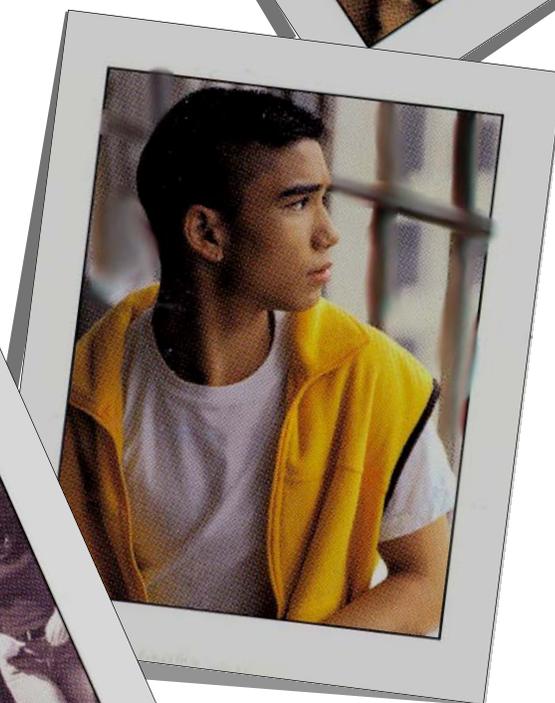
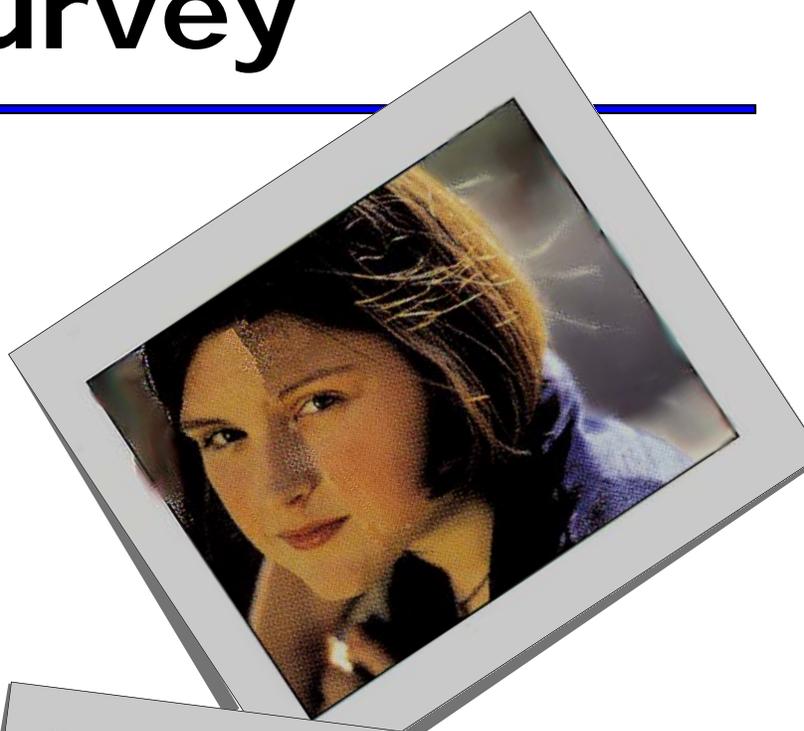


# Ohio Youth Tobacco Survey

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2002



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Ohio Department of Health  
Division of Prevention  
Bureau of Health Promotion and Risk Reduction  
Tobacco Risk Reduction Program

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### **Introduction**

Tobacco use contributes to more early and needless death and disease in the United States than any other single cause. In fact, more people die from tobacco-induced illness than alcohol, all illicit drugs, homicide, suicide, fires and HIV combined. Unfortunately, Ohio's tobacco-addiction burden is unacceptably high with an adult smoking rank of fourth in the nation. Because more than 80 percent of tobacco use is acquired before age 18, it is essential to prevent youth initiation to greatly reduce the one in five Ohio deaths now caused by tobacco.

During the spring of 2002, the Ohio Department of Health conducted the second Ohio Youth Tobacco Survey (OYTS) which is intended to provide information to enhance the capacity of public health agencies and organizations to design, implement and evaluate tobacco prevention and control programs that target youth. This report provides a profile of middle school (grades 6-8) and high school (grades 9-12) students in Ohio, while also comparing results with the initial OYTS that was conducted in 2000. Sustained data collection (scheduled for 2004) will provide trend analysis opportunities that public health professionals, researchers and public policy makers can use to strengthen Ohio's efforts to curb the epidemic of tobacco use in our state.

Sample Characteristics The middle school sample was predominantly white (77.7 percent), followed by black (12 percent), Native American (4.6 percent), Hispanic (3.1 percent), Asian (1.7 percent) and Hawaiian/Pacific Islander (0.9 percent); male 51.4 percent; and equally covered grades six (33.5 percent), seven (33.7 percent) and eight (32.8 percent).

The high school sample was predominantly white (81.5 percent), followed black (13.3 percent), Native American (1.2 percent), Hispanic (2.1 percent), Asian (1.4 percent) and Hawaiian/Pacific Islander (0.6 percent); male 51.4 percent; and was nearly equal across grades nine (27.1 percent), 10 (24.8 percent), 11 (24.7 percent) and 12 (23.4 percent).

### **Acknowledgements**

The OYTS was successfully implemented because of the cooperation and dedication of many agencies and individuals. Director J. Nick Baird, M.D., of the Ohio Department of Health (ODH), and Superintendent of Public Instruction Susan Tave Zelman, of the Ohio Department of Education (ODE), were supportive of the OYTS.

The Ohio Department of Health wishes to offer special appreciation to the many people around Ohio who contributed to the successful implementation of this survey. We are particularly grateful to the students, teachers, principals and superintendents who agreed to participate in the survey. The survey could not have been implemented without the staff and volunteers of local health departments and partner agencies who went to the schools and administered the surveys.

The following individuals provided leadership and expertise with the coordinators of the OYTS and the development of this report: Jan Stine, program administrator, ODH Tobacco Risk Reduction Program; R. Scott Olds, HSD, public health tobacco research consultant from Kent State University who contributed to the data analysis and report preparation; and Patrick J. Harsch, Ph.D., ODH Tobacco Risk Reduction Program consultant, who prepared the document for publication.

### **Highlights**

- There is a noteworthy increase in any tobacco use between the 9<sup>th</sup> (17.7 percent) and 10<sup>th</sup> (35.0 percent) grades in 2002.
- Current cigarette smoking rates by high school students have declined significantly from the 2002 OYTS (25.7 percent) compared with the 33.4 percent reported in the 2000 OYTS.
- White high school students (33.8 percent) continue to be current tobacco users more frequently than their black (18.3 percent) counterparts. This trend continues from the 2000 OYTS.
- Frequent cigarette smoking (smoking 20 or more of the previous 30 days) revealed much higher use by high school students (13.4 percent) in 2002 than middle school students (3.2 percent).
- There was a statistically significant decline in frequent smoking (smoking 20 or more days in the past 30 days) by high school students in 2002 (13.4 percent) compared with high school students in 2000 (20.7 percent).
- As students increase in age, so does their tobacco use. Notable spikes in use occur between grades 9 and 10 for current smoking (12.9 percent vs. 26.9 percent), frequent smoking (5.6 percent vs. 15.0 percent) and current cigar use (7.9 percent vs. 18.4 percent).
- Current smokeless tobacco use is a male dominated behavior (11.8 percent for males vs. 1.2 percent for females). For high school students and middle school students the rate is 5.3 percent vs. 1.8 percent in 2002. This follows the same trend from 2000 for high school students (15.3 percent for males and 2.2 percent for females) and middle school students (8.2 percent for males and 1.8 percent for females).
- Current cigar use in the past 30 days is higher among high school students (15.1 percent) than middle school students (6.3 percent) and males (21.5 percent) compared with females (7.8 percent) among high school students. It was worth noting that middle school females (5.8 percent) were current cigar smokers nearly as often as males (6.7 percent) in 2002. No differences between 2000 and 2002 were found for current cigar smokers by gender.
- The percentage of high school students who reported ever smoking daily was significantly less in 2002 (19.8 percent) than 2000 (28.3 percent).
- High school students in 2002 most often purchased their cigarettes from gas stations (40.1 percent) which was the same location preference for high school students in 2000 (62.3 percent). This decline was statistically significant. Convenience stores in 2002 (26.6 percent) were high school students second most frequent place of purchase which was the same as in 2000 (21.7 percent).

## ***2002 Ohio Youth Tobacco Survey***

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- Comparable percentages of current high school smokers (42.8 percent) reported in 2002 that they felt like they needed a cigarette every day as compared to 2000 (45.1 percent).
- 2002 data show 62.9 percent of middle school and 65.8 percent of high school students who currently smoke cigarettes in 2002 want to stop smoking. These figures are not statistically different from the 2000 OYTS.
- In 2002, 89.7 percent of high school students and 83.4 percent of middle school students had seen or heard an anti-smoking commercial in the 30 days preceding the 2002 survey. The 2002 high school students' exposure to these messages was significantly higher compared to the 2000 reported exposure (76.3 percent).
- Current high school tobacco users (27.7 percent) were significantly more likely to be receptive to tobacco advertising than those who never used tobacco (4.5 percent). The statistically significant differences were also true for middle school students (33.3 percent of current tobacco users vs. 3.4 percent of those who never used tobacco).
- In 2002, 78.3 percent of high school students and 68.5 percent of middle school students were exposed to secondhand smoke in buildings and vehicles. Current high school smokers' exposure to secondhand smoke (96.9 percent) was significantly greater than exposure for those who never smoke (63.5 percent). The same trends were found with middle school students (current smoker's exposure at 91.7 percent compared with non-smokers' exposure at 63.5 percent). No differences existed between students' exposure in 2002 compared to 2000.
- In 2002, current high school smokers (65.3 percent) were significantly more likely to live with someone who smokes than those who never smoke (32.7 percent). Similar trends were found at the middle school grades in 2002. No statistically different findings were noted comparing 2002 with 2000 data on this measure.

### Summary

- Any type of tobacco use in the past 30 days preceding the survey has significantly declined for high school students (32.6 percent) in 2002 compared with 2000 OYTS data (41.1 percent), while middle school students' use is not statistically different in 2002 (15.0 percent) than 2000 (18.7 percent).
- Although the overall tobacco use in the past 30 days for high school students has declined, the prevalence among 10<sup>th</sup> (35.0 percent), 11<sup>th</sup> (39.8 percent) and 12<sup>th</sup> (39.2 percent) grade students remains high. It is the 9<sup>th</sup> graders (17.7 percent) who are using tobacco at significantly lower rates than their 2000 OYTS counterparts (33.9 percent).
- No differences between the genders were found regarding current cigarette smoking for middle school and high school students in 2002.
- At the middle school level in 2002, any tobacco use rates steadily climb from grade six (10.8 percent), grade seven (15.4 percent) through grade eight (19.0 percent). For cigarette use they were 5.5 percent, 11.1 percent and 13.6 percent, respectively.
- No racial differences were found within 2002 middle school students who used any form of tobacco nor did any differences exist by race compared to the 2000 rates. This was also true for current smokers.
- White high school students in 2002 were current cigarette smokers (27.4 percent) more often than black high school students (10.8 percent) which follows a similar trend from 2000 (35.2 percent vs. 14.4 percent, respectively).
- In 2002, current bidis use was stable over the high school grades (9<sup>th</sup> – 3.9 percent; 10<sup>th</sup> – 3.4 percent; 11<sup>th</sup> – 3.2 percent; 12<sup>th</sup> – 3.8 percent). Though not significantly different from 2000, there was a declining trend in current bidi use (9<sup>th</sup> – 5.6 percent; 10<sup>th</sup> – 7.0 percent; 11<sup>th</sup> – 6.0 percent; 12<sup>th</sup> – 9.0 percent). The same trend was found for current bidi use between black high school students in 2002 (3.6 percent) compared with 2000 (11.0 percent).
- In 2000, 15.0 percent of high school students reported having smoked their first whole cigarette before age 11 while 11.5 percent high school students reported the same in 2002.
- The most common brand of cigarettes smoked by high school students (57.2 percent) and middle school students (55.3 percent) in the past 30 days in 2002 was Marlboro. This brand was the preference of white students while black students preferred Newport. This was similar to findings from the 2000 OYTS.
- Smoking black high school students (73.6 percent) prefer menthol cigarettes in 2002 to whites (38.0 percent), Hispanics (51.9 percent) and others (42.1 percent). This was also true of black middle school students (56.9 percent) compared to whites (43.8 percent), Hispanics (40.4 percent) and others (15.0 percent). This was a consistent finding with the 2000 OYTS.

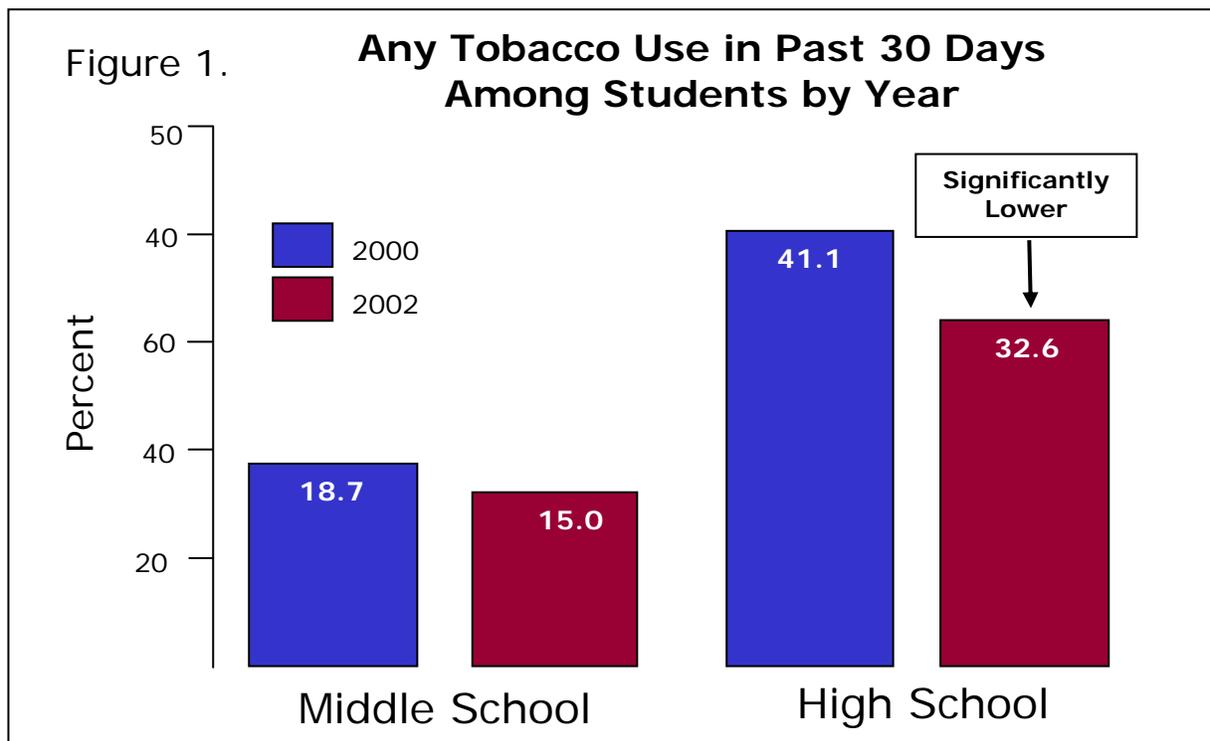
- The most common ways in 2002 that middle school students had obtained cigarettes in the past 30 days preceding the survey was to give money to someone else to buy them (28.8 percent), borrowed them (27.8 percent) or stole them from a store or family member (15.3 percent) while high school students most frequently accessed cigarettes by giving money to someone to buy them (36.1 percent), borrowing them (22.8 percent) or purchasing at a store (20.5 percent).
- Of the current smokers under age 18 who bought their own cigarettes in the last 30 days, 20.9 percent of middle school students and 39.6 percent of high school students were asked to show proof of age. Of the same group, 61.0 percent of middle school students and 55.9 percent of high school students reported that they were not refused cigarettes because of their age. These figures were not statistically different from 2000 OYTS data.
- Nearly two percent of middle school students and 3.5 percent of high school students reported using smokeless tobacco on school property during the 30 days preceding the survey. Smokeless tobacco use on school property dropped in 2002 but the drop was not statistically significant.
- Three percent of middle school students and 8.5 percent of high school students reported smoking cigarettes on school property during the 30 days preceding the survey. Though both were declined from 2000, neither was statistically significant.
- In 2002, 48.8 percent of middle school students and 18.3 percent of high school students reported taking a class where they practiced saying “No” to tobacco during the current school year. These figures are up slightly from 2000 but not statistically significant (43.9 percent for middle school students and 14.5 percent for high school students).
- Quit attempts by current high school cigarette smokers (61.8 percent) in 2002 were not statistically different from high school smokers in 2000 (59.7 percent).
- Both middle school and high school students held similar beliefs and knowledge about smoking. The 2002 results matched those reported in 2000 with 90.2 percent of middle school students and 92.4 percent of high school students believe people can get addicted to tobacco; 68.3 percent of middle school students and 74.4 percent of high school students who currently smoke cigarette think they could quit smoking cigarettes if they wanted to; and, 78.7 percent of middle school students and 91.6 percent of high school students who currently smoke cigarette believe young people risk harm if they smoke one to five cigarettes a day.

