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EDITORS: Results of this year's Monitoring the Future survey are being released at a news conference to be held at the National Press Club in Washington, D.C. by the National Institute on Drug Abuse, which sponsors the study, and the University of Michigan, which designed and conducted the study. Participating will be the director of the White House Office of National Drug Control Policy (ONDCP), R. Gil Kerlikowske; the director of the National Institute on Drug Abuse (NIDA), Nora Volkow; and the principal investigator of the study, Lloyd Johnston. For further information, contact Johnston at (734) 763-5043.

Smoking stops declining and shows signs of increasing among younger teens

ANN ARBOR, Mich.---The very substantial decrease in teen smoking that began in the mid-1990s has come to a halt among younger teens in the United States, and some evidence of a possible increase in their smoking was observed this year.

While the increase is not yet large enough to reach statistical significance, an increasing proportion of both 8th and 10th grade students this year said they smoked in the past 30 days or smoked daily in that period.

The Monitoring the Future study, which has been tracking teen smoking in the United States for the past 36 years, reports that past 30-day smoking among 8th graders increased from 6.5% in 2009 to 7.1% in 2010; among 10th graders it rose from 13.1% to 13.6%. These estimates come from the study's national surveys of some 46,000 students in nearly 400 secondary schools each year. The study is directed by a team of research professors at the University of Michigan's Institute for Social Research, and since its inception has been funded through a series of research grants from the National Institute on Drug Abuse—one of the National Institutes of Health.

According to Lloyd Johnston, the study's principal investigator, smoking behavior among younger teens is particularly important because it is predictive of their smoking behavior as they become older teens and young adults. "Smoking is a habit that tends to stay with people for a long time, leading to ongoing differences between different graduating classes of students that persist into adulthood," he said. "Scientists call it a cohort effect, and it occurs largely because cigarette smoking is so addictive."

Peak smoking levels among teens were reached around 1996 among 8th and 10th graders and in 1997 among 12th graders. In the five or six years immediately following those peak levels, smoking among teens fell sharply. This likely was due in large part to increased public attention to the issue as well as to sharply rising prices, caused in part by new state sales taxes on cigarettes.

Negative publicity about the tobacco industry increased dramatically during that period, while the 1998 Master Settlement Agreement between states' attorneys general and the major cigarette companies generated its own consequences. These included the industry raising cigarette prices considerably to help them cover the costs of the settlement; reducing the nature and amount of advertising reaching youth, including ending the Joe Camel ad campaign; and funding a national anti-smoking advertising campaign aimed at youth.

After 2002 (or 2003 in the case of the 12th graders) the decline in teen smoking slowed considerably as funding was cut back substantially for national and state anti-smoking campaigns and as less public attention was paid to the issue generally. "In other words," Johnston concludes, "some of the factors that contributed to the earlier decline, by helping to shape young people's views of smoking were and are no longer occurring." Cigarette prices were not rising as dramatically, either, though they did continue to rise.

The proportion of students seeing a great risk associated with being a smoker leveled off during the past several years, according to the study's results, as has the proportion of teens saying that they disapprove of smoking or attach negative connotations to it.

Only high school seniors showed some modest further decline in smoking in 2010. None of their declines in use this year was significant: 30-day prevalence fell by 0.9 percentage points to 19.2%, and current daily smoking fell by 0.4 percentage points to 10.7%. As the study has previously demonstrated, cigarette smoking is generally characterized by cohort effects. Therefore, the investigators predict that the downturn in smoking among 12th graders will come to a halt within a year or two, because it already has ended among the younger cohorts who soon will be entering 12th grade.

All three grades now have rates of smoking that are far below their peak rates in 1996 or 1997. For example, 30-day prevalence is down by two thirds (66%) among 8th graders, by over half (55%) among 10th graders, and by nearly half (48%) among 12th graders.

"These are extremely important changes that will carry very substantial consequences for the health and longevity of this generation of young Americans," states Johnston. "But there are still significant proportions of teens putting themselves at risk for a host of serious diseases and a premature death because they are taking up cigarette smoking." Smoking in the prior 30 days is reported by 7%, 14%, and 19% of 8th, 10th, and 12th graders, respectively. Rates of daily smoking during the past 30 days are 3%, 7%, and 11% in the three grades, respectively. Based on the experience of previous 12th-grade classes, quite a number of the lighter smokers will become daily smokers after they leave high school.

One reason smoking has declined so sharply is that the proportion of students who ever *try smoking* has fallen dramatically. While 49% of 8th graders in 1996 had tried cigarettes, “only” 20% of the 8th graders in 2009 and 2010 indicated having ever done so, a 60% decline in smoking initiation over the past 14 years, though it too has halted.

“Future progress, if it occurs, is likely to be due to changes in the external environment—policy changes such as raising cigarette taxes, further limiting where smoking is permitted, bringing back broad-based anti-smoking ad campaigns and other prevention measures, and making quit-smoking programs more available,” Johnston said.

