

Missouri Youth and Tobacco, 2005-2015 Results from the Youth Tobacco Survey and Youth Risk Behavior Survey



Missouri Department of Health and Senior Services
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ACKNOWLEDGEMENTS

Special thanks to the middle school students who participated in the 2015 Missouri Youth Tobacco Survey and the high school students who participated in 2015 Missouri Youth Risk Behavior Survey. Also, appreciation is extended to the administrators, teachers and staff of the randomly selected schools for their assistance. This valuable information would not be available without their cooperation.

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The 2015 Missouri Youth Tobacco Survey was supported by cooperative agreement number 6 NU58DP005328-02-01 between the U.S. Centers for Disease Control and Prevention (CDC), Office on Smoking and Health and the Missouri Department of Health and Senior Services, Comprehensive Tobacco Control Program.

The 2015 Missouri Youth Risk Behavior Survey was supported by cooperative agreement number 5U87PS004191-02 between the CDC Division of Adolescent and School Health and the Missouri Department of Elementary & Secondary Education.

Suggested Citation: Missouri Youth and Tobacco, 2005-2015: A decade of progress in prevention. Jefferson City, MO: Missouri Department of Health and Senior Services. November, 2015.

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Introduction

Tobacco use continues to be a leading cause of death and disability in Missouri and the United States. From 2003-2013, an estimated 106,460 smoking attributable deaths occurred in Missouri.¹ Preventing young people from becoming addicted to tobacco is a priority health objective for Missouri and the nation. Nearly 9 out of 10 cigarette smokers first tried smoking by age 18.²

The Missouri Department of Health and Senior Services, in collaboration with the Missouri Department of Elementary and Secondary Education and the U.S. Centers for Disease Control and Prevention (CDC) conducts bi-annual surveys of public middle and high school students to track progress in efforts to reduce youth tobacco use and exposure to secondhand smoke. Information about the methodology for the Youth Tobacco Survey (YTS) and Youth Risk Behavior Survey (YRBS) may be found on page 19.

This report summarizes key findings from the 2015 YTS and YRBS and includes results from previous years that demonstrate changes over time. To view reports of YTS findings from previous years, go to <http://health.mo.gov/data/yts/data.php>. YRBS data may be found on the CDC website at <http://apps.nccd.cdc.gov/YouthOnline/App/Default.aspx>.

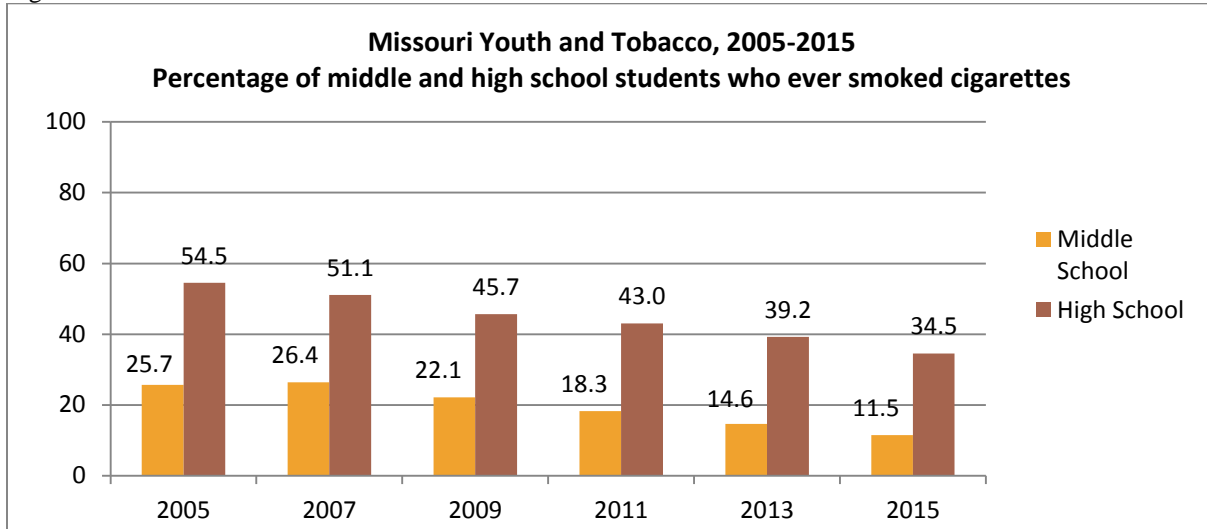
2015 Key Findings

- The percentage of middle and high school students that ever tried smoking cigarettes continued to decline
- Current cigarette smoking among middle and high schools students continued to decline
- Daily cigarette smoking among high school students continued to decline
- The percentage of middle school students who ever used any form of tobacco continued to decline
- The percentage of high school students who ever used any form of tobacco increased significantly in 2015 due to use of electronic vapor products
- Forty percent of high school students and fourteen percent of middle school students had ever tried using a vapor product
- Twenty-two percent of high school students and seven percent of middle school students currently used vapor products
- The percentage of middle and high school students that saw or heard anti-tobacco ads in the past 30 days increased significantly in 2015
- Less than half of middle school students had a parent or guardian discuss not using any type of tobacco product in the past year
- Almost half of middle and high school students were exposed to secondhand smoke in a public indoor or outdoor place
- More than seventy percent of middle and high school students live in homes where smoking is never allowed

Tobacco Use

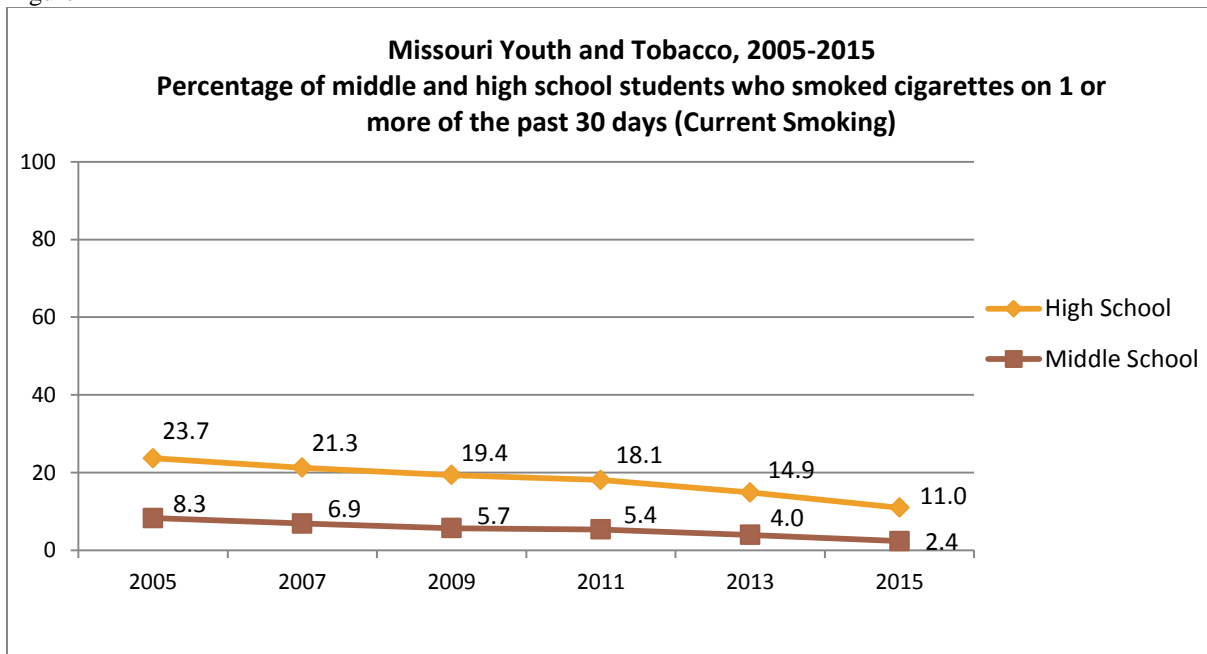
The percentage of middle and high school students who had ever tried smoking cigarettes declined significantly from 2005 to 2015 (Figure 1).

Figure 1



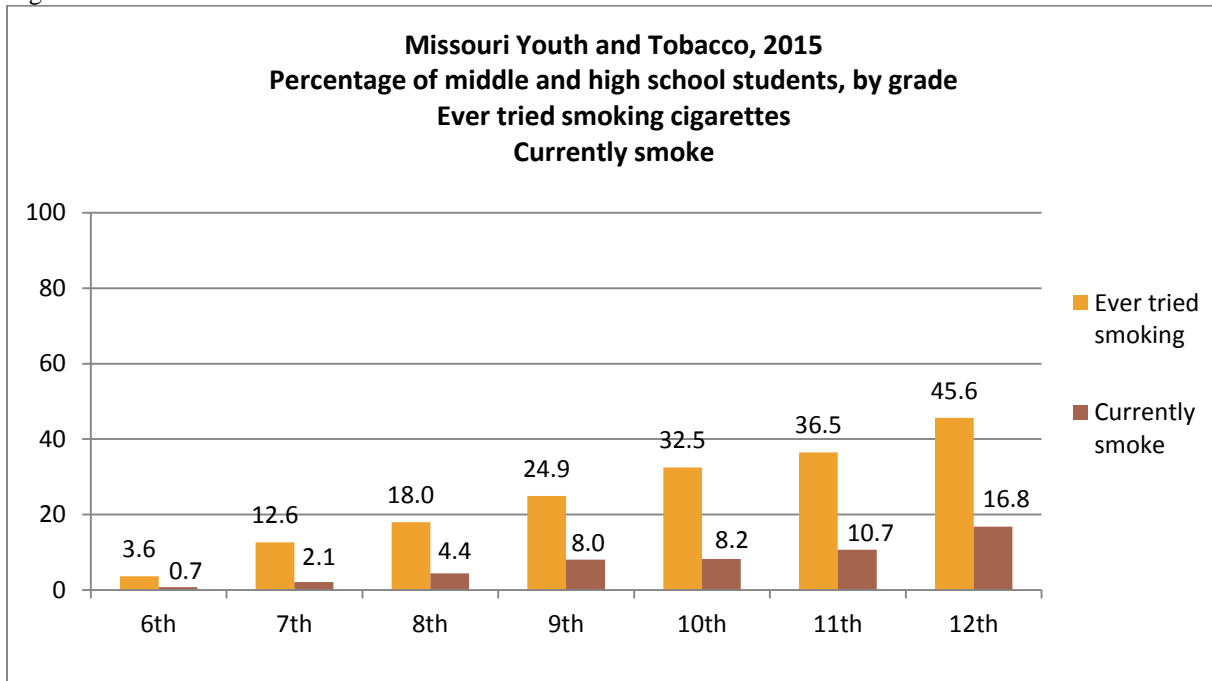
Current cigarette smoking among middle and high school students declined significantly from 2005 to 2015 (Figure 2).