- Middle (58.7 percent) and high school students (57.4 percent) who were current tobacco users were significantly more likely to use or wear something with the name or logo of a tobacco company in 2002 than those who have never used tobacco (11.1 percent and 16.5 percent, respectively). No gender differences were found among middle and high school students regarding the wearing of an item with a tobacco company name or logo. These figures were not statistically different from the 2000 OYTS.
- In 2002, 95.1 percent of high school students and 91.8 percent of middle school students believed the smoke from other people's cigarettes is harmful to them. No differences between 2002 and 2000 were found on this measure.
- Middle school students (16.7 percent) and high school students (17.4 percent) share similar beliefs about smokers having more friends. However, current middle school smokers (45.9 percent) more significantly believed this than current high school smokers (23.1 percent). Similar trends were found between current high school smokers (13.6 percent) and current middle school smokers (32.5 percent) who believed smoking makes young people look cool or fit in. This is consistent with 2000 data.
- Current high school smokers were significantly more likely to have reported having one or more smokers among their four closest friends (92.4 percent) than those who never smoke (32.6 percent). These differences between smokers and non-smokers among middle school students is more stark with 87.4 percent of current smokers having reported one or more smokers among their four closest friends compared to 19.5 percent of non-smokers. No differences between 2002 and 2000 were found on this variable.
- Large percentages of middle school students (68.5 percent) and high school students (78.3 percent) are exposed to second hand smoke while indoors or riding in cars. Current smokers in both age groups are significantly more likely to be exposed than those who never-smoke.

## Tobacco Prevalence

### Any Tobacco Use in the Past 30 Days

- In 2002, 15.0 percent of Ohio middle school students and 32.6 percent of Ohio high school students were current users of any form of tobacco products (cigarettes, smokeless, cigars, pipe, bidi<sup>1</sup> or kreteks<sup>2</sup>). *Current tobacco use is defined as using tobacco on one or more of the 30 days preceding the survey.* **Overall high school use is significantly lower in 2002 (32.6 percent) than 2000 (41.1 percent).**

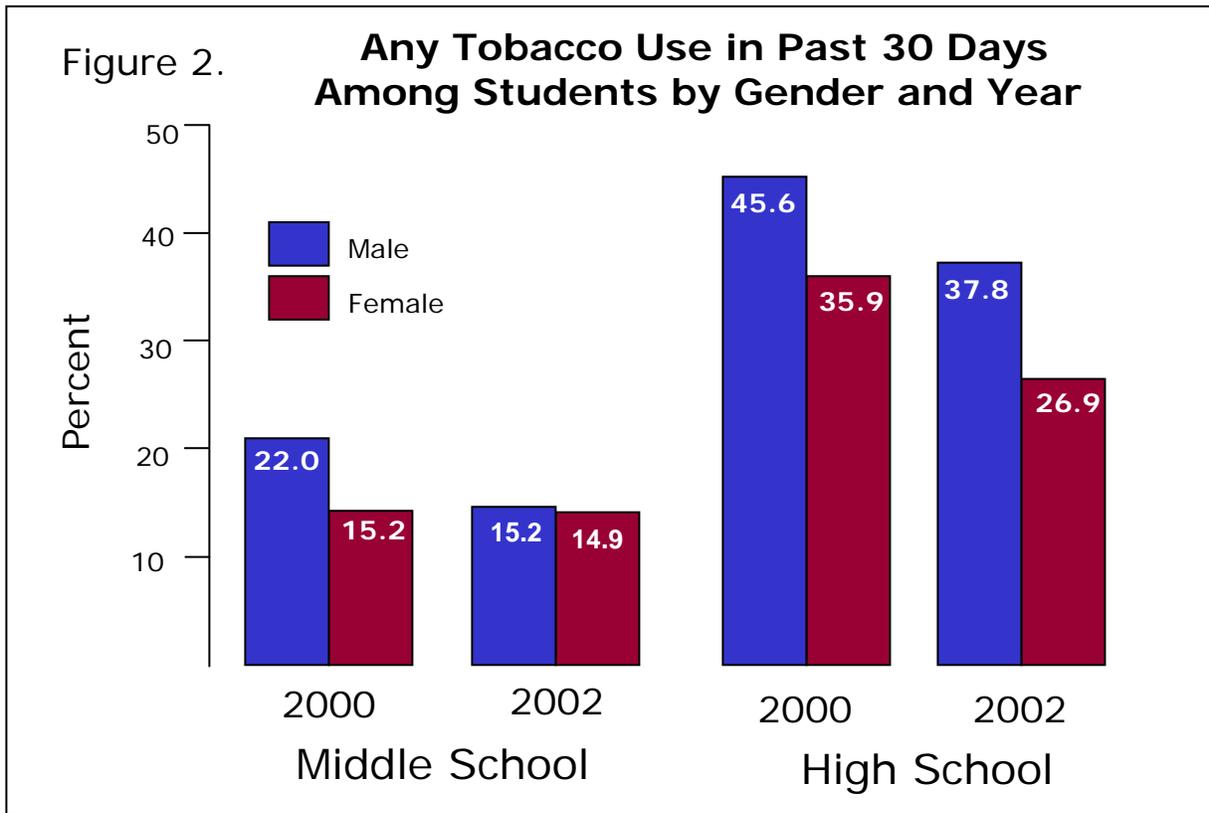


<sup>1</sup>Bidis are small, brown, hand-rolled cigarettes primarily made in India and other southeast Asian countries.

<sup>2</sup>Kreteks or clove cigarettes, are cigarettes containing tobacco and clove extract.

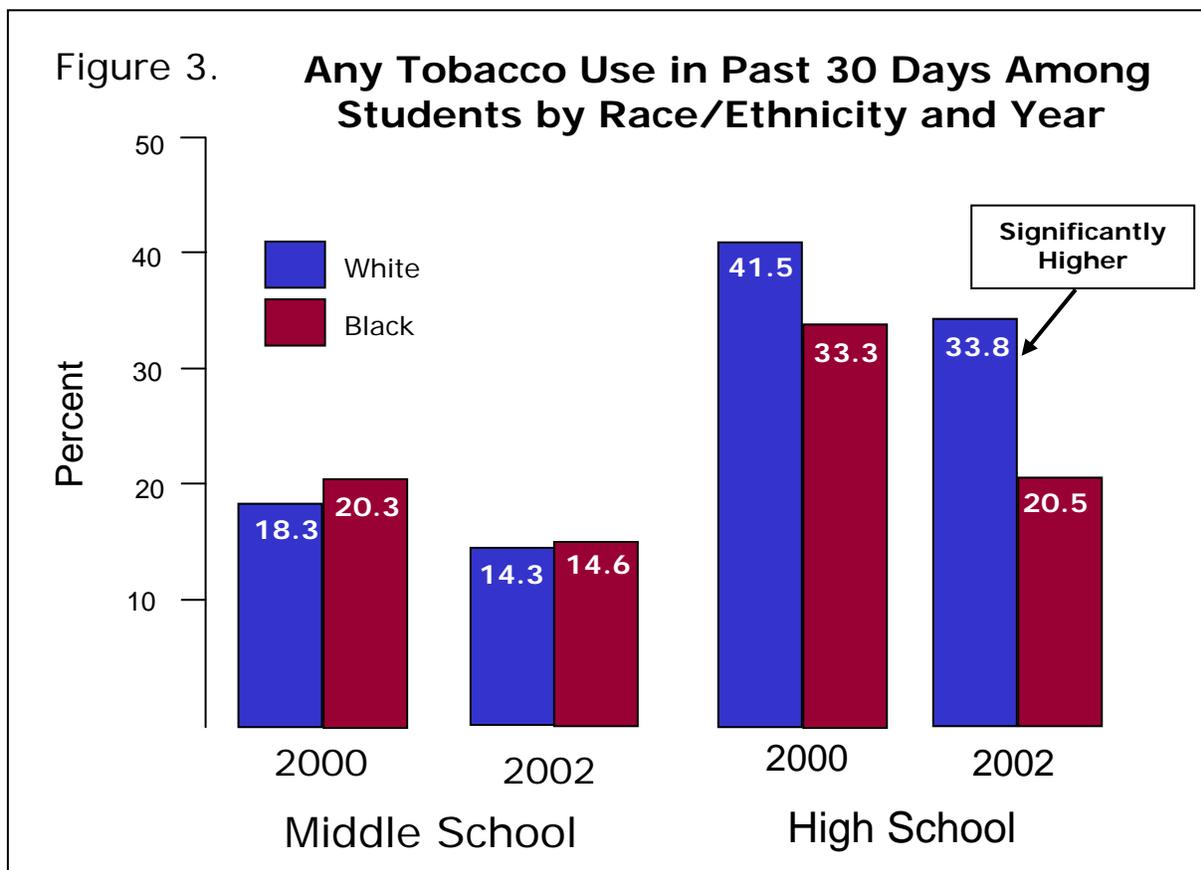
**Tobacco Prevalence: Gender Differences**

In both 2000 and 2002, female students had a lower current tobacco use rate than male students, although the differences between the genders in middle school students in 2002 are small.



Tobacco Prevalence: Race/Ethnicity Differences

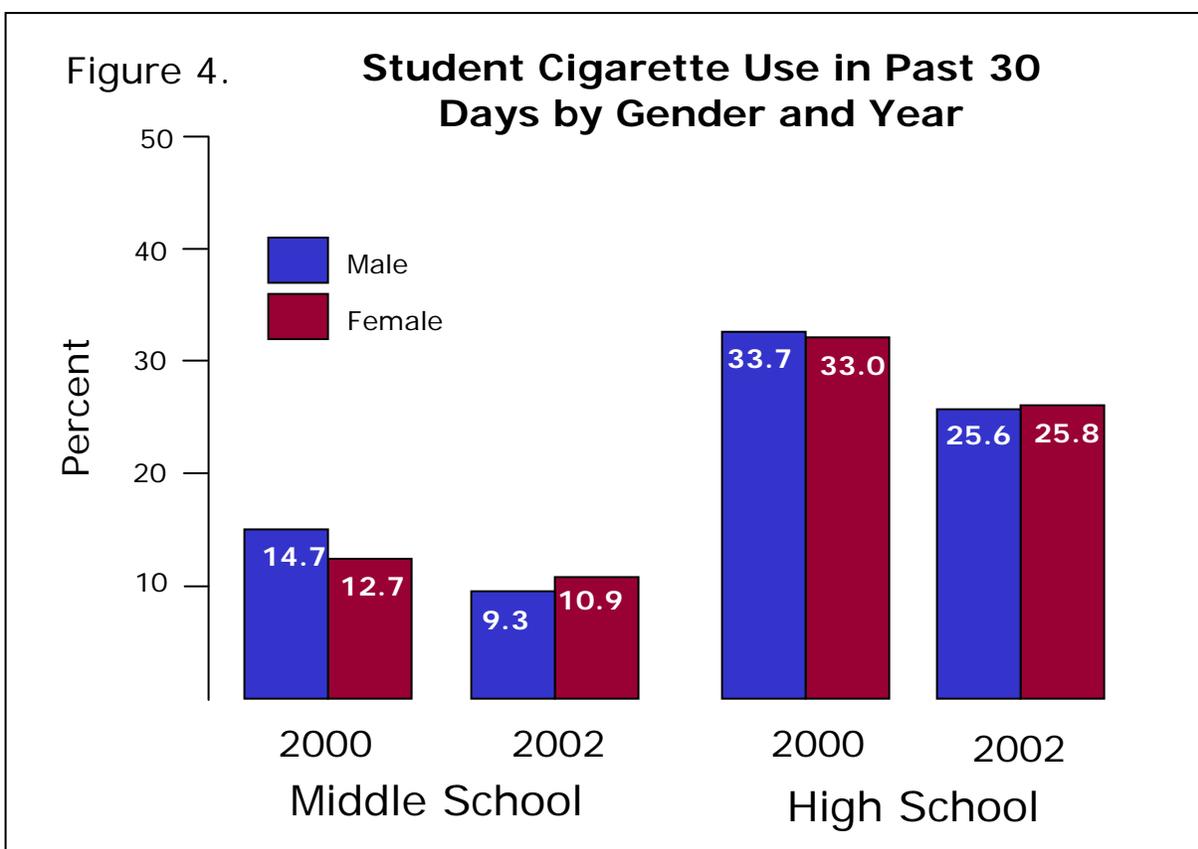
A 2000 and 2002 comparison between black and white students by any tobacco use in the past 30 days for middle school and high school students, shows middle school students by race are not using tobacco differently from one another; however, white high school students (33.8 percent) used tobacco at a significantly higher rate than their black counterparts<sup>3</sup> (20.5 percent) in 2002.



<sup>3</sup>Due to the small size of the Hispanic and other subgroups in this survey, this report will not graph their data; however, findings from the Hispanic subgroup is summarized on pages 30 and 31 of this report.

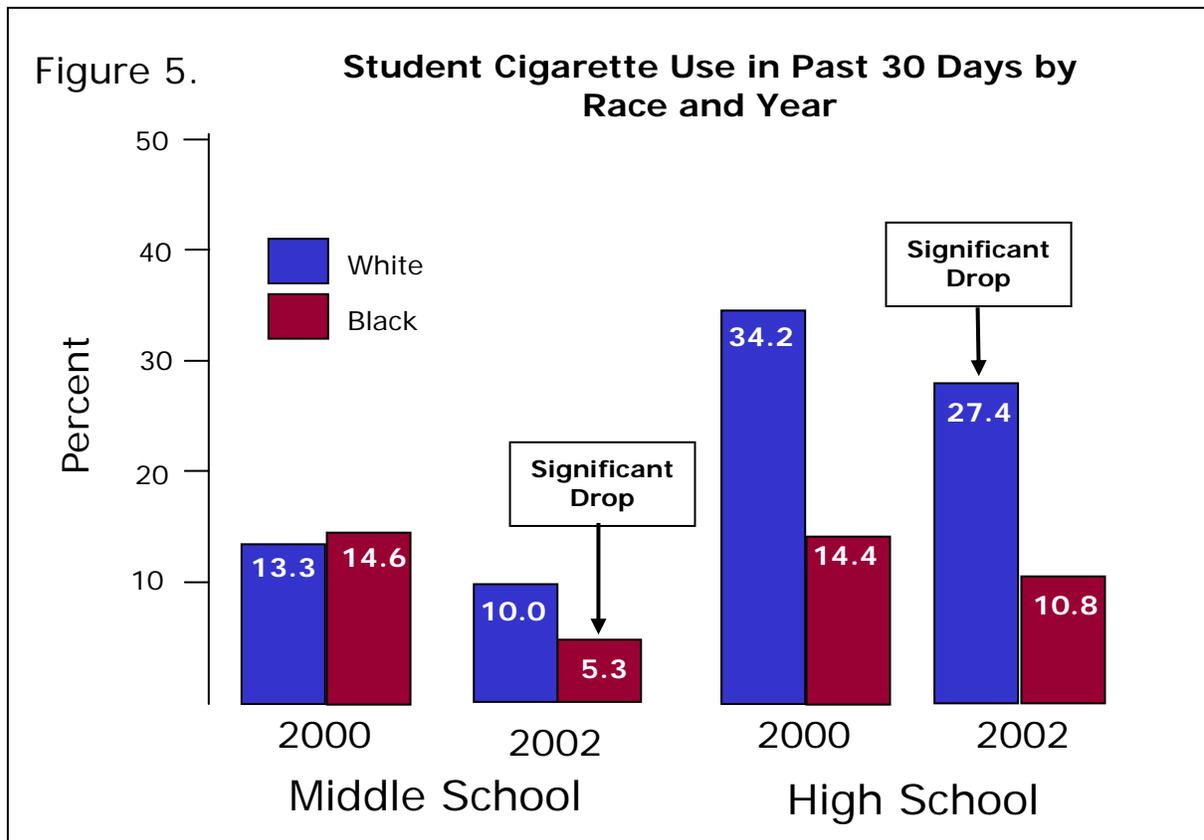
### Cigarette Use in the Past 30 Days: Gender Differences

- Overall, 10.1 percent of middle school students report smoking cigarettes in the 30 days preceding the survey (*current cigarette use*) which is down from 13.7 percent in 2000 though not statistically significant.
- Overall, 25.7 percent of high school students report smoking cigarettes in the 30 days preceding the survey (*current cigarette use*) which is significantly less than the reported 33.4 percent in 2000.
- Current middle school cigarette use between males and females was not significantly different in 2002; however, high school males reported smoking less in 2002 than in 2000.