The *perceived availability* of cigarettes to under-age buyers, as measured by the percentage of 8th and 10th graders who say they could get cigarettes “fairly easily” or “very easily” if they wanted some, has declined substantially since 1996. (Twelfth graders are not asked the question.) The 8th graders showed the sharpest decline—from 77% in 1996 to 56% in 2007—about where it remained in 2010. Perceived availability among 10th graders fell from 91% in 1996 to 76% by 2009, where it remains today. Although availability has decreased appreciably for younger teens, it is clear that it is no longer decreasing; it is also clear that the majority of students in their teens still believe that they can get cigarettes fairly easily.

Attitudes toward smoking and smokers changed in important ways during the period of decline in cigarette use. These changes included increases in preferring to date nonsmokers, strongly disliking being around people who are smoking, thinking that becoming a smoker reflects poor judgment, and believing that smoking is a dirty habit. All of these negative attitudes about smoking and smokers rose to high levels by 2007, but they have either leveled or begun to reverse since then. (See Table 3.)

One of these attitudes, still widely held by young people, involves sex appeal. In 2010, the great majority of secondary school students said they “would prefer to date people who don’t smoke”—82%, 79%, and 73% of students in grades 8, 10, and 12, respectively. “I think this provides an important prevention message,” Johnston said, “and we hope that a lot of young people hear it. Smoking generally makes you less attractive to potential partners, not more so, as the tobacco industry’s advertising has been suggesting for so many years. And it’s true for both males and females.”

Smokeless tobacco

The use of smokeless tobacco (which includes snuff, plug, dipping tobacco, chewing tobacco, and more recently “snus”) also is assessed in the study. (“Snus” is pronounced snoose, and rhymes with goose.) From the mid-1990s to the early 2000s, there was a substantial decline in smokeless tobacco use among teens—monthly prevalence fell by one third to one half—but the declines have not continued. In fact, significant increases have occurred over the past several years in all three grades. While so far modest in size, these changes show a clear rebound in use. Thirty-day prevalence of smokeless tobacco use in 2010 is 4.1%, 7.5%, and 8.5%, among 8th, 10th, and 12th graders, respectively. The rates are considerably higher for boys—6.3%, 13.0%, and 15.7%.

Perceived risk appears to have played an important role in the decline of smokeless tobacco use, as was true for cigarettes. In all three grades, perceived risk for smokeless tobacco rose fairly steadily from 1995 through 2004 before leveling. However, there has not been a great deal of fall-off in these measures since 2004, suggesting that other factors may be leading to the recent increases in use—quite possibly increased advertising of these products and a proliferation of types of smokeless tobacco available.

Hookahs and small cigars

Two of the latest developments to raise public health concern are the smoking of tobacco by using hookah (pronounced WHO ka) water pipes and the smoking of small cigars. Questions about these forms of tobacco use were included in the survey of 12th graders for the first time in 2010. They yielded an annual prevalence rate of 17% for hookah smoking, with 6.5% of 12th-grade students smoking hookah more than five times during the year. Males had only a slightly higher prevalence rate than females—19.0% versus 15.2%.

Smoking small cigars is a more prevalent behavior, with 12th graders having an annual prevalence in 2010 of 23%, but with only 10% indicating use on more than five occasions during the year. There is a larger gender difference for this form of tobacco use, with an annual prevalence of 30% among males compared to 16% among females. “We will continue to monitor these two forms of tobacco consumption to see if they represent a growing problem among youth, and we will be examining their use among young adults, as well,” states Johnston.