Figure 2



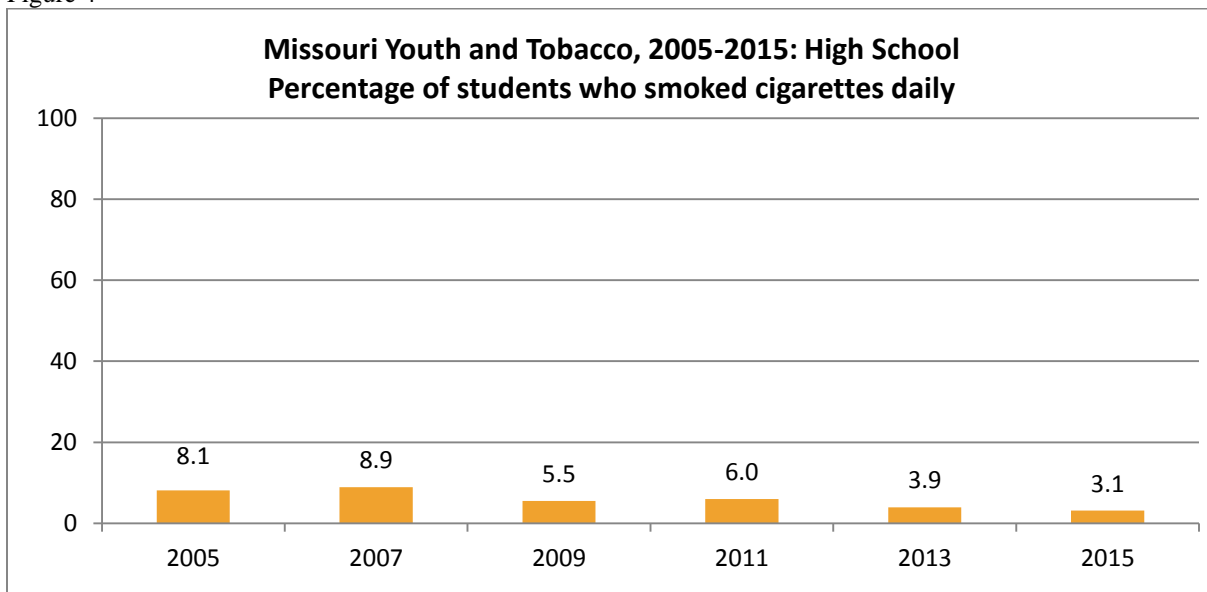
In 2015, current cigarette smoking increased from 0.7 percent of 6th grade students to 16.8 percent of 12th grade students (Figure 3). The percentage of students who had ever tried smoking cigarettes increased from 3.6 percent of 6th grade students to 45.6 percent of 12th grade students.

Figure 3



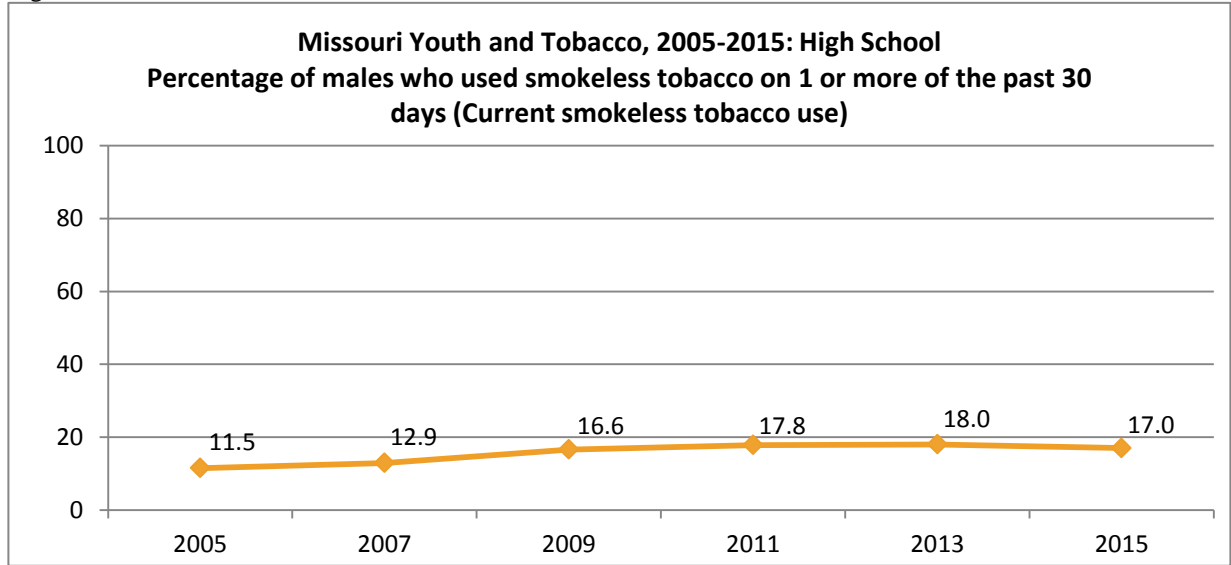
The percentage of high school students who smoked cigarettes daily declined significantly from 8.1 percent in 2005 to 3.1 percent in 2015 (Figure 4).

Figure 4



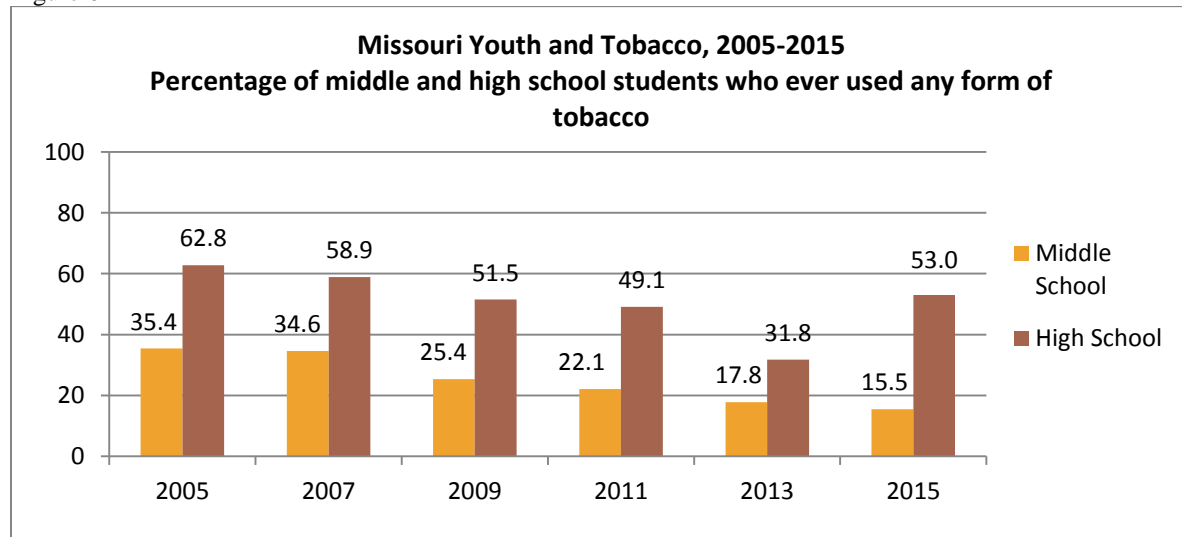
In 2015, 17.0 percent of high school males currently used smokeless tobacco. (Figure 5). Additionally, 21.7 percent of 12th grade males currently used smokeless tobacco in 2015.

Figure 5



The percentage of middle school students who had ever used any form of tobacco declined significantly from 2005 to 2015 (Figure 6). Among high school students, ever use of any form of tobacco also declined significantly to 2013, but increased significantly in 2015 due to the increase in trying electronic vapor products (see page 8). **Note:** From 2005-2011, any form of tobacco included cigarettes, cigars, smokeless, pipe, bidis, and kreteks. For middle school students, e-cigarettes were added in 2013 and electronic vapor products were added in 2015. Any form of tobacco used by high school students in 2013 was limited to cigarettes, cigars, chewing tobacco, and e-cigarettes and in 2015 electronic vapor products were added.

