

Fast Facts

1. Cigarette smoking by adolescents has declined by more than half since the peak years of 1996-1997. In 2011, about one in eight adolescents (12 percent) reported smoking in the past 30 days, compared with more than one in four (28 percent) in 1996-1997.¹
2. More than 7.9 million young people between the ages of 12 and 20 currently use some form of tobacco.²
3. Use of cigars and smokeless tobacco products (snuff, chewing tobacco) among adolescents has always been much less common than cigarette smoking, but has experienced a slight increase in recent years.¹
4. Research points to multiple factors that lead to tobacco addiction in adolescence, from genetics, to influences of parents and peers, to difficult life circumstances.⁴⁻⁶
5. Tobacco interventions that have been found to work include school- and community-based tobacco-use prevention programs; community-wide efforts to prevent the sale of cigarettes and tobacco products to minors; mass media campaigns that highlight the risks of tobacco use; and federal policies to curb the illegal sale of cigarettes.⁹

Tobacco Use

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Cigarette smoking has steadily declined among adolescents during the last fifteen years, although use of some tobacco products, like cigars, has seen recent increases. However, large numbers of teens continue to use tobacco products. This *Adolescent Health Highlight* presents key research findings; describes prevalence and trends; illustrates connections between behaviors and health outcomes; and discusses issues specific to particular adolescent populations.

Tobacco use among adolescents: Some good and bad news

Overwhelming scientific evidence confirms that tobacco use (usually cigarette smoking) is harmful to health. Cigarette smoking is, by far, the most common form of tobacco use among U.S. teens. The good news is that cigarette smoking among adolescents has declined substantially—to levels lower than any seen since information on this measure has been collected. However, adolescents' use of cigars and smokeless tobacco products, which include chewing tobacco and snuff ("chew" and "dip"), as well as newer forms (lozenges, "snus"), has risen since 2008.

How many adolescents use tobacco?

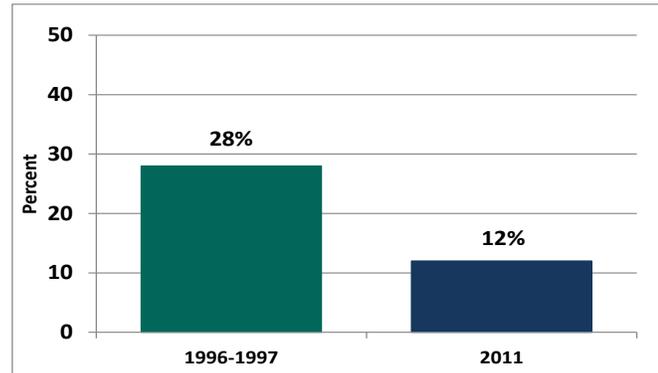
Approximately one out of every two adolescents reports ever having taken even one puff of a cigarette.^{1,3} Adolescent cigarette smoking (typically measured as use in the past 30 days) has declined by more than half since the peak years of 1996 and 1997. In 2011, about one in eight adolescents (12 percent) reported smoking cigarettes in the past 30 days, compared with more than one in four (28 percent) in 1996-97 (See Figure 1). The decline in smoking among adolescents over the past 15 years represents a positive public health trend.¹

The percentage of adolescents reporting that they smoked cigarettes daily, which may be more indicative of addiction, has shown a similarly dramatic decline since the mid-1990s (after a period of increase in the early 1990s).^{1,7,8} While we may not know all of the factors playing a role in this decline, the 1990s were years when funds from the legal settlement between the federal government and the tobacco companies supported a number of prevention programs. In addition to local, state, and national anti-tobacco campaigns, there were new restrictions on tobacco advertising, widespread implementation of smoke-free laws and policies, and hikes in the

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price of cigarettes.^{8,10} Still, in 2011 one in ten 12th-graders (11 percent) reported that they smoked cigarettes daily (see Figure 2). More than 7.9 million young people between the ages of 12 and 20 currently use some form of tobacco.²

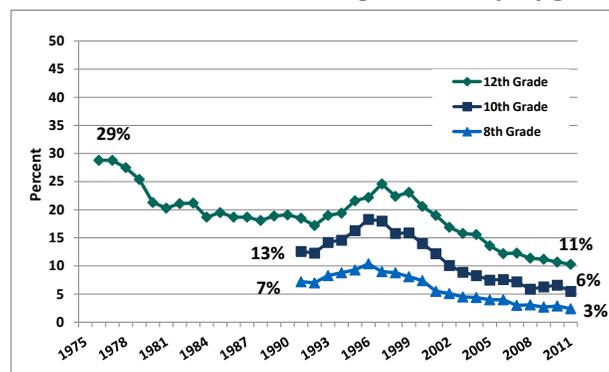
FIGURE 1: Percent of adolescents who reported smoking cigarettes in the past 30 days, 1996-1997 and 2011



Source: Johnston, L. D., O’Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2012). *Monitoring the Future national survey results on adolescent drug use: Overview of key findings, 2011*. Ann Arbor: Institute for Social Research, The University of Michigan..