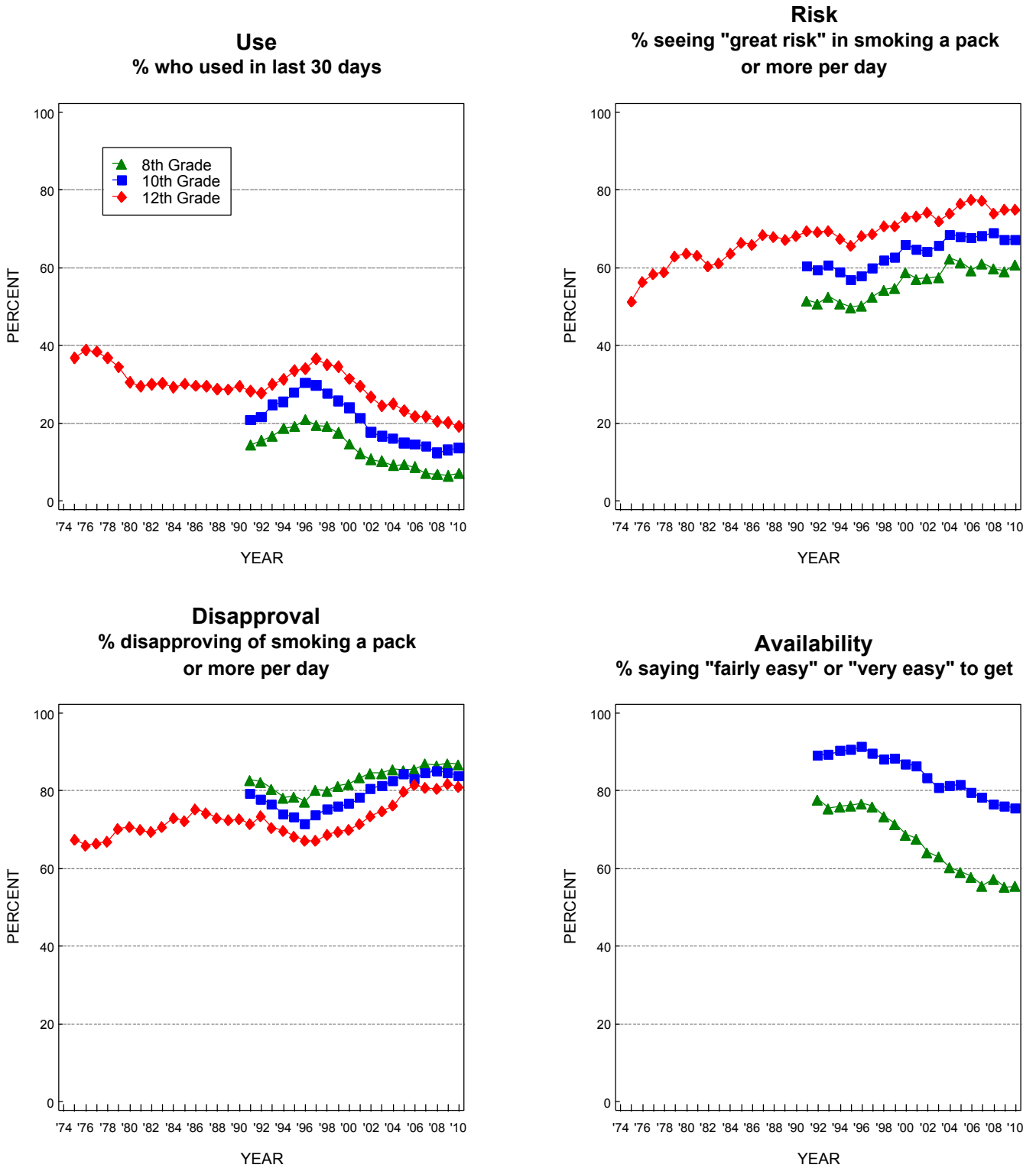
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Monitoring the Future has been funded under a series of competing, investigator-initiated research grants from the National Institute on Drug Abuse, one of the National Institutes of Health. The lead investigators, in addition to Lloyd Johnston, are Patrick O’Malley, Jerald Bachman, and John Schulenberg—all research professors at the University of Michigan’s Institute for Social Research. Surveys of nationally representative samples of American high school seniors were begun in 1975, making the class of 2010 the 36th such class surveyed. Surveys of 8th and 10th graders were added to the design in 1991, making the 2010 nationally representative samples the 20th such classes surveyed. The sample sizes in 2010 are 15,769 eighth graders in 147 schools, 15,586 tenth graders in 123 schools, and 15,127 twelfth graders in 126 schools, for a total of 46,482 students in 396 secondary schools. The samples are drawn separately at each grade level to be representative of students in that grade in public and private secondary schools across the coterminous United States. Schools are selected with probability proportionate to their estimated class size.

The findings summarized here will be published in the forthcoming volume: Johnston, L. D., O’Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2011). *Monitoring the Future national results on adolescent drug use: Overview of key findings, 2010*. Ann Arbor, MI: Institute for Social Research, The University of Michigan.

