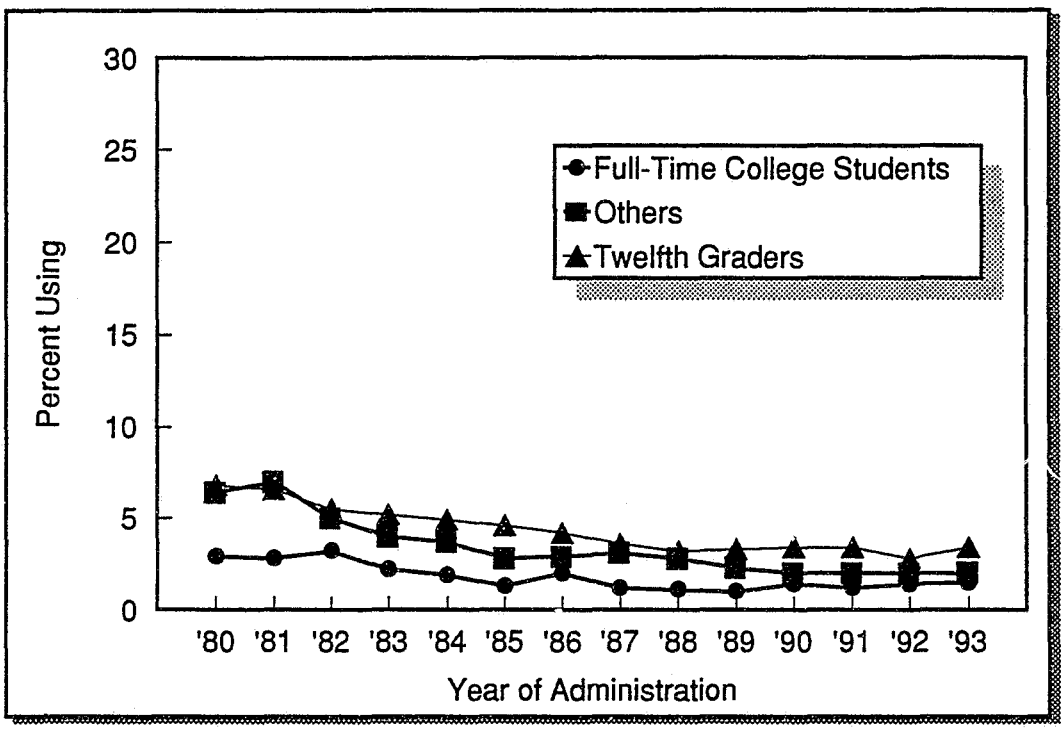


Figure 45

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