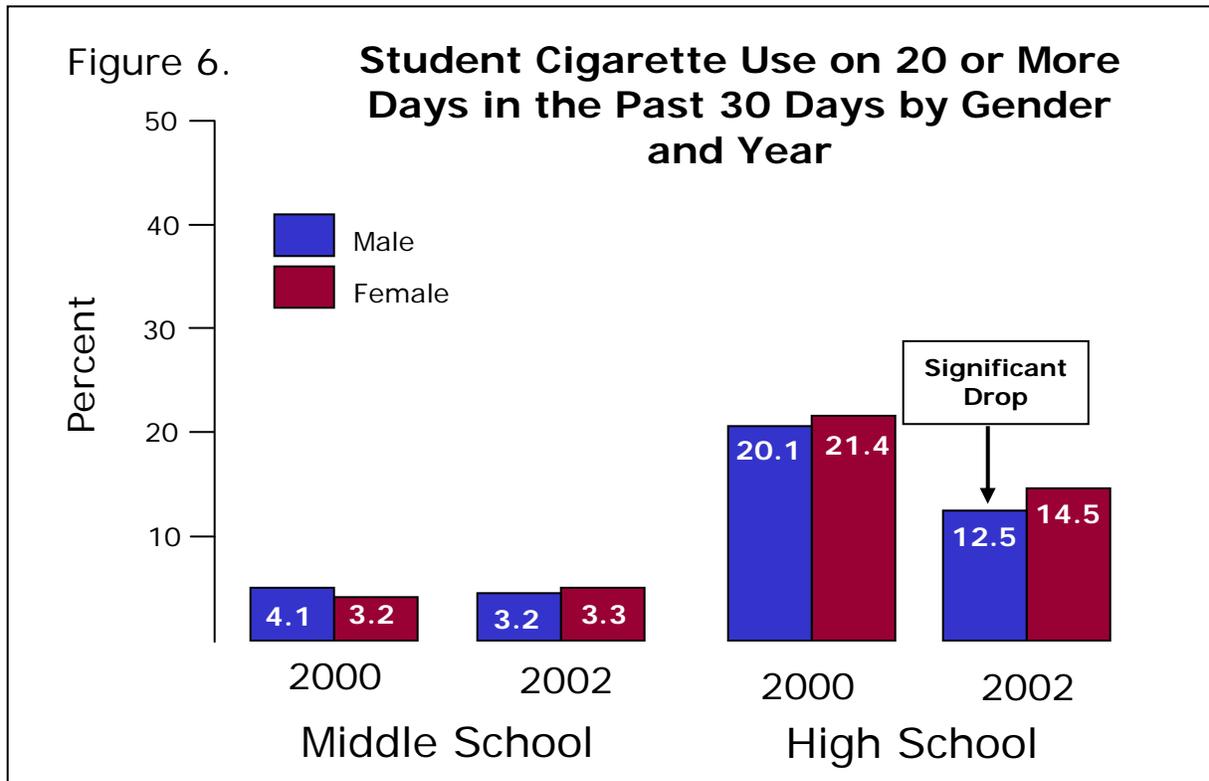
### Cigarette Use in the Past 30 Days: Racial Differences

- Middle school black students reported smoking significantly less (5.3 percent) in 2002 than in 2000 (14.7 percent).
- White high school students reported smoking significantly less in 2002 (27.3 percent) than in 2000 (34.2 percent).



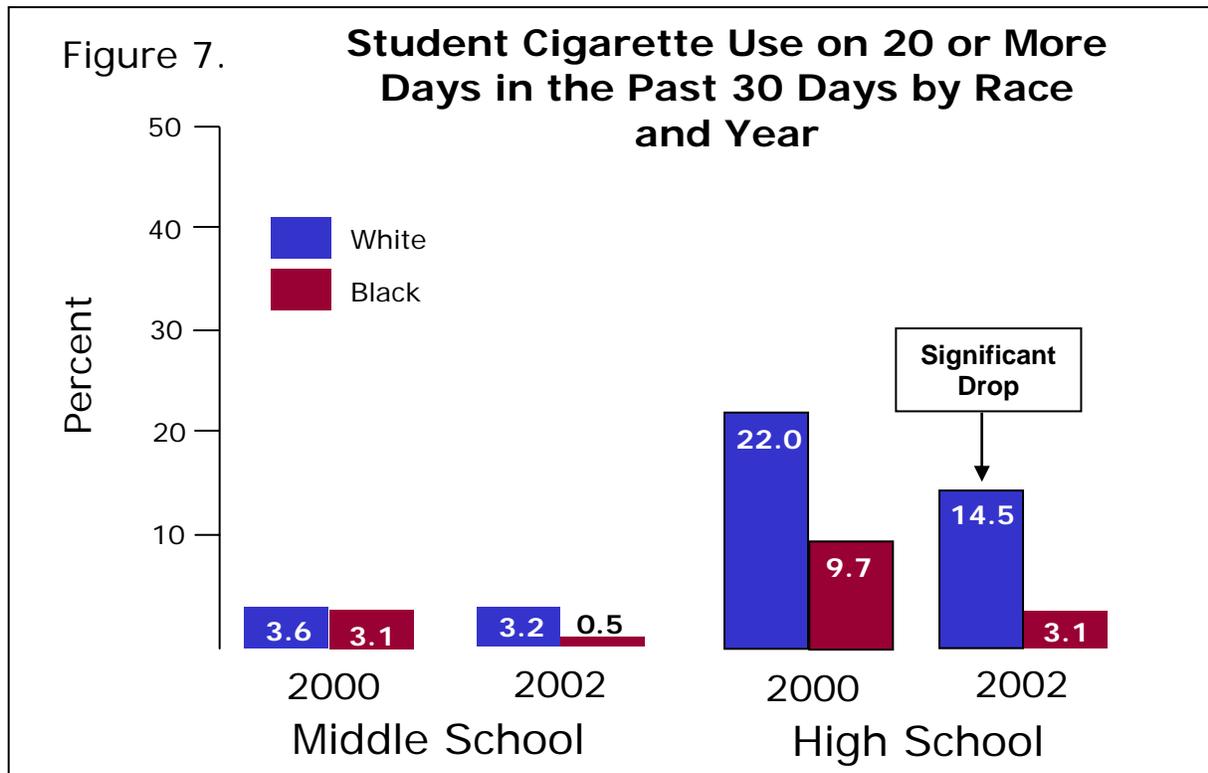
### Cigarette Use on 20 or More of the Past 30 Days: Gender Differences

High school students are more likely to be frequent smokers than middle school students. There was a significant decline in frequent smoking by male high school students between 2000 and 2002.



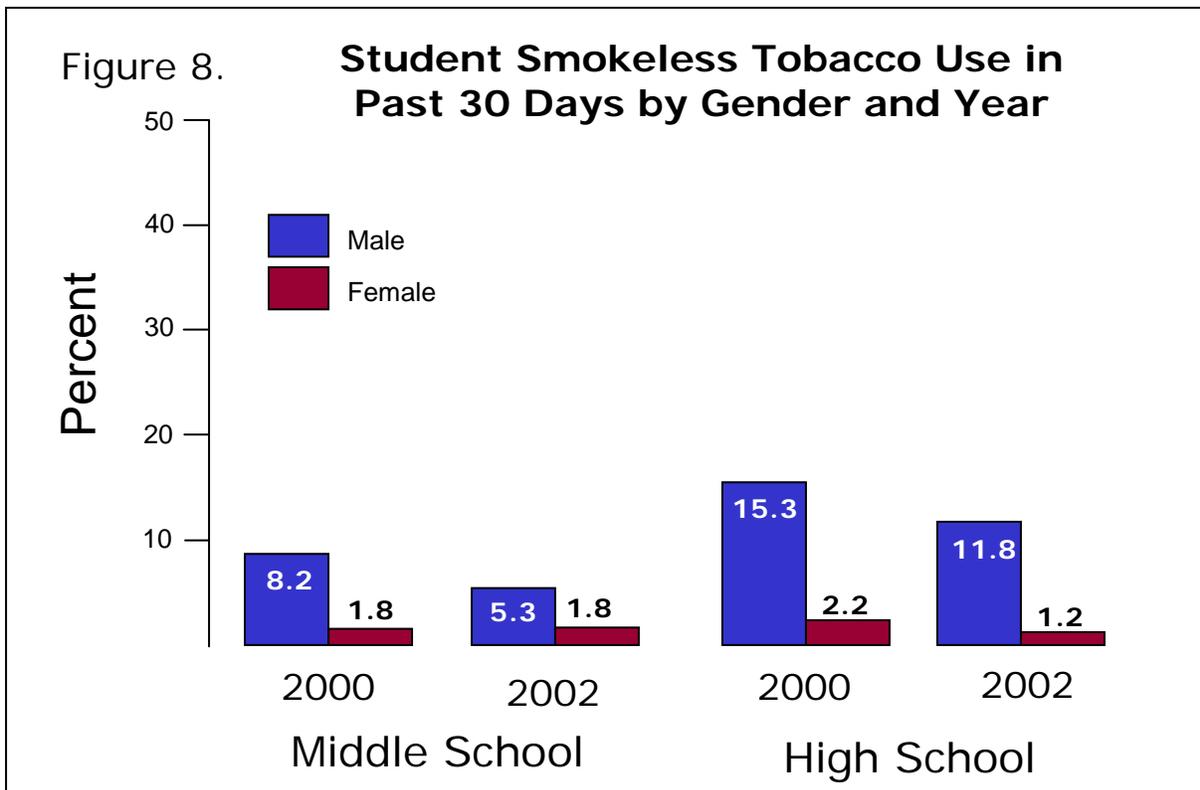
### Cigarette Use on 20 or More of the Past 30 Days: Racial Differences

- No significant differences between black and white students were found when comparing the 2000 and 2002 responses for frequent cigarette use.



### Smokeless Tobacco Use in the Past 30 Days: Gender Differences

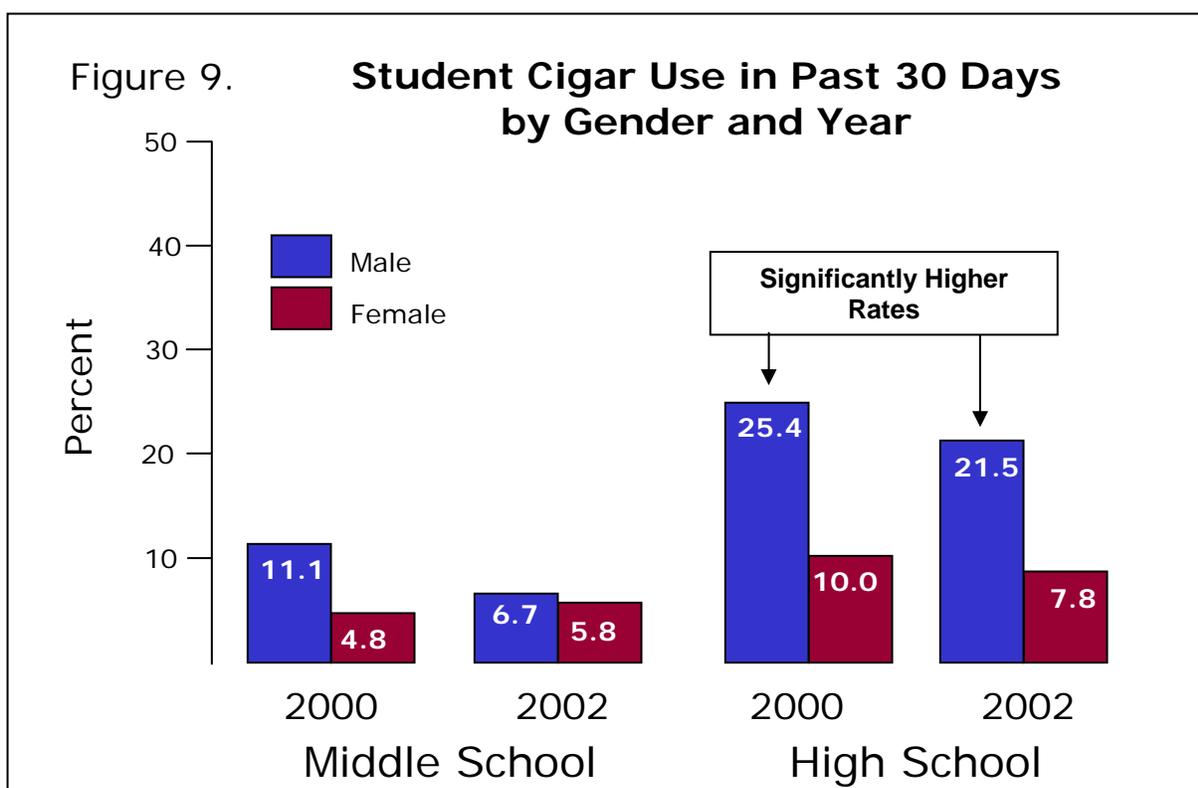
- Overall smokeless tobacco<sup>4</sup> use is low relative to cigarette uses by middle school (3.6 percent) and high school students (6.6 percent). These rates are lower than 2000 (5.1 percent and 9.1 percent, respectively), though the change is not statistically significant.
- Male students use smokeless tobacco more than female students in both middle school and high school.



<sup>4</sup>Smokeless tobacco includes loose leaf chewing tobacco, snuff or dip.

