

Health Risk Behaviors among Missouri Middle and High School Students

Results from the 2013 Youth Risk Behavior Survey and
2013 Youth Tobacco Survey



Missouri Department of Health and Senior Services
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Introduction

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 health risk behaviors among youth. Information about the methodology for the Youth Risk Behavior Survey (YRBS) and Youth Tobacco Survey (YTS) may be found on page 20.

This report summarizes key findings from the 2013 YRBS and 2013 YTS including results from previous years that demonstrate changes over time. For a full report of the 2013 YTS results, see *Missouri Youth and Tobacco 2003-2013* available at <http://health.mo.gov/data/yts/data.php>. Previous years of YRBS data may be found on the CDC website at <http://apps.nccd.cdc.gov/YouthOnline/App/Default.aspx>.

2013 Key Findings

The good news, during the decade of 2003-2013:

- ✓ Sugar-added soft drink consumption declined significantly among middle and high school students
- ✓ Participation in at least 60 minutes of physical activity on five or more days of the week increased significantly among high school students
- ✓ Current cigarette smoking declined significantly among middle and high school students
- ✓ Current alcohol use and binge drinking declined significantly among high school students
- ✓ The percentage of high school students that engaged in sexual intercourse in the past three months declined significantly

Of concern:

- About one-third of middle school students and one-half of high school students were exposed to secondhand tobacco smoke during the past seven days
- Almost one-half of middle school students and about a quarter of high school students had been bullied on school property during the past 12 months
- Among high school students that drove in the past 30 days, about one-half texted or e-mailed, or talked on a cell phone while driving
- The percentage of high school students that used a condom when engaging in sexual intercourse during the past three months declined significantly over the decade

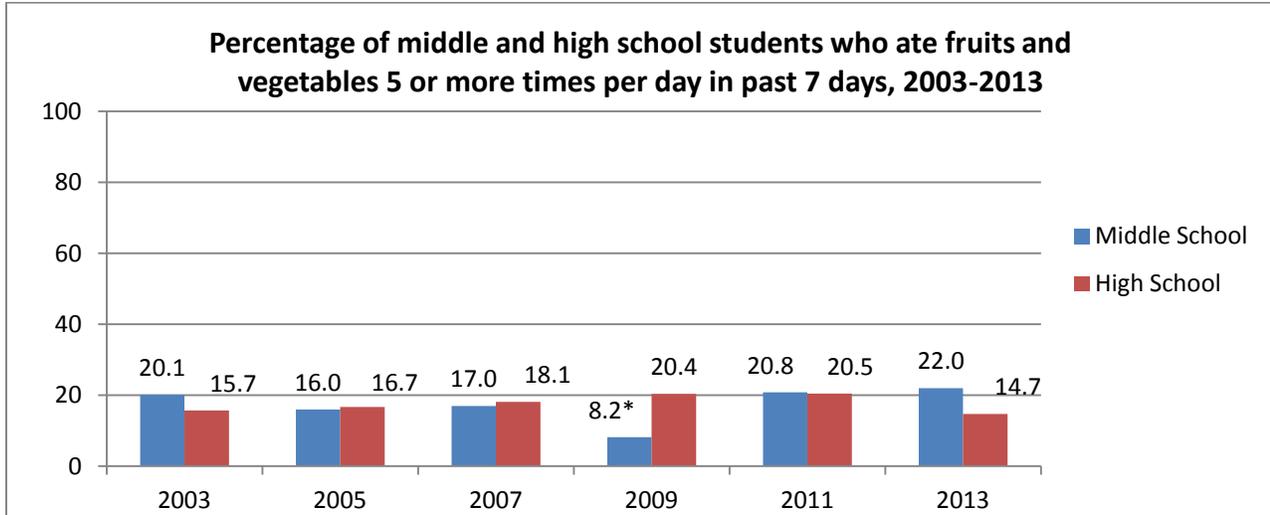
Health Risk Behaviors among Missouri Middle and High School Students

Dietary Behaviors

Fruit and vegetable consumption

The percentage of middle and high school students who ate fruits and vegetables five or more times per day during the past seven days did not change significantly over the past decade (Figure 1).

Figure 1

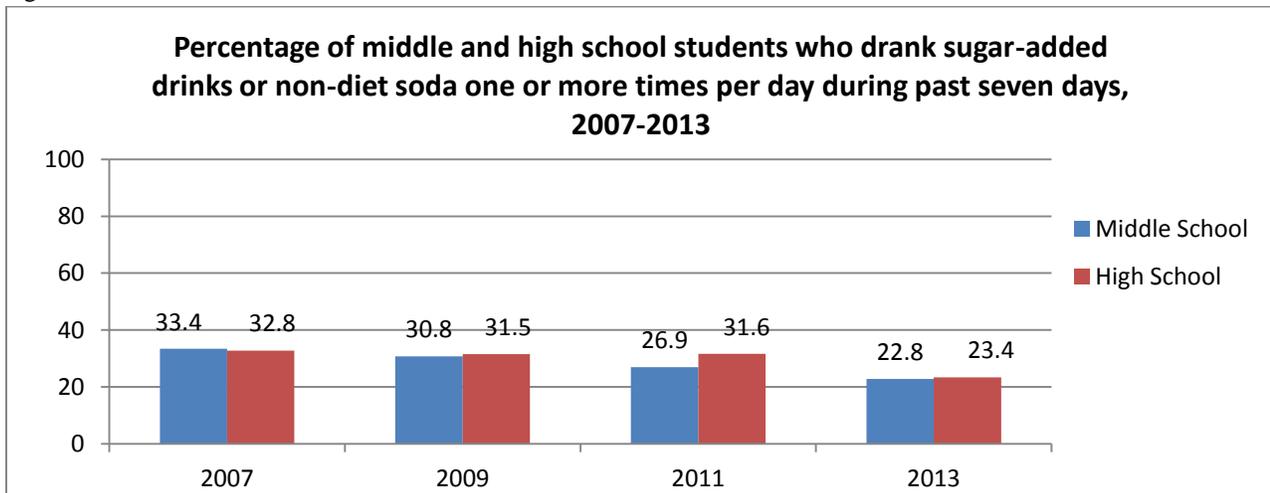


*Different question: Five or more servings of fruits and vegetable eaten the day before the survey.

Sugar-added drinks/non-diet soda or pop consumption

The percentage of middle and high school students who drank sugar-added drinks or non-diet soda one or more times per day during the past seven days decreased significantly from 2007 to 2013 (Figure 2).

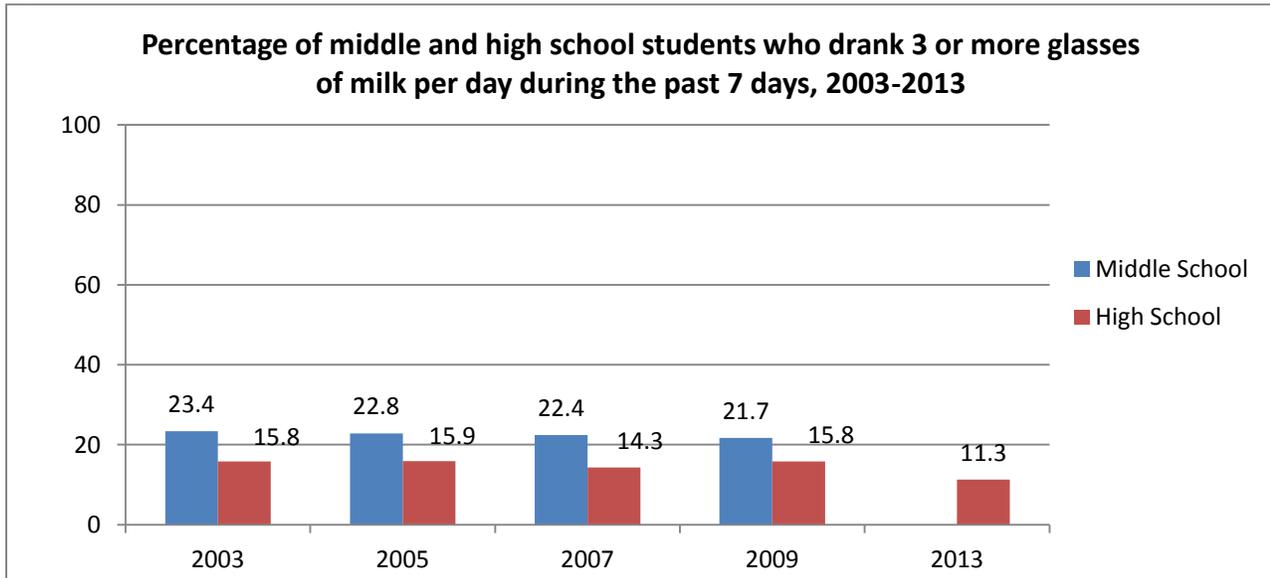
Figure 2



Milk consumption

The percentage of high school students who drank three or more glasses of milk per day during the past seven days declined significantly from 15.8 percent in 2003 to 11.3 percent in 2013 (Figure 3). No data are available for 2011 or for middle school students in 2013.