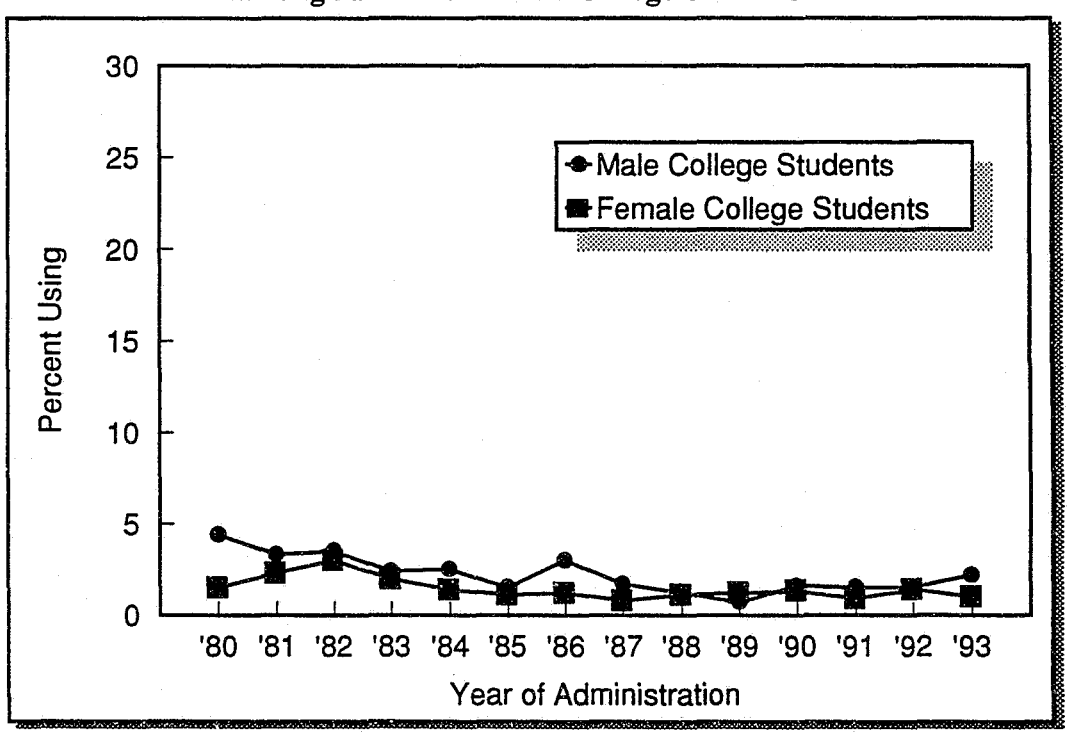
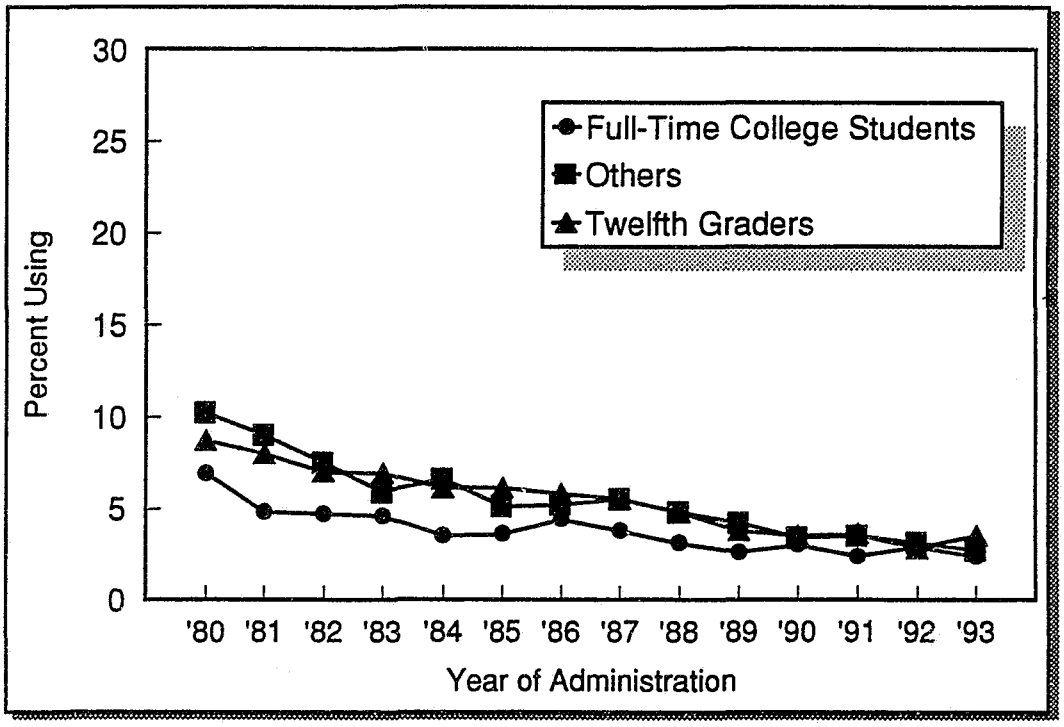


