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Contacts: Joe Serwach, (734) 647-1844 or jserwach@umich.edu
Patti Meyer, (734) 647-1083 or mtfinfo@isr.umich.edu

Study Web site: www.monitoringthefuture.org

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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 continues gradual decline among U.S. teens, smokeless tobacco threatens a comeback

ANN ARBOR, Mich.--- Teen smoking reached its recent peak levels around 1996 and 1997, followed by a sharp decline for about six years and a continued more gradual decline ever since, according to the latest Monitoring the Future study of the nation's young people.

"Over the past two years we have seen the smoking rates among young people continue to decline only very gradually, at rates much slower than were occurring previously," said University of Michigan researcher Lloyd Johnston, principal investigator of the Monitoring the Future study. "The proportions of students seeing a great risk associated with being a smoker has leveled off in the past several years, as has the proportion of teens who say they disapprove of smoking."

Monitoring the Future has been conducting annual, nationwide surveys of U.S. teens in school for the past 35 years. The 2009 survey included a total of 46,097 eighth, tenth, and twelfth graders in 389 secondary schools.

The research is conducted by a team of research professors at the University of Michigan's Institute for Social Research, which in addition to Johnston includes Patrick O'Malley, Jerald Bachman, and John

Schulenberg. The National Institute on Drug Abuse supports this investigator-initiated study through a series of competitive research grants.

“While great strides have been made in reducing youth smoking in this country, there is still plenty of room for improvement,” Johnston said. “Among high school seniors in the Class of 2009, 20 percent have smoked in the most recent month and one in nine (11 percent) is a current daily smoker. Further, our follow-up studies have shown that a number of the lighter smokers in high school will convert to heavy smoking after leaving high school. Given what we know about the consequences of smoking, this is still an unacceptable level of involvement.”

To illustrate the progress that has occurred, among 8th graders (13–14-year-olds), the proportion saying that they smoked any cigarettes in the month prior to the survey has dropped by two thirds (from 21 percent in 1996, the peak year, to 7 percent by 2009). Among 10th graders the decline over the same 13-year interval was more than one half (down from 30 percent to 13 percent); among 12th graders, whose smoking rate reached a recent peak in 1997, there has been a decline of almost one half (down from 37 percent in 1997 to 20 percent by 2009). Daily smoking has declined by even larger proportions.

One reason smoking has declined so sharply is that the proportion of students ever *trying smoking* has fallen dramatically. While 49 percent of 8th graders in 1996 had tried cigarettes, “only” 20 percent of the 8th graders in 2009 indicated having ever done so, a decline of six tenths in smoking initiation over the past 13 years.

“These are very substantial improvements in the situation and they have enormous implications for the health and longevity of this newest generation of young Americans,” Johnston said.

But the improvement has been continuing at a much slower rate; over the past two years (2007–2009), the prevalence of smoking in the 30 days prior to the survey has fallen by just 0.6, 0.9, and 1.5 percentage points among 8th, 10th, and 12th graders, respectively.

This reduced rate of improvement, plus the fact that the rises in perceived risk and disapproval of smoking have leveled off, leaves Johnston less optimistic about future gains.

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

The *perceived availability* of cigarettes to under-age buyers, as measured by the percent of students who say they could buy cigarettes “fairly easily” or “very easily” if they wanted some, has declined substantially since 1996 among 8th and 10th graders (12th graders are not asked the question).

The 8th graders showed the sharpest decline—from 77 percent in 1996 to 56 percent in 2007 —about where it remained in 2009. Perceived availability leveled among 10th graders in 2009, having fallen from 91 percent in 1996 to 76 percent by 2009. Although availability has decreased, the investigators note that the majority of these students in their early to mid-teens still report that they could easily get cigarettes.

A number of 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 have shown little change since then.

One attitude widely held by young people today may be of particular salience to those considering smoking. In 2009, 81 percent of 8th graders, 80 percent of 10th graders, and 75 percent of 12th graders said that they “would prefer to date people who don’t smoke.”

It is clear that any young person today who becomes a smoker will pay an important social price for that choice by becoming less attractive to the great majority of the opposite sex.

“This fact provides what we believe could be a very strong prevention message,” Johnston said.

Smokeless Tobacco

The use of smokeless tobacco (which includes snuff, plug, dipping tobacco, chewing tobacco, and more recently “snus”) is assessed in all three grades. From the mid-1990s to the early 2000s, there was a substantial decline in use, with monthly prevalence falling by one third to one half; but the declines have not continued.