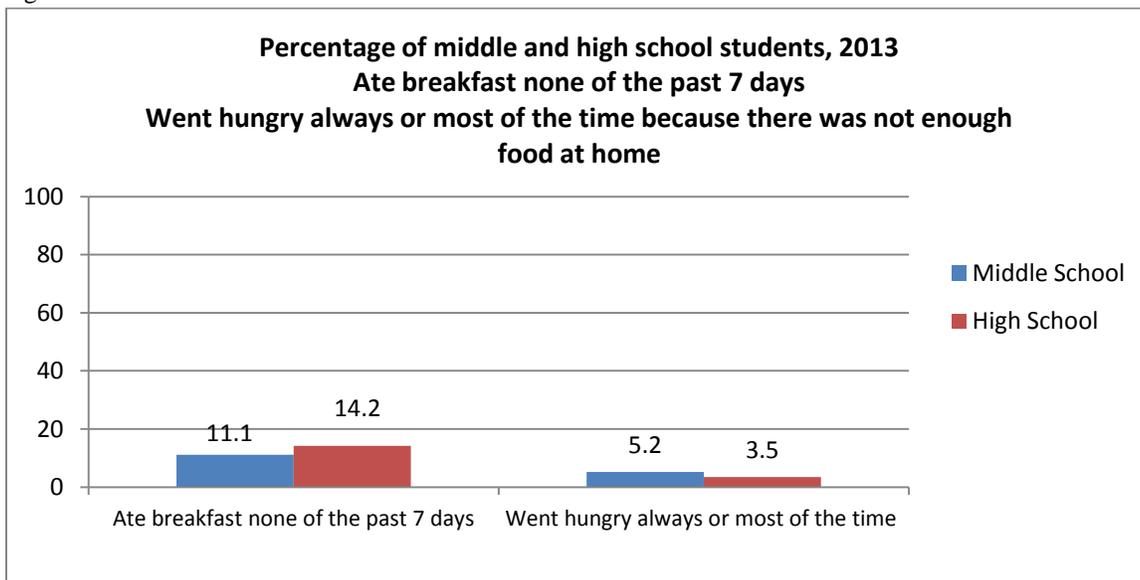
Figure 3



Breakfast consumption and hunger

In 2013, 5.2 percent of middle school students and 3.5 percent of high school students went hungry always or most of the time because there was not enough food at home (Figure 4).

Figure 4

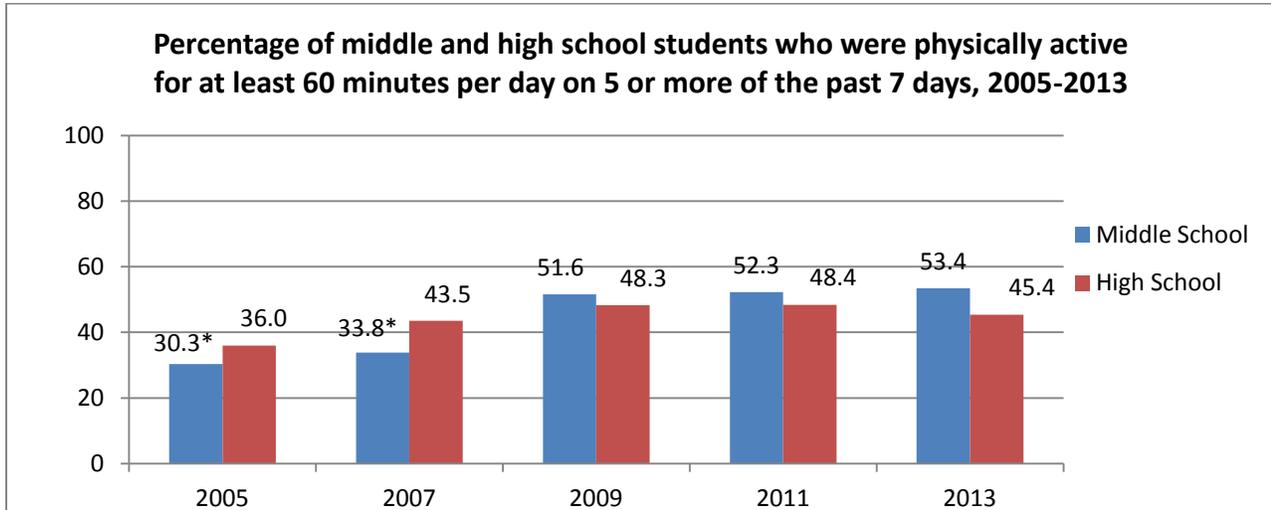


Physical Activity

Participation in physical activity

The percentage of high school students who were physically active for a total of at least 60 minutes per day on five or more of the past seven days increased significantly from 36.0 percent in 2005 to 45.4 percent in 2013 (Figure 5).

Figure 5

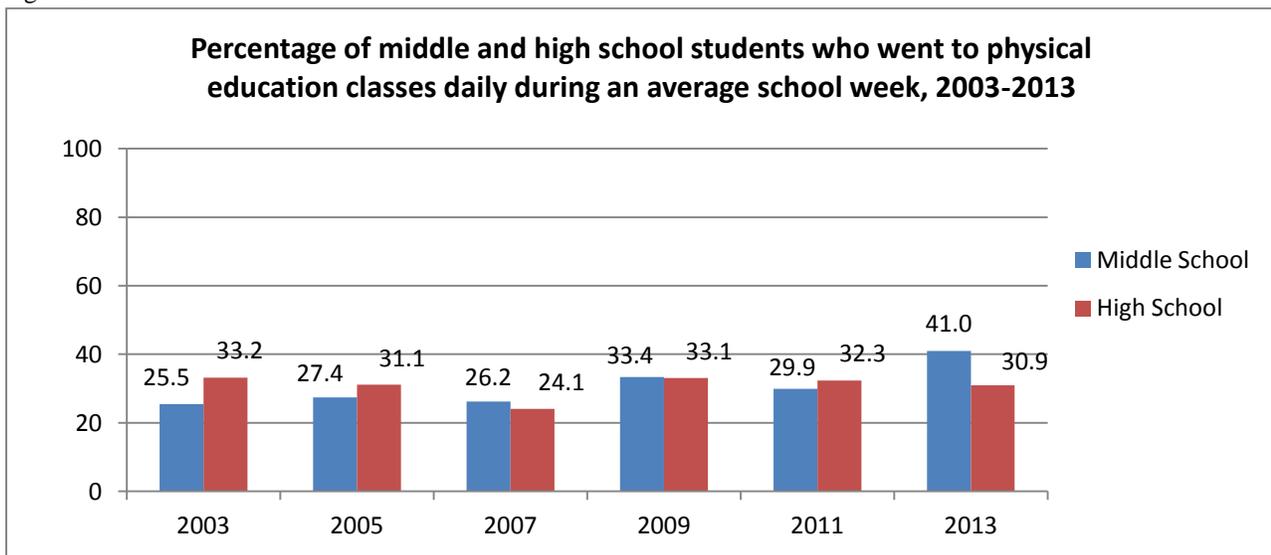


*Participated in moderate physical activity for at least 30 minutes/day on 5 or more of past 7 days

Participation in school physical education

The percentage of middle students who attended physical education class daily in an average week when they were in school increased from 25.5 percent in 2003 to 41.0 percent in 2013 (Figure 6).

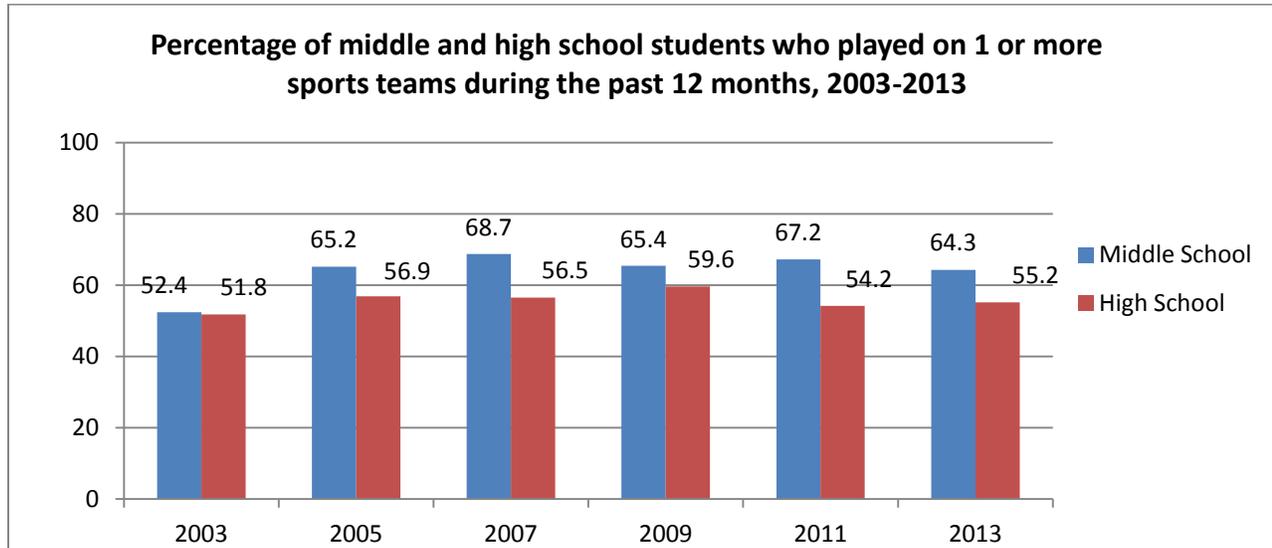
Figure 6



Participation on sports teams

The percentage of middle school students who played on one or more sports teams during the past 12 months increased from 52.4 percent in 2003 to 64.3 percent in 2013 (Figure 7).

Figure 7



Television viewing and video game/computer usage on school days

Over the decade, a decreased percentage of middle and high school students watched television on school days, while an increased percentage played video games or used a computer (Table 1).

The percentage who watched television for three or more hours per day on an average school day decreased significantly from 32.4 percent in 2003 to 25.6 percent in 2013 among high school students and from 43.7 percent in 2003 to 30.9 percent in 2013 among middle school students.