Figure 46

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

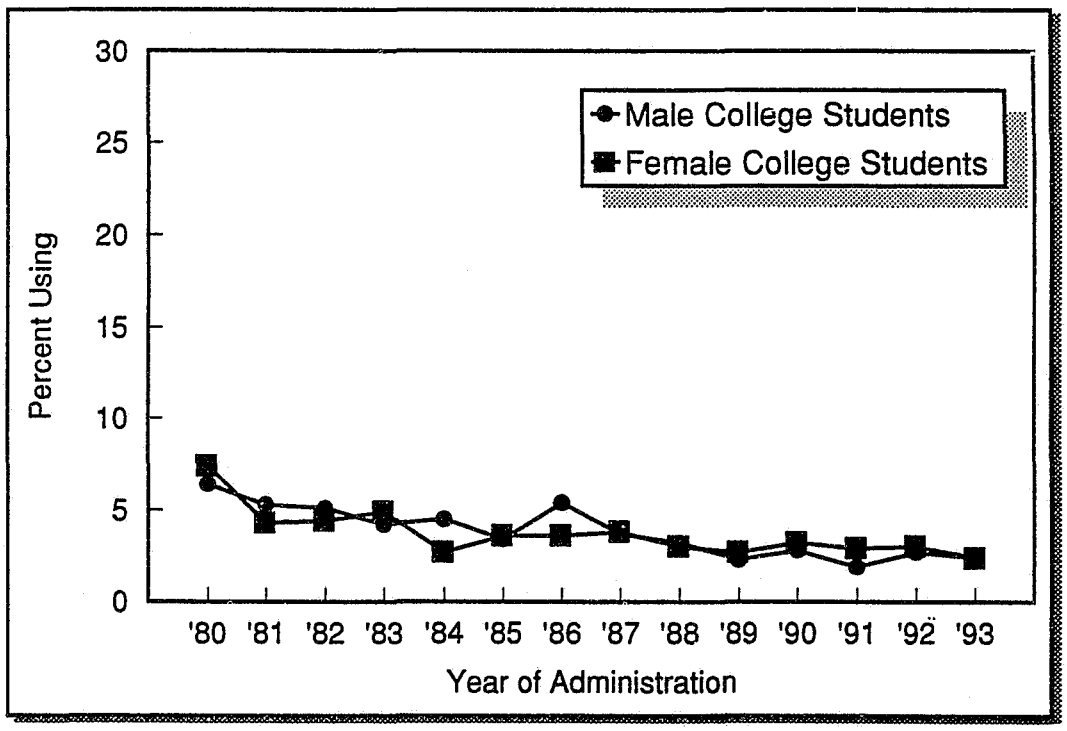
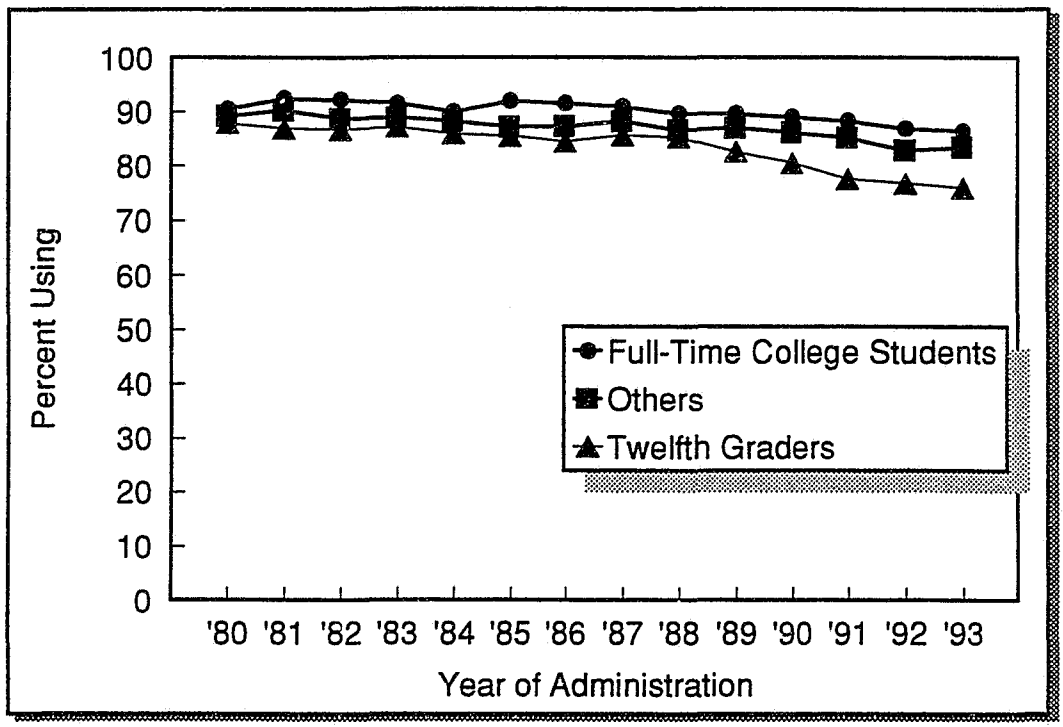