In fact, there have been significant increases occurring over the past three to four years in 10th and 12th grades (with still little change in 8th grade). While so far modest in size, these changes suggest an upward trajectory in use. Thirty-day prevalence of smokeless tobacco use in 2009 is 3.7 percent, 6.5 percent, and 8.4 percent among 8th, 10th, and 12th graders, respectively.

Perceived risk of regular use appears to have played an important role in the decline phase in smokeless tobacco use, as was true for cigarettes. In all three grades, perceived risk rose fairly steadily from 1995 through 2004 before leveling. In 2009, all three grades showed some decline in perceived risk (significant in 10th grade), consistent with the increase in use.

Kreteks and Bidis

Kreteks are clove-flavored cigarettes from Indonesia, and at the beginning of this decade there was concern that they could become popular among American youth. However, the annual prevalence of kretek use was not very high in the first year of measurement (2001); after that use declined by roughly half in 8th and 10th grades by 2005, before the question was dropped from the 8th- and 10th-grade questionnaires.

Among 12th graders, annual prevalence declined steadily from 2001 to 2004, before leveling at around 6–7 percent. In 2009 there was a further drop, bringing annual prevalence for kreteks down to 5.5 percent—reflecting a decline of almost half from the level of use as first measured in 2001. The investigators conclude that kretek use was a short-term fad that simply did not catch on with mainstream youth.

Bidis are small, flavored cigarettes imported from India, and again there was early concern that they might find favor among youth. A question on their use was added in 2000, and again their annual

prevalence was fairly low, at 3.9 percent, 6.4 percent, and 9.2 percent for 8th, 10th, and 12th graders, respectively.

The rates of use fell fairly sharply thereafter, with the result that the annual prevalence rates in 2005 were less than 2 percent among 8th and 10th graders, at which point the question was dropped for them. Among 12th graders, a further decline of more than one half has been observed since 2005; use was 1.5 percent in 2009—down by 84 percent from the peak level in 2000. Here again, a threat seems to have been contained and is diminishing steadily.

Using new regulatory authority granted under federal legislation, the Food and Drug Administration in September 2009 banned the sale of flavored cigarettes (with the exception of menthol-flavored cigarettes). Thus, the already low-use of kreteks and bidis is likely to decline even further.

“One of the purposes of the Monitoring the Future study is to assess potential new threats to our youth population and fortunately in these two cases the threats never really materialized,” Johnston said. “Two of the latest developments to raise concern in this sphere, however, are the smoking of tobacco in the form of small cigars and also by using hookah water pipes. Questions about these behaviors will be included in the 2010 survey.”

Note: The figures attached here have the data point from the 2008 survey of 10th graders omitted, because the investigators believe it to be inaccurate due to sampling error. The tables have the 10th-grade one-year change score for 2008–2009 replaced with data from the matched half sample of schools participating in both of those years in order to avoid this same sampling error problem.