The percentage who played video games or used a computer for three or more hours per day on a school day increased significantly from 21.5 percent in 2007 to 32.7 percent in 2013 among high school students and from 25.9 percent in 2009 to 29.8 percent in 2013 among middle school students.

Table 1

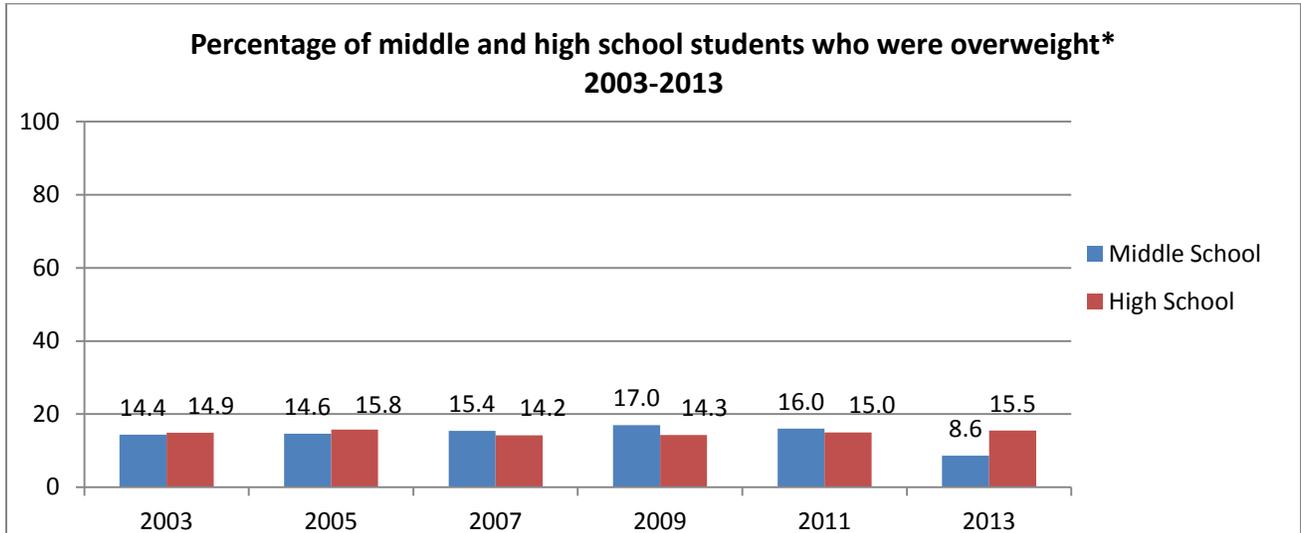
Percentage of:	2003	2005	2007	2009	2011	2013
Middle school students that watched television three or more hours per day on an average school day	43.7	40.4	36.9	33.2	32.3	30.9
High school students that watched television three or more hours per day on an average school day	32.4	33.9	29.6	32.4	29.9	25.6
Middle school students that played video or computer games or used computer for other than school work for three or more hours per day on an average school day	N/A	N/A	N/A	25.9	27.1	29.8
High school students that played video or computer games or used computer for other than school work for three or more hours per day on an average school day	N/A	N/A	21.5	22.9	24.8	32.7

Overweight and Obesity

Overweight

The percentage of middle school students who were overweight declined significantly from 14.4 percent in 2003 to 8.6 percent in 2013 (Figure 8).

Figure 8

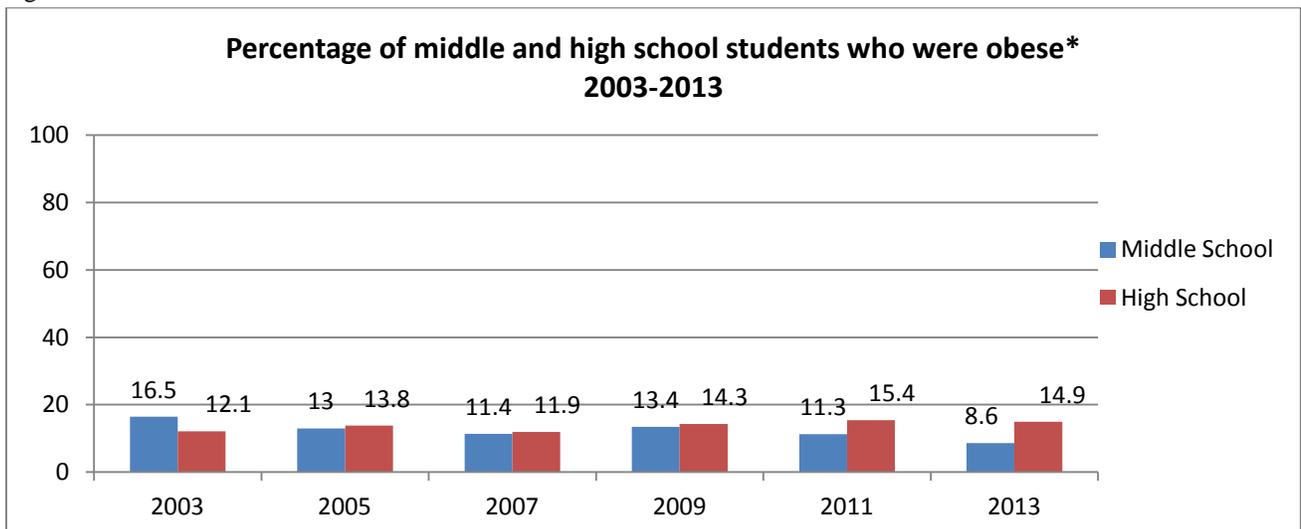


*Overweight for youth is defined as having a BMI between the 85th and 95th percentile on the CDC Growth Chart. BMI is calculated from self-reported height and weight.

Obesity

The percentage of middle school students who were obese declined significantly from 16.5 percent in 2003 to 8.6 percent in 2013 (Figure 9).

Figure 9



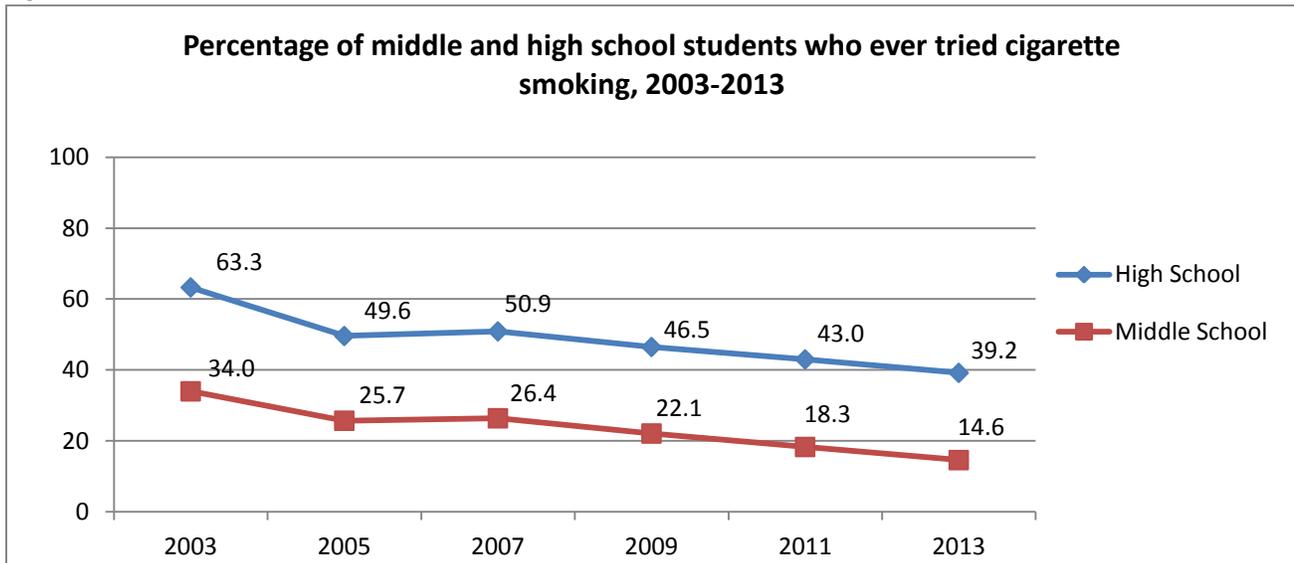
*Obese for youth is defined as having a BMI at or above the 95th percentile on the CDC Growth Chart

Cigarette Smoking

Ever tried cigarette smoking

The percentage of middle and high school students who ever tried smoking cigarettes declined significantly over the decade (Figure 10).