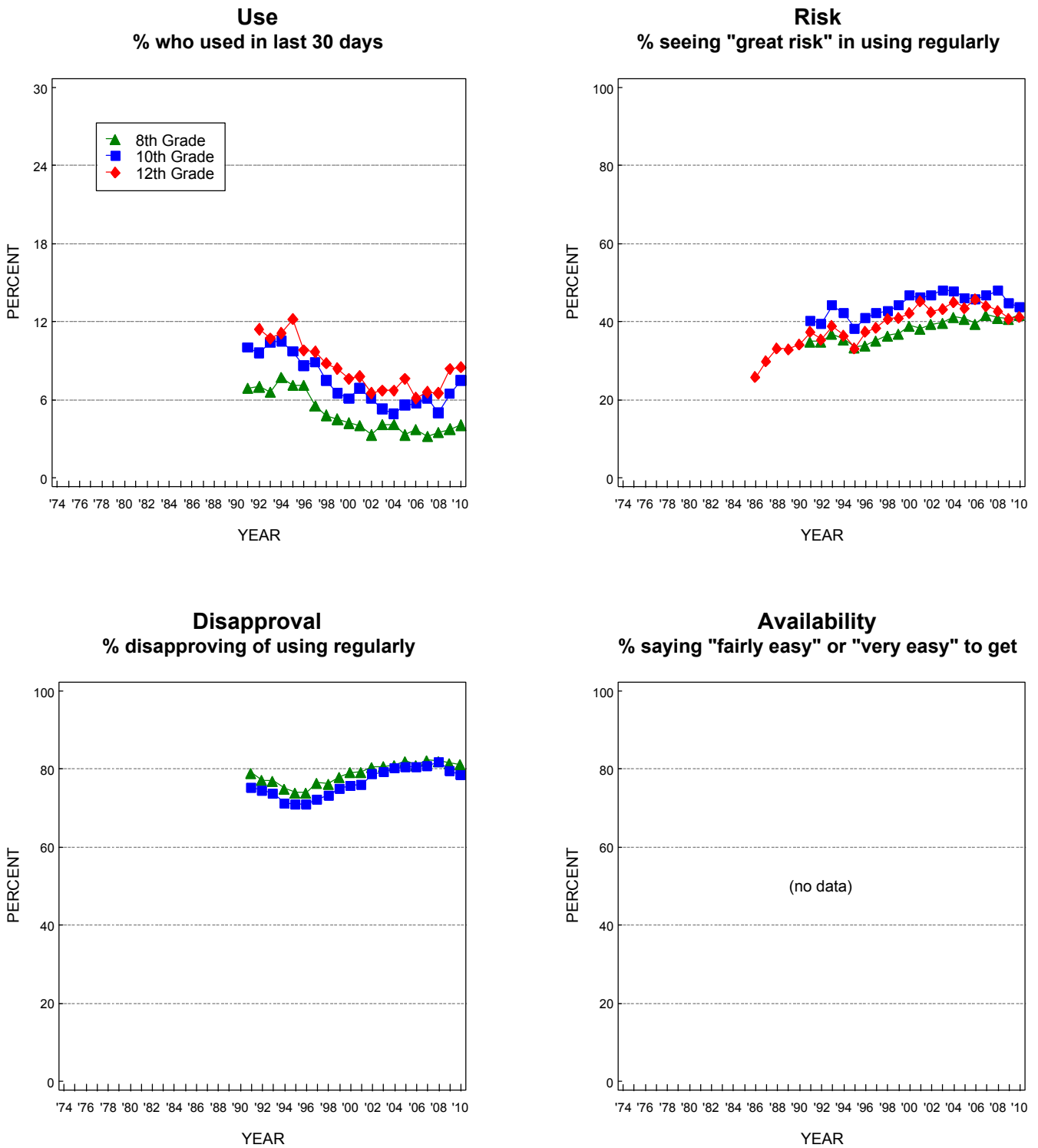
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FIGURE 1
Cigarettes: Trends in 30-Day Use, Risk, Disapproval, and Availability
 Grades 8, 10, and 12



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

FIGURE 2
Smokeless Tobacco: Trends in 30-Day Use, Risk, and Disapproval
 Grades 8, 10, and 12



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

TABLE 1
Trends in Prevalence of Use of Cigarettes in Grades 8, 10, and 12
 (Entries are percentages.)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
Lifetime																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	44.0
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55.1
12th Grade	73.6	75.4	75.7	75.3	74.0	71.0	71.0	70.1	70.6	69.7	68.8	67.6	67.2	66.4	65.7	64.4	63.1
30-Day																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.8
12th Grade	36.7	38.8	38.4	36.7	34.4	30.5	29.4	30.0	30.3	29.3	30.1	29.6	29.4	28.7	28.6	29.4	28.3
Daily																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.2
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6
12th Grade	26.9	28.8	28.8	27.5	25.4	21.3	20.3	21.1	21.2	18.7	19.5	18.7	18.7	18.1	18.9	19.1	18.5
1/2 Pack+ per Day																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.5
12th Grade	17.9	19.2	19.4	18.8	16.5	14.3	13.5	14.2	13.8	12.3	12.5	11.4	11.4	10.6	11.2	11.3	10.7
Approximate Ns																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17,500
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14,800
12th Grade	9,400	15,400	17,100	17,800	15,500	15,900	17,500	17,700	16,300	15,900	16,000	15,200	16,300	16,300	16,700	15,200	15,000

Cont.

(Table continued on next page.)

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TABLE 1 (cont.)
Trends in Prevalence of Use of Cigarettes in Grades 8, 10, and 12
 (Entries are percentages.)