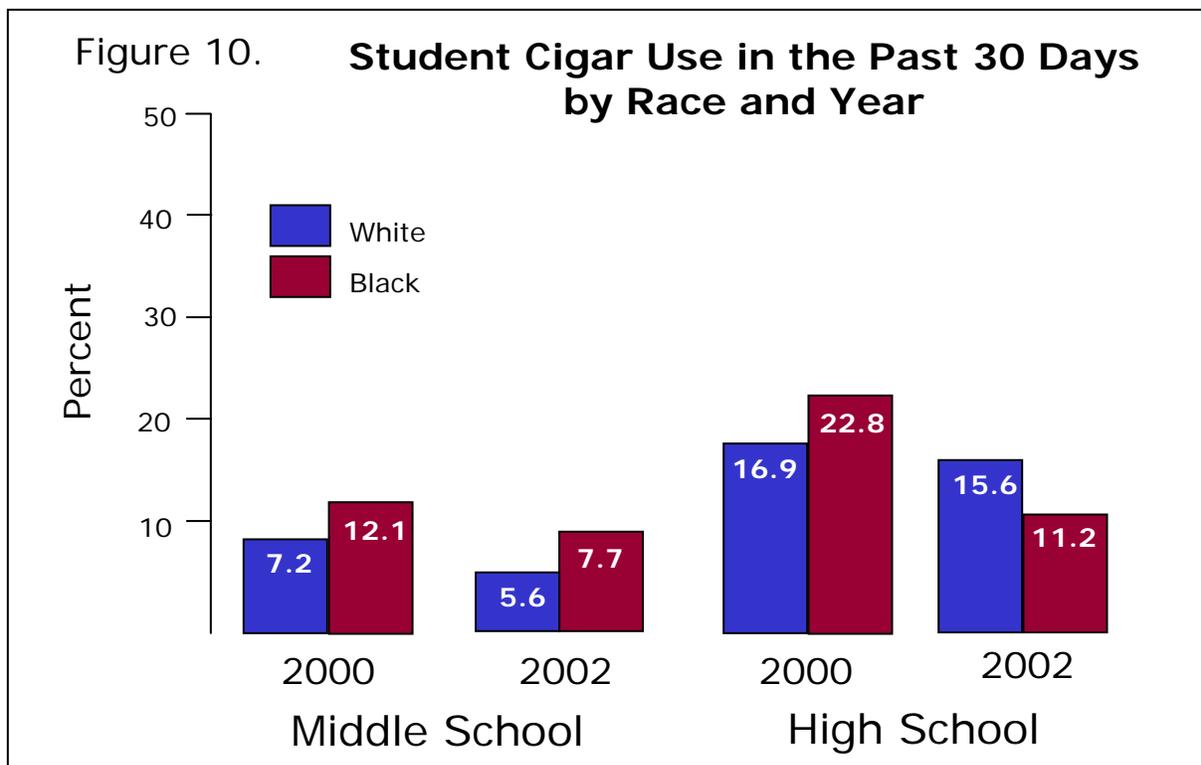
### Cigar Use in the Past 30 Days: Gender Differences

- Overall, 6.3 percent of middle school students and 15.1 percent of high school students smoked a cigar on one or more of the 30 days preceding the survey.
- Male students have significantly higher rates of cigar use than females at the high school level only.
- Statistically significant differences between the genders existed between 2000 and 2002 at the middle school grades; however, prevalence rate difference between the sexes in middle school have eroded from 2000 to 2002.



### Cigar Use in the Past 30 Days: Racial Differences

- There is no significant difference in current cigar use between black and white students.
- Data seem to suggest a significant decline in current cigar use by black high school students between 2000 and 2002; however, the differences are not statistically significant.

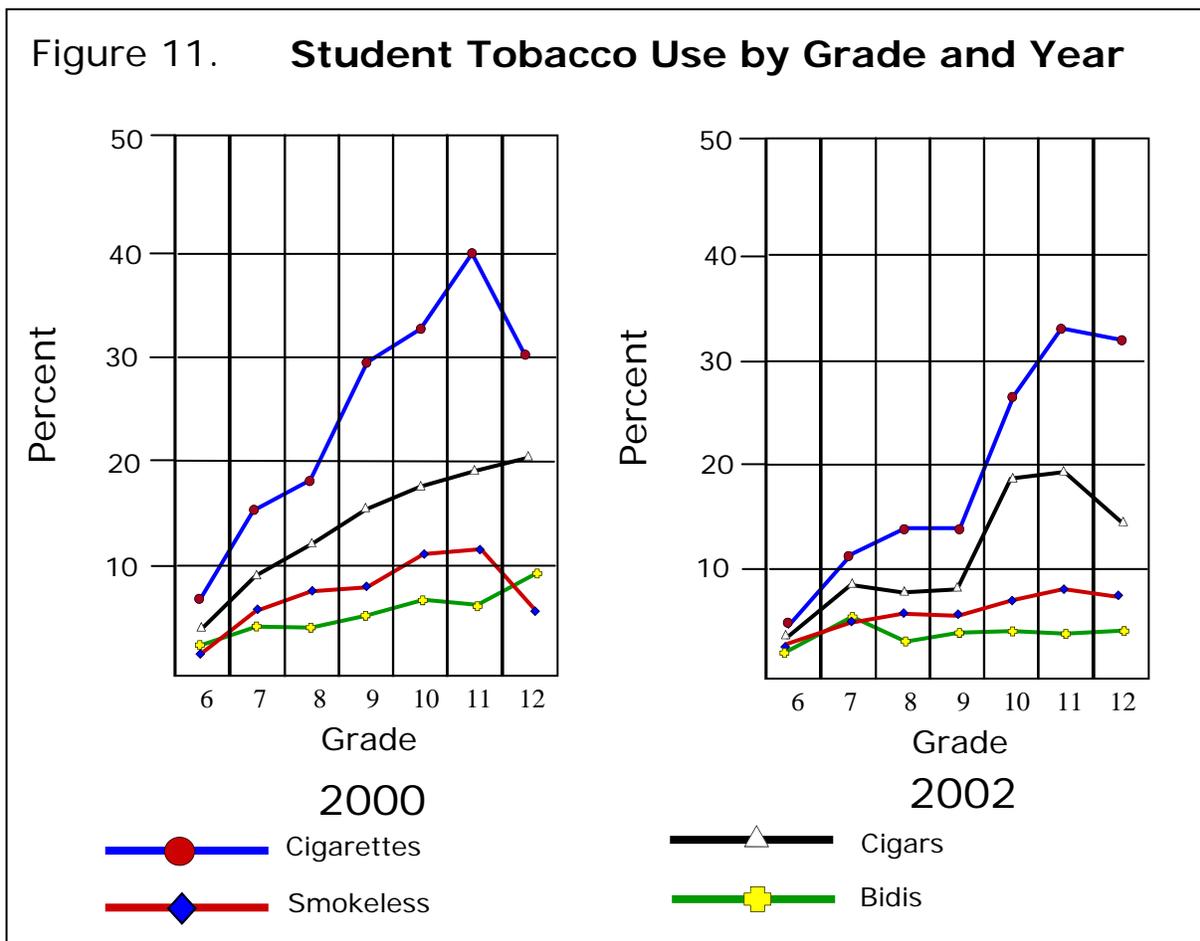


### Bidis Use in the Past 30 Days

- Overall, 3.2 percent of middle school students and 3.6 percent of high school students smoked bidis cigarettes in the 30 days preceding the survey in 2002.
- High school students smoked bidis cigarettes significantly less in 2002 (3.2 percent) than in 2000 (6.9 percent).
- No significant gender or racial differences were found for either group of students or over time for bidis use.

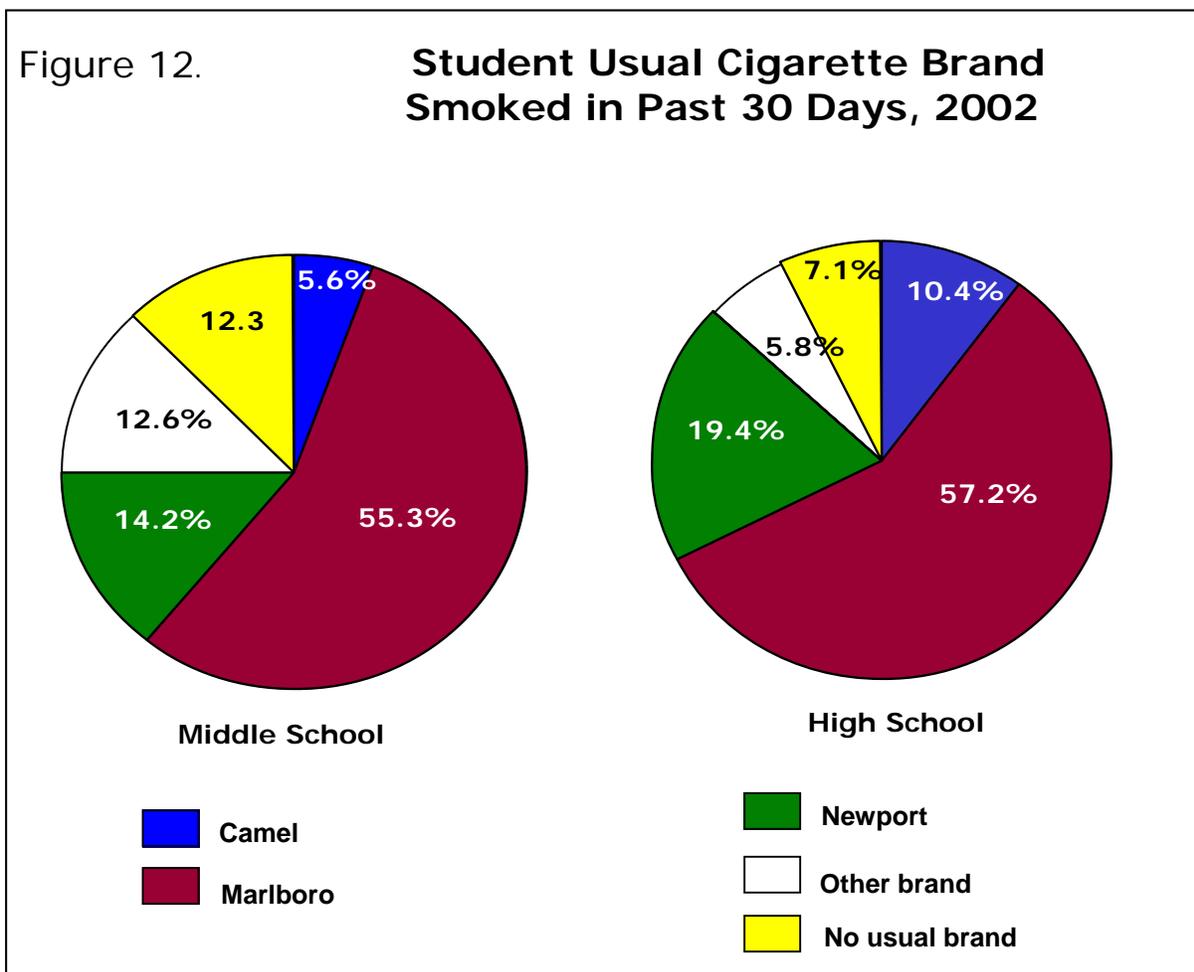
### Tobacco Use by School Grade

- As students get older, their current use of tobacco products increases, with the exception of bidis, where use appears to be stable through the grades for 2002.
- The transition between sixth and seventh grade reveals a prominent increase in cigarette smoking (102 percent increase) and between ninth and tenth grades (108 percent increase) These trends are similar to those found in the 2000 OYTS.
- Cigar use increased by 211 percent from sixth to seventh grade and 133 percent from ninth to 10th grade in 2002.



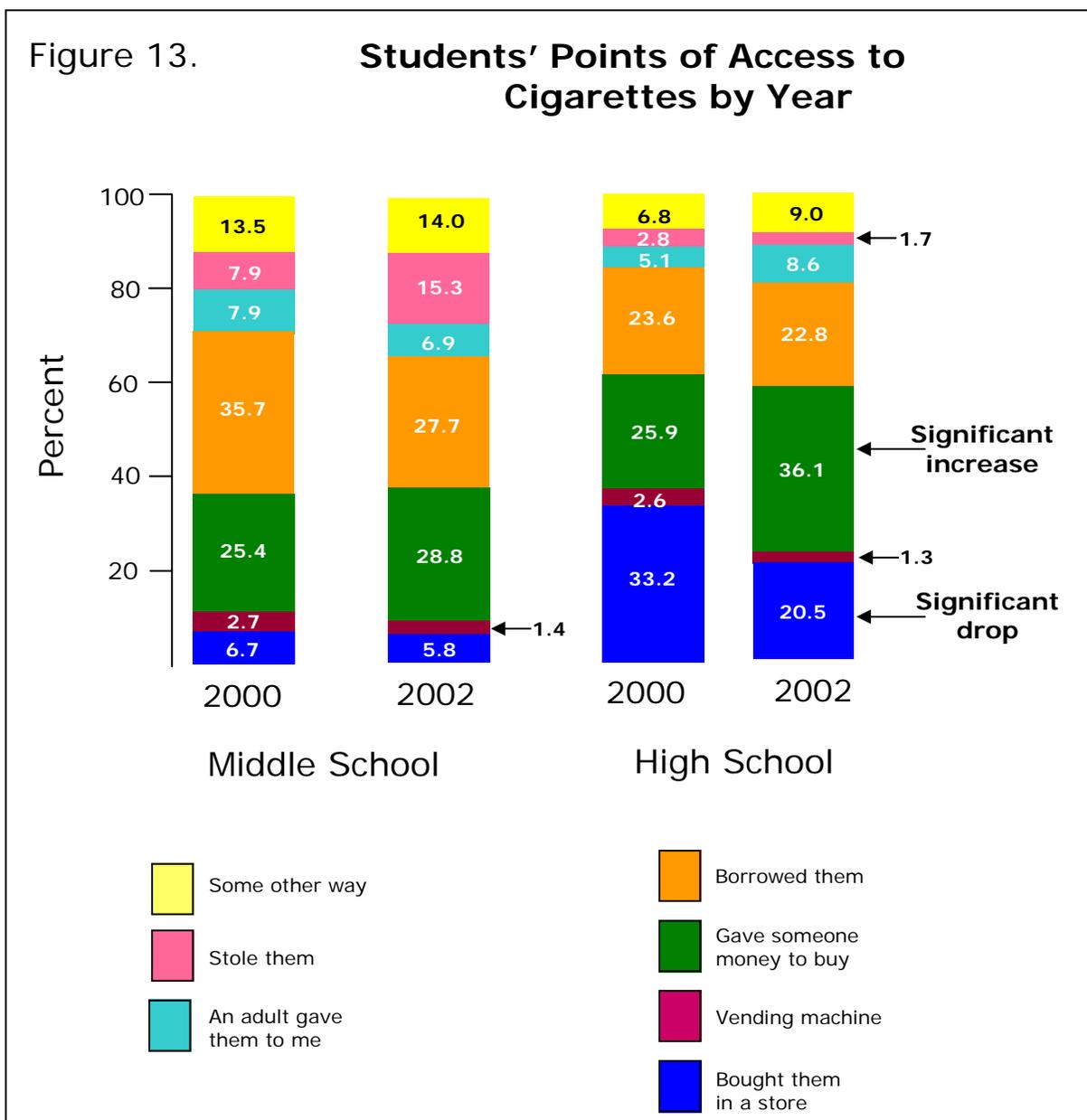
### Usual Cigarette Brand

- Among students who smoked cigarettes in the 30 days preceding the survey, the most common brand smoked was Marlboro for both middle school and high school students. This finding was consistent with 2000 data.
- White students in 2002 who smoked cigarettes in the 30 days preceding the survey usually smoked Marlboro, while black students usually smoked menthol cigarettes. This finding was consistent with the 2000 OYTS.