Besides cigarettes (including the hand-rolled variety), tobacco can be smoked in cigars or pipes—all of which deliver tobacco’s toxic effects. Hookahs (water pipes) are popular among some adolescents; typically used in groups, and sometimes in “hookah cafés,” the hookah mouthpiece is passed around from person to person. Hookah smokers may use specially produced tobacco available in a variety of flavors. Hookahs are no safer than other forms of tobacco smoking.¹¹ There are currently no national estimates of hookah smoking among adolescents.

FIGURE 2: Percent of students who smoke cigarettes daily, by grade, 1975-2011



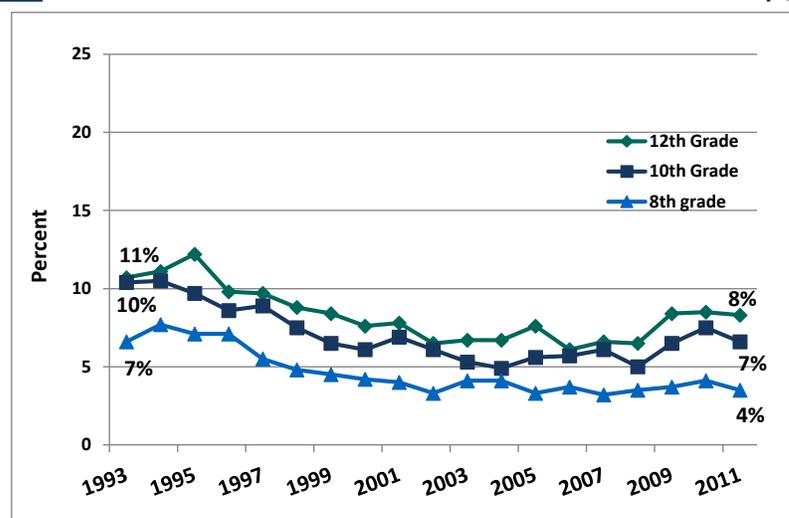
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Among adolescents, frequent users of smokeless tobacco products are also much more likely to use alcohol and other drugs, as well as to become cigarette smokers.

Use of smokeless tobacco products (snuff, chewing tobacco) among adolescents has always been much less common than cigarette smoking, but has experienced a slight increase in recent years.¹ Even though these percentages (4 percent for 8th-graders, 7 percent for 10th-graders and 8 percent for 12th-graders in 2010) are not as high as they were during the mid-1990s, they are still higher than levels seen during most of the 2000s (see Figure 3).¹ For smokeless tobacco use, the highest rates of initiation are in the seventh through 11th grades.¹ Among adolescents, frequent users of smokeless tobacco products are also much more likely than non-users to use alcohol and other drugs,¹² as well as to become cigarette smokers.³ Among the newer forms of oral tobacco products are pouches, lozenges, strips, and sticks. Most of these are designed to dissolve in the user's mouth, and are offered in candy-like flavors; however, they all contain potent toxins that can lead to cancer and other serious diseases. Unfortunately, there are no reliable data yet on how many adolescents use these newer products.

FIGURE 3: Percent of students who used smokeless tobacco in the last 30 days, by grade, 1993-2011



Source: Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2012). *Monitoring the Future national survey results on adolescent drug use: Overview of key findings, 2011*. Ann Arbor: Institute for Social Research, The University of Michigan.

What are the implications of tobacco use for adolescents?

Cigarette smoking (and other forms of tobacco use) has been shown to have long-term—and often deadly—consequences. It is estimated that more than six million children and adolescents who were born between 1983 and 2000 will eventually die of smoking-related illnesses.¹³ Tobacco use harms nearly every organ of the body. About one-third of all deaths from cancer can be blamed on smoking; lung cancer is the largest single type, but smoking is also associated with cancers of the mouth, stomach, kidney, bladder, and cervix, among others. Smoking is also associated with emphysema, chronic bronchitis, and other lung diseases; it aggravates asthma symptoms; and it increases the risk of heart disease.¹⁴ There is also evidence linking smoking with symptoms of depression in adolescents and with anxiety disorders.¹⁴ Use of smokeless tobacco products is associated with increased risk of mouth and throat cancers, dental caries, and also with subsequent cigarette smoking.¹²