	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	2009– 2010 <u>change</u>
Lifetime																				
8th Grade	45.2	45.3	46.1	46.4	49.2	47.3	45.7	44.1	40.5	36.6	31.4	28.4	27.9	25.9	24.6	22.1	20.5	20.1	20.0	-0.1
10th Grade	53.5	56.3	56.9	57.6	61.2	60.2	57.7	57.6	55.1	52.8	47.4	43.0	40.7	38.9	36.1	34.6	31.7	32.7	33.0	+0.3
12th Grade	61.8	61.9	62.0	64.2	63.5	65.4	65.3	64.6	62.5	61.0	57.2	53.7	52.8	50.0	47.1	46.2	44.7	43.6	42.2	-1.3
30-Day																				
8th Grade	15.5	16.7	18.6	19.1	21.0	19.4	19.1	17.5	14.6	12.2	10.7	10.2	9.2	9.3	8.7	7.1	6.8	6.5	7.1	+0.7
10th Grade	21.5	24.7	25.4	27.9	30.4	29.8	27.6	25.7	23.9	21.3	17.7	16.7	16.0	14.9	14.5	14.0	12.3	13.1	13.6	+0.5
12th Grade	27.8	29.9	31.2	33.5	34.0	36.5	35.1	34.6	31.4	29.5	26.7	24.4	25.0	23.2	21.6	21.6	20.4	20.1	19.2	-0.9
Daily																				
8th Grade	7.0	8.3	8.8	9.3	10.4	9.0	8.8	8.1	7.4	5.5	5.1	4.5	4.4	4.0	4.0	3.0	3.1	2.7	2.9	+0.2
10th Grade	12.3	14.2	14.6	16.3	18.3	18.0	15.8	15.9	14.0	12.2	10.1	8.9	8.3	7.5	7.6	7.2	5.9	6.3	6.6	+0.3
12th Grade	17.2	19.0	19.4	21.6	22.2	24.6	22.4	23.1	20.6	19.0	16.9	15.8	15.6	13.6	12.2	12.3	11.4	11.2	10.7	-0.4
1/2 Pack+ per Day																				
8th Grade	2.9	3.5	3.6	3.4	4.3	3.5	3.6	3.3	2.8	2.3	2.1	1.8	1.7	1.7	1.5	1.1	1.2	1.0	0.9	-0.1
10th Grade	6.0	7.0	7.6	8.3	9.4	8.6	7.9	7.6	6.2	5.5	4.4	4.1	3.3	3.1	3.3	2.7	2.0	2.4	2.4	+0.1
12th Grade	10.0	10.9	11.2	12.4	13.0	14.3	12.6	13.2	11.3	10.3	9.1	8.4	8.0	6.9	5.9	5.7	5.4	5.0	4.7	-0.3
Approximate Ns																				
8th Grade	18,600	18,300	17,300	17,500	17,800	18,600	18,100	16,700	16,700	16,200	15,100	16,500	17,000	16,800	16,500	16,100	15,700	15,000	15,300	
10th Grade	14,800	15,300	15,800	17,000	15,600	15,500	15,000	13,600	14,300	14,000	14,300	15,800	16,400	16,200	16,200	16,100	15,100	15,900	15,200	
12th Grade	15,800	16,300	15,400	15,400	14,300	15,400	15,200	13,600	12,800	12,800	12,900	14,600	14,600	14,700	14,200	14,500	14,000	13,700	14,400	

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

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. "—" indicates data not available.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

TABLE 2
Trends in Availability and Attitudes about Smoking 1 or More Packs
of Cigarettes per Day for Grades 8, 10, and 12

(Entries are percentages.)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
Perceived Risk^a																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51.6
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	60.3
12th Grade	51.3	56.4	58.4	59.0	63.0	63.7	63.3	60.5	61.2	63.8	66.5	66.0	68.6	68.0	67.2	68.2	69.4
Disapproval^b																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	82.8
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	79.4
12th Grade	67.5	65.9	66.4	67.0	70.3	70.8	69.9	69.4	70.8	73.0	72.3	75.4	74.3	73.1	72.4	72.8	71.4
Availability^c																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate Ns																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17,500
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14,800
12th Grade	2,800	2,900	3,100	3,800	3,300	3,200	3,600	3,600	3,300	3,300	3,300	3,000	3,300	3,300	2,800	2,600	2,600

Cont.

TABLE 2 (cont.)
Trends in Availability and Attitudes about Smoking 1 or More Packs
of Cigarettes per Day for Grades 8, 10, and 12