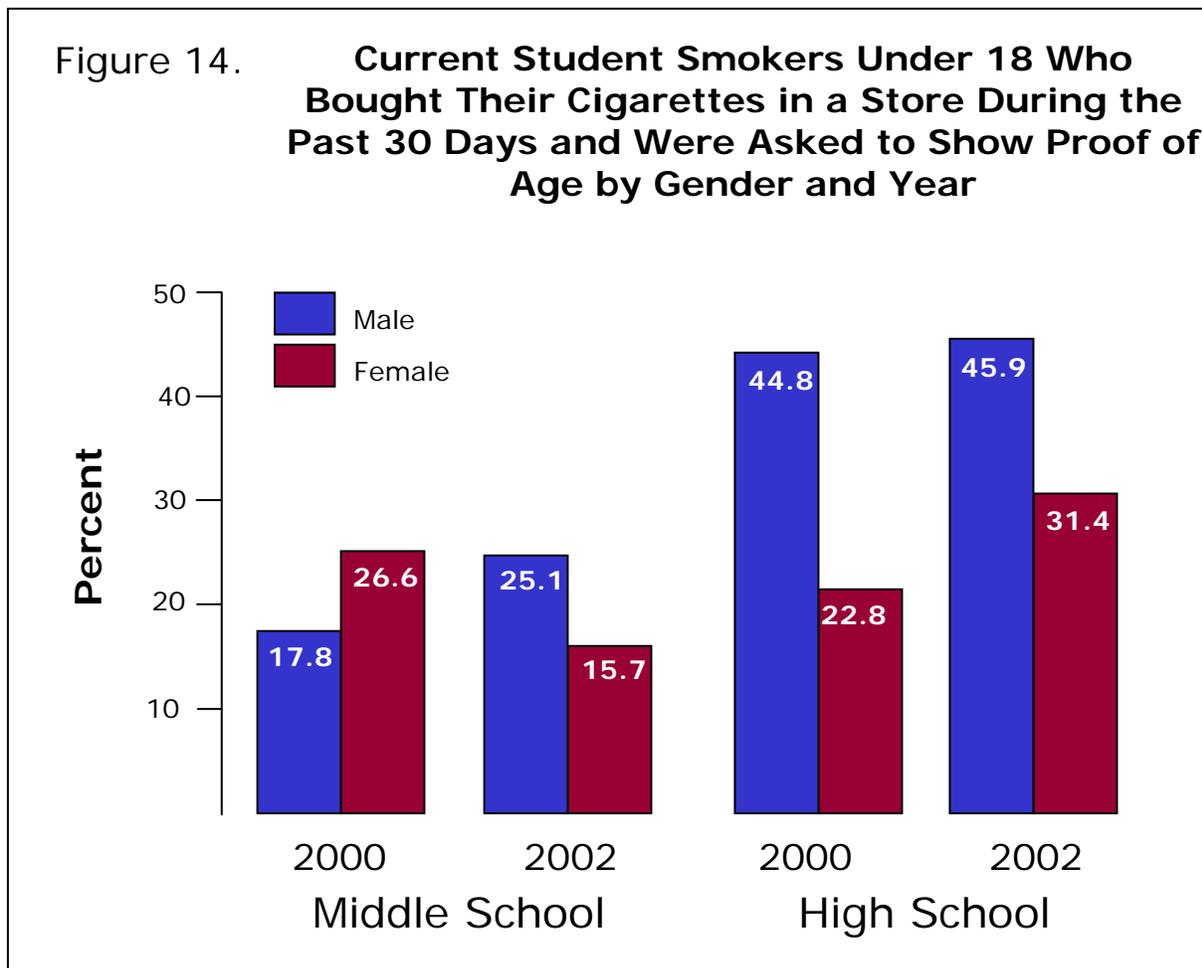
Access to Tobacco

- In 2002 the most common way middle school students had purchased cigarettes in the 30 days preceding the survey was to either give money to someone else to buy them (28.8 percent) or borrow them (27.8 percent) while high school students most frequently accessed cigarettes by giving money to someone to buy them (36.1 percent), borrowing them (22.8 percent) or purchasing them (20.5 percent).
- In 2002, high school students' access to cigarette changed significantly from 2000. Their access shifted from purchasing cigarettes in stores (33.2 percent vs. 20.5 percent) to giving someone else the money to buy cigarettes (25.9 percent vs. 36.1 percent). No significant change in access to cigarettes occurred among middle school students.



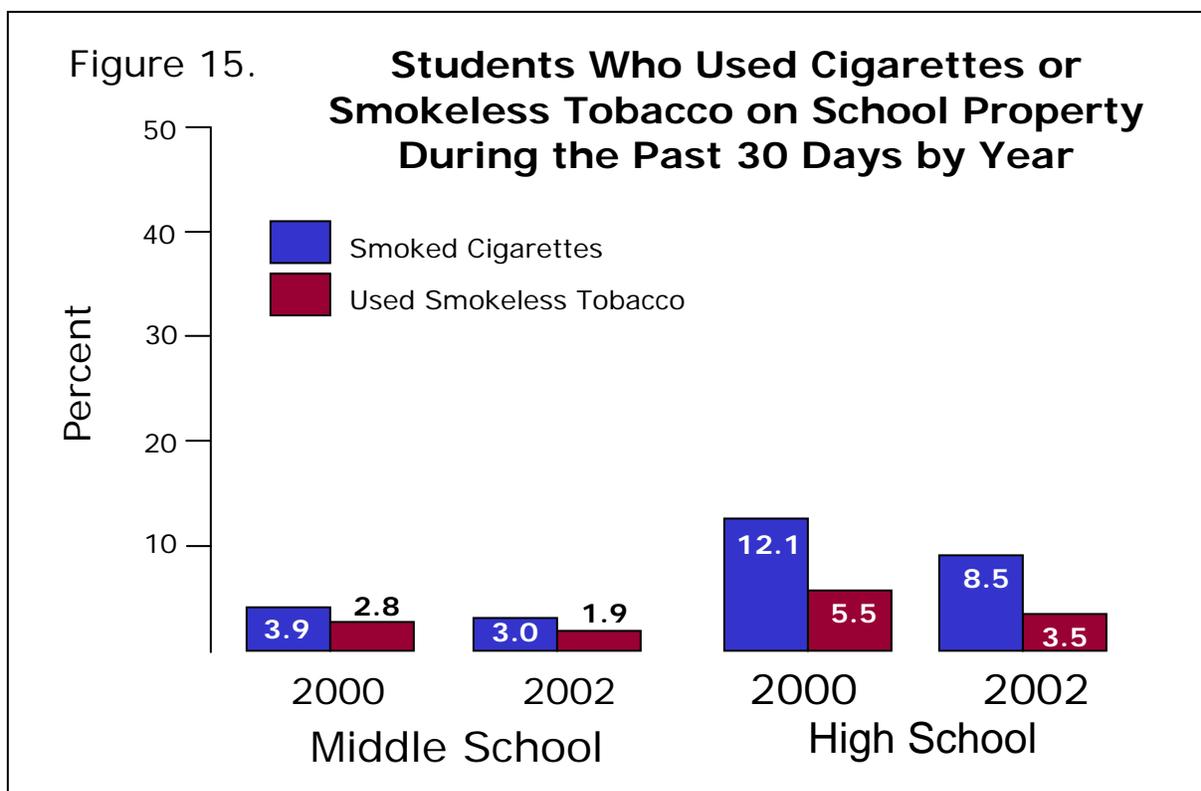
### Access to Tobacco

- Of the current smokers under age 18 who bought their own cigarettes in a store in the last 30 days, 79.1 percent of middle school students and 60.4 percent of high school students were not asked to show proof of age. Of the same group, 61.0 percent of middle school students and 55.9 percent of high school students reported that they were not refused cigarettes because of their age. These results were not significantly different from the 2000 OYTS.



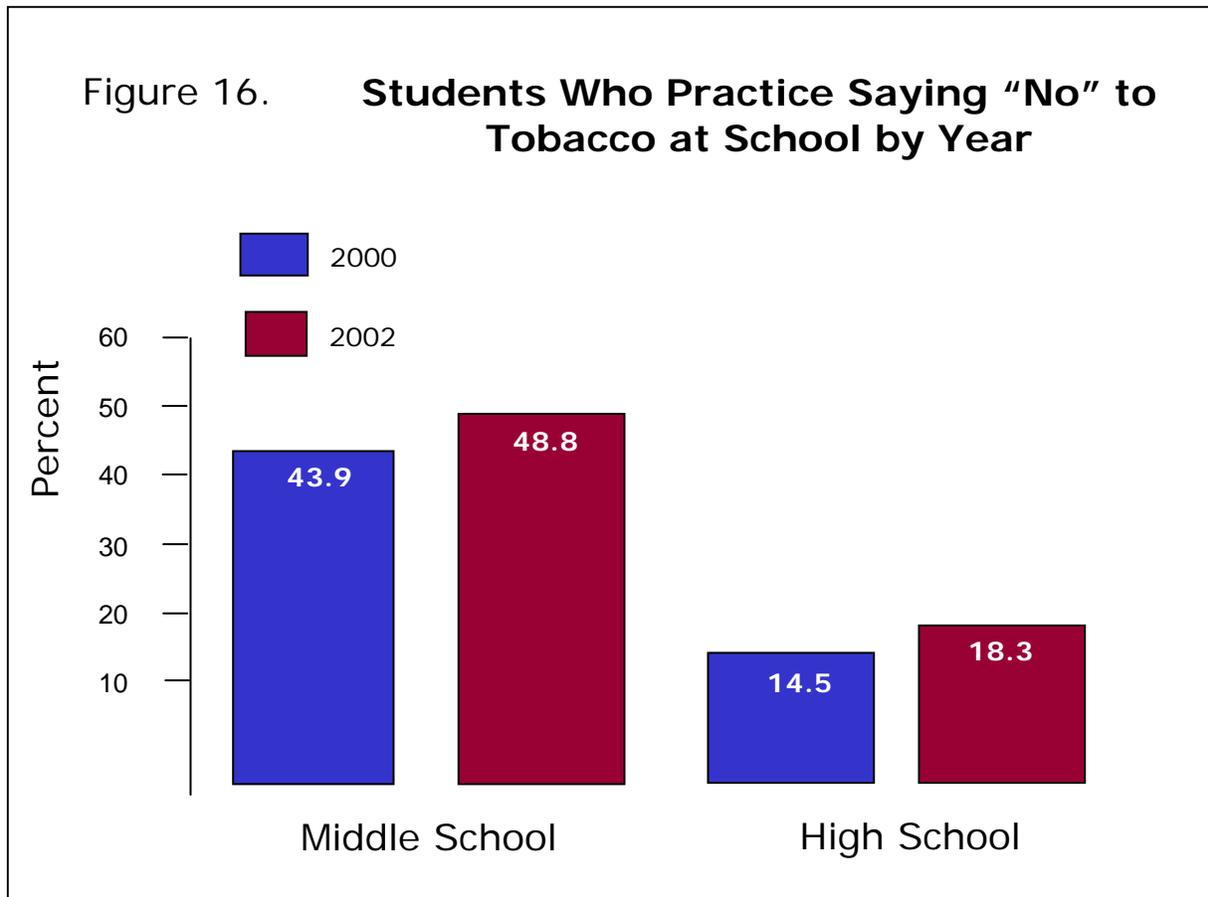
### Tobacco Use on School Property

- Ohio Revised Code Section 3313.751 states that “No pupil shall smoke or use tobacco or possess any substance containing tobacco in any area under the control of a school district or an educational service center or at any activity supervised by any school operated by a school district or an educational service center.”
- Three percent of middle school students and 8.5 percent of high school students report smoking cigarettes on school property during the 30 days preceding the survey. Though not statistically significant, the 2002 figures are less than the 2000 data for the same variable.
- Nearly two percent (1.9) of middle school students and 3.5 percent of high school students report using smokeless tobacco on school property during the 30 days preceding the survey. Use of smokeless tobacco on school property is less in 2002 than the 2000 OYTS but not statistically significant.



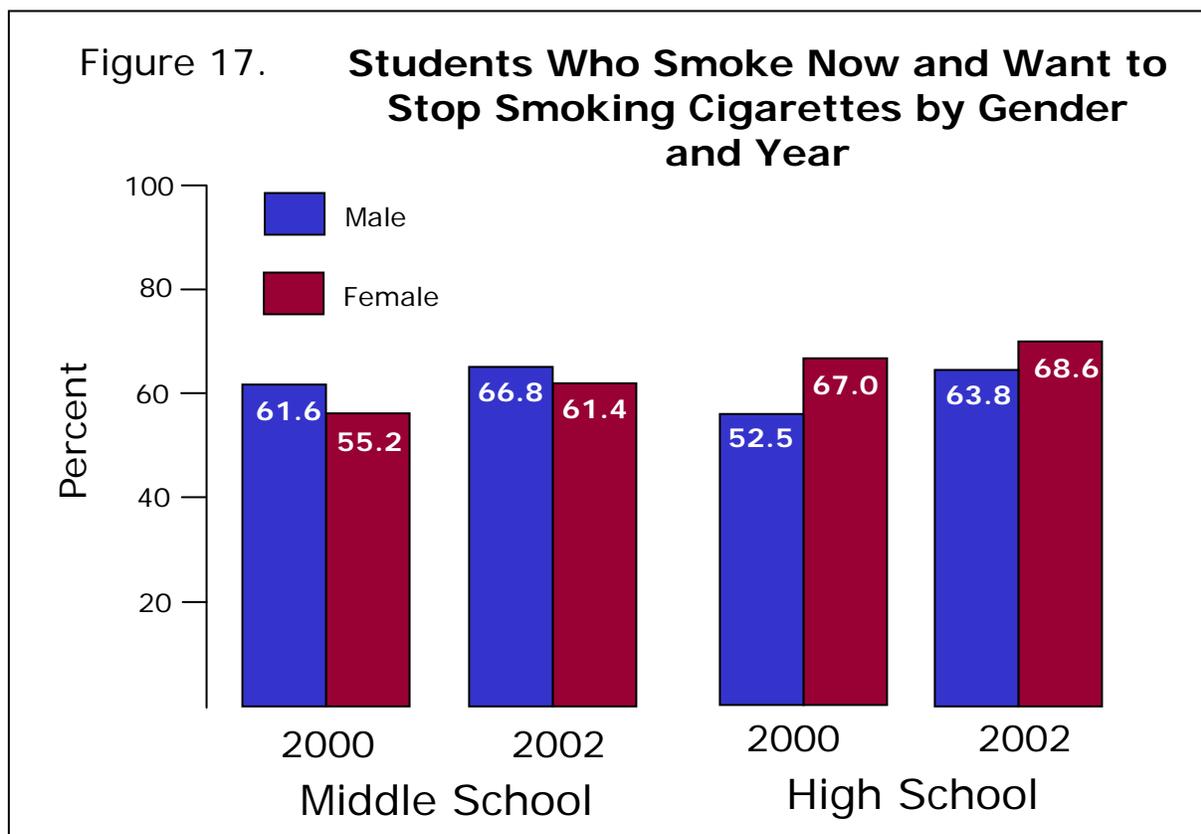
### Learning Refusal Skills in School

- More middle school students in 2002 (48.8 percent) than in 2000 (43.9 percent) reported taking a class where they practiced saying “No” to tobacco during the current school year.
- In 2002, 18.3 percent of high school students reported taking such a class compared with 14.5 percent in 2000.



### Cessation

- Of the middle school and high school students who currently smoke cigarettes in 2002, 65.7 percent want to stop smoking. This is an increase from 58.9 percent of smokers in 2000 but not a statistically significant change.
- There was no significant difference between the genders at the middle school and high school level regarding wanting to quit smoking. 2002 OYTS findings show that females attempted to quit more often than males (66.6 percent vs. 57.8 percent). This finding was similar in the 2000 OYTS (76.6 percent vs. 53.4 percent) but not statistically significant.



### Knowledge and Beliefs about Cigarette Smoking

- Both middle school and high school current smokers held very similar beliefs and knowledge about smoking.
- In 2002, 78.7 percent of middle school students and 91.6 percent of high school students believe young people risk harm if they smoke one to five cigarettes a day.
- Fewer high school students (23.1 percent) than middle school students (45.9 percent) believe smokers have more friends. Similar trends were found between high school (13.6 percent) and middle school students (32.5 percent) who believe smoking makes young people look cool or fit in.
- Overall, 72 percent of both middle school and high school students believe they could quit if they wanted.