Figure 47a

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

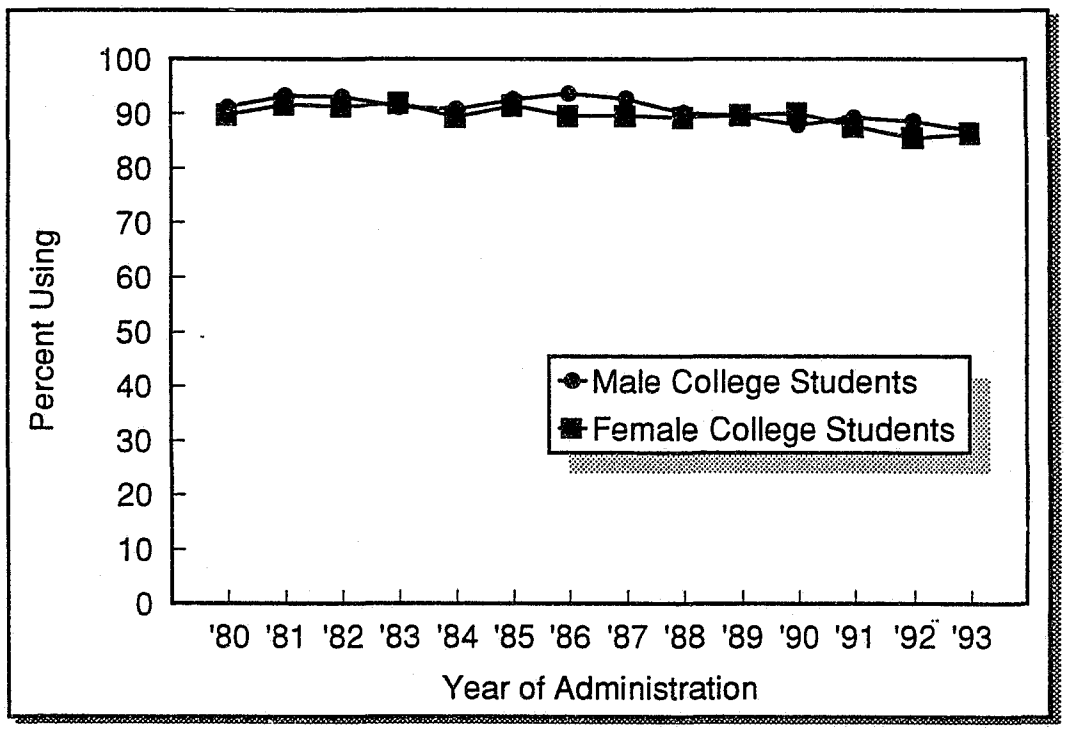
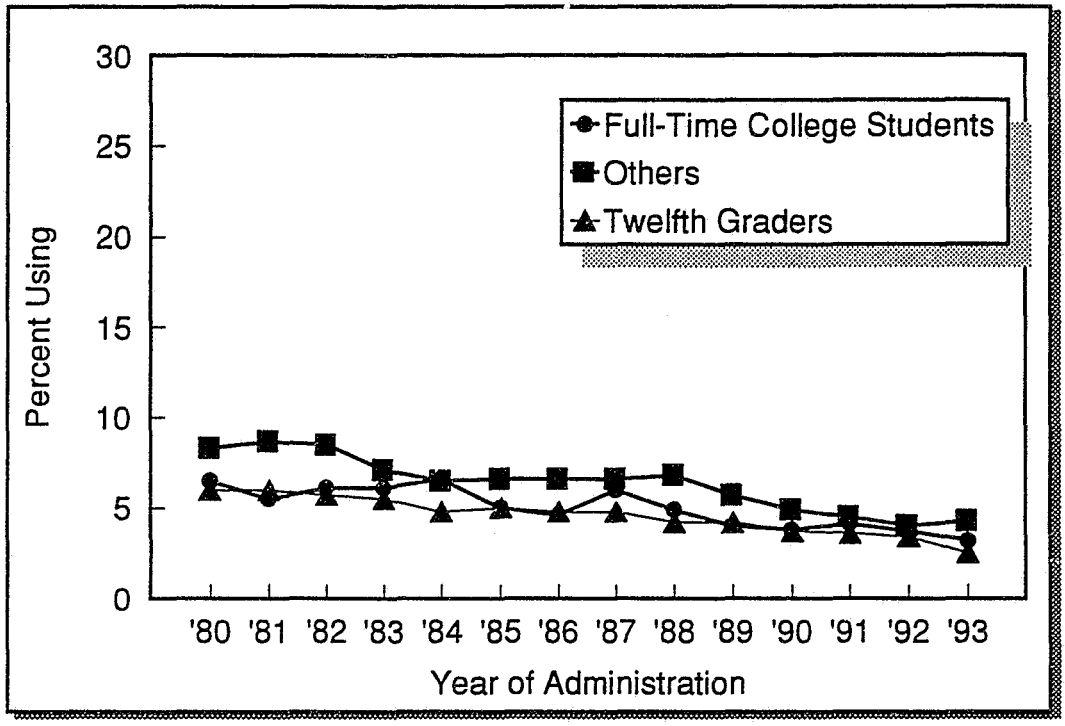