(Entries are percentages.)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009– 2010 change
Perceived Risk^a																				
8th Grade	50.8	52.7	50.8	49.8	50.4	52.6	54.3	54.8	58.8	57.1	57.5	57.7	62.4	61.5	59.4	61.1	59.8	59.1	60.9	+1.7
10th Grade	59.3	60.7	59.0	57.0	57.9	59.9	61.9	62.7	65.9	64.7	64.3	65.7	68.4	68.1	67.7	68.2	69.1	67.3	67.2	-0.1
12th Grade	69.2	69.5	67.6	65.6	68.2	68.7	70.8	70.8	73.1	73.3	74.2	72.1	74.0	76.5	77.6	77.3	74.0	74.9	75.0	0.0
Disapproval^b																				
8th Grade	82.3	80.6	78.4	78.6	77.3	80.3	80.0	81.4	81.9	83.5	84.6	84.6	85.7	85.3	85.6	87.0	86.7	87.1	87.0	-0.1
10th Grade	77.8	76.5	73.9	73.2	71.6	73.8	75.3	76.1	76.7	78.2	80.6	81.4	82.7	84.3	83.2	84.7	85.2	84.5	83.9	-0.6
12th Grade	73.5	70.6	69.8	68.2	67.2	67.1	68.8	69.5	70.1	71.6	73.6	74.8	76.2	79.8	81.5	80.7	80.5	81.8	81.0	-0.8
Availability^c																				
8th Grade	77.8	75.5	76.1	76.4	76.9	76.0	73.6	71.5	68.7	67.7	64.3	63.1	60.3	59.1	58.0	55.6	57.4	55.3	55.5	+0.2
10th Grade	89.1	89.4	90.3	90.7	91.3	89.6	88.1	88.3	86.8	86.3	83.3	80.7	81.4	81.5	79.5	78.2	76.5	76.1	75.6	-0.5
Approximate Ns																				
8th Grade	18,600	18,300	17,300	17,500	17,800	18,600	18,100	16,700	16,700	16,200	15,100	16,500	17,000	16,800	16,500	16,100	15,700	15,000	15,300	
10th Grade	14,800	15,300	15,800	17,000	15,600	15,500	15,000	13,600	14,300	14,000	14,300	15,800	16,400	16,200	16,200	16,100	15,100	15,900	15,200	
12th Grade	2,700	2,800	2,600	2,600	2,400	2,600	2,500	2,300	2,100	2,100	2,200	2,400	2,400	2,500	2,400	2,400	2,300	2,300	2,400	

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

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. "—" indicates data not available.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

^aThe question text was: How much do you think people risk harming themselves (physically or in other ways) if they smoke one or more packs of cigarettes per day? Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar. The percentage saying "great risk" is shown. For 8th and 10th graders: Beginning in 1999, perceived risk data based on two of four forms; *N* is two thirds of *N* indicated.

^bThe question text was: Do you disapprove of people smoking one or more packs of cigarettes per day? Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. For 8th and 10th graders, there was another category—"Can't say, drug unfamiliar"—which was included in the calculation of these percentages. The percentage saying they "disapprove" or "strongly disapprove" is shown. For 8th and 10th graders: Beginning in 1999, disapproval data based on two of four forms; *N* is two thirds of *N* indicated.

^cThe question text was: How difficult do you think it would be for you to get cigarettes, if you wanted some? Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, (5) Very easy, and (8) Can't say, drug unfamiliar (included in the calculation of these percentages). The percentage saying cigarettes are "fairly easy" or "very easy" to get is shown. In 1992 only, availability data based on one of two forms; *N* is one half of *N* indicated. The question was not asked of 12th graders.


TABLE 3
Trends in Various Attitudes toward Cigarette Use for Grades 8, 10, and 12