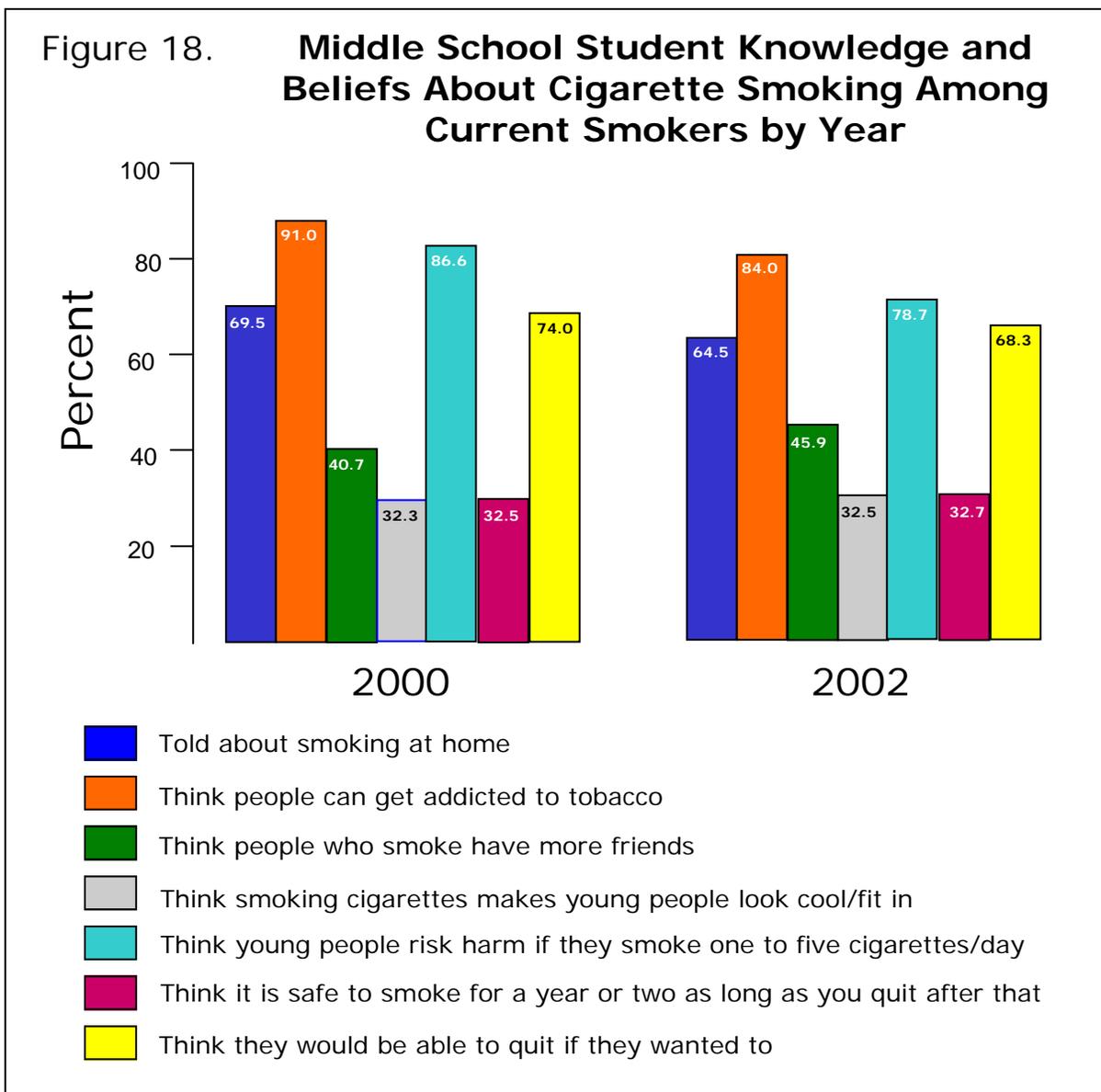
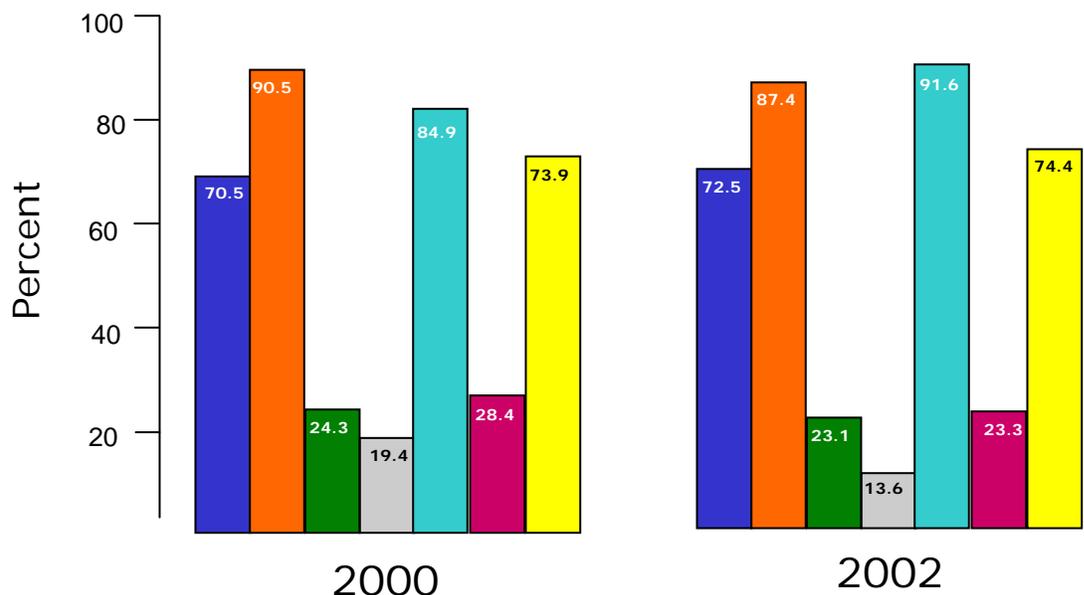


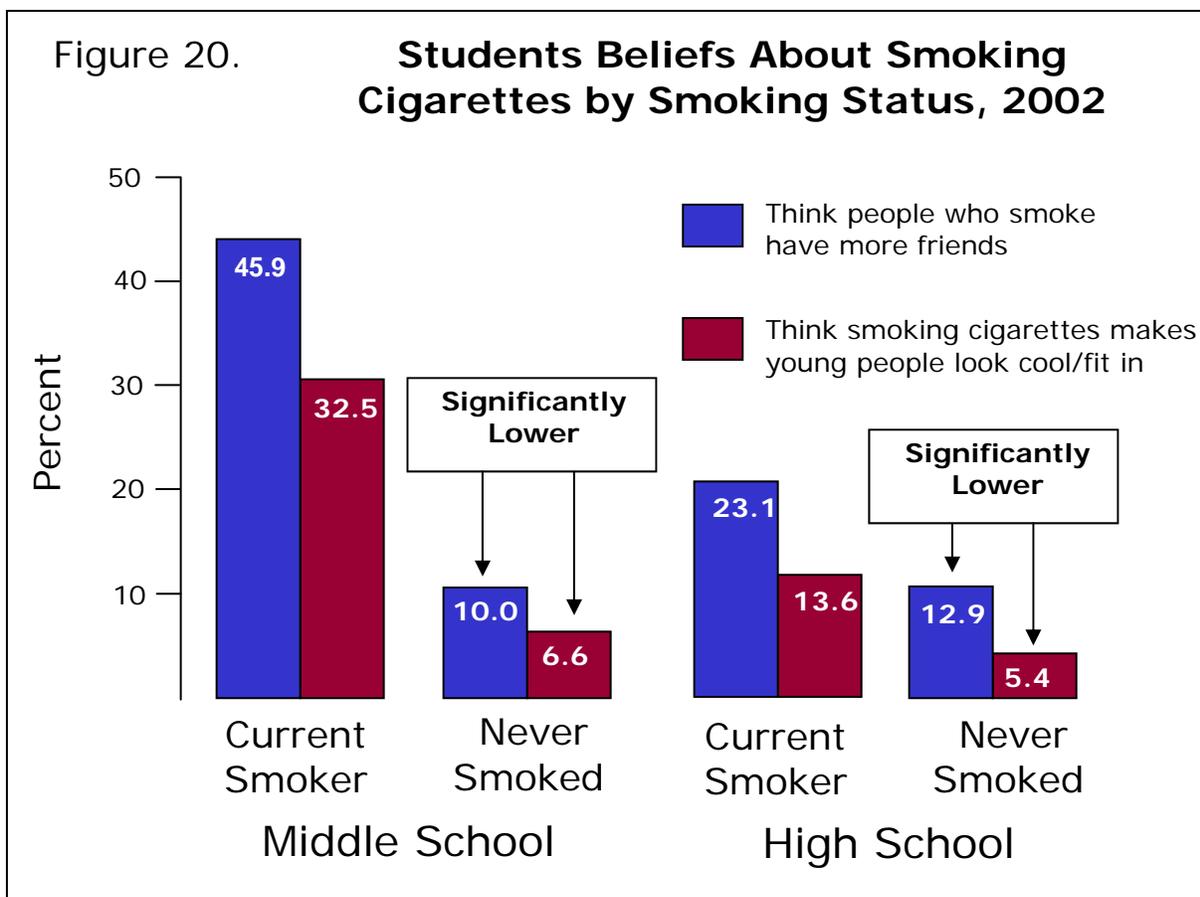
Figure 19.

### High School Student Knowledge and Beliefs About Cigarette Smoking Among Current Smokers by Year



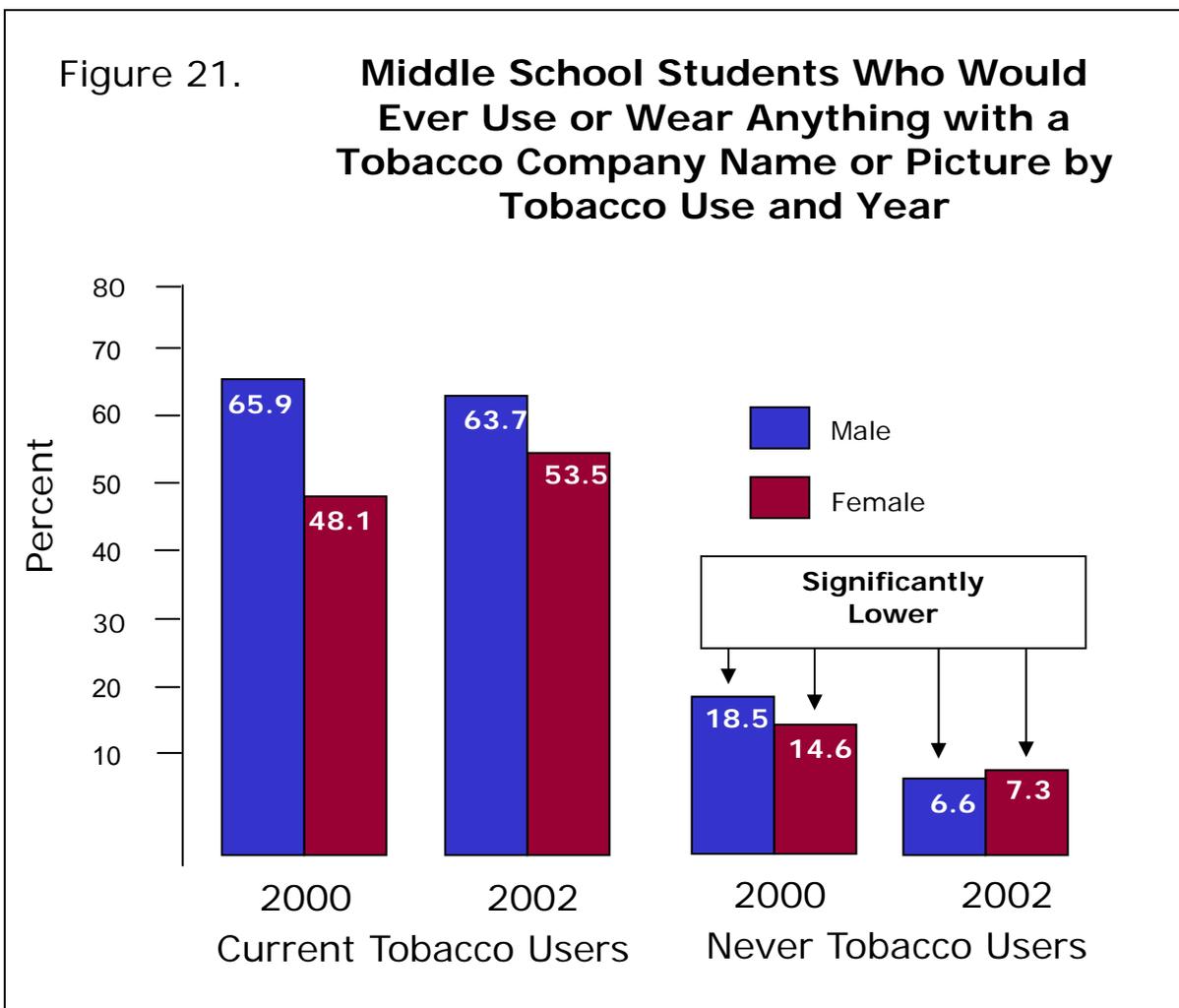
- Told about smoking at home
- Think people can get addicted to tobacco
- Think people who smoke have more friends
- Think smoking cigarettes makes young people look cool/fit in
- Think young people risk harm if they smoke one to five cigarettes/day
- Think it is safe to smoke for a year or two as long as you quit after that
- Think they would be able to quit if they wanted to

- There are significant belief differences between middle school and high school current smokers and those who never smoked. Current middle school smokers believe smokers have more friends and look cool at higher rates (45.9 percent and 32.5 percent) than their non-smoking counterparts (10.0 percent and 6.6 percent). Significant differences were also found among high school students who smoke and those who never smoked.
- Those who never smoked share different beliefs about the social benefits of smoking compared to their smoking peers. For example, middle school students who never smoked (10.0 percent) and high school students who never smoked (12.9 percent) believe that young people who smoke have more friends and 6.6 percent and 5.4 percent, respectively believe that smoking cigarettes makes young people look cool or fit in.

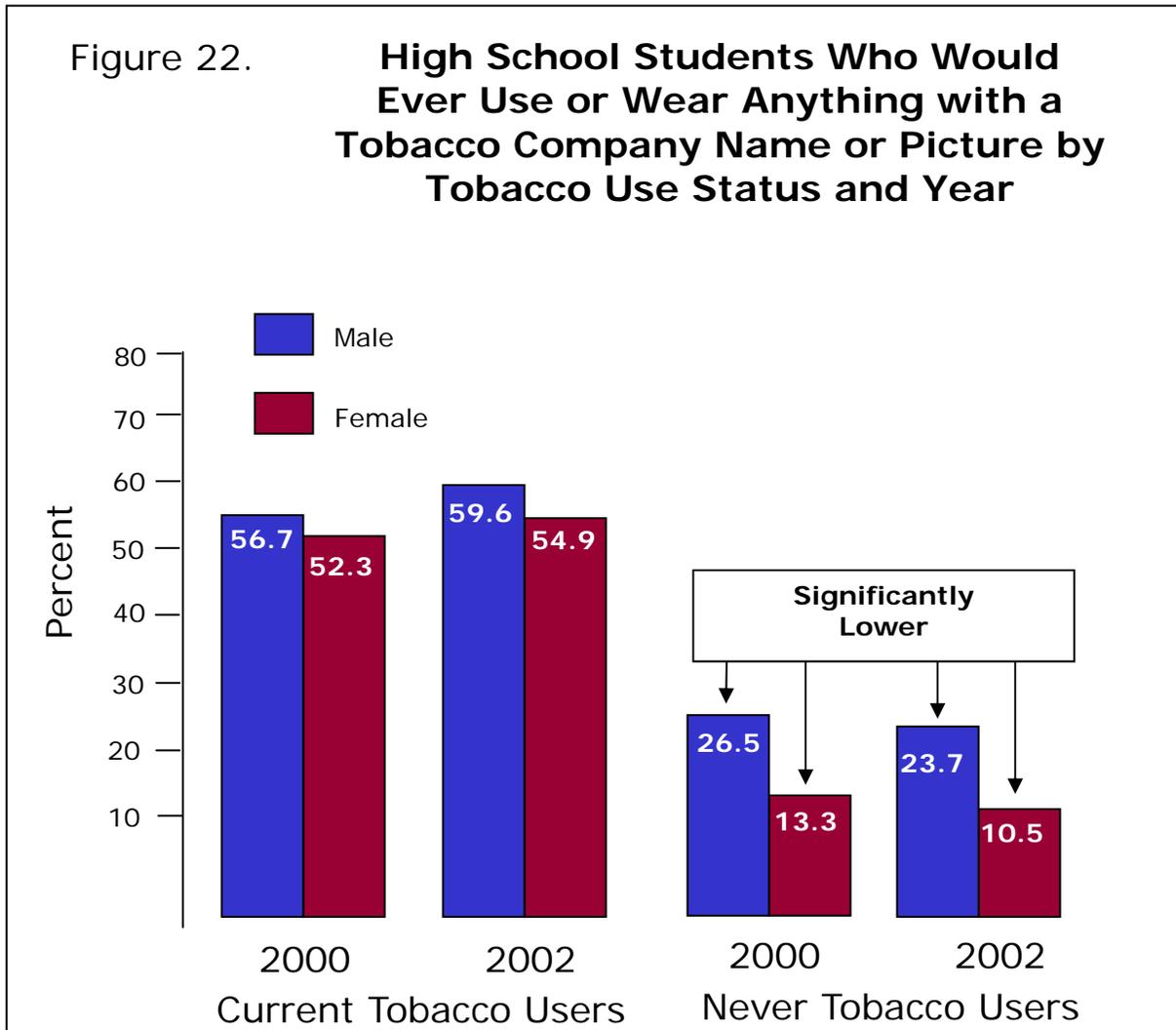


### Tobacco Company Tactics/Tobacco Company Promotional Efforts

- Twenty-five percent of high school students and 20.5 percent of middle school students have bought or received an item with a tobacco company name or picture on it.
- Middle and high school students who never use tobacco products are significantly less likely to use or wear something with the name or logo of a tobacco company than those who use tobacco. No gender differences were found among middle and high school students regarding the wearing of an item with a tobacco company name or logo, nor were any difference found between 2000 and 2002 data on this measure.