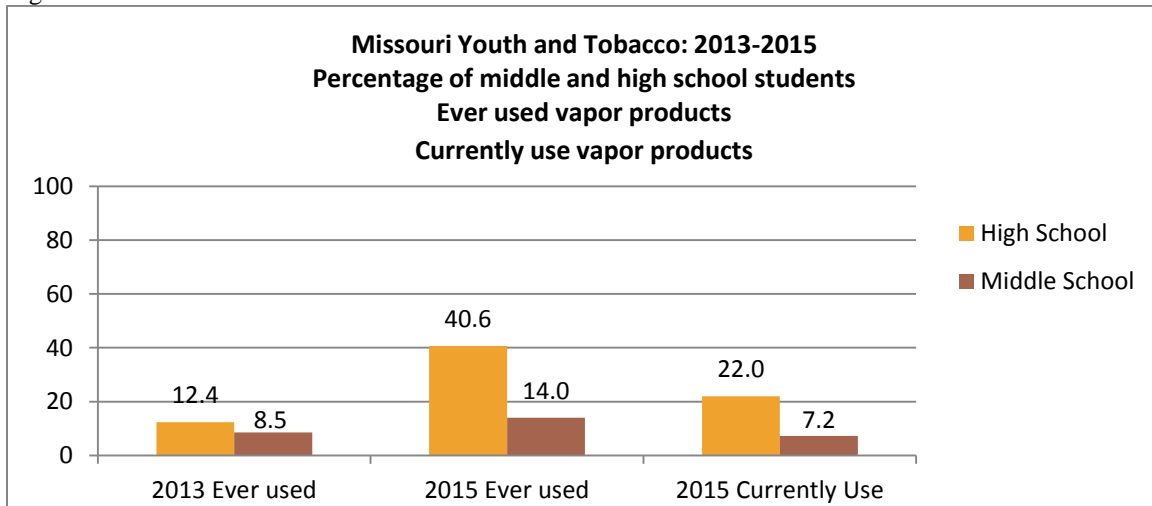
Figure 6



Electronic Vapor Products

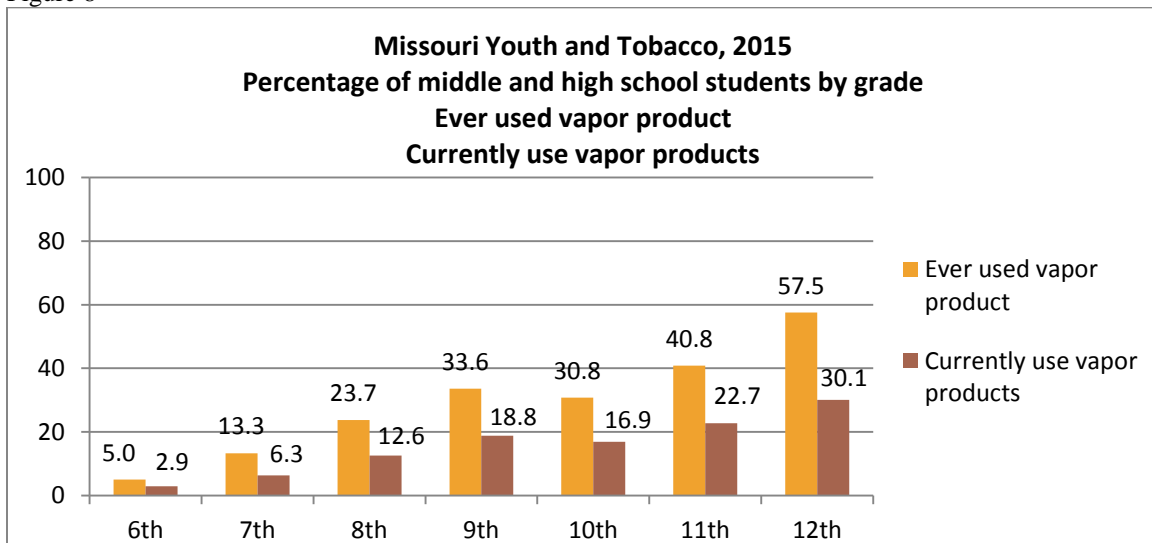
In 2013, students were asked for the first time about the use of electronic cigarettes, or e-cigarettes and then in 2015 about electronic vapor products including e-cigarettes, e-cigars, e-pipes, vape pipes, vape pens, e-hookahs, and hookah pens such as blu, NJOY or Starbuzz. The percentage of high school students who had ever used an electronic cigarette or vapor product increased from 12.4 percent in 2013 to 40.6 percent in 2015 (Figure 7). Twenty-two (22.0) percent of high school students and 7.2 percent of middle school students had used vapor products on 1 or more of the past 30 days (current use).

Figure 7



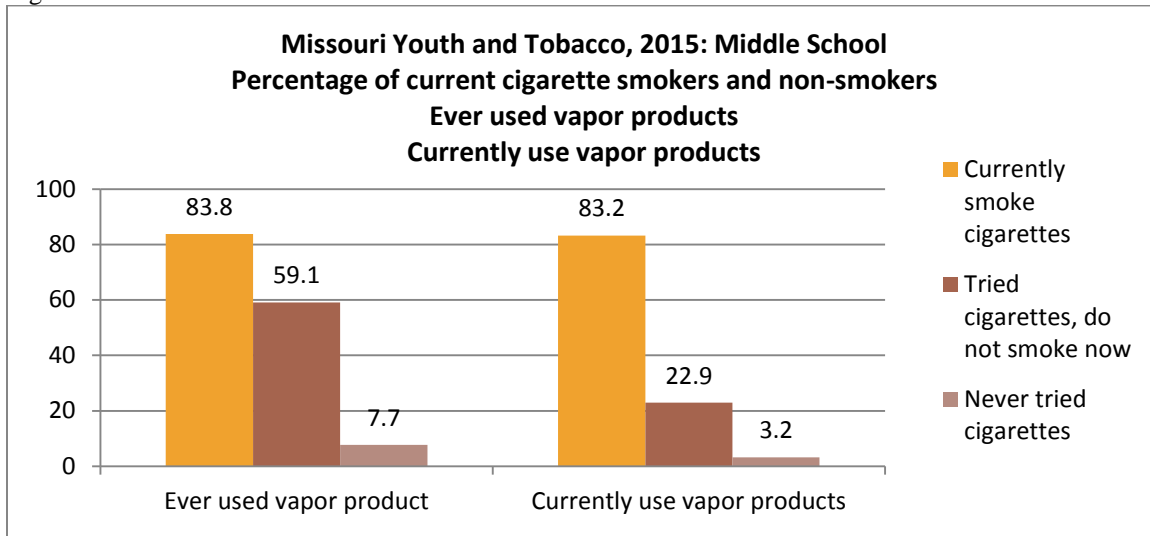
The percentage of students who ever tried using vapor products increased from 5.0 percent of 6th graders to over one-half of 12th grade students (Figure 8). Thirty (30.1) percent of 12th grade students currently use vapor products.

Figure 8



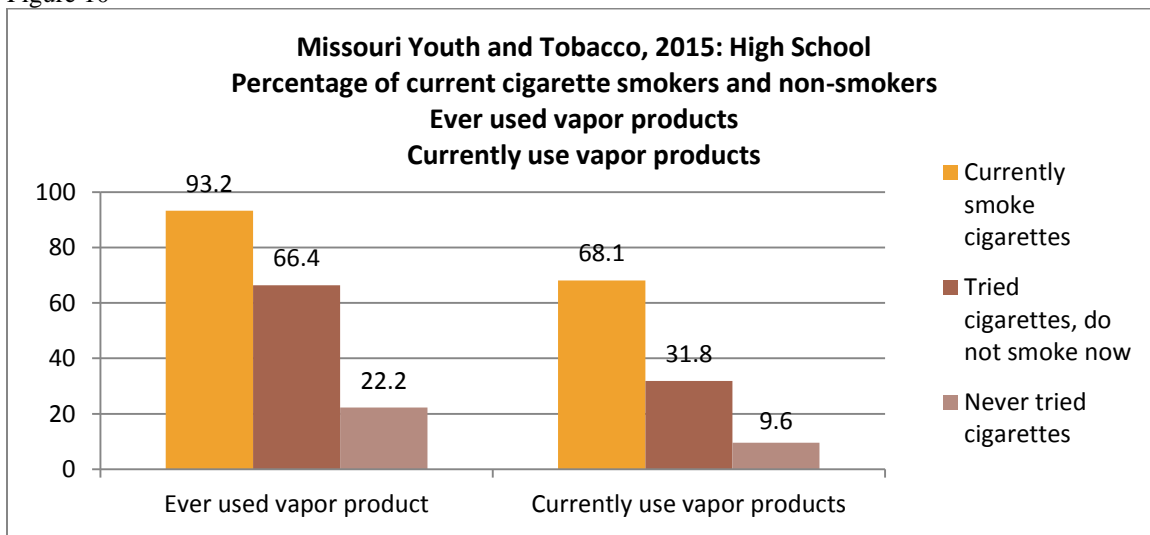
Among middle school current cigarette smokers, 83.8 percent had ever used a vapor product and 83.2 percent currently used vapor products (Figure 9). Among students who had tried cigarettes but do not smoke now, 59.1 percent had ever used a vapor product and 22.9 percent were current vapor users. Among students who had never tried smoking cigarettes, 7.7 percent had ever used a vapor product and 3.2 percent currently used the products.

Figure 9



Among high school current cigarette smokers, 93.2 percent had ever used a vapor product and 68.1 percent currently used vapor products (Figure 10). Among students who had tried cigarettes but do not smoke now, 66.4 percent had ever used a vapor product and 31.8 percent were current vapor users. Among students who had never tried smoking cigarettes, 22.2 percent had ever used a vapor product and 9.6 percent currently used the products.