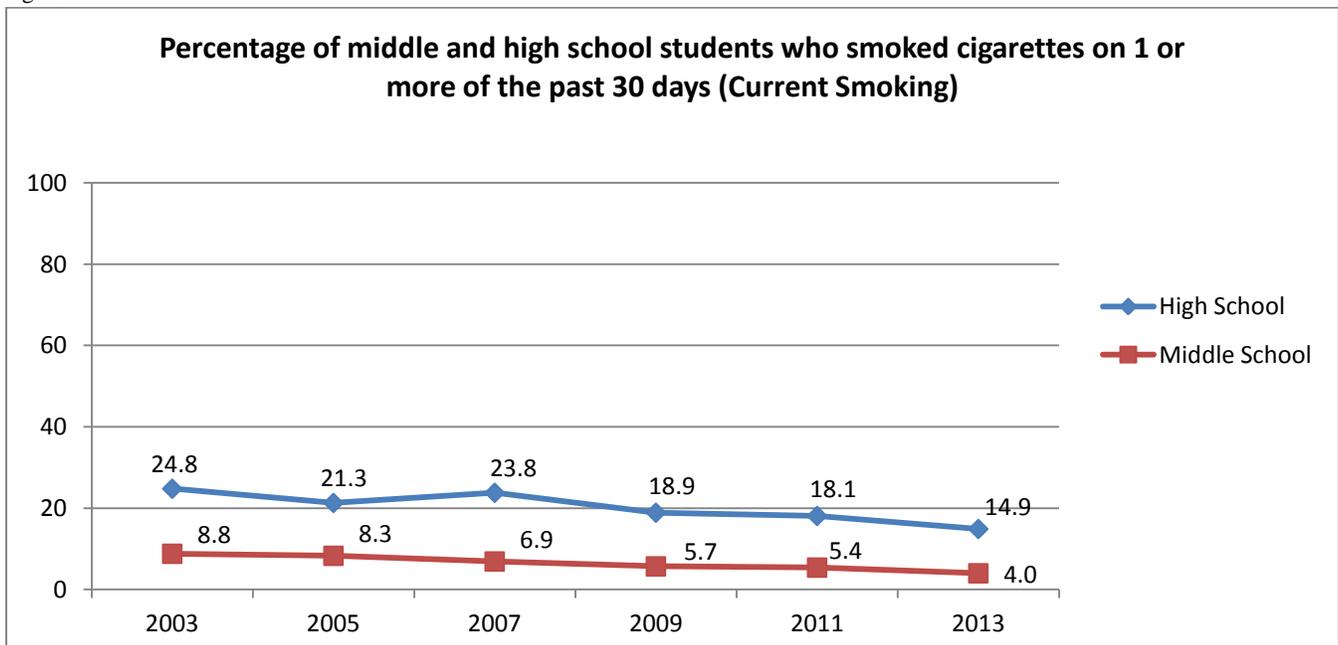
Figure 10



Current cigarette smoking

The percentage of middle and high school student who smoked cigarettes on one or more of the past 30 days declined significantly from 2003 to 2013 (Figure 11).

Figure 11

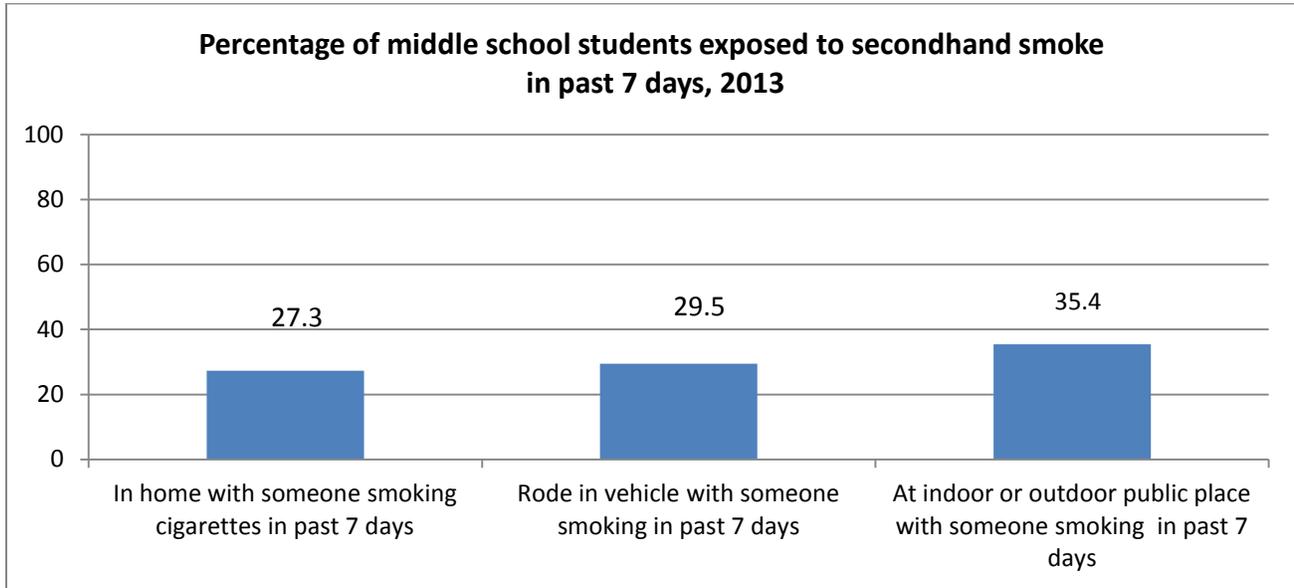


Exposure to Secondhand Tobacco Smoke

Middle School Students' Exposure

In 2013, more than one-third of middle school students were exposed to secondhand tobacco smoke while at an indoor or outdoor public place during the past seven days (Figure 12).

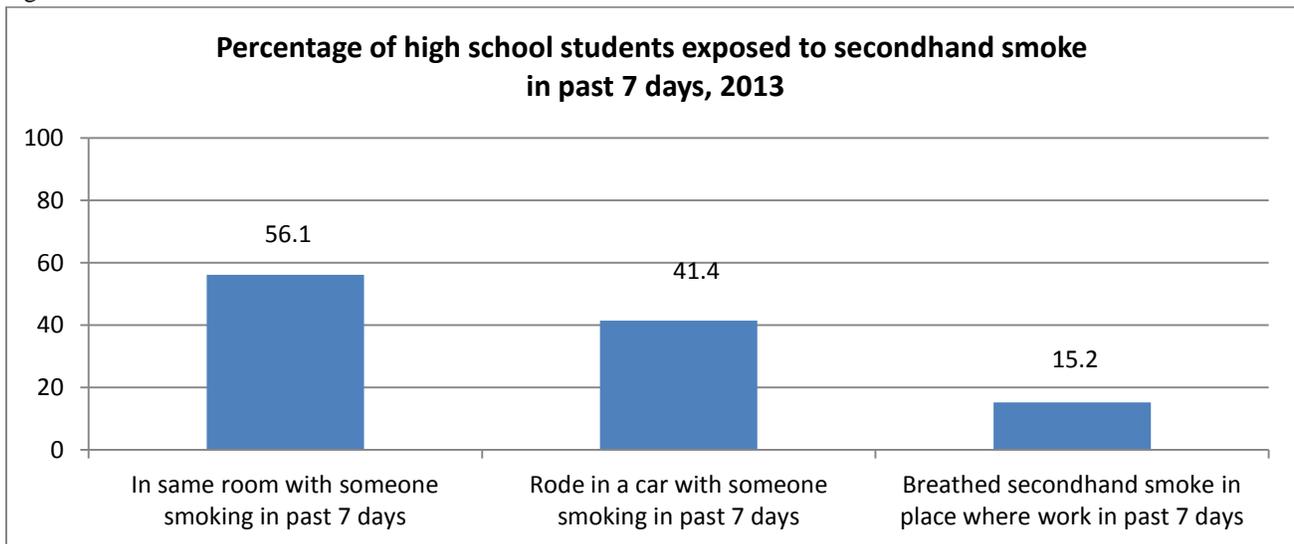
Figure 12



High School Students' Exposure

In 2013, more than one-half of high school students were exposed to secondhand cigarette smoke while in the same room with someone smoking during the past seven days (Figure 13).

Figure 13

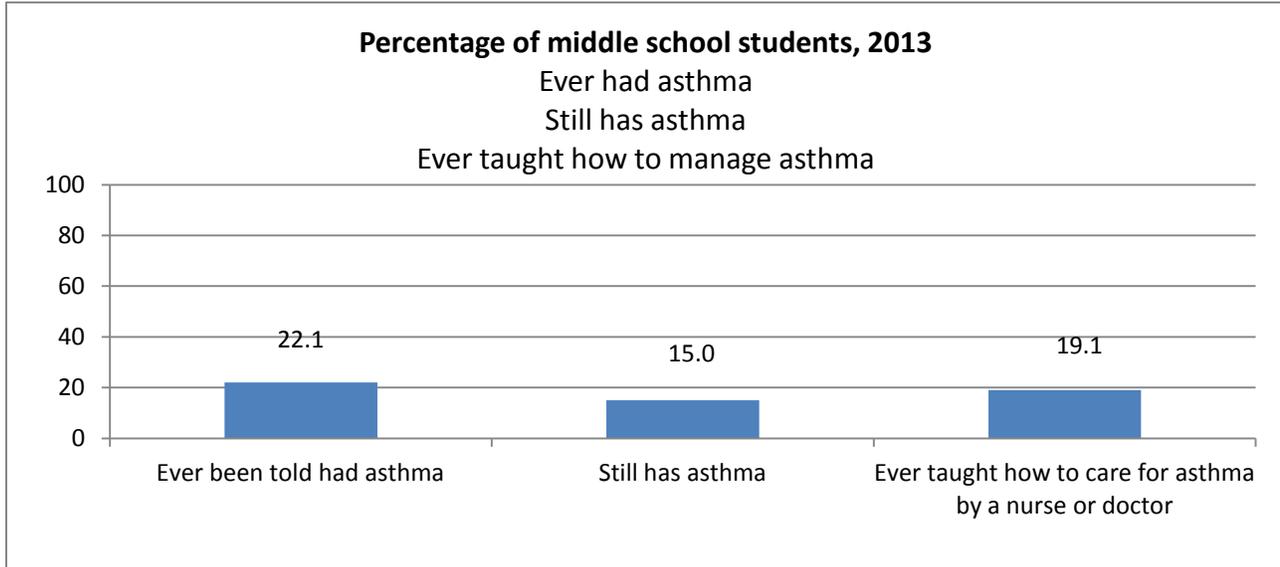


Asthma

Asthma among middle school students

In 2013, 15.0 percent of middle school students had ever been told by a doctor or nurse that they had asthma and still had the condition (Figure 14).