	Percentage who report "mostly agree" or "agree"																			
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
I would prefer to date people who don't smoke																				
8th Grade	77.8	76.0	75.2	74.1	73.6	70.9	72.3	74.5	76.9	77.2	79.4	80.6	79.6	81.0	81.2	81.2	82.8	82.6	81.3	81.5
10th Grade	75.9	76.4	74.3	71.6	71.6	69.1	68.2	71.8	73.0	75.2	75.4	76.3	76.7	79.5	79.6	80.4	80.9	80.0	79.9	78.9
12th Grade	74.0	72.3	70.4	69.0	66.0	66.0	63.9	66.0	64.4	70.0	68.5	72.3	71.8	72.0	74.8	76.7	76.6	75.2	74.9	73.3
Smoking is a dirty habit																				
8th Grade	71.4	70.8	70.3	68.4	68.4	67.9	67.7	68.2	70.0	70.8	72.3	74.1	71.6	74.3	73.7	74.8	75.8	75.0	73.6	72.4
10th Grade	70.7	71.0	69.2	67.5	68.0	66.6	65.8	68.3	68.7	70.8	70.3	71.2	70.5	71.7	72.0	73.7	72.7	72.0	72.1	71.7
12th Grade	71.6	73.1	71.8	68.0	68.2	67.5	70.0	70.5	69.7	73.5	71.6	74.5	73.3	72.6	74.9	77.1	76.7	73.5	73.4	73.1
I think that becoming a smoker reflects poor judgment																				
8th Grade	62.2	60.9	59.7	58.7	59.3	57.0	57.6	58.8	60.0	60.9	63.1	64.3	63.7	64.1	64.6	65.5	66.1	64.5	63.9	62.5
10th Grade	57.5	59.0	57.3	54.2	53.7	52.9	50.1	53.9	54.7	56.5	55.4	59.3	56.8	58.8	59.4	61.5	60.3	60.6	59.6	59.1
12th Grade	61.0	60.7	59.4	58.1	55.1	54.9	56.2	54.7	55.5	58.9	57.2	59.8	56.6	56.0	60.3	61.9	61.7	58.1	57.7	54.4
I strongly dislike being near people who are smoking																				
8th Grade	53.8	52.1	52.9	51.1	49.7	45.7	46.6	48.5	48.7	50.1	52.2	54.0	54.4	57.0	55.7	55.4	56.8	57.9	55.9	55.2
10th Grade	50.7	50.9	50.0	47.7	46.0	42.6	41.6	44.4	44.0	46.5	46.7	49.1	51.2	52.6	52.3	55.2	53.7	53.5	52.9	52.2
12th Grade	48.9	49.4	48.6	47.4	44.2	42.3	38.3	41.0	39.3	41.3	43.3	47.4	47.6	46.5	47.8	49.7	50.2	47.9	48.7	49.1
I personally don't mind being around people who are smoking																				
8th Grade	29.5	31.1	31.1	32.8	34.2	37.8	34.8	34.7	32.9	31.6	30.7	29.1	27.8	27.6	26.8	27.7	27.3	25.6	25.8	27.1
10th Grade	33.1	35.0	35.1	36.8	38.5	42.8	41.1	39.7	38.8	38.1	35.5	34.7	32.2	30.0	30.4	30.8	30.4	29.2	30.4	30.3
12th Grade	33.1	34.5	33.0	35.5	37.0	39.1	41.8	38.6	41.3	39.6	39.7	35.0	33.5	32.7	35.1	32.0	31.3	31.5	31.6	32.4
The harmful effects of cigarettes have been exaggerated																				
8th Grade	19.9	21.8	22.4	24.4	23.1	25.3	22.4	23.8	22.7	21.6	21.4	22.0	20.5	22.1	20.4	21.1	20.8	20.9	21.2	22.3
10th Grade	16.4	17.9	18.8	18.9	19.3	20.0	19.5	20.1	19.3	18.8	17.3	18.0	19.5	17.8	17.5	17.4	18.3	18.5	18.6	17.8
12th Grade	13.8	13.0	13.6	14.9	14.4	12.8	14.0	13.4	14.5	16.8	15.8	12.7	13.1	13.1	13.1	14.1	14.2	14.5	15.0	12.8
Smokers know how to enjoy life more than nonsmokers																				
8th Grade	4.9	5.0	5.4	6.3	5.9	6.7	5.4	5.8	6.1	5.4	5.5	5.2	5.3	5.9	5.4	5.7	5.1	5.2	5.6	6.7
10th Grade	3.5	3.9	4.2	4.1	4.2	4.6	3.7	4.7	4.2	4.7	4.5	4.1	4.8	4.4	4.0	4.4	4.2	5.0	5.2	5.7
12th Grade	3.6	3.3	3.5	3.8	4.0	3.5	3.2	3.8	4.3	3.7	5.5	4.1	3.5	3.5	3.4	3.8	3.2	4.2	3.9	8.1

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

Notes. For 8th graders: Ns range from 6,604 to 8,005. For 10th graders: Ns range from 6,398 to 7,807. For 12th graders: Ns range from 1,795 to 3,112.

TABLE 4
Trends in Prevalence of Use of Smokeless Tobacco in Grades 8, 10, and 12
 (Entries are percentages.)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Cont. 	
Lifetime																			
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22.2	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.2	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	31.4	32.2	30.4	29.2	—	—	—	
30-Day																			
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.0	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	11.5	11.3	10.3	8.4	—	—	—	
Daily																			
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.3	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	4.7	5.1	4.3	3.3	—	—	—	
Approximate Ns																			
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17,500	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14,800	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	15,200	16,300	16,300	16,700	—	—	15,000	

(Table continued on next page.)

TABLE 4 (cont.)
Trends in Prevalence of Use of Smokeless Tobacco in Grades 8, 10, and 12
 (Entries are percentages.)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009– 2010 change
Lifetime																				
8th Grade	20.7	18.7	19.9	20.0	20.4	16.8	15.0	14.4	12.8	11.7	11.2	11.3	11.0	10.1	10.2	9.1	9.8	9.6	9.9	+0.3
10th Grade	26.6	28.1	29.2	27.6	27.4	26.3	22.7	20.4	19.1	19.5	16.9	14.6	13.8	14.5	15.0	15.1	12.2	15.2	16.8	+1.5
12th Grade	32.4	31.0	30.7	30.9	29.8	25.3	26.2	23.4	23.1	19.7	18.3	17.0	16.7	17.5	15.2	15.1	15.6	16.3	17.6	+1.3
30-Day																				
8th Grade	7.0	6.6	7.7	7.1	7.1	5.5	4.8	4.5	4.2	4.0	3.3	4.1	4.1	3.3	3.7	3.2	3.5	3.7	4.1	+0.3
10th Grade	9.6	10.4	10.5	9.7	8.6	8.9	7.5	6.5	6.1	6.9	6.1	5.3	4.9	5.6	5.7	6.1	5.0	6.5	7.5	+1.1
12th Grade	11.4	10.7	11.1	12.2	9.8	9.7	8.8	8.4	7.6	7.8	6.5	6.7	6.7	7.6	6.1	6.6	6.5	8.4	8.5	+0.1
Daily																				
8th Grade	1.8	1.5	1.9	1.2	1.5	1.0	1.0	0.9	0.9	1.2	0.8	0.8	1.0	0.7	0.7	0.8	0.8	0.8	0.9	+0.1
10th Grade	3.0	3.3	3.0	2.7	2.2	2.2	2.2	1.5	1.9	2.2	1.7	1.8	1.6	1.9	1.7	1.6	1.4	1.9	2.5	+0.6
12th Grade	4.3	3.3	3.9	3.6	3.3	4.4	3.2	2.9	3.2	2.8	2.0	2.2	2.8	2.5	2.2	2.8	2.7	2.9	3.1	+0.2
Approximate Ns																				
8th Grade	18,600	18,300	17,300	17,500	17,800	18,600	18,100	16,700	16,700	16,200	15,100	16,500	17,000	16,800	16,500	16,100	15,700	15,000	15,300	
10th Grade	14,800	15,300	15,800	17,000	15,600	15,500	15,000	13,600	14,300	14,000	14,300	15,800	16,400	16,200	16,200	16,100	15,100	15,900	15,200	
12th Grade	15,800	16,300	15,400	15,400	14,300	15,400	15,200	13,600	12,800	12,800	12,900	14,600	14,600	14,700	14,200	14,500	14,000	13,700	14,400	