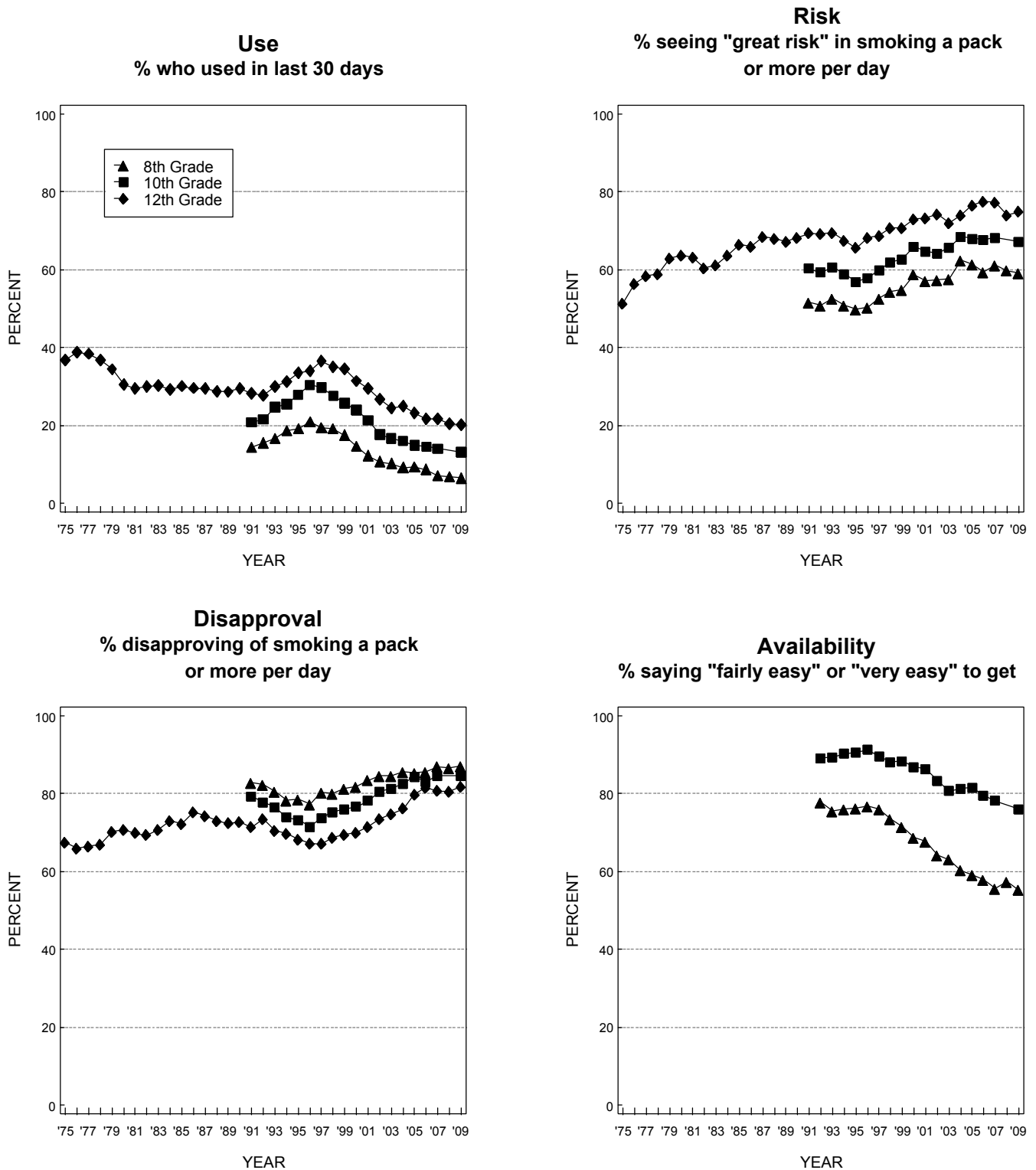
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Monitoring the Future has been funded under a series of competing, investigator-initiated research grants from the National Institute on Drug Abuse, part of the National Institutes of Health. Surveys of nationally representative samples of American high school seniors were begun in 1975, making the class of 2009 the 35th such class surveyed. Surveys of 8th and 10th graders were added to the design in 1991, making the 2009 nationally representative samples the 19th such classes surveyed. The sample sizes in 2009 are 15,509 eighth graders in 145 schools, 16,320 tenth graders in 119 schools, and 14,268 twelfth graders in 125 schools, for a total of 46,097 students in 389 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. (2010). *Monitoring the Future national results on adolescent drug use: Overview of key findings, 2009* (NIH Publication No. [yet to be assigned]). Bethesda, MD: National Institute on Drug Abuse.