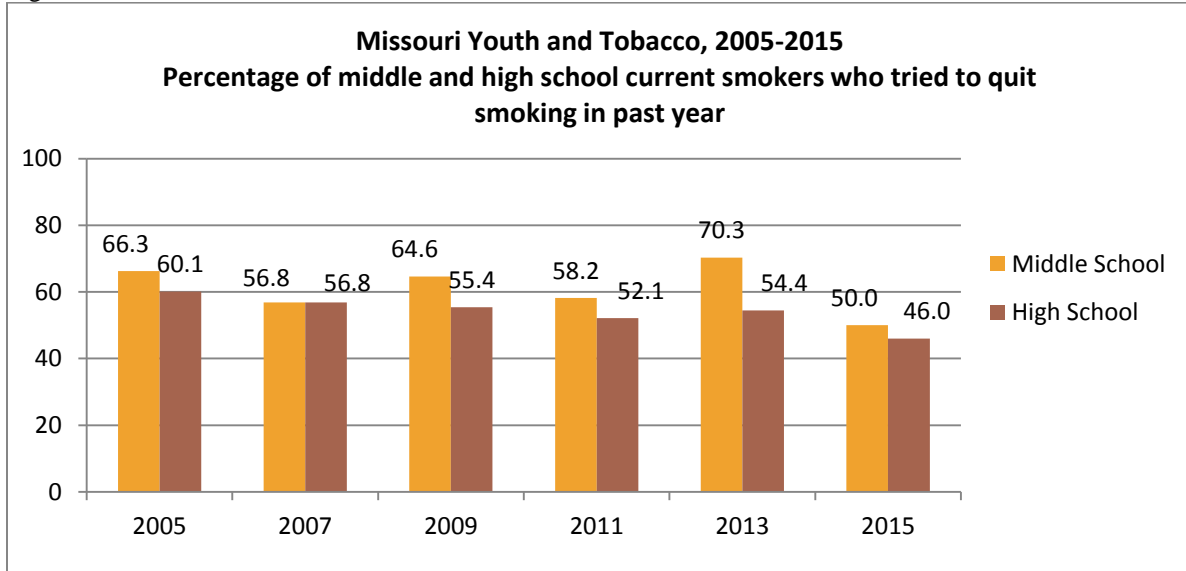
Figure 10



Quit attempts and assistance

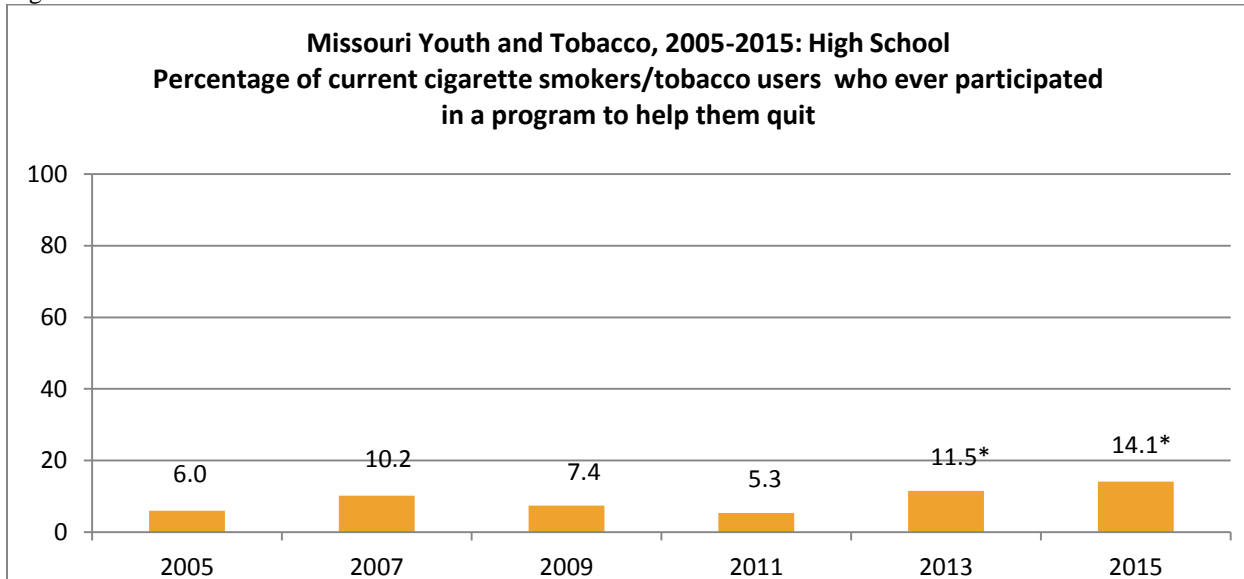
More than half of middle and high school current smokers tried to quit each year from 2005-2013 (Figure 11). Additionally, over half (54.2 percent) of high school smokers and 40.3 percent of middle school smokers wanted to stop smoking cigarettes for good in 2015.

Figure 11



Few high school students who smoked (2005-2011) or used tobacco (2013-2015) had participated in a program to help them quit (Figure 12). In 2015, only 2.8 percent of high school students had special groups or classes at school for students who want to quit using tobacco.

Figure 12

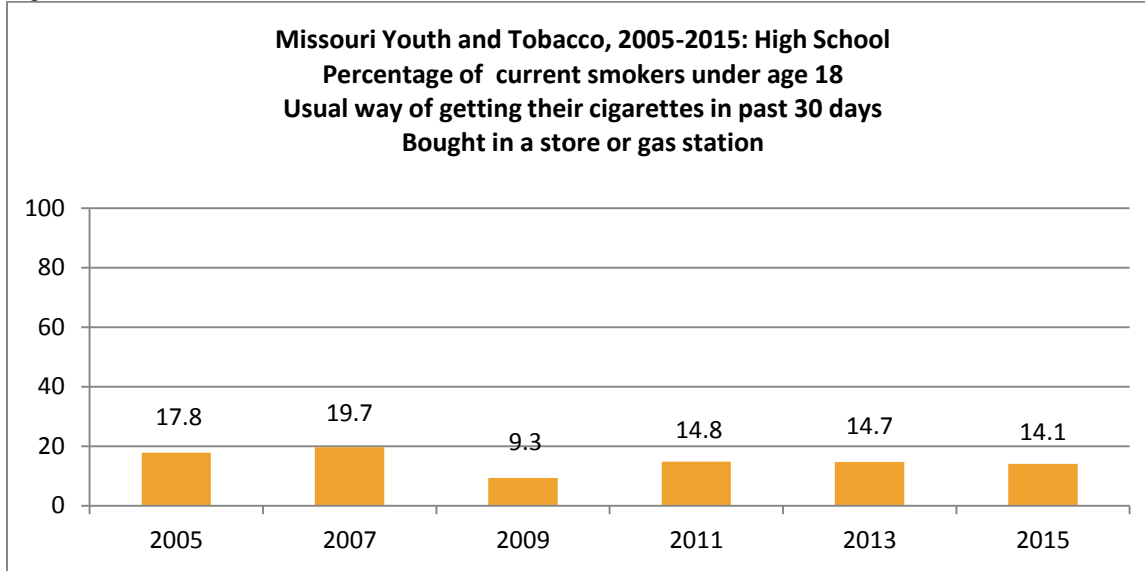


*Tobacco users

Youth Access to Cigarettes

In 2015 among high school smokers under the age of 18, 14.1 percent usually got their cigarettes in the past 30 days by buying them in a store or gas station (Figure 13).

Figure 13

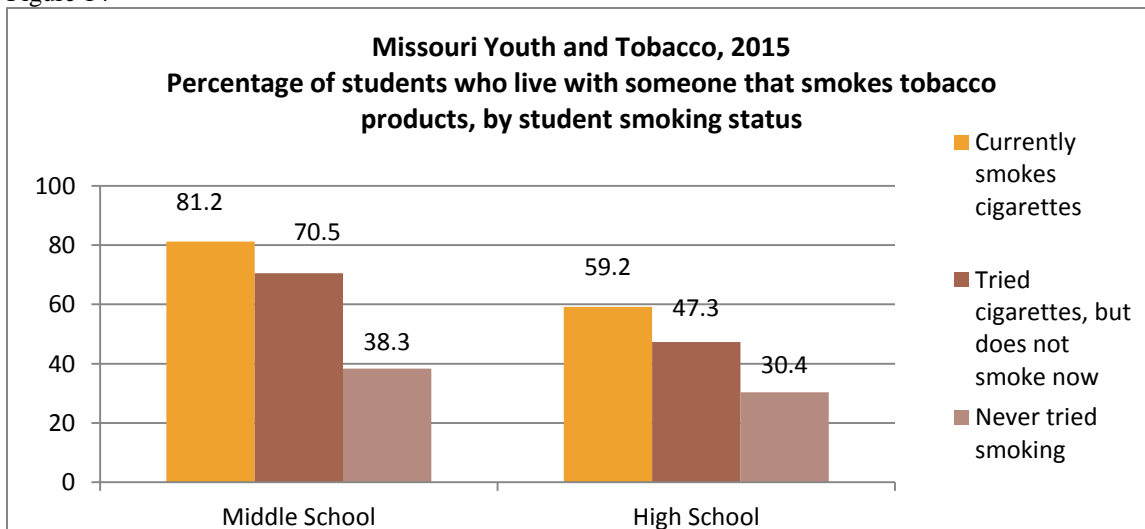


Influences to Use Tobacco

Living with someone who smokes

In 2015, a significantly greater percentage of middle and high school students who smoked lived with someone that smoked than did students who had never tried smoking (Figure 14).