Figure 47b

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

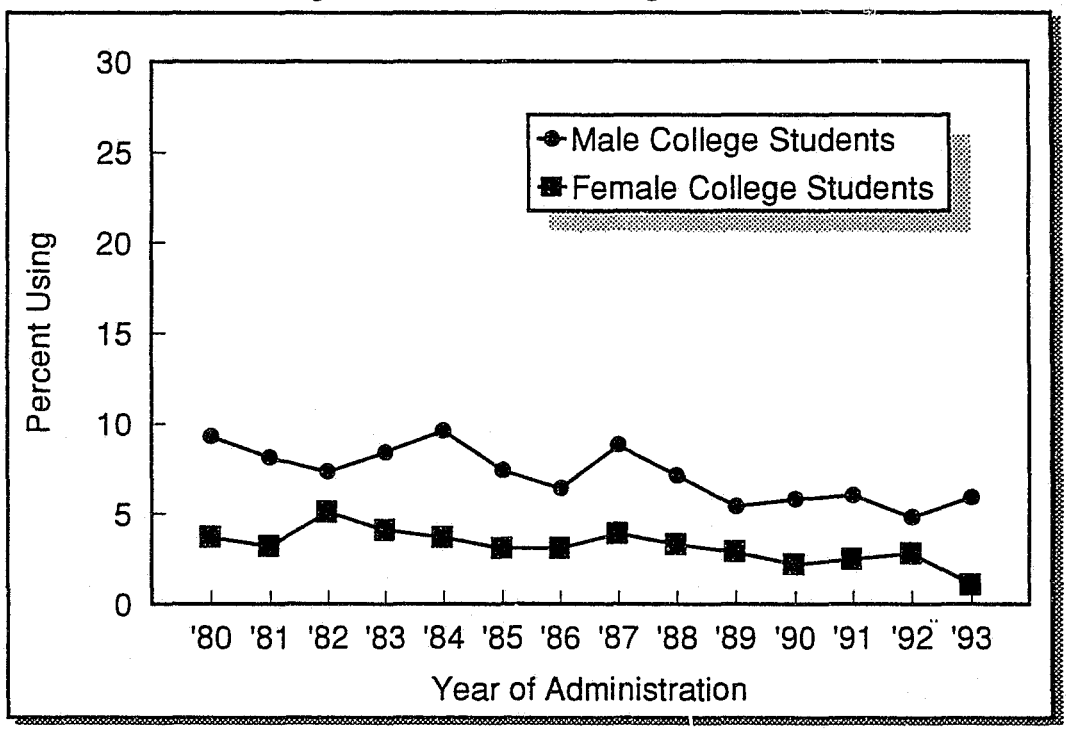
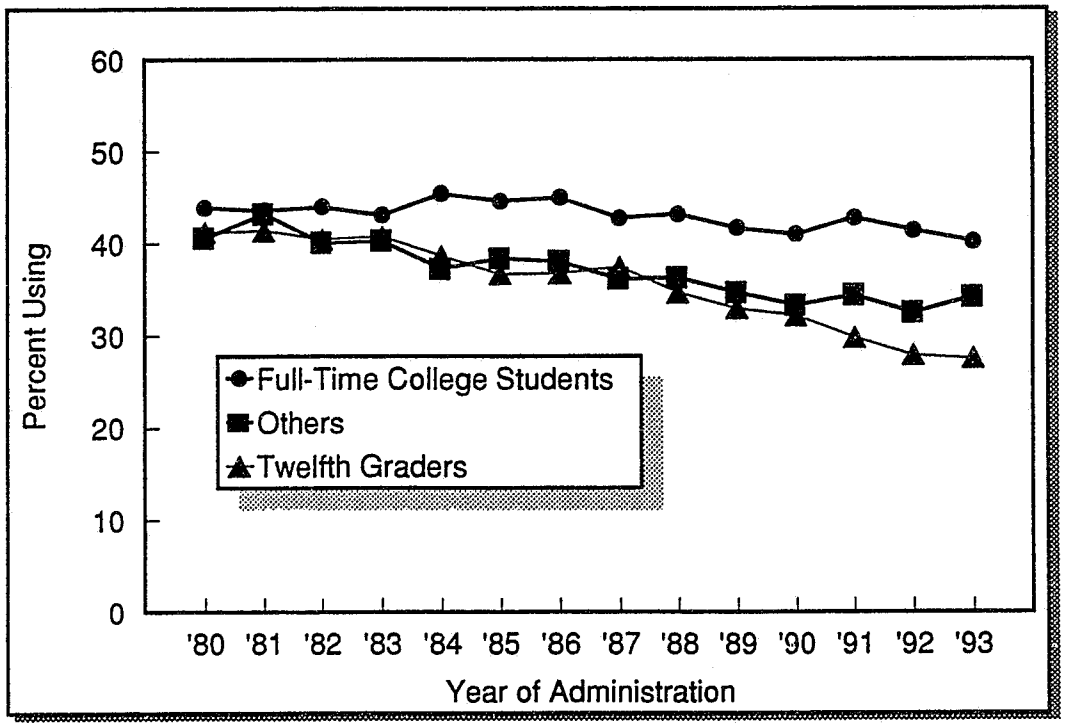