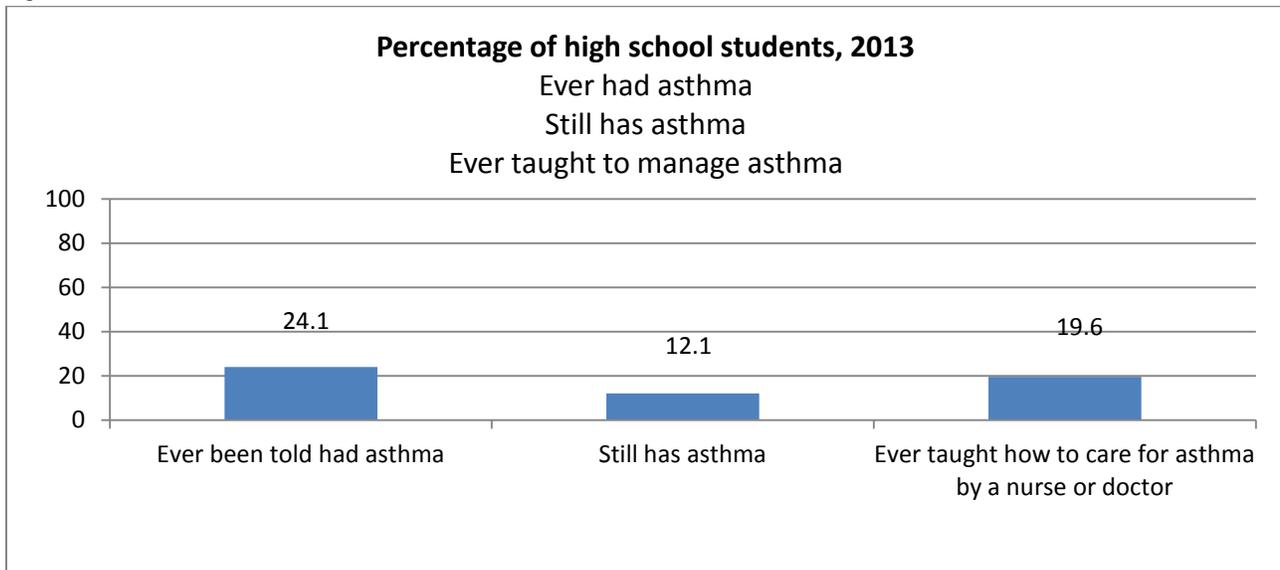
Figure 14



Asthma among high school students

In 2013, 12.1 percent of high school students had ever been told they had asthma and still had the condition (Figure 15).

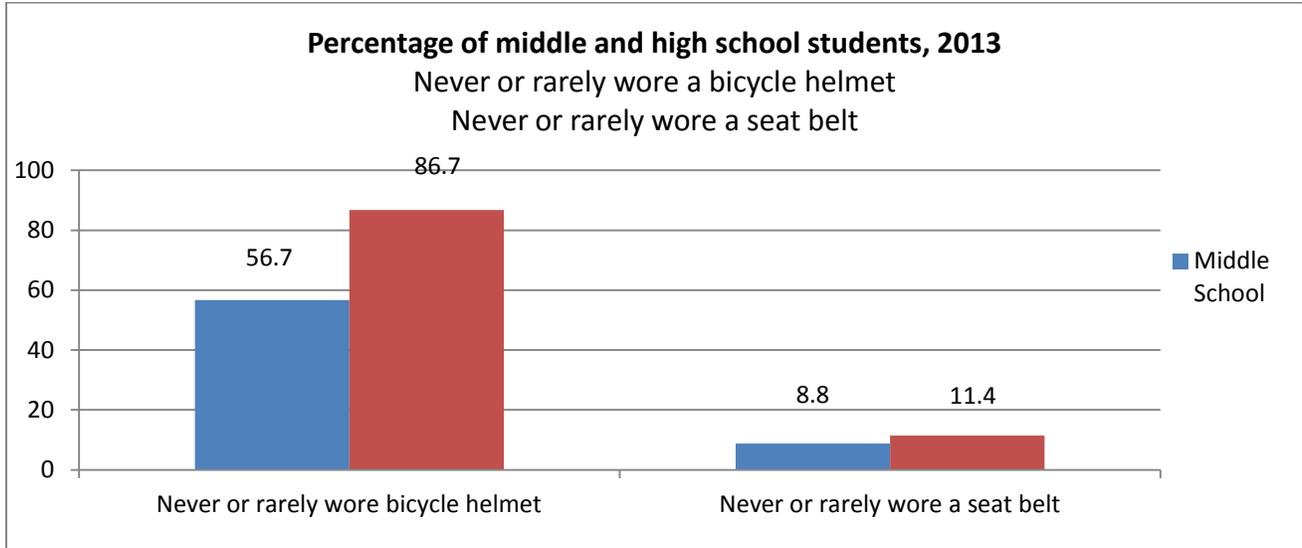
Figure 15



Bicycle Helmet and Seat Belt Use

In 2013, among students that rode a bicycle in the past 12 months, 56.7 percent of middle school students and 86.7 percent of high school students never or rarely wore a bicycle helmet (Figure 16). Nine (8.8) percent of middle school students and 11.4 percent of high school student never or rarely wore a seat belt when riding in a car driven by someone else in 2013 (Figure 16). Also, among high school students that drove a car in 2013, 10.6 percent never or rarely wore a seat belt.

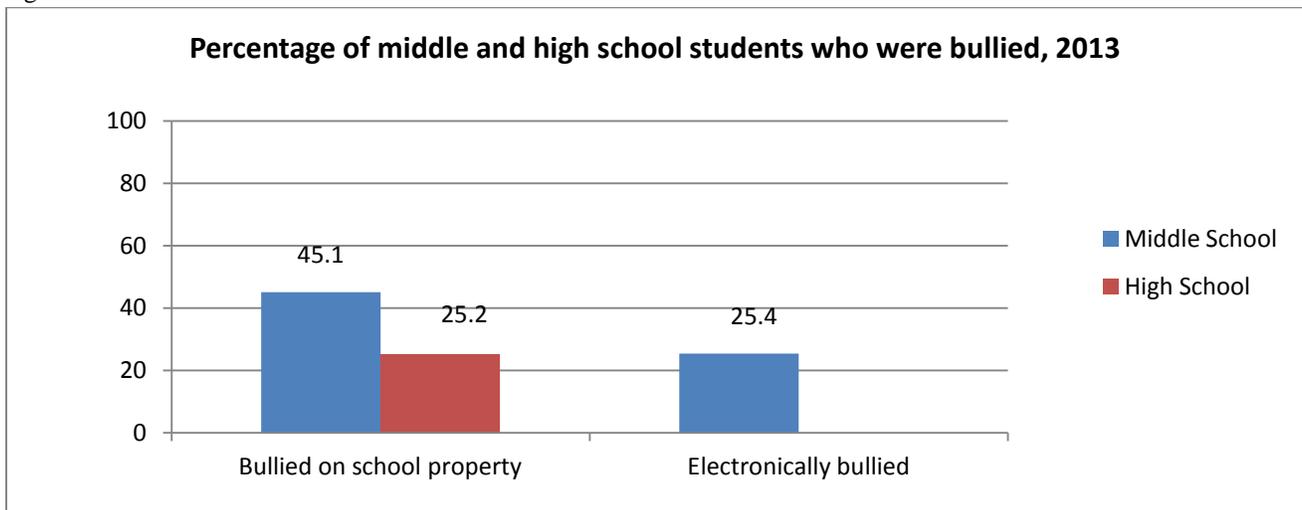
Figure 16



Bullying

In 2013, almost half of middle school students and one quarter of high school students were bullied on school property in the past 12 months (Figure 17). Also in 2013, 25.2 percent of middle school students were electronically bullied (no data are available for high school students).

Figure 17

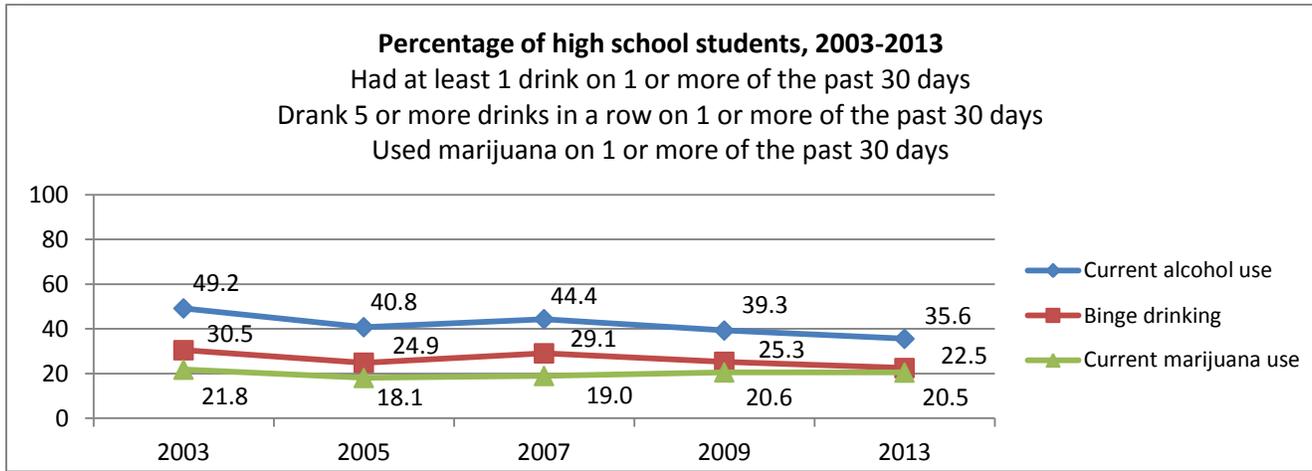


Health Risk Behaviors among Missouri High School Students

Alcohol and Marijuana Use

The percentage of high school students who had at least one drink of alcohol on one or more of the past 30 days declined significantly from 49.2 percent in 2003 to 35.6 percent in 2013 (Figure 18). Binge drinking also declined significantly from 30.5 percent in 2003 to 22.5 percent in 2013. There was no significant change in marijuana use over the decade. No data are available for 2011.