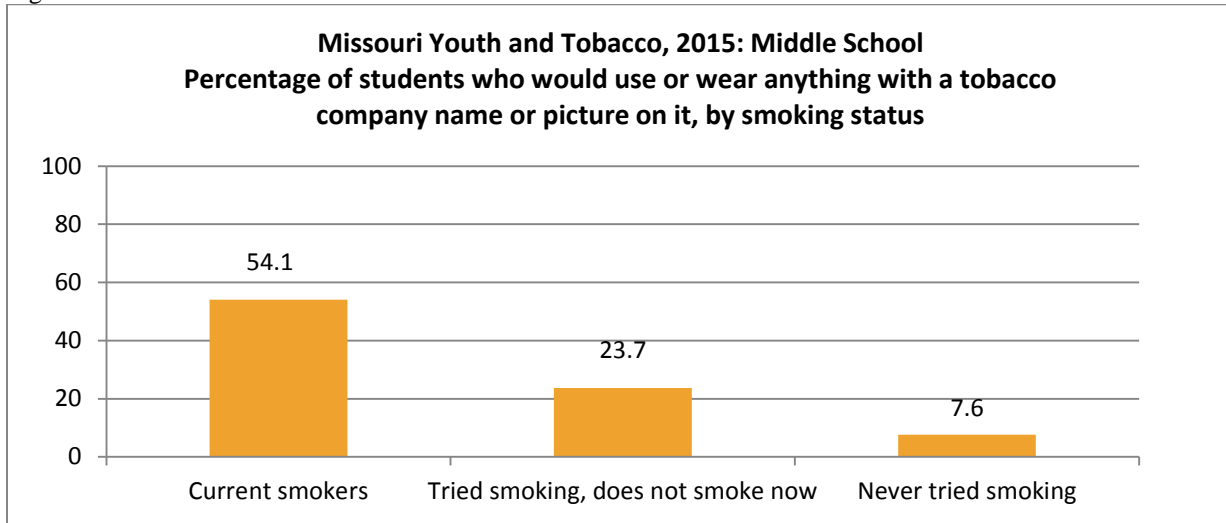
Figure 14



Tobacco Product Promotion

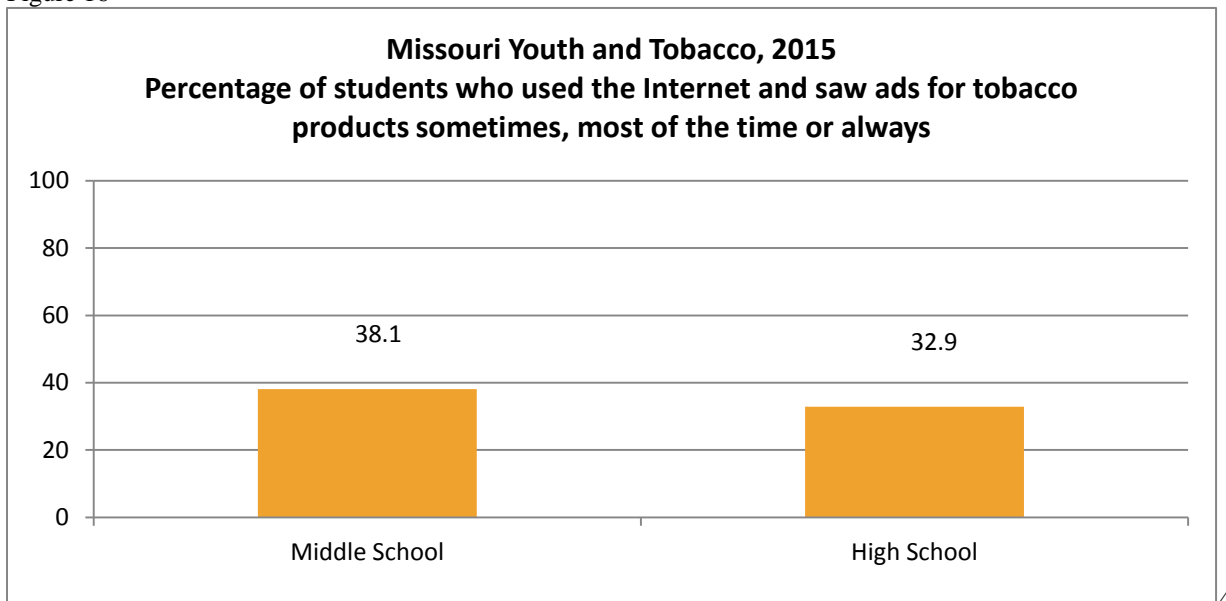
In 2015, a significantly greater percentage of middle school smokers would ever wear or use something with a tobacco company name or picture on it than students who had smoked, but do not smoke now or students who had never tried smoking (Figure 15).

Figure 15



In 2015, 38.1 percent of middle school students and 32.9 percent of high school students who used the Internet saw ads for tobacco products sometimes, most of the time or always (Figure 16).

Figure 16

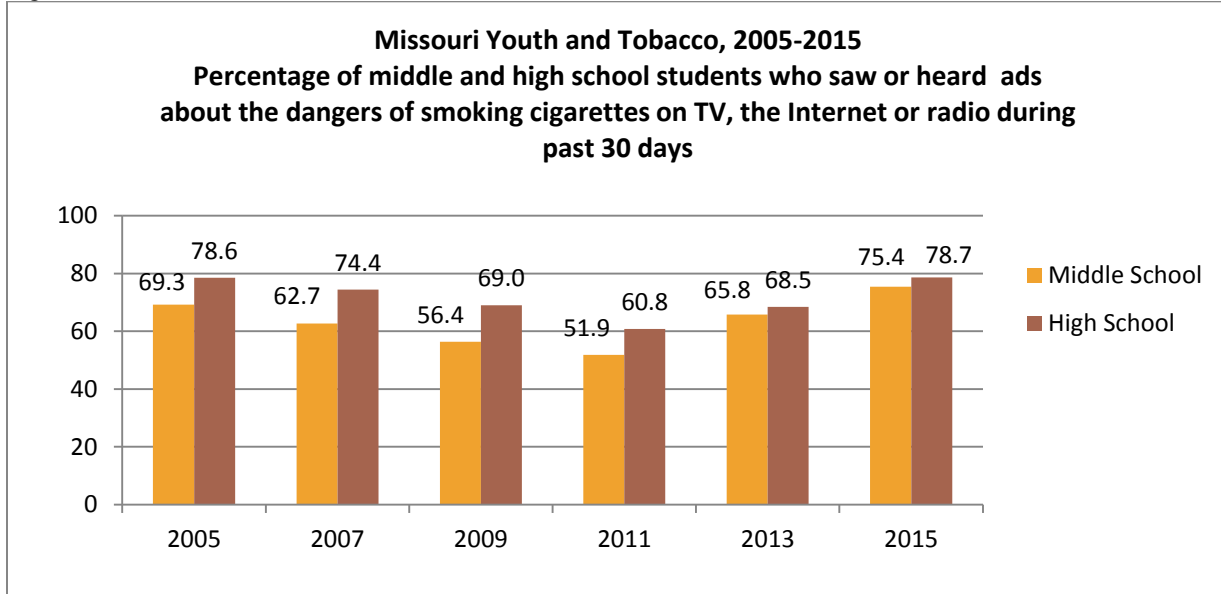


Education about the dangers of tobacco use

Media Messages

The percentage of middle and high school students who saw or heard anti-smoking ads during the past 30 days declined significantly from 2005 to 2011, then increased significantly in 2015 (Figure 17).

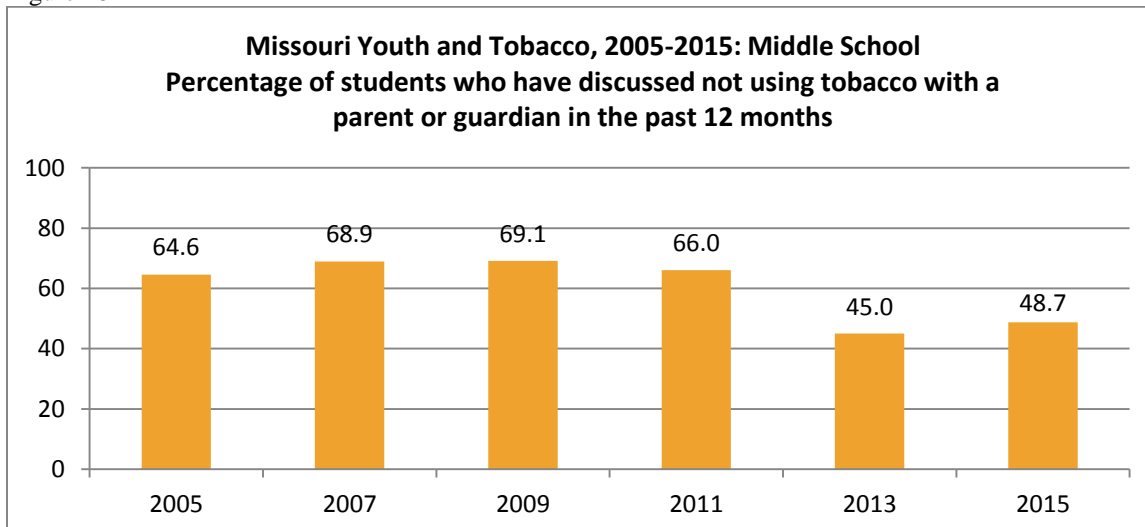
Figure 17



Talking with parent or guardian

The percentage of middle school students who had discussed not using tobacco with a parent or guardian in the past 12 months declined from 2011 to 2013 and 2015 (Figure 18).