Figure 47c

Alcohol: Trends in Two-Week Prevalence of Five or More Drinks in a Row Among Male and Female College Students

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

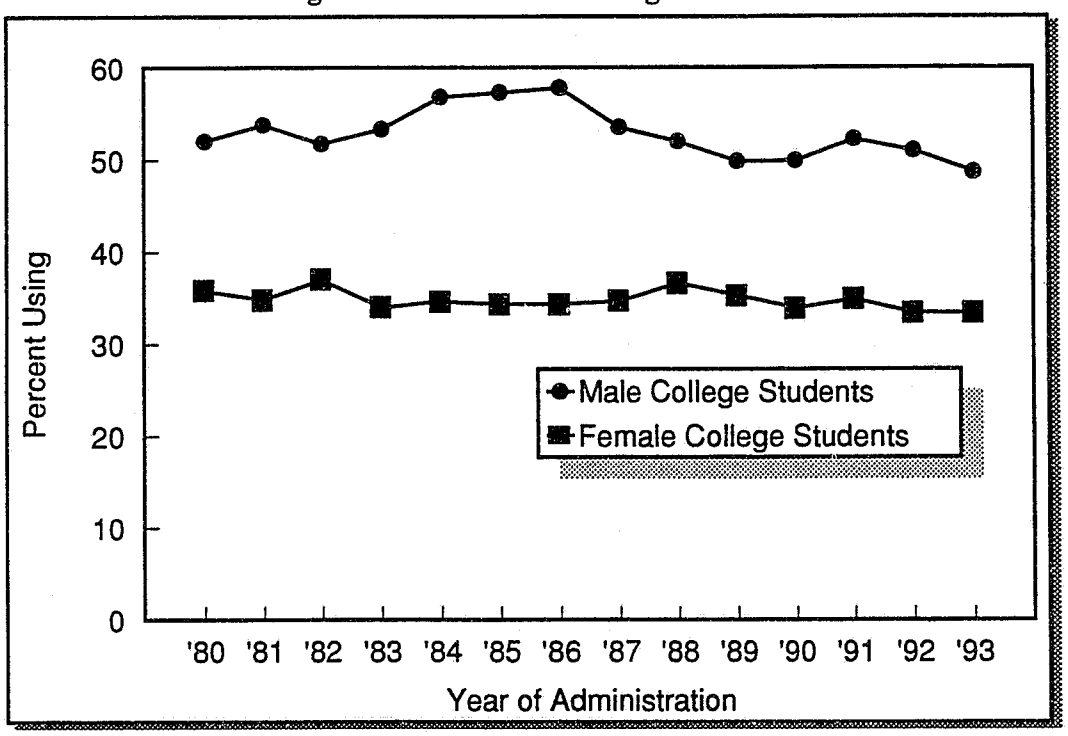
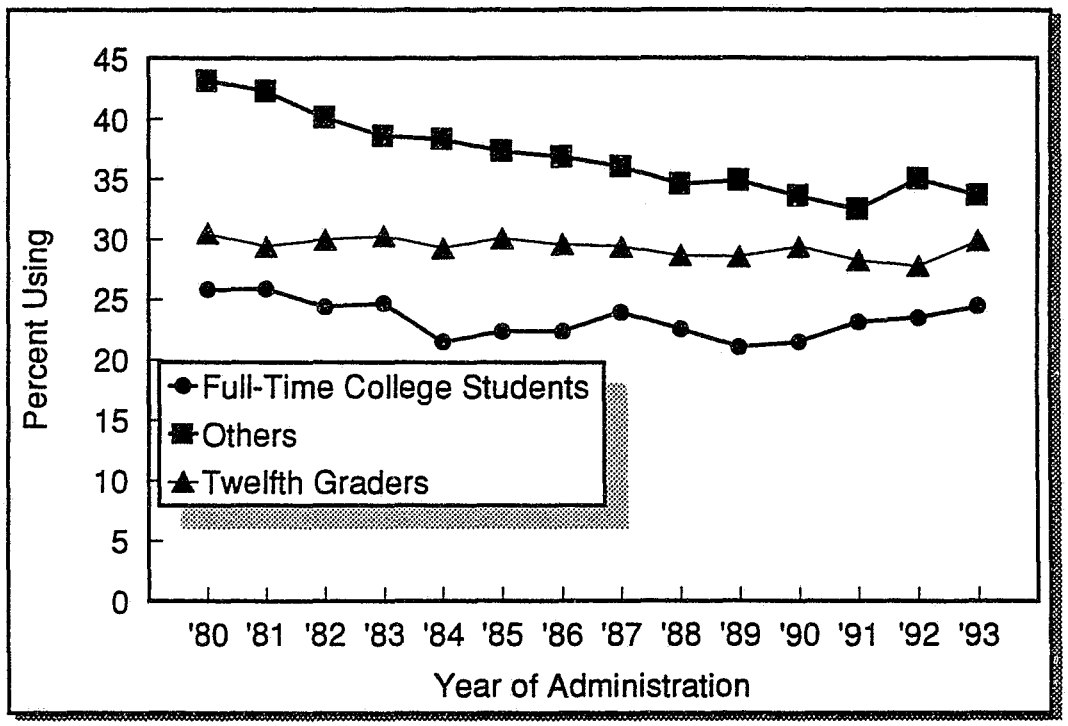