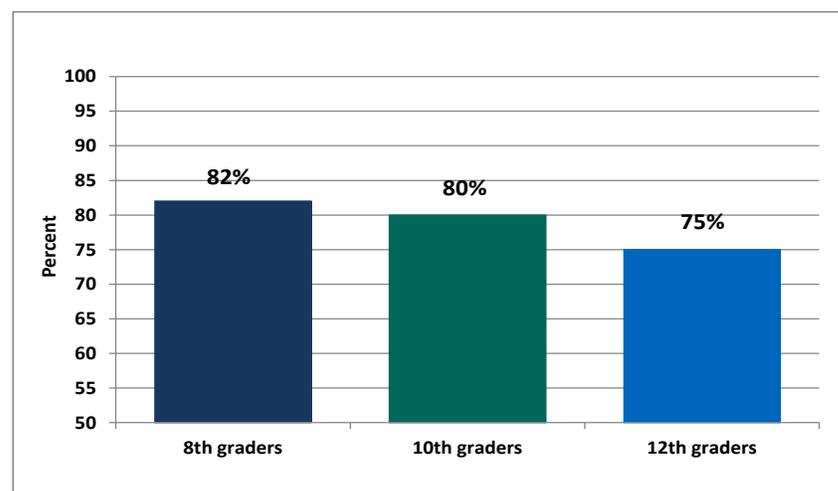
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Smoking even has implications for adolescents' social lives: large majorities of adolescents (82 percent of 8th-graders, 80 percent of 10th-graders and 75 percent of 12th-graders) say that they "prefer to date people who don't smoke" (See Figure 4).¹⁵ As a group, adolescent smokers tend to engage in other unhealthy behaviors, such as marijuana use, drinking, fighting, and unprotected sex.¹⁶ Sometimes, smoking is the first step toward other substance abuse, including drinking alcohol.¹⁷

Even nonsmokers can suffer from the bad effects of tobacco. "Second-hand smoke" is associated with ear infections in children, and has been shown to cause or aggravate a variety of pediatric respiratory illnesses.^{3,18} Second-hand smoke is also linked with mortality. If a woman is pregnant, the poisons in tobacco smoke go right to the developing fetus, increasing the likelihood of stillbirth, infant mortality, and sudden infant death syndrome (SIDS). Later in life, second-hand smoke in the household doubles the risk that a child growing up will become addicted to tobacco if he or she starts smoking.¹¹

FIGURE 4: Percent of students who say they "prefer to date people who don't smoke," by grade, 2011



Source: Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2012). *Monitoring the Future national survey results on adolescent drug use: Overview of key findings, 2011*. Ann Arbor: Institute for Social Research, The University of Michigan.

Why do adolescents start using tobacco products?

Numerous factors influence adolescents' decision to start smoking or use other tobacco products. These factors include some individual characteristics, such as stress and low self-esteem, but also social characteristics, such as smoking by parents, siblings, and friends.⁴ Exposure and susceptibility to tobacco advertising also can affect how adolescents regard smoking.¹⁹

Parents, especially, play a big role in whether adolescents become smokers. For instance, research suggests that the amount of monitoring parents do (such as having expectations of when adolescents will be home and checking in about plans) can lessen the risks of nicotine-dependence.²⁰ Another example of parental influence is that adolescents are more likely to smoke if they have parents who smoke.²¹ Adolescents whose parents strongly disapprove of their smoking—even if the parents themselves smoke—are less likely to take up smoking,

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and parental disapproval has been found to help counteract the influence of peers on smoking.^{22,23} Research also suggests that parents who set limits on adolescents' movie choices may help prevent them from starting to smoke, because many adult-oriented movies include depictions of smoking that may glamorize the habit, making it attractive to adolescents.²⁴

Additionally, having experienced numerous highly stressful events in childhood is linked with a greater risk of starting smoking by age 14.⁵ Among these stressors are being a victim or witness of abuse, experiencing a parental separation, or growing up in a household in which a family member is mentally ill or incarcerated. For female adolescents, concerns about weight gain may be associated with their taking up smoking or with their reluctance to quit.^{11,25} However, there is no evidence that adolescent smoking results in weight loss.²⁶

Once adolescents start smoking, why is it difficult for them to quit?

Research points to multiple factors that lead to tobacco addiction in adolescence, from genetic characteristics, to influences of parents and peers, to difficult life circumstances.⁴⁻⁶ A half-dozen genes, among the thousands that a person inherits, can affect how the brain reacts to nicotine, including the likelihood of becoming addicted.⁶

The effects of nicotine, including the "reward" feeling, quickly wear off, motivating the user to keep using tobacco to recapture that feeling and to prevent withdrawal symptoms. Those withdrawal symptoms are unpleasant, and include irritability, craving, depression, anxiety, attention problems, disturbed sleep, and increased appetite.