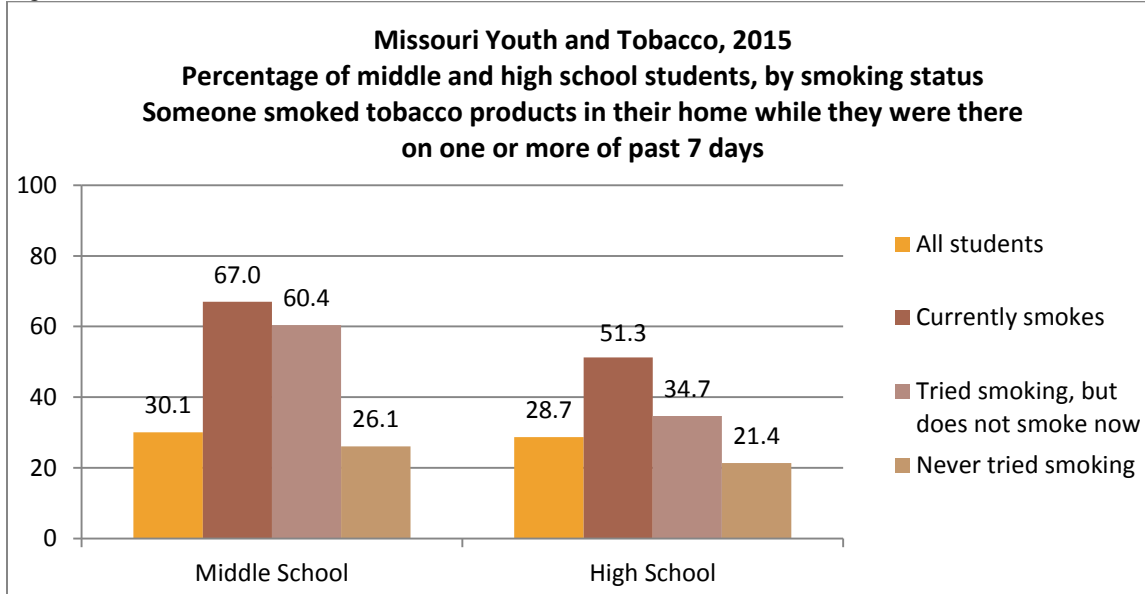
Figure 18



Secondhand smoke exposure

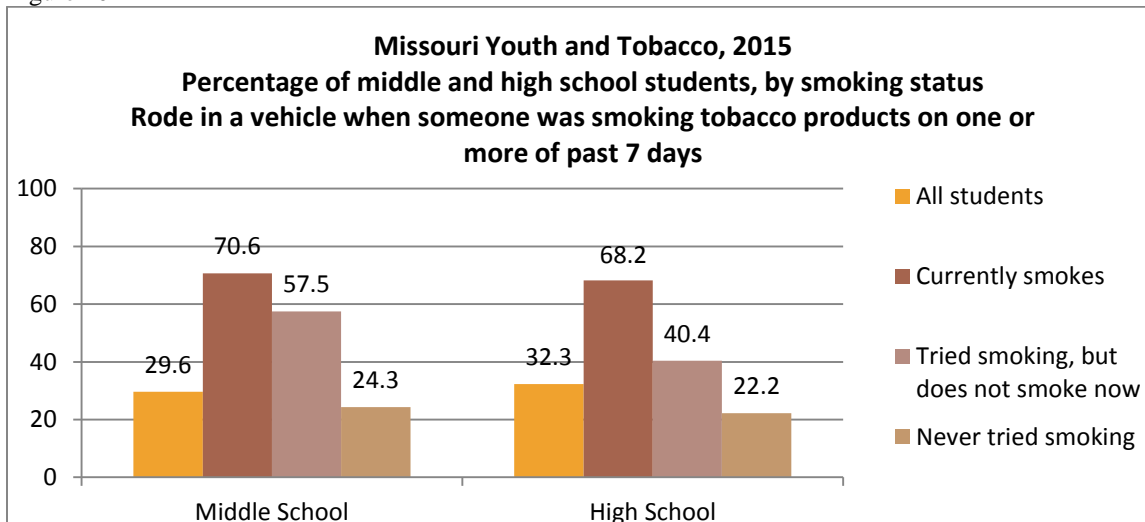
In 2015, 30.1 percent of middle school students and 28.7 percent of high school students had someone smoke in their home while they were there on one or more of the past seven days (Figure 19). Among students who had never tried smoking, 26.1 percent of middle school students and 21.4 percent of high school students were exposed to secondhand smoke in their home.

Figure 19



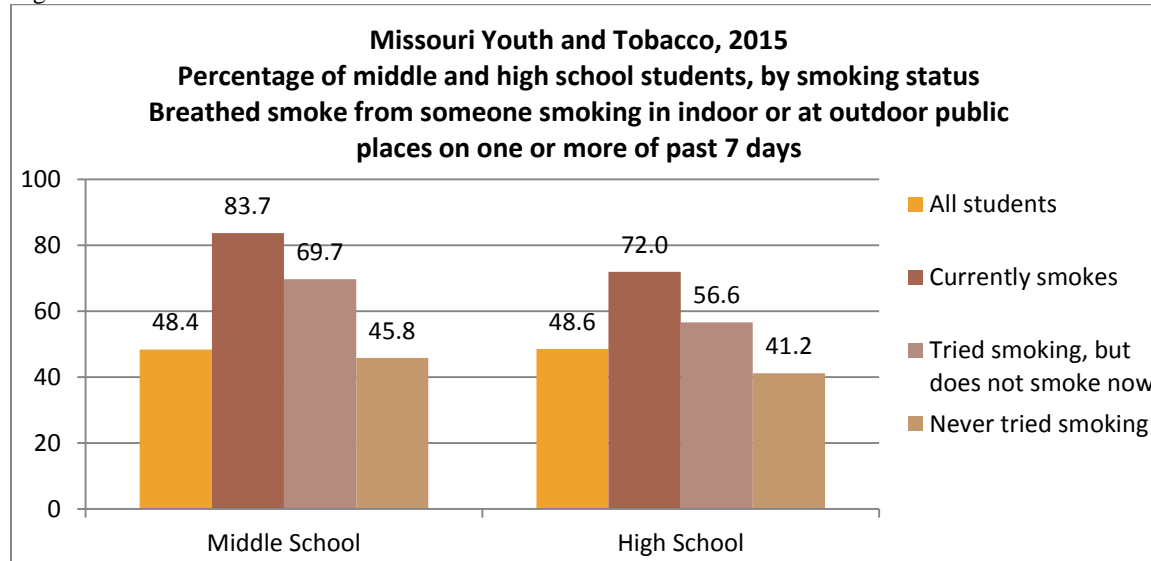
In 2015, 29.6 percent of middle school students and 32.3 percent of high school students rode in a vehicle when someone was smoking on one or more of the past seven days (Figure 20). Among students who had never tried smoking, 24.3 percent of middle school students and 22.2 percent of high school students were exposed to secondhand smoke in vehicles.

Figure 20



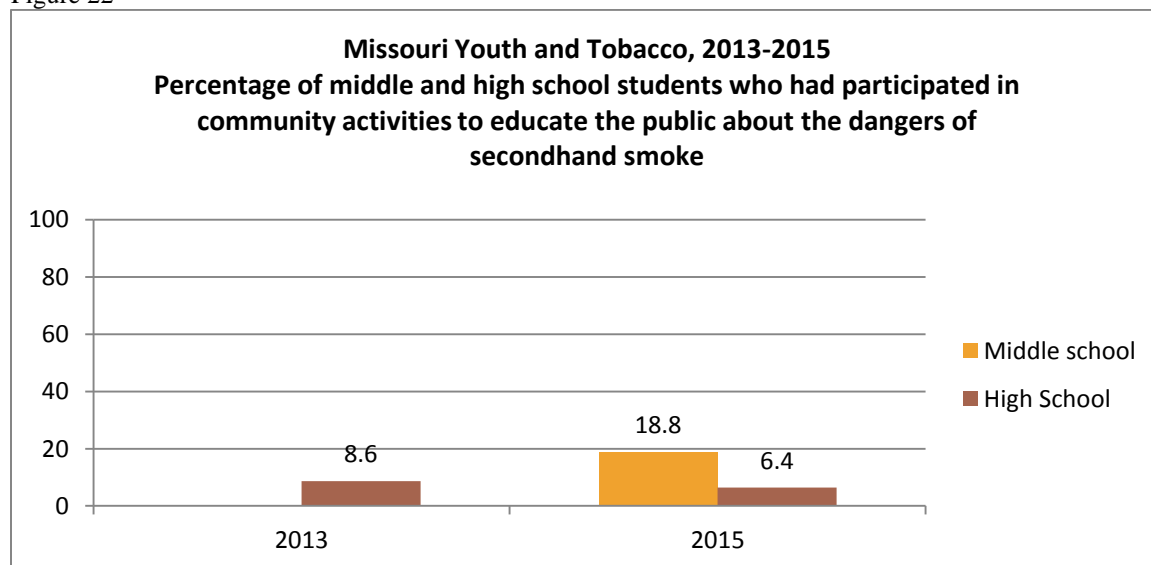
Almost one-half of middle and high school students breathed smoke from someone who was smoking at a public indoor or outdoor place on one or more of the past seven days during 2015 (Figure 21). Among students who had never tried smoking cigarettes, 45.8 percent of middle school students and 41.2 percent of high school students were exposed to secondhand smoke in a public place.

Figure 21



In 2015, 18.8 percent of middle school students and 6.4 percent of high school students had participated in community activities to educate the public about the dangers of secondhand smoke (Figure 22). No data are available for middle school in 2013.