Figure 48a

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

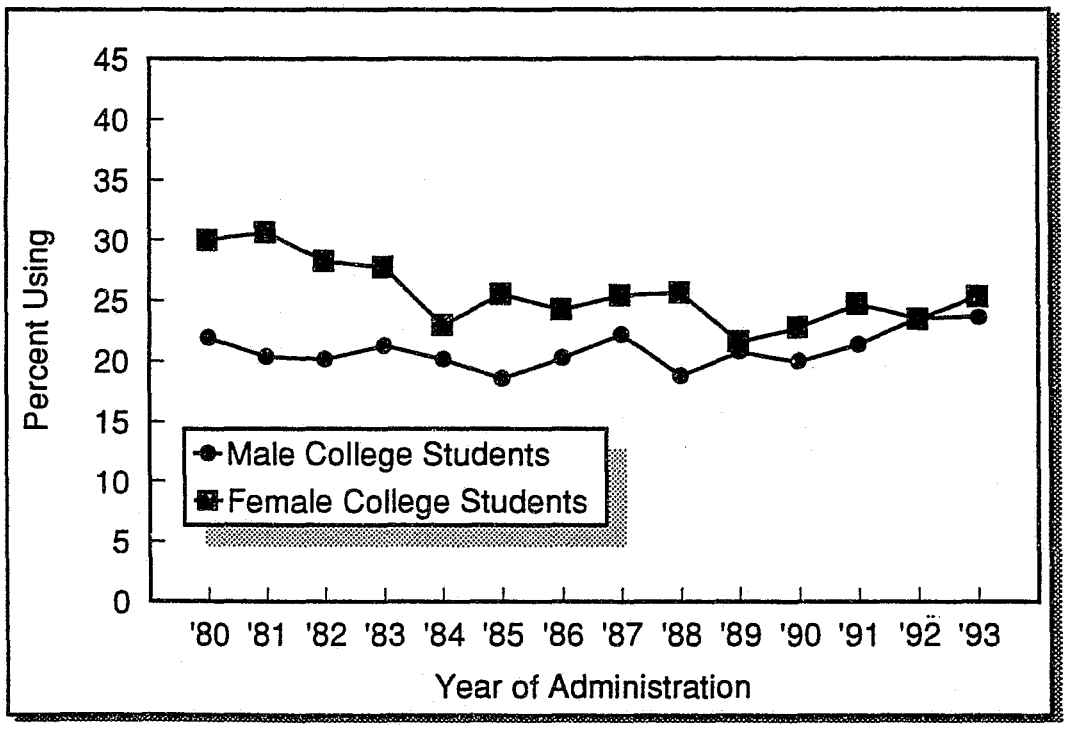
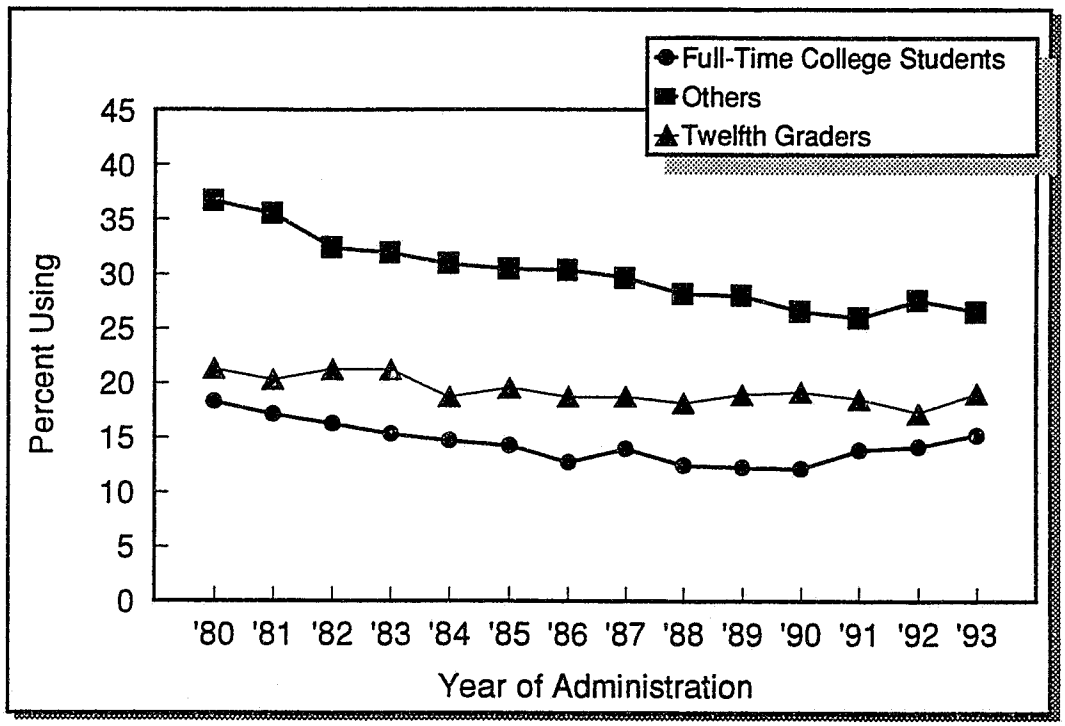