In addition to these physical factors that make it harder for adolescents to quit smoking, behavioral factors also come into play: adolescents frequently associate smoking, its smell and feel, with a number of behaviors, including using alcohol, and hanging out with friends who smoke.¹¹ The influence of peers on adolescents' smoking behavior seems to decline with age,²⁷ but is an important factor in whether adolescents begin smoking, and whether their smoking escalates to daily use.²⁸

Research shows that the earlier adolescents begin smoking cigarettes, the more likely they are to become addicted to nicotine.³ According to results from a nationally representative health survey, nearly 90 percent of adults who smoke became regular smokers during adolescence, or earlier.^{8,29} Many adolescents experiment with smoking cigarettes; however, only about one-third of those become regular, daily smokers by the end of high school.³⁰

Are certain groups of adolescents more likely to smoke than others?

Not all adolescents are equally likely to smoke. Rates of cigarette smoking and other tobacco use are higher among older adolescents than they are among younger adolescents (although the rate of smoking initiation is higher among younger adolescents).⁴ White adolescents are more likely to use tobacco than are black or Hispanic adolescents. Tenth-graders who plan to attend four years of college are more than three times more likely to be nonsmokers than are their peers who lack such plans. Younger adolescents whose parents had little or no college education are much more likely to smoke than are younger adolescents whose parents have a college education or more.⁸ Adolescents who have more peers who smoke are more likely to begin smoking themselves, as are those who have fewer positive connections with institutions such as school and religious centers.²⁶

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Although approximately equal proportions of male and female adolescents smoke cigarettes, users of smokeless tobacco products are nearly all males.⁸ Patterns of tobacco use among adolescents reflect other gender differences as well.¹¹ Females tend to smoke fewer cigarettes a day, use cigarettes with lower nicotine content, and inhale cigarette smoke less deeply, than do males. However, females are less likely to try to quit smoking, and are more likely to relapse if they do quit.¹¹

How can tobacco and cigarette use among adolescents be prevented?

Because many adolescents start trying tobacco products at a young age, prevention efforts need to begin early. Interventions that have been found to work include school- and community-based tobacco-use prevention programs that teach students to resist peer influences; community-wide efforts to prevent the sale of cigarettes and tobacco products to minors; mass-media campaigns that highlight the risks of tobacco use; and federal policies to curb the illegal sale of cigarettes to minors.^{7,9}

While the content of these interventions varies, research suggests that a helpful strategy is to increase adolescent skills and competencies known to protect against tobacco and cigarette use, and to reduce risks present in the social environment. For example, an effective program to steer adolescents away from using tobacco may seek to reduce parental smoking; to alter peer norms around the acceptability of cigarette use; to improve adolescents' refusal skills; to strengthen their leadership, communication and other important life-skills; and to increase their commitment to school and success in school.

Laws, policies, and other prevention efforts must compete against ongoing promotion of tobacco products through marketing, and portrayals in movies and television shows that make smoking attractive to adolescents.³¹ One example of federal policy enacted to reduce the accessibility of cigarettes to minors is the Prevent All Cigarette Trafficking (PACT) Act of 2009 (Public Law 111–154). This Act, signed into law in 2010, requires all Internet cigarette vendors to verify the age and identity of customers and to pay all applicable taxes.³² This law, and other state and federal policy efforts such as credit card and shipping bans placed on Internet orders of cigarettes, are likely to reduce the accessibility of cigarettes to minors.

Resources

Evidence has shown that counseling, especially if it is combined with nicotine replacement therapy (such as a skin patch or nicotine-containing gum), can help people quit, and stay free of tobacco addiction.¹¹

Selected resources include the following:

- For detailed information on topics such as daily cigarette use, and parental smoking, in addition to information on other health indicators in children and adolescents, visit Child Trends' DataBank: <http://www.childtrendsdatbank.org/>.
- More information on tobacco use and risks of tobacco use can be found through the CDC's Prevention's Division of Adolescent and School Health (DASH): <http://www.cdc.gov/healthyyouth/tobacco/index.htm>. Additional CDC resources on youth tobacco prevention can be found at <http://www.cdc.gov/tobacco/youth/index.htm>
- The National Institute on Drug Abuse (NIDA) has a number of different facts sheets and resources regarding drug use, including tobacco, for adolescents and practitioners. Please

An effective program to steer adolescents away from using tobacco may seek to reduce parental smoking.

visit the NIDA for Teens Tobacco Addiction page:

http://teens.drugabuse.gov/facts/facts_nicotine1.php.

- For a summary of the research on the health consequences of young people’s tobacco use, trends in use of these products, factors influencing adolescent initiation of tobacco use, and prevention efforts, see the Surgeon General’s report on preventing youth tobacco use: <http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/index.html>

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