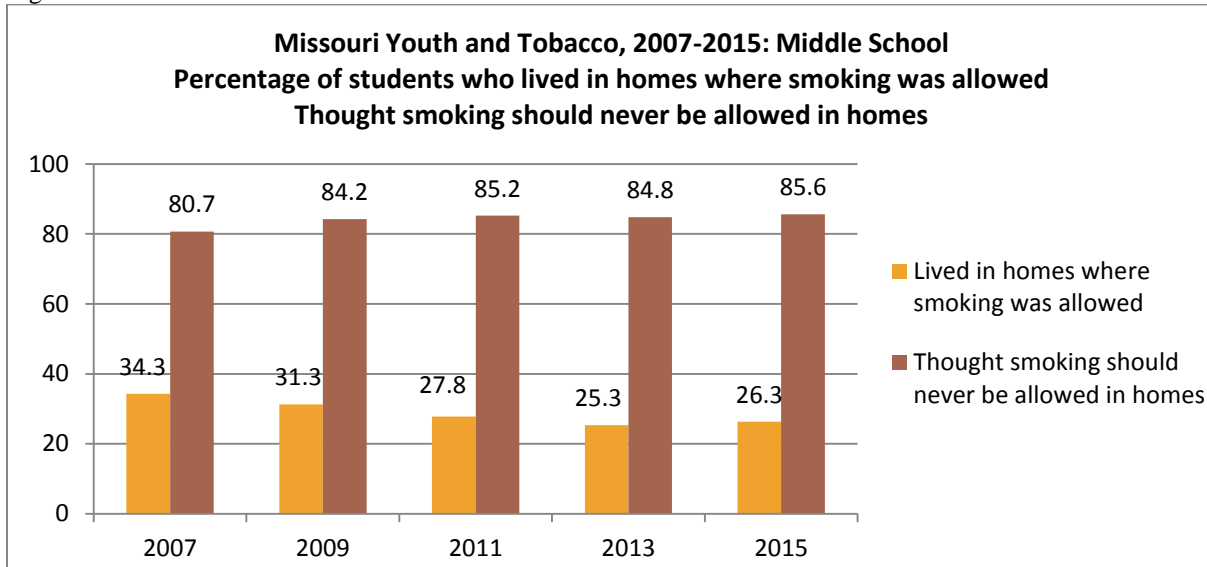
Figure 22



Secondhand smoke policies and beliefs

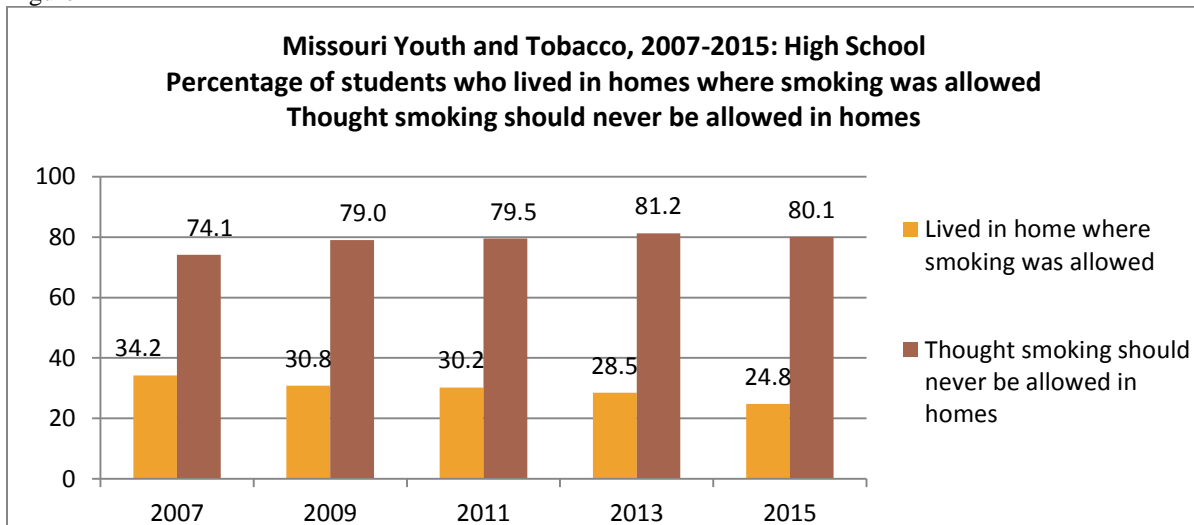
The percentage of middle school students who lived in homes where smoking was allowed decreased from 34.3 percent in 2007 to 26.3 percent in 2015 (Figure 23). The percentage of middle school students who thought smoking should never be allowed in homes increased significantly from 80.7 percent in 2007 to 85.6 percent in 2015.

Figure 23



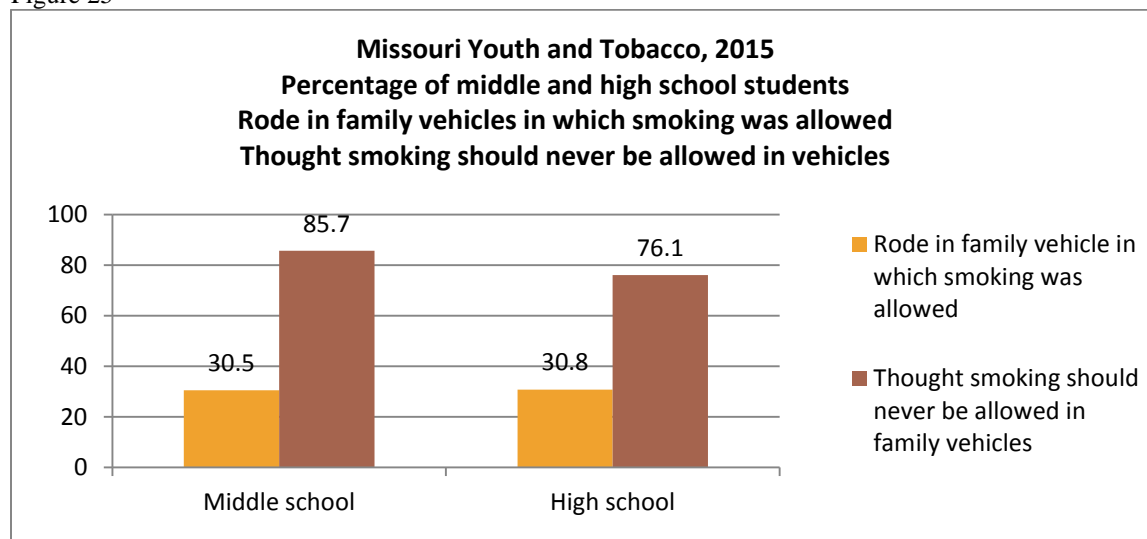
The percentage of high school students who lived in homes where smoking was allowed decreased from 34.2 percent in 2007 to 24.8 percent in 2015 (Figure 24). The percentage of high school students who thought smoking should never be allowed in homes increased significantly from 74.1 percent in 2007 to 80.1 percent in 2015.

Figure 24



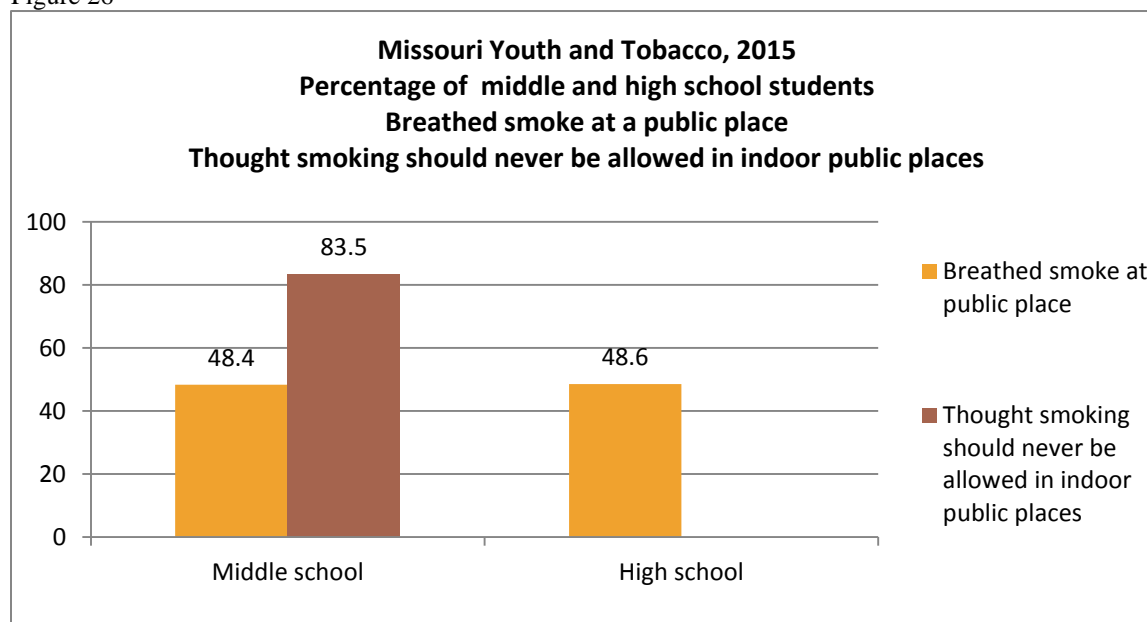
In 2015, about one-third of middle and high school students rode in or drove family vehicles in which smoking was allowed, yet the vast majority thought smoking should never be allowed in vehicles (Figure 25).

Figure 25



In 2015, almost half of middle and high school students breathed smoke from someone who was smoking in indoor or outdoor public places (such as school buildings, stores, restaurants, stadiums, school grounds, parking lots, and parks) on one or more of the past seven days (Figure 26). Over 80 percent of middle school students thought smoking should never be allowed in indoor public places (no data available for high school students).