Figure 48b

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

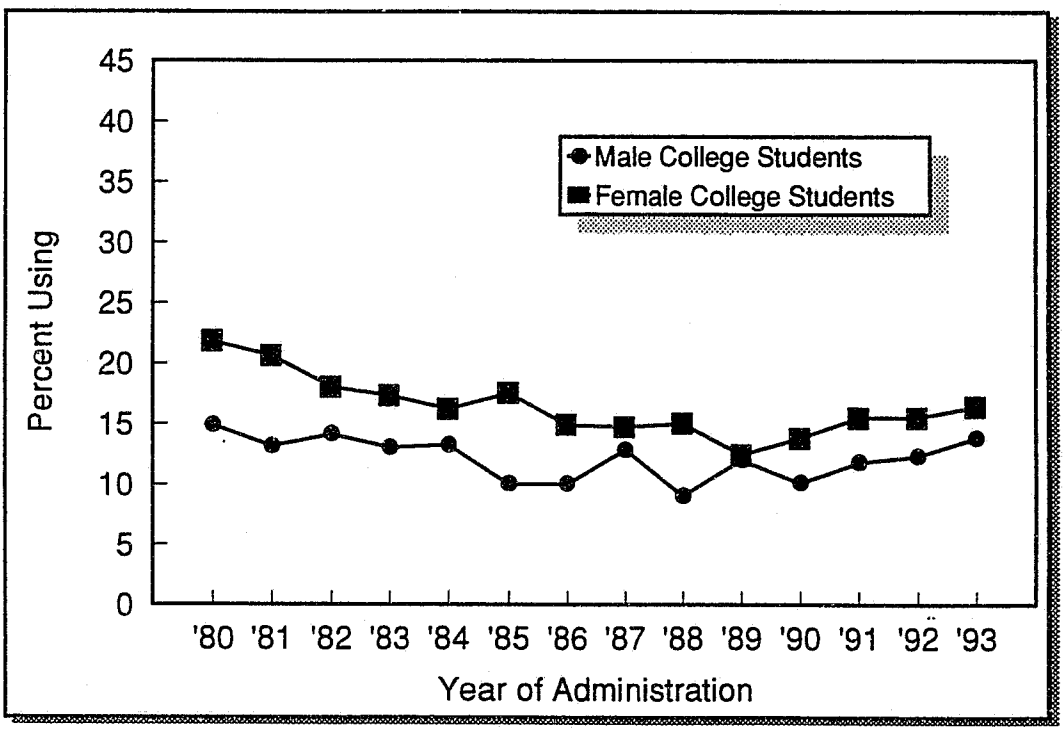
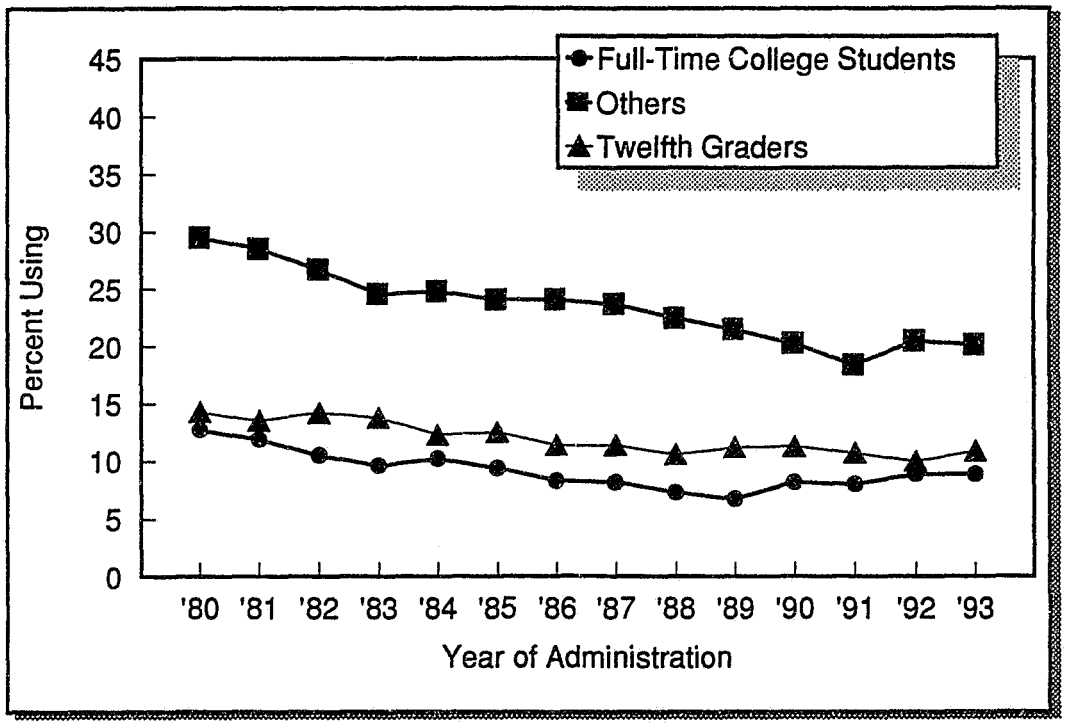


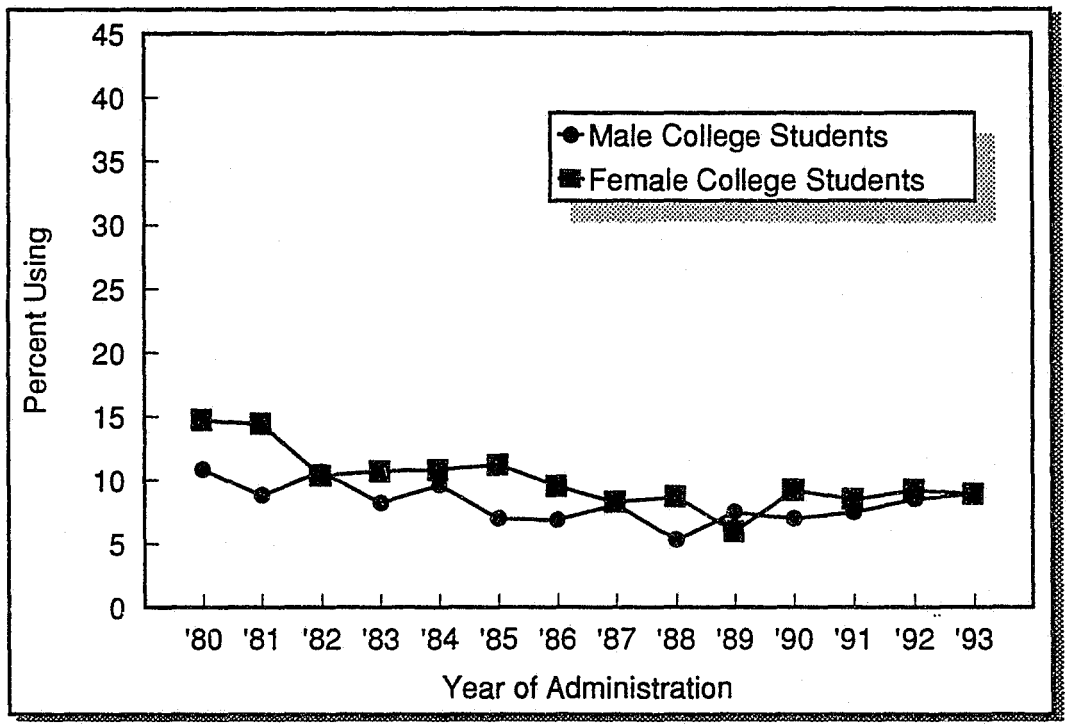
Figure 48c

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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