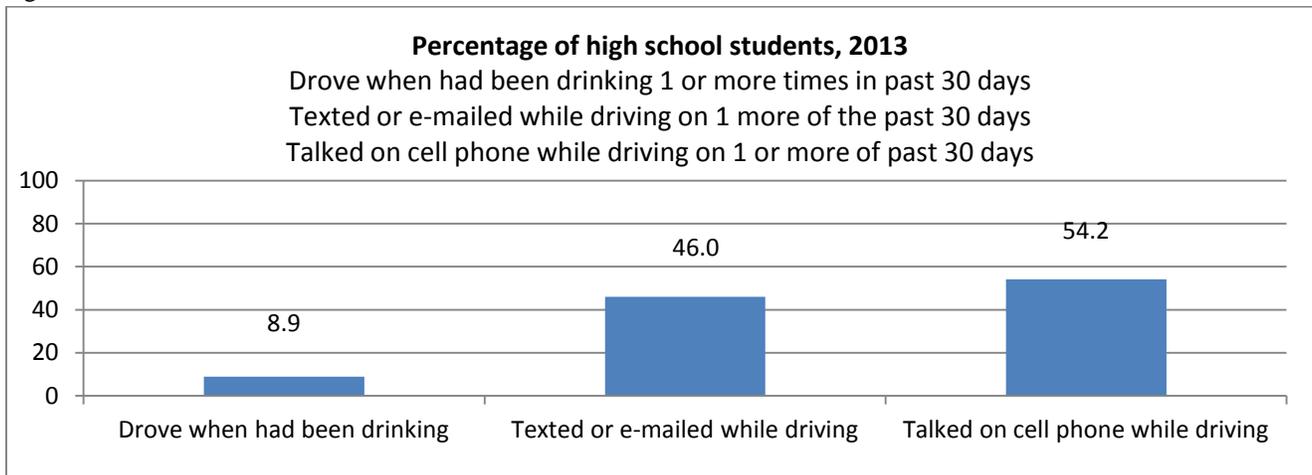
Figure 18



Driving while Drinking, Texting or E-mailing, and Talking on Cell Phone

In 2013, among students who drove a car or other vehicle during the past 30 days, 8.9 percent drove when they had been drinking alcohol, 46.0 percent texted or e-mailed, and 54.2 percent talked on a cell phone (Figure 19). Also, 19.3 percent of high school students rode with someone who had been drinking alcohol on one or more days of the past 30 days.

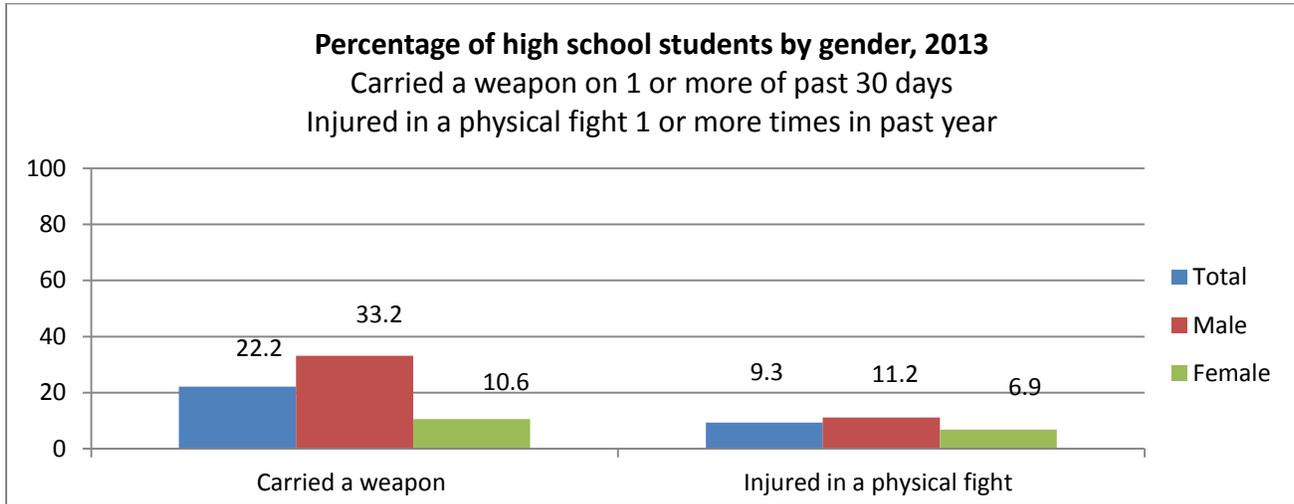
Figure 19



Weapon Carrying and Physical Fighting

In 2013, one-third of high school males carried a weapon on one or more of the past 30 days (Figure 20). Eleven percent of high school males was in a physical fight one or more times in the past 12 months and were injured and had to be treated by a doctor or a nurse.

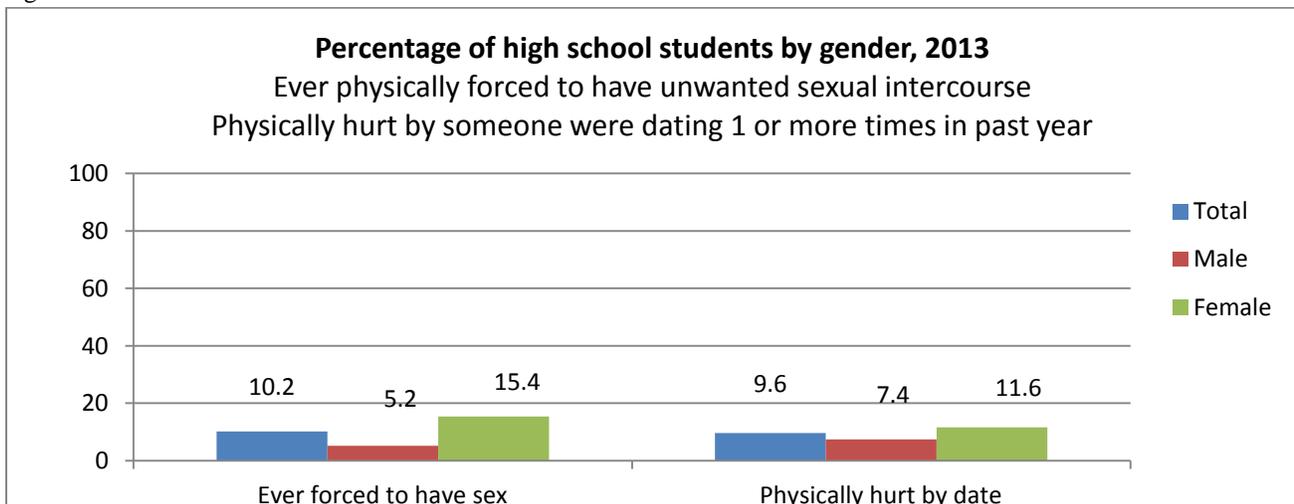
Figure 20



Forced Sexual Intercourse and Dating Violence

In 2013, fifteen percent of high school females had ever been physically forced to have sexual intercourse that they did not want (Figure 21). Among students that dated or went out with someone in the past 12 months, twelve percent of high school females had been physically hurt by someone they were dating.

Figure 21

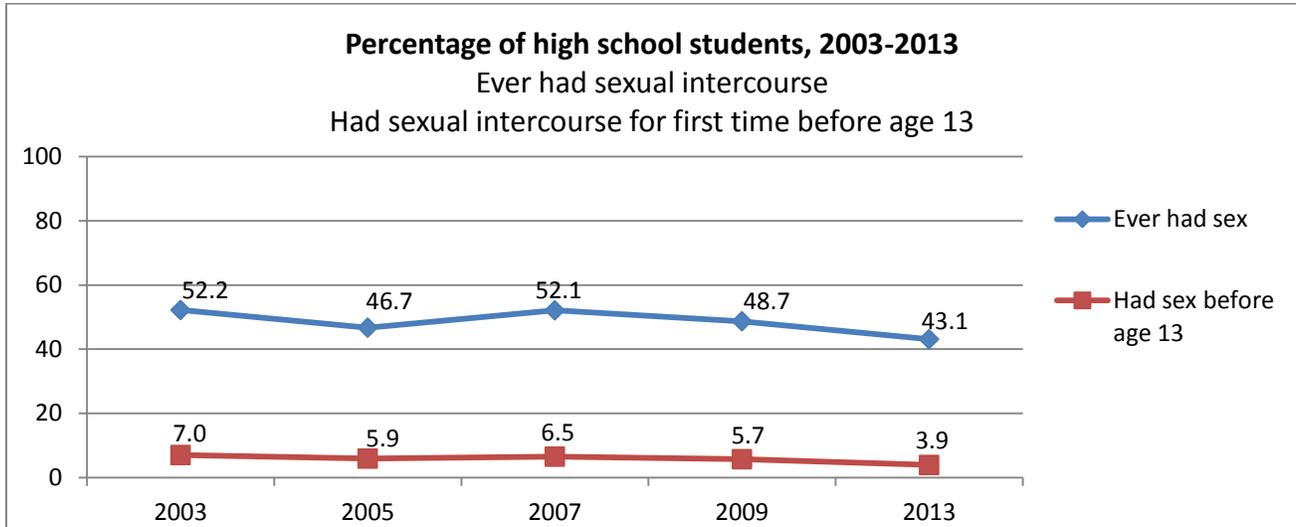


Sexual Intercourse

Ever had sexual intercourse and intercourse before age 13

The percentage of high school students who had ever had sexual intercourse declined significantly from 52.2 percent in 2003 to 43.1 percent in 2013 (Figure 22). The percentage of students who had sexual intercourse for the first time before age 13 declined significantly from 2003 to 2013.