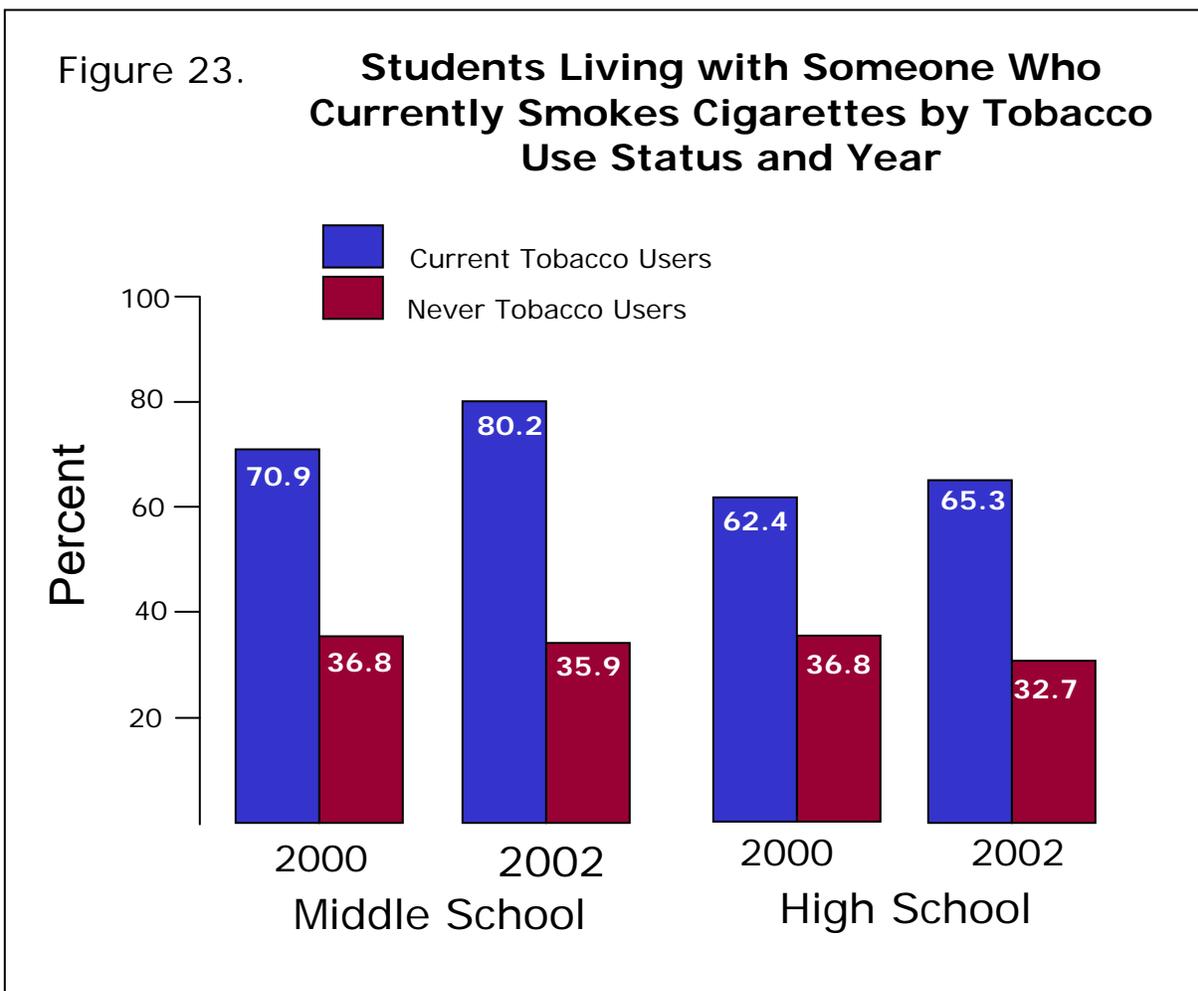


Tobacco Company Tactics/Tobacco Company Promotional Efforts

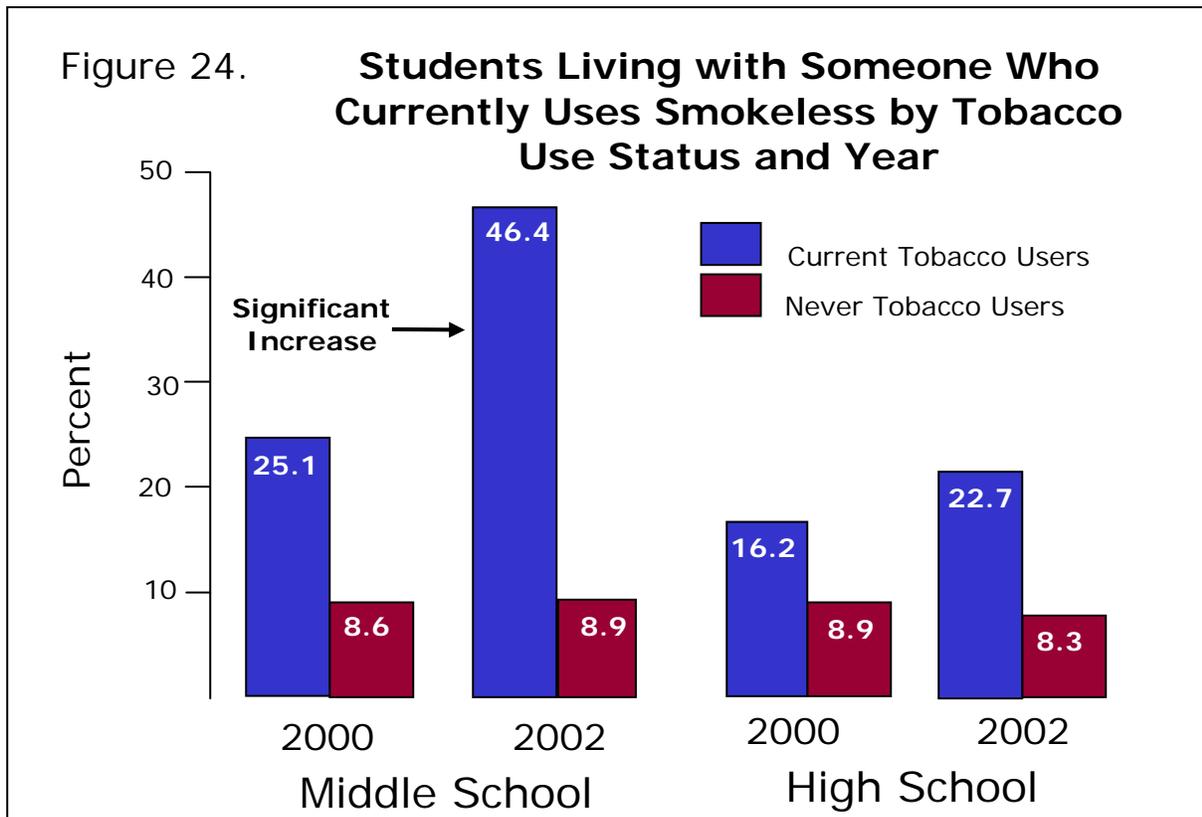


### Social Influences

- According to 2002 data, the rate of current cigarette smoking more than doubles (80.2 percent vs. 35.9 percent) when middle school students live with someone who is a current tobacco user.
- Those same data show the rate of current cigarette smoking for high school students who live with someone who is a current tobacco user is almost two times greater compared student who have never used tobacco.
- Similar trends were found regarding smokeless tobacco with a significantly higher rate of middle school current tobacco users living with smokeless tobacco users in 2002.

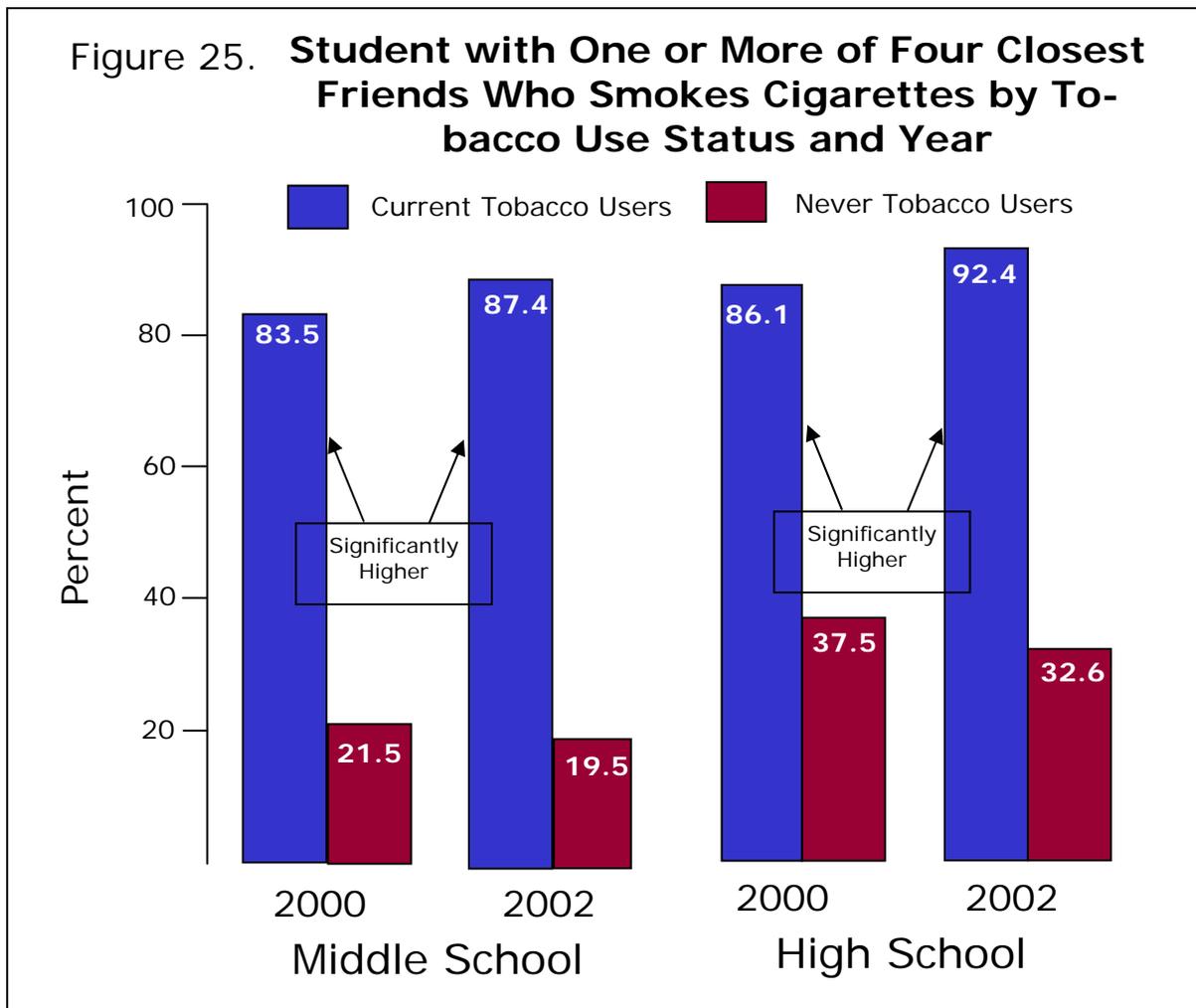


Social Influences



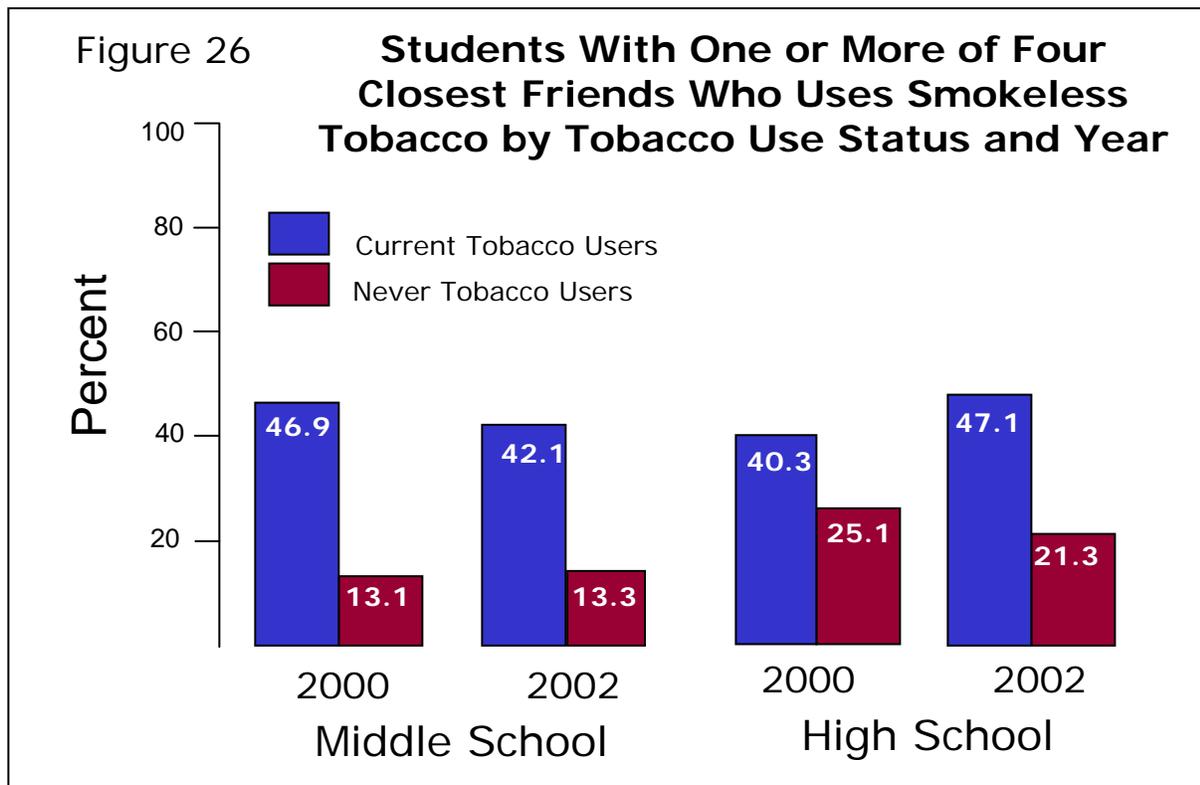
### Social Influences

- Current middle school and high school tobacco users are significantly more likely to have one or more of their four closest friends smoke cigarettes than those who never used tobacco.