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

Notes. Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. “—” indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. For 8th and 10th graders: Data based on one of two forms for 1991–1996 and on two of four forms beginning in 1997; N is one half of N indicated. For 12th graders: Data based on one form; N is one fifth of N indicated in 1986–1988 and one sixth of N indicated beginning in 1989. The prevalence of use of smokeless tobacco was not asked of 12th graders in 1990 and 1991. Prior to 1990 the prevalence-of-use question on smokeless tobacco was located near the end of one 12th-grade questionnaire form, whereas after 1991 the question was placed earlier and in a different form. This shift could explain the discontinuities between the corresponding data.

TABLE 5
Trends in Attitudes about Regular Smokeless Tobacco Use for Grades 8, 10, and 12
 (Entries are percentages.)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
Perceived Risk^a																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40.3
12th Grade	—	—	—	—	—	—	—	—	—	—	—	25.8	30.0	33.2	32.9	34.2	37.4
Disapproval^b																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	79.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75.4
Approximate Ns																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17,500
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14,800
12th Grade	—	—	—	—	—	—	—	—	—	—	—	3,000	3,300	3,300	2,800	2,600	2,600

Cont.

(Table continued on next page.)

TABLE 5 (cont.)
Trends in Attitudes about Regular Smokeless Tobacco Use for Grades 8, 10, and 12

(Entries are percentages.)

	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	2009– 2010 change
Perceived Risk^a																				
8th Grade	35.1	36.9	35.5	33.5	34.0	35.2	36.5	37.1	39.0	38.2	39.4	39.7	41.3	40.8	39.5	41.8	41.0	40.8	41.8	+1.0
10th Grade	39.6	44.2	42.2	38.2	41.0	42.2	42.8	44.2	46.7	46.2	46.9	48.0	47.8	46.1	45.9	46.7	48.0	44.7	43.7	-1.0
12th Grade	35.5	38.9	36.6	33.2	37.4	38.6	40.9	41.1	42.2	45.4	42.6	43.3	45.0	43.6	45.9	44.0	42.9	40.8	41.2	+0.4
Disapproval^b																				
8th Grade	77.2	77.1	75.1	74.0	74.1	76.5	76.3	78.0	79.2	79.4	80.6	80.7	81.0	82.0	81.0	82.3	82.1	81.5	81.2	-0.3
10th Grade	74.6	73.8	71.2	71.0	71.0	72.3	73.2	75.1	75.8	76.1	78.7	79.4	80.2	80.5	80.5	80.9	81.8	79.5	78.5	-1.1
Approximate Ns																				
8th Grade	18,600	18,300	17,300	17,500	17,800	18,600	18,100	16,700	16,700	16,200	15,100	16,500	17,000	16,800	16,500	16,100	15,700	15,000	15,300	
10th Grade	14,800	15,300	15,800	17,000	15,600	15,500	15,000	13,600	14,300	14,000	14,300	15,800	16,400	16,200	16,200	16,100	15,100	15,900	15,200	
12th Grade	2,700	2,800	2,600	2,600	2,400	2,600	2,500	2,300	2,100	2,100	2,200	2,400	2,400	2,500	2,400	2,400	2,300	2,300	2,400	

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

Notes. Level of significance of difference between the two most recent classes: $s = .05$, $ss = .01$, $sss = .001$. “—” indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

^aThe question text was: How much do you think people risk harming themselves (physically or in other ways) if they use smokeless tobacco regularly? Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar. The percentage saying “great risk” is shown.

^bThe question text was: Do you disapprove of people using smokeless tobacco regularly? Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove.

For 8th and 10th graders, there was another category—“Can't say, drug unfamiliar”—which was included in the calculation of these percentages. The percentage saying they

“disapprove” or “strongly disapprove” is shown. This question was not asked of 12th graders.