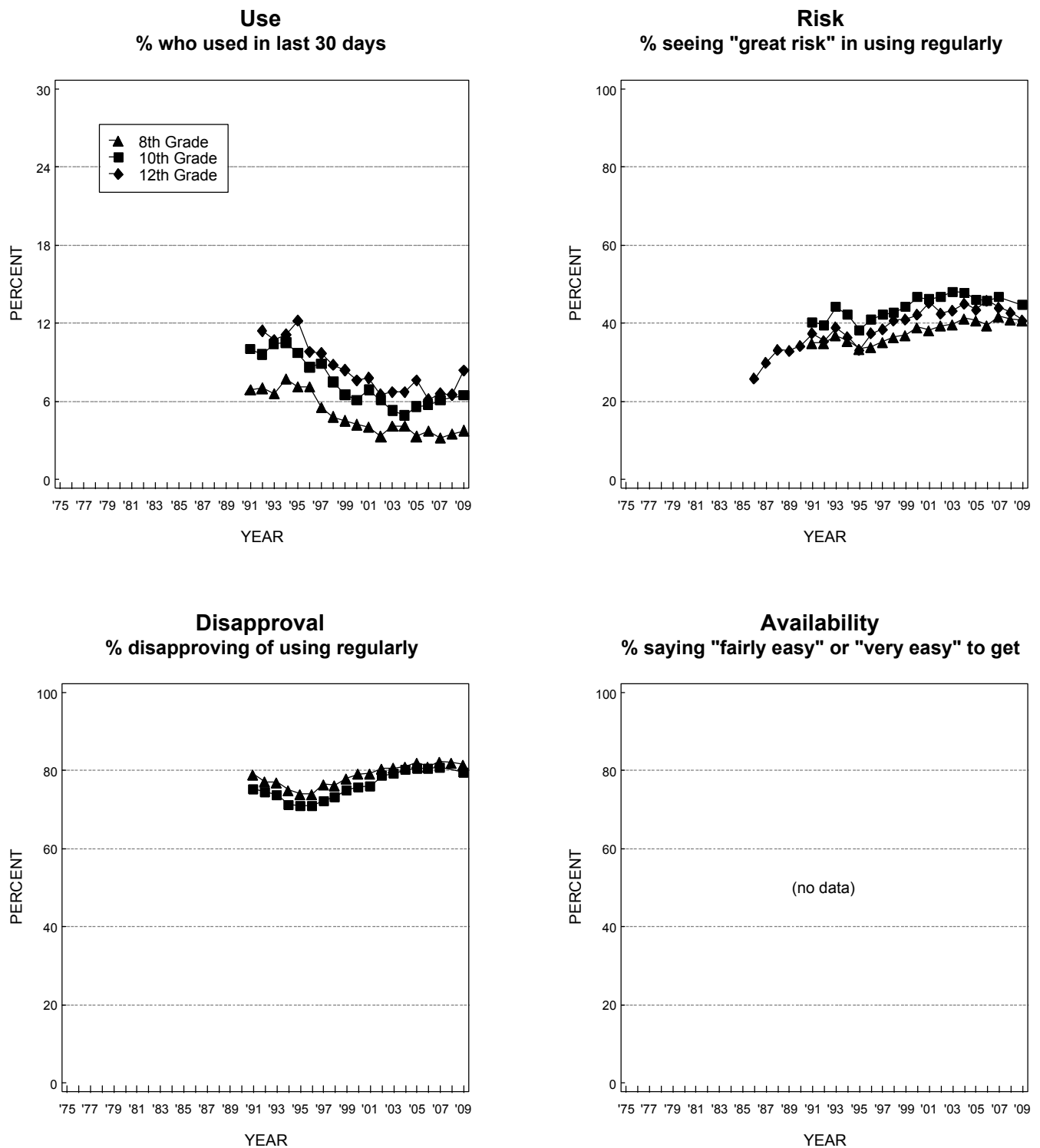
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FIGURE 1
Cigarettes: Trends in 30-Day Use, Risk, Disapproval, and Availability
 Grades 8, 10,* 12



Source. The Monitoring the Future study, the University of Michigan.
 *The data for 10th graders in 2008 are omitted. See text for details.

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



Source. The Monitoring the Future study, the University of Michigan.
 *The data for 10th graders in 2008 are omitted. See text for details.

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>	↑ Cont.
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	

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 continued on next page.)

TABLE 1 (cont.)
Trends in Prevalence of Use of Cigarettes 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	2008– 2009 change
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	-0.3
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	[+1.4]
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	-1.1
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	-0.4
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	[+1.1]
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	-0.3
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	-0.4
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	[+0.6]
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	-0.2
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	-0.2
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	[+0.4]
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	-0.4
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	
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	
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	

Notes. "[]" indicates that because we believe the 2008–2009 observed changes based on the total samples to be inaccurate for this variable for 10th grade,

the change derived from the matched half-sample of schools participating in both years has been substituted here. See text.

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.)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	
Perceived Risk^a																		↑ Cont.
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	

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 continued on next page.)

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.)

	<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>2008–</u> <u>2009</u> <u>change</u>
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	-0.7
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	[-1.3]
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	+1.0
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	+0.4
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	[-1.4]
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	+1.2
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	-2.1 s
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	[-1.3]
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	
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	
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	

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

Notes. "[]" indicates that because we believe the 2008–2009 observed changes based on the total samples to be inaccurate for this variable for 10th grade,

the change derived from the matched half-sample of schools participating in both years has been substituted here. See text.

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

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Percentage who report "mostly agree" or "agree"																			
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

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
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

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 in the data.

(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.)

	<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>2008– 2009 change</u>
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	–0.2
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	[+3.4] ss
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	+0.7
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	+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	[+2.0] ss
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	+1.8
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	0.0
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	[+0.8] s
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	+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	
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	
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	

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

Notes. “[]” indicates that because we believe the 2008–2009 observed changes based on the total samples to be inaccurate for this variable for 10th grade,

the change derived from the matched half-sample of schools participating in both years has been substituted here. See text.

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 19889. 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.)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	
Perceived Risk^a																		↑ Cont.
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	

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.

(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>2008– 2009 change</u>
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	-0.2
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	[-0.9]
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	-2.1
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	-0.5
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	[-2.1] s
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	
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	
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	

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

Notes. “[]” indicates that because we believe the 2008–2009 observed changes based on the total samples to be inaccurate for this variable for 10th grade, the change derived from the matched half-sample of schools participating in both years has been substituted here. See text.
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.