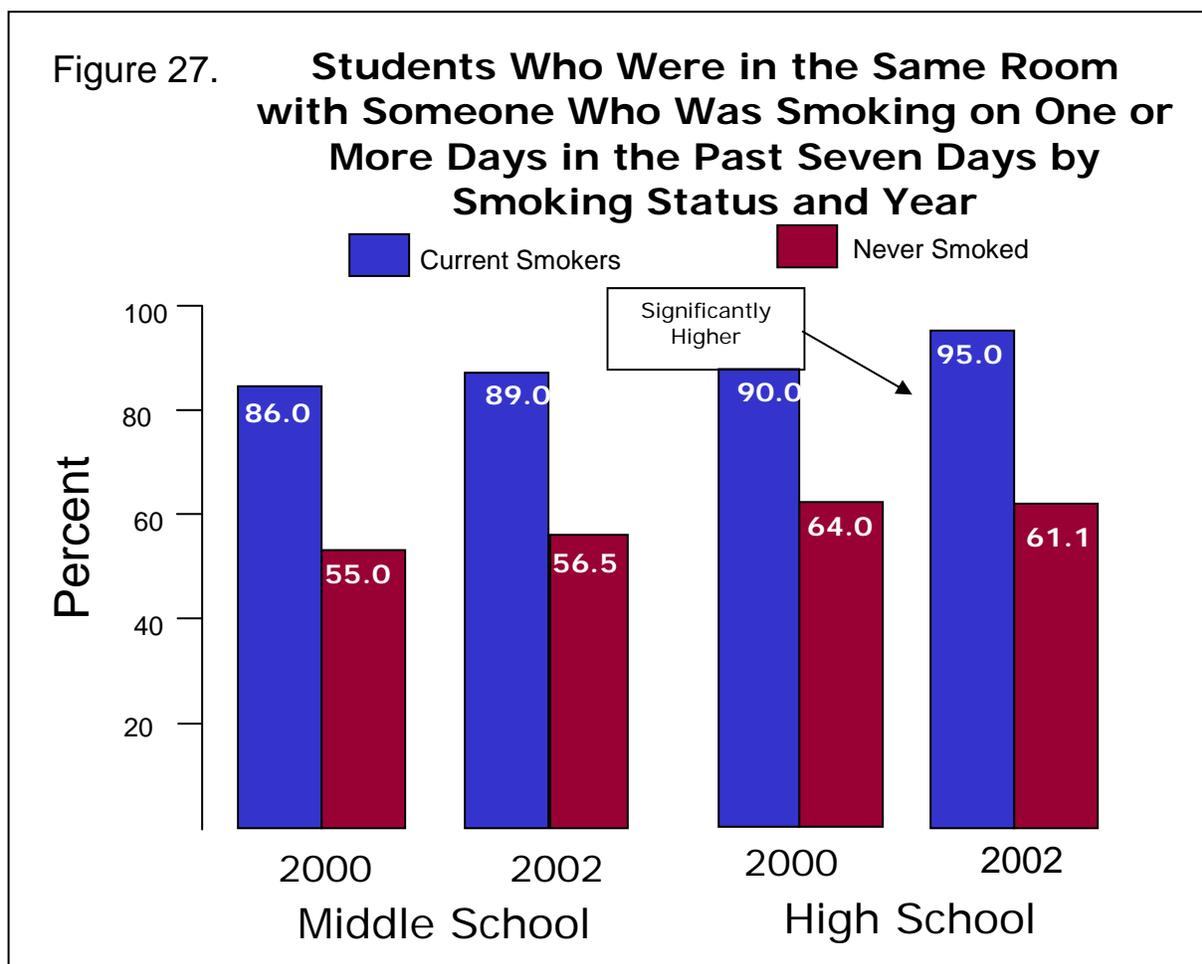
### Social Influences

- The same trend was found among current tobacco users who reported having one or more of four closest friends who use smokeless tobacco except for high school students. However, there were no significant differences between current tobacco users and those who never used tobacco.



### Secondhand Smoke Exposure

- Overall, 68.5 percent of middle school students and 78.3 percent of high school students reported having been exposed to secondhand smoke on one or more days in the seven days preceding the survey.
- Current high school smokers (95.0 percent) were significantly more likely to be exposed to secondhand smoke than those who never smoked (61.1 percent), while 89.0 percent of middle school smokers were exposed compared with 56.5 percent of those who never smoked.



## **Technical Information**

### **Instrument**

Students were surveyed using the Ohio Youth Tobacco Survey (OYTS) instrument. The instrument was based on the core Centers for Disease Control and Prevention (CDC) Youth Tobacco Survey that consisted of 64 multiple choice questions. The instrument is self-administered and utilizes a questionnaire booklet and a scannable answer sheet. The OYTS addresses eight content areas: tobacco prevalence; access to tobacco products; smoking cessation; smoking intention; perceived consequences of tobacco use; mass media; awareness of tobacco industry strategies; and second hand smoke.

### **Sample Description – Middle School Sample:**

All regular schools containing grades six, seven and eight were included in the sample frame. A two-stage cluster sample design was used to produce a representative sample of students in grades six through eight.

**School Level** – The first stage sampling frame consisted of all schools containing any of grades six through eight. Schools were selected with probability proportional to school enrollment size.

**Class Level** – The second sampling stage consisted of systematic equal probability sampling (with a random start) of classes from each school that participated in the survey. All second period classes in the selected schools were included in the sampling frame. All students in the selected classes were eligible to participate in the survey.

### **Overall response rates:**

**Schools** – 42 schools participated of 49\* schools sampled (85.7 percent)

**Students** – 1,590 students participated of 1,843 sampled (86.3 percent)

**Overall Response Rate** – 85.7 percent \* 86.3 percent = 74.0 percent

\*one school was ineligible because the school no longer exists.

### **Sample Description – High School Sample:**

All regular schools containing grades nine, 10, 11 and 12 were included in the sample frame. A two-stage cluster sample design was used to produce a representative sample of students in grades nine through twelve.

**School Level** – The first stage sampling frame consisted of all schools containing any of grades nine through 12. Schools were selected with probability proportional to school enrollment size.

**Class Level** – The second sampling stage consisted of systematic equal probability sampling (with a random start) of classes from each school that participated in the survey. All second period classes in the selected schools were included in the sampling frame. All students in the selected classes were eligible to participate in the survey.

**Overall response rates:**

**Schools** – 43 schools participated of 50 schools sampled (86 percent)

**Students** – 1,271 students participated of 1,444 sampled (87.4 percent)

**Overall Response Rate** – 86 percent \* 87.4 percent = 75.2 percent

**Weighting:**

A weight has been associated with each questionnaire to reflect the likelihood of sampling each student and to reduce the bias by compensating for differing patterns of non response. The weight used for estimation is given by:

$$W = W1 * W2 * f1 * f2 * f3 * f4$$

W1 = the inverse of the probability of selecting the school

W2 = the inverse of the probability of selecting the classroom within the school

f1 = a school-level non response adjustment factor calculated by school size category (small, medium, large)

f2 = a class adjustment factor calculated by school

f3 = a student-level non-response adjustment factor calculated y class

f4 = a post stratification adjustment calculated by gender and grade

**Use of Weighted Results:**

The weighted results can be used to make important inferences concerning tobacco use risk behaviors of all regular school students in grades six through 12.

## 2002 Ohio Youth Tobacco Survey

**Table 1:** Current\* Tobacco Use Among Ohio Middle School Students by Gender, Race/Ethnicity and Grade at the 95% Confidence Interval (C I) **2002**

Category	Any§ Tobacco Use		Cigarette Use		Cigar Use		Pipe Use		Bidis Use		Smokeless Tobacco Use	
	%	95% C I	%	95% C I	%	95% C I	%	95% C I	%	95% C I	%	95% C I
<b>Gender</b>												
Male	15.2	±3.5	9.3	±3.3	6.7	±2.3	3.9	±1.6	3.2	±1.2	5.3	±2.0
Female	14.9	±4.1	10.9	±3.6	5.8	±2.8	2.7	±1.2	3.2	±1.7	1.8	±0.7
<b>Race/Ethnicity</b>												
White	14.3	±3.0	10.0	±2.6	5.6	±1.8	2.9	±1.1	2.2	±1.0	3.6	±1.0
Black	14.6	±5.8	5.3	±3.7	7.7	±5.5	4.1	±3.3	7.1	±5.4	1.7	±2.2
Hispanic	18.1	±9.4	14.5	±9.2	8.6	±6.3	3.0	±3.2	3.7	±5.0	1.8	±3.0
Other	22.6	±8.7	15.8	±7.9	9.9	±4.7	6.1	±5.6	6.9	±5.5	8.1	±5.7
<b>Grade</b>												
6	10.8	±3.7	5.5	±2.9	2.7	±1.5	2.5	±1.5	2.5	±1.5	2.7	±1.2
7	15.4	±3.5	11.1	±3.0	8.4	±3.5	3.8	±2.1	4.1	±1.9	3.2	±1.5
8	19.0	±5.3	13.6	±4.8	7.6	±4.1	3.5	±1.9	3.0	±1.7	5.1	±2.9
<b>Total</b>	<b>15.0</b>	<b>±2.6</b>	<b>10.1</b>	<b>±2.3</b>	<b>6.3</b>	<b>±1.9</b>	<b>3.3</b>	<b>±1.1</b>	<b>3.2</b>	<b>±1.2</b>	<b>3.6</b>	<b>±0.96</b>

\* Tobacco use on one or more of the 30 days preceding the survey.

§ Includes cigarettes, pipes, bidis, kreteks or smokeless tobacco.

**Table 2:** Current Tobacco Use Among Ohio High School Students by Gender, Race/Ethnicity and Grade at the 95% Confidence Interval (C I) **2002**

Category	Any§ Tobacco Use		Cigarette Use		Cigar Use		Pipe Use		Bidis Use		Smokeless Tobacco Use	
	%	95% C I	%	95% C I	%	95% C I	%	95% C I	%	95% C I	%	95% C I
<b>Gender</b>												
Male	37.8	±6.0	25.6	±4.0	21.5	±5.7	4.5	±2.0	4.5	±1.6	11.8	±3.3
Female	26.9	±5.3	25.8	±5.2	7.8	±2.3	1.6	±1.2	2.5	±1.3	1.2	±1.3
<b>Race/Ethnicity</b>												
White	33.8	±5.1	27.4	±3.9	15.6	±3.9	2.6	±1.1	3.2	±1.2	7.1	±2.6
Black	20.5	±7.0	10.8	±5.4	11.2	±4.9	6.9	±4.2	3.6	±3.2	1.8	±2.2
Hispanic $\alpha$	31.9	±12.6	26.9	±13.9	11.0	±7.8	5.3	±7.6	5.3	±7.0	5.2	±7.9
Other $\alpha$	42.8	±14.0	37.0	±14.1	14.6	±8.7	4.9	±9.3	10.8	±10.9	17.3	±12.0
<b>Grade</b>												
9	17.7	±5.1	12.9	±4.2	7.9	±4.6	2.6	±1.8	3.9	±2.5	4.6	±2.3
10	35.0	±7.0	26.9	±6.9	18.4	±5.5	4.3	±2.2	3.4	±1.7	6.8	±3.2
11	39.8	±5.7	32.3	±4.4	19.2	±6.9	2.7	±1.8	3.2	±1.3	8.1	±4.2
12	39.2	±8.9	31.8	±5.2	14.3	±6.0	2.8	±2.7	3.8	±2.1	7.6	±3.4
<b>Total</b>	<b>32.6</b>	<b>±4.4</b>	<b>25.7</b>	<b>±3.2</b>	<b>14.9</b>	<b>±3.5</b>	<b>3.3</b>	<b>±1.2</b>	<b>3.6</b>	<b>±1.0</b>	<b>6.6</b>	<b>±2.1</b>

\*Tobacco use on one or more of the 30 days preceding the survey.

§ Includes cigarettes, pipes, bidis, kreteks or smokeless tobacco.

$\alpha$  Some of the cells have less than 50; therefore, use caution in interpreting data.

## 2002 Ohio Youth Tobacco Survey

**Table 3:** Current Tobacco Use Among Ohio Middle School Students by Gender, Race/Ethnicity and Grade at the 95% Confidence Interval (C I) 2000

Category	Any§ Tobacco Use		Cigarette Use		Cigar Use		Pipe Use		Bidis Use		Smokeless Tobacco Use	
	%	95% C I	%	95% C I	%	95% C I	%	95% C I	%	95% C I	%	95% C I
<b>Gender</b>												
Male	22.0	±5.9	14.7	±3.9	11.1	±3.0	5.1	±1.4	4.6	±1.7	8.2	±3.9
Female	15.2	±3.9	12.7	±3.8	4.8	±1.3	1.7	±1.1	2.2	±0.7	1.8	±1.0
<b>Race/Ethnicity</b>												
White	18.3	±5.5	13.3	±4.2	7.2	±2.2	2.9	±1.1	3.1	±1.1	5.5	±3.0
Black	20.3	±7.4	14.6	±5.2	12.1	±4.6	7.2	±4.4	6.2	±4.1	3.8	±2.7
Hispanic <sup>¶</sup>	21.2	±13.4	15.6	±9.4	11.6	±9.5	1.7	±3.2	1.7	±3.2	1.7	±3.2
Other	19.9	±8.6	16.6	±8.3	11.5	±7.4	4.4	±4.2	2.4	±3.3	2.8	±3.2
<b>Grade</b>												
6	11.2	±2.6	7.7	±2.6	3.7	±1.4	2.4	±1.5	2.6	±1.6	2.3	±1.2
7	19.8	±5.5	14.7	±5.1	8.5	±3.2	3.9	±1.9	4.3	±1.6	5.2	±2.8
8	24.9	±10.3	18.4	±7.5	11.8	±3.6	4.1	±2.2	3.3	±1.8	7.7	±5.6
<b>Total</b>	<b>18.7</b>	<b>±4.6</b>	<b>13.7</b>	<b>±3.5</b>	<b>8.1</b>	<b>±2.0</b>	<b>3.5</b>	<b>±1.0</b>	<b>3.4</b>	<b>±1.0</b>	<b>5.1</b>	<b>±2.5</b>

\* Thirty day prevalence is defined as tobacco use on one or more of the 30 days preceding the survey.

§ Includes cigarettes, pipes, bidis, kreteks or smokeless tobacco.

¶ Some of these cells have less than 50; therefore, use caution in interpreting data.

**Table 4:** Current\* Tobacco Use Among Ohio High School Students by Gender, Race/Ethnicity and Grade at the 95% Confidence Interval (C I) 2000

Category	Any§ Tobacco Use		Cigarette Use		Cigar Use		Pipe Use		Bidis Use		Smokeless Tobacco Use	
	%	95% C I	%	95% C I	%	95% C I	%	95% C I	%	95% C I	%	95% C I
<b>Gender</b>												
Male	45.6	±5.6	33.7	±3.8	25.4	±5.9	4.0	±1.8	5.8	±1.8	15.3	±4.0
Female	35.9	±4.6	33.0	±4.7	10.0	±3.1	2.7	±1.8	7.8	±3.9	2.2	±1.7
<b>Race/Ethnicity</b>												
White	41.5	±3.2	35.2	±2.8	16.9	±3.1	2.5	±0.8	5.2	±1.3	9.6	±2.4
Black	33.3	±10.9	14.4	±5.5	22.8	±10.0	5.6	±5.1	11.0	±5.1	4.0	±3.9
Hispanic <sup>¶</sup>	56.4	±17.8	52.4	±18.1	25.2	±14.3	10.7	±10.1	14.5	±12.7	14.1	±11.7
Other <sup>¶</sup>	40.7	±13.5	31.9	±15.6	24.5	±12.0	11.7	±9.8	17.8	±11.4	10.9	±9.4
<b>Grade</b>												
9	33.9	±4.6	29.6	±4.9	15.0	±3.1	4.5	±2.9	5.6	±2.8	7.8	±3.2
10	40.1	±7.8	32.1	±7.1	16.8	±7.1	3.4	±3.0	7.0	±3.3	11.0	±3.7
11	47.7	±4.7	40.9	±4.7	18.8	±5.8	1.9	±1.4	6.0	±3.8	11.5	±6.2
12	42.0	±8.5	30.7	±7.7	20.8	±8.4	3.5	±2.7	9.0	±5.2	6.1	±2.4
<b>Total</b>	<b>41.1</b>	<b>±3.3</b>	<b>33.4</b>	<b>±3.1</b>	<b>18.1</b>	<b>±3.0</b>	<b>3.4</b>	<b>±1.0</b>	<b>6.9</b>	<b>±1.8</b>	<b>9.1</b>	<b>±2.0</b>

\* Tobacco use on one or more of the 30 days preceding the survey.

§ Includes cigarettes, pipes, bidis, kreteks or smokeless tobacco.

¶ All of these cells have less than 50; therefore, use caution in interpreting data.

## **Glossary of Terms**

**Current Use**—use on one or more the 30 days preceding the survey.

**Frequent Use**—use on 20 or more of the 30 days preceding the survey.

**Smokeless Tobacco**—also known as spit tobacco, includes chewing tobacco, snuff and dip. Any unlighted tobacco product that is put in the mouth to chew or placed between the lip and gums.

**Bidis**—a small, brown, hand-rolled cigarette primarily made in India and other Southeast Asian countries consisting of tobacco wrapped in a leaf and tied with a thread.

**Kreteks**—(or clove cigarettes) are cigarettes containing tobacco and clove extract.

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# Ohio Department of Health

*to protect and improve the health of all Ohioans*

## September 2003

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