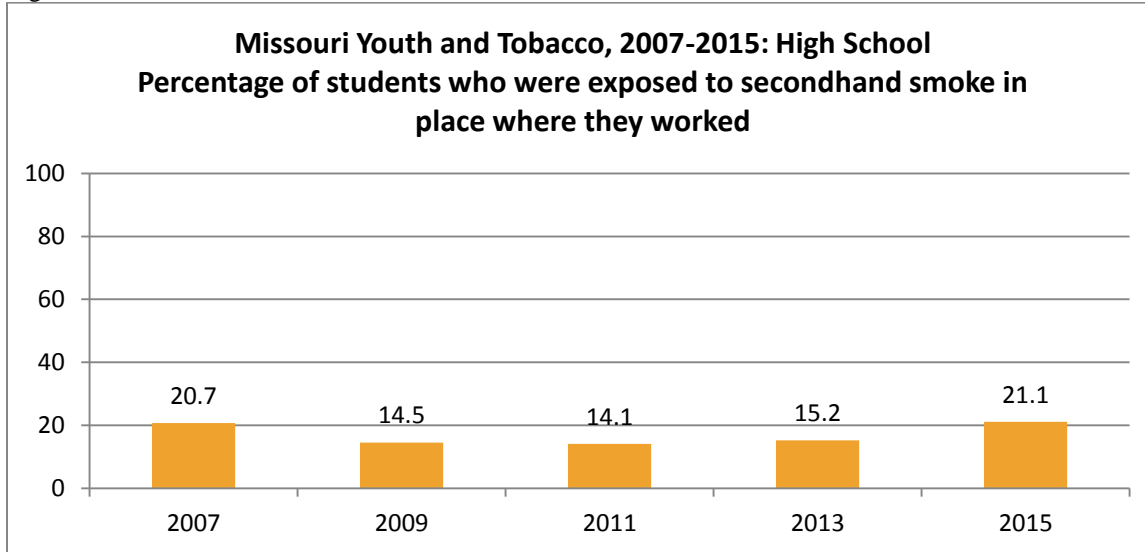
Figure 26



Secondhand smoke in the workplace

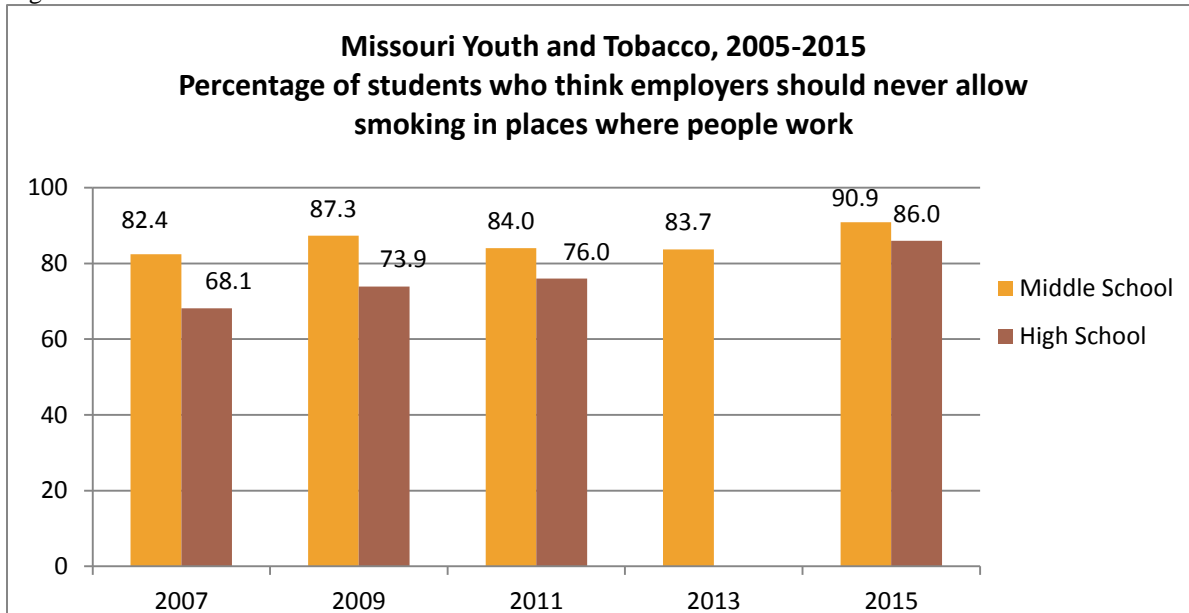
Among high school students who worked during the seven days before the survey in 2015, 21.1 percent breathed smoke from someone who was smoking tobacco products in the place where they worked (Figure 27).

Figure 27



The percentage of high school students who thought employers should never allow smoking in workplaces increased significantly from 68.1 percent in 2007 to 86.0 percent in 2015 and among middle school students from 83.4 percent in 2007 to 90.9 percent in 2015 (Figure 28). Note: 2013 data for high school students are not available.

Figure 28



Survey methodology

The Missouri Youth Tobacco Survey (YTS) was conducted by the Missouri Department of Health and Senior Services (DHSS) with middle and high school students every odd-numbered spring from 2003 through 2011 and with middle school students only in 2013 and 2015. The Missouri Youth Risk Behavior Survey (YRBS) was administered by the Missouri Department of Elementary and Secondary Education (DESE) with high school students only in odd-numbered springs from 1995 through 2011, and then by DHSS in 2013 and 2015.

Both paper and pencil surveys were supported by the U.S. Centers for Disease Control and Prevention, which provided funding for survey administration, and performed school sampling, data tabulation, weighting and primary analysis. DHSS staff administered the surveys by obtaining participation of randomly selected schools, securing class schedules and randomly selecting classes for participation, providing survey materials to participating schools, and collecting and processing completed surveys for shipping to the CDC.

Sampling design

All regular and charter public schools in Missouri containing grades 6-8 in which 6th grade was not the highest grade in the building were included in the sampling frame for middle schools. Buildings containing grades 9-12 were included in the sampling frame for high schools. A two-stage cluster sample design was used to produce a separate representative sample of students for middle school and high school.

In the first-stage sampling, schools were randomly selected with probability proportional to the school enrollment size. In the second stage, systematic equal probability sampling with a random start was used to select classes from each school that participated in the survey. All classes in the selected schools were included in the second-stage sampling frame. All students in the selected classes were eligible to participate in the survey. School and student participation were anonymous and confidential. Passive parental permission was utilized unless the school district required active permission.

Response rates

The response rates were calculated by multiplying school participation rate by student participation rate for middle schools and high schools. The response rate must be equal to or greater than 60 percent for data to be weighted to adjust for unequal probability selection of each student and to reduce bias by compensating for differing patterns of non-response.

Sufficient responses for weighting the data have been obtained each year the YTS was conducted in Missouri. In 2015, 30 of 42 (71.4 percent) sampled middle schools participated with 1,708 of 1,920 (89.0 percent) sampled middle school students completing usable questionnaires. The overall response rate was 63.5 percent.

Sufficient responses for weighting the data have been obtained each year the YRBS was conducted in Missouri, with the exception of 2011. In 2015, 29 of 40 (72.5 percent) sampled high schools and 1,502 of 1,722 (87.2 percent) sampled students completed usable questionnaires. The overall response rate was 63.2 percent.

Strategies for Reducing Tobacco Use among Missouri Youth

Results from the 2015 Missouri Youth Tobacco Survey and Youth Risk Behavior Survey showed continued progress in reducing cigarette smoking that was first reported in “Missouri Youth Tobacco Survey 2003-2009.” To continue the progress, the following evidence-based strategies should be fully implemented.

➤ **Promote quitting by adults and youth**

These survey results show significant differences between youth that have never tried smoking cigarettes and those that are current smokers with regard to influences to smoke. One such influence is living with someone that smokes. In 2015, 81.2 percent of middle school smokers lived with someone that smoked compared to 38.3 percent of students who had never tried smoking cigarettes. Among high school smokers, 59.2 percent lived with someone that smoked compared to 30.4 percent of students who had never tried smoking cigarettes. Missouri’s adult smoking prevalence in 2014 was 20.6 percent.³ To continue reducing smoking among young people, efforts to promote quitting among adult smokers should continue, such as through the cessation assistance provided by the Missouri Tobacco Quitline (1-800-QUIT-NOW) or www.quitnow.net/Missouri.

➤ **Increase the price of tobacco products**

Increasing the price of tobacco products is one of the most effective methods of decreasing use among both adults and youth.⁴ Missouri’s state tax of 17 cents on a package of cigarettes is the lowest of all states.⁵ Increasing the cost would make cigarettes less affordable for youth as well as adults.

➤ **Create tobacco free environments**

Creating smokefree environments not only reduces exposure to secondhand smoke, but has also been shown to contribute to less smoking initiation by youth due to less modeling of the behavior by adults. An 11-year longitudinal study found that 100 percent smokefree workplace laws were associated with significantly lower odds of initiating smoking among adolescents and young adults.⁶ Efforts to increase the number of smokefree workplaces in Missouri have resulted in 37 municipalities and one county enacting smokefree ordinances covering one or more of these: public places, workplaces, restaurants, and bars. Twenty-nine (29) of the 37 are comprehensive covering public places, workplaces, restaurants and bars, and five (5) of the 29 are comprehensive ordinances that also include electronic nicotine delivery systems.⁷ The 2015 YRBS revealed that among high school students who worked in the past seven days, 21.1 percent were exposed to secondhand tobacco smoke while at work. Efforts to create smokefree workplaces should increase, and involve youth in advocating for tobacco free environments.

➤ **Decrease social acceptability of tobacco**

The percentage of middle and high school students who saw or heard anti-smoking ads in the past 30 days declined significantly from 2003-2011, but increased significantly in 2015 with over 75 percent seeing anti-smoking ads in the past 30 days. Mass-reach health communication interventions, particularly through television, have been shown to reduce tobacco use initiation among youth.⁸ Efforts should be made to secure funding to support strong anti-tobacco mass communication interventions that counter tobacco product promotions. Additionally, mass communication interventions should be expanded to include electronic vapor products due to the significant increase in use of the products in 2015.

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