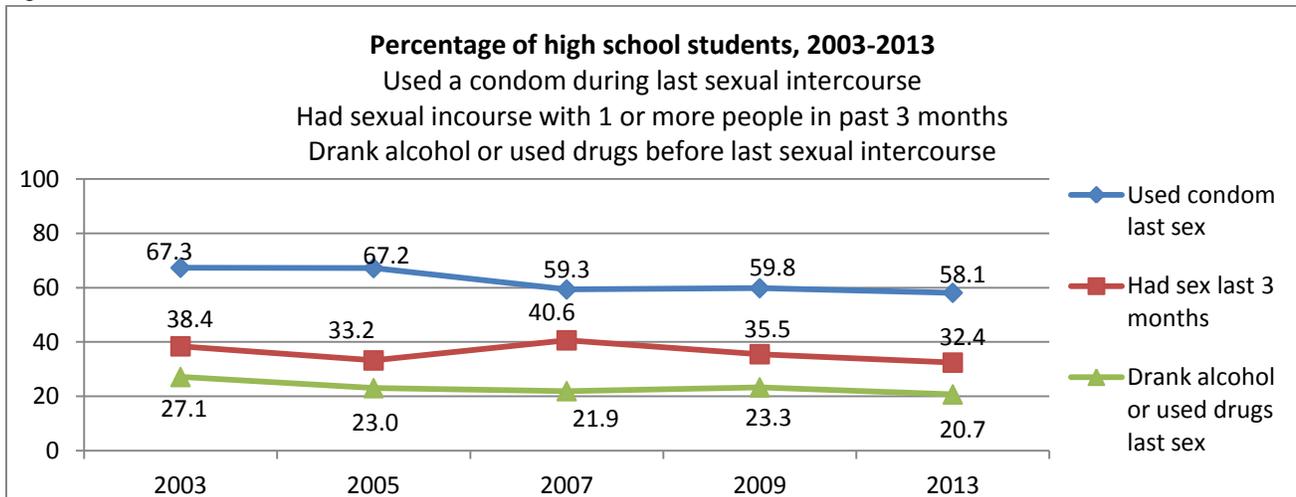
Figure 22



Current sexual intercourse, condom and alcohol use

The percentage of high school students who had sexual intercourse with one or more people during the past three months (current intercourse) declined significantly from 2003 to 2013 (Figure 23). Among those that had intercourse in the past three months, the percentage who used alcohol or drugs prior to intercourse or they or their partner used a condom during intercourse also declined significantly.

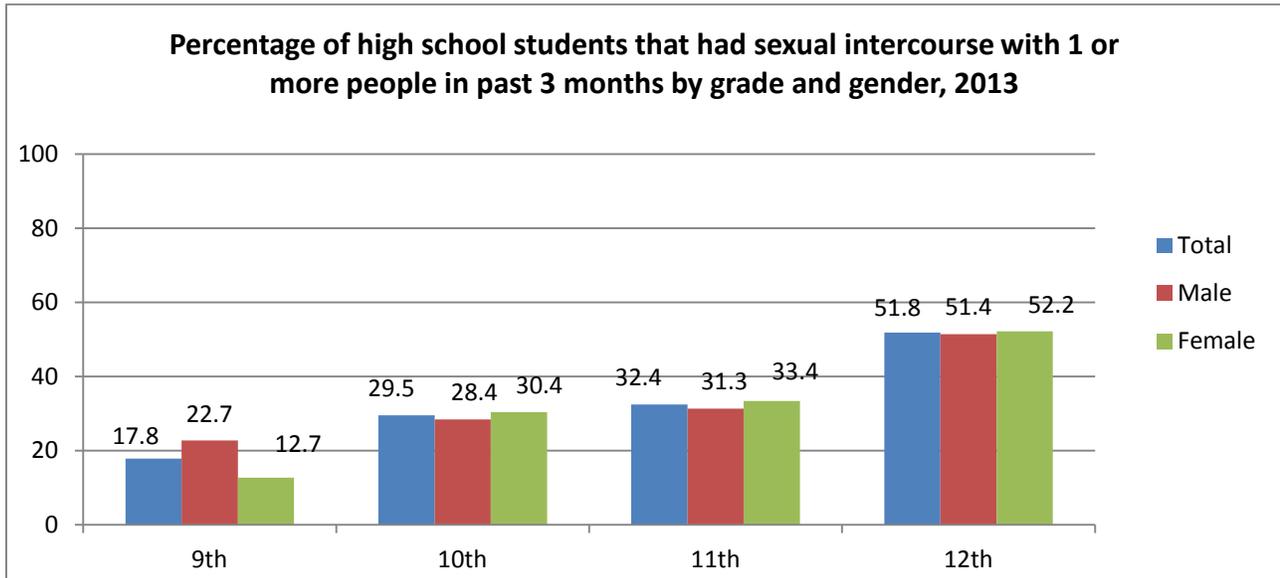
Figure 23



Current sexual intercourse

Among high school students who had sexual intercourse during the past three months, there was a significant increase among females from 12.7 percent of 9th graders to 30.4 percent of 10th graders (Figure 24).

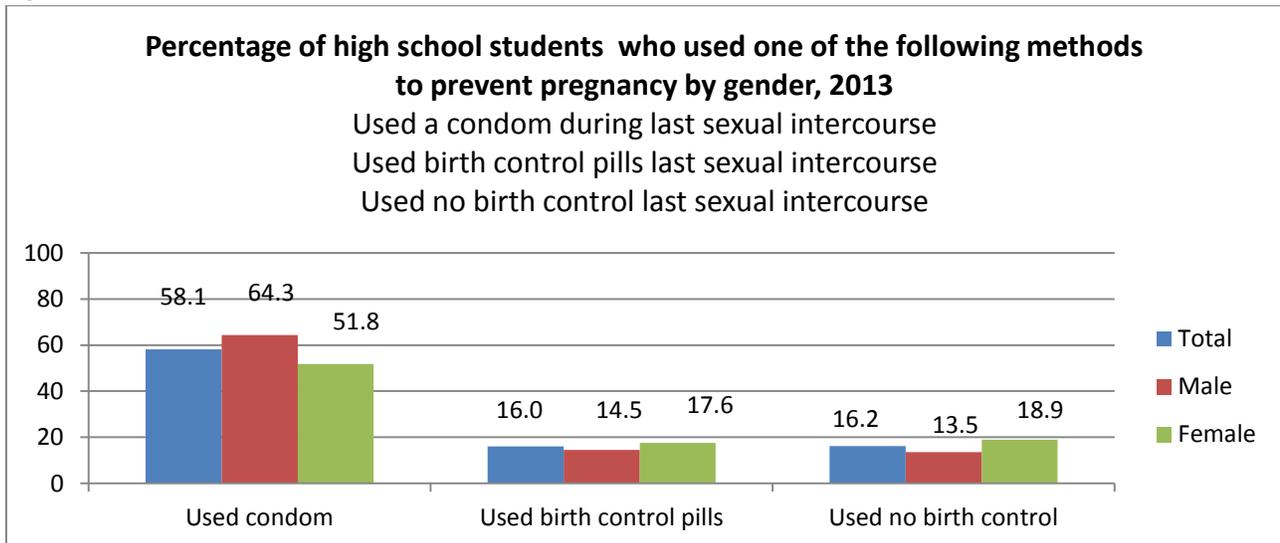
Figure 24



Condom and birth control use by students or their partner

Among high school students that had sexual intercourse in the past three months, over one-half of them or their partner used a condom during last sexual intercourse to prevent pregnancy while less than twenty percent used birth control pills or used no birth control method at all (Figure 25). Also, 9.5 percent used both a condom and another birth control method during last intercourse.

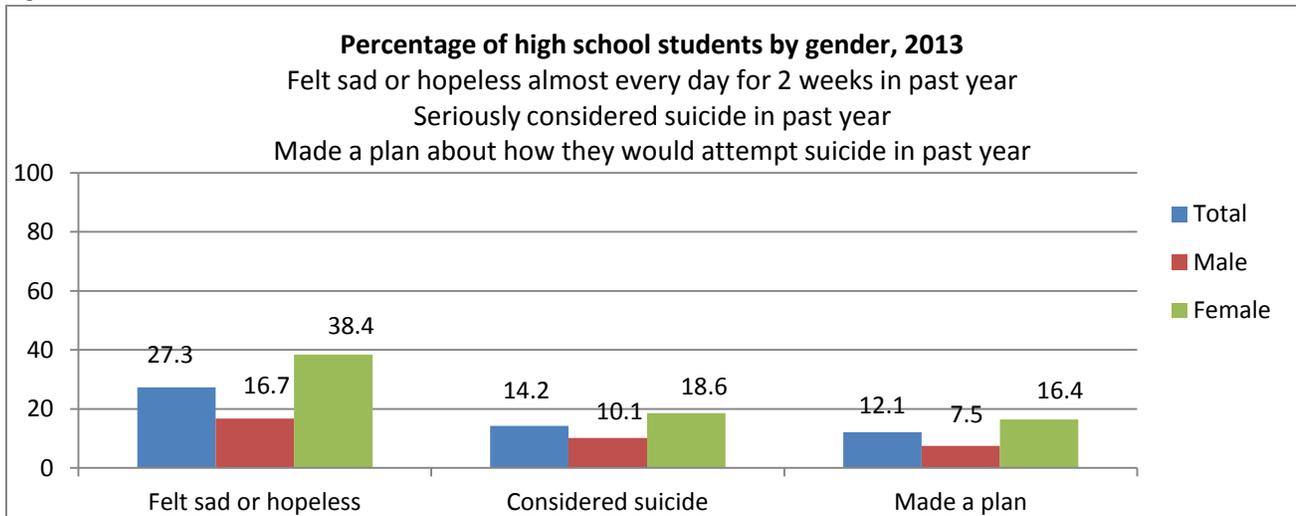
Figure 25



Depression and Suicide

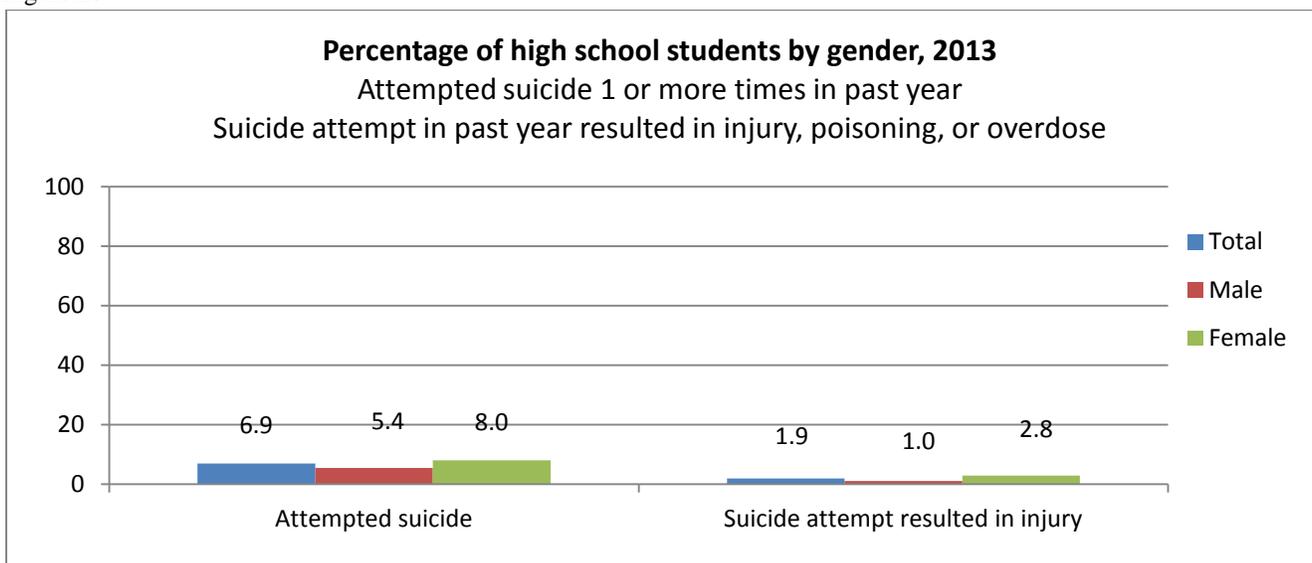
During the decade 2003-2013, there were no significant changes in the percentage of high school students that experienced depression or planned or attempted suicide. In 2013, a significantly greater percentage of females than males felt so sad or hopeless almost every day for two weeks or more in a row during the past 12 months that they stopped doing some usual activities (Figure 26). Nineteen percent of females seriously considered suicide and 16 percent made a plan.

Figure 26



In 2013, 6.9 percent of high school students attempted suicide (Figure 27). Two percent of students who attempted suicide had to be treated by a doctor for an injury, poisoning or an overdose.

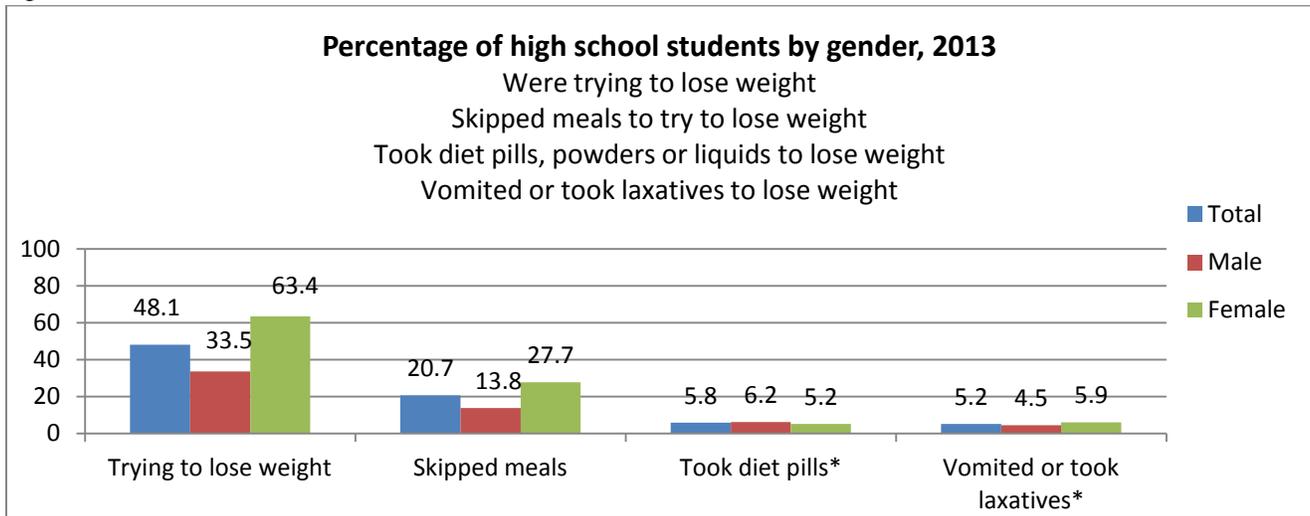
Figure 27



Weight Loss Methods

In 2013, over 60 percent of high school females were trying to lose weight (Figure 28). Five to six percent of high school students took diet pills, powders or liquids without a doctor's advice or vomited or took laxatives to try to lose weight.

Figure 28

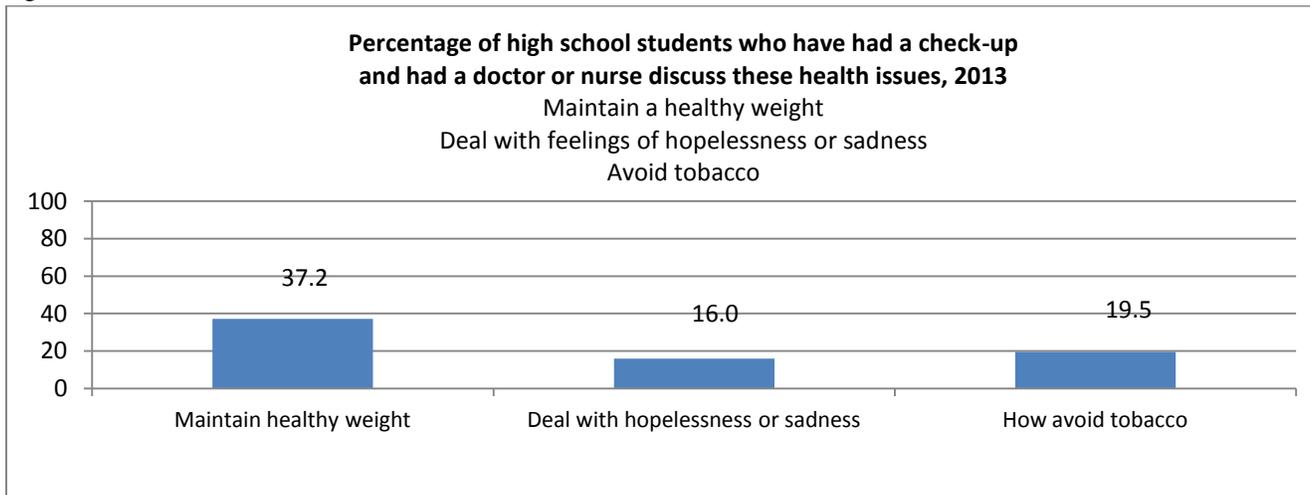


*Interpret data with caution due to small sample sized.

Health Education by Doctor or Nurse

Among high school students that have had a medical check-up, a significantly greater percentage had a doctor or nurse discuss how to maintain a healthy weight than to deal with feelings of hopelessness or sadness or how to avoid tobacco (Figure 29).

Figure 29



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. 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.

Both paper and pencil surveys were supported by the U.S. Centers for Disease Control and Prevention (CDC), 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

Response rates were calculated by multiplying the school participation rate by the 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 2013, 32 of 42 (76.2 percent) sampled middle schools participated with 1,838 of 2,111 (87.1 percent) sampled middle school students completing usable questionnaires. The overall response rate was 66.4 percent.

Sufficient responses for weighting the data have been obtained each year the YRBS was conducted in Missouri, except in 2011. In 2013, 32 of 40 (80.0 percent) sampled high schools and 1616 of 1863 (86.7 percent) sampled high school students completed usable questionnaires. The overall response rate was 69.4 percent.