2005 Arkansas Youth Tobacco Survey

A Statewide Report

DHHS
ARKANSAS DEPARTMENT OF HEALTH & HUMAN SERVICES

SOS
ARKANSAS TOBACCO PREVENTION & CESSATION

2005
Arkansas
Youth Tobacco Survey

Arkansas Department of Health and Human Services
Division of Health

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Special Acknowledgements

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Centers for Disease Control and Prevention (CDC) – Office on Smoking and Health

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EXECUTIVE SUMMARY

Executive Summary

- About 18% of Arkansas middle school students and 38% of high school students were current users of *some form of tobacco* in 2005.

- Cigarettes were the most prevalent tobacco product used, followed by cigars/cigarillos (little cigars), smokeless tobacco, pipe smoking, and bidis or kreteks.

- About 9.3% of Arkansas middle school students and 26.3% of high school students were current cigarette smokers. *This amounts to an estimated 9,710 middle school students and 34,223 high school students who were current cigarette smokers in 2005.*

- Current cigarette smoking declined significantly among middle school students from 15.8% in 2000 to 9.3% in 2005, a 41% reduction. Among high school students, rates dropped from 35.8% in 2000 to 26.3% in 2005, a significant decline of more than 26%.

- Overall, 6.7% of Arkansas middle school students and 11.6% of high school students were current *smokeless tobacco* users in 2005.

- Gender differences in current smokeless tobacco use were significant. In middle schools, 10.5% of males were current users of smokeless tobacco as compared to 2.6% of females. The rate among males in high schools was 19.5%, significantly higher than the rate among females (3.4%).

- Unlike current cigarette smoking, the rate of smokeless tobacco use has not significantly changed since 2000 in both middle and high schools.

- Cigars and cigarillos were the most prevalent tobacco products used after cigarettes. In 2005, 7.0% of Arkansas middle school students and 18.9% of high school students were current cigar smokers.

- In 2005, current cigar smoking rates did not significantly change as compared to the year 2000 in middle and high schools.

- Of all students who had ever smoked, about 17.6% had first smoked a whole cigarette before the age of 11 years. This represents a significant 24.5% decline from the 2000 value (23.3%).

- Cigarette consumption among current smokers in middle and high schools has considerably declined since 2000.

- Nearly one out of three (31.2%) middle school students and a little less than half (44.3%) of high school students had smoked between 1 and 99 cigarettes in their lifetime (experimenters). The transition from experimentation to regular and established smoking slowed down by the end of middle school (grades 8th to 9th), but began to climb once students entered high schools. Transition peaked between 11th and 12th grades.

- Among all current smokers under the age of 18, the most common methods of obtaining cigarettes were to give someone money to buy cigarettes for them (31%), borrow or "bum" a cigarette (25%), or to buy cigarettes in a store (13.5%).

- About one quarter (25.1%) of middle school current smokers smoked on school property in the 30 days preceding the survey. Among high school current smokers, 28.1% smoked on school property in the 30 days prior to survey administration.

- Of all young current smokers in 2005, 53.9% indicated that they wanted to stop smoking (50.3% in middle schools and 54.9% in high schools). Tobacco addiction, however, was strongly evident as 33.1% of current smokers in middle schools and 47.3% in high schools reported that they needed a cigarette everyday.

- Of all students, 90.5% believed that smoke from other people's cigarettes is harmful to their health. In spite of that, 68.0% of them were exposed to secondhand smoke by either being in the same room or riding with someone who smoked cigarettes on at least one occasion in the seven days preceding the survey.

- Among current smokers, 32.9% believed that young people who smoke have more friends, as compared to 13.2% of never smokers. Also, current smokers (21.1%) were significantly more likely than never smokers (6.3%) to believe that young people who smoke look cool or fit in.

- Approximately 44.3% of all students reported discussing the dangers of tobacco use with their parents or guardians in the 12 months preceding the survey. This indicator has alarmingly declined by nearly one half since 2000 (82.7%).

- During 2005 school year, 63.1% of all middle and high school students were taught about the dangers of tobacco use in any of their classes. *This indicator was not measured in 2000*. Moreover, 33.7% of all students practiced ways to say NO to tobacco in any of their classes, indicating no significant change from the year 2000 (33.7%).

- Of all students, about 19.2% had participated in any community event to discourage people from using tobacco in the 12 months preceding the survey. There was no significant change from the year 2000.

- A little less than half (45.0%) of all students had seen ads for tobacco products when using the Internet at least once in the seven days preceding the survey.

- About 39.2% of all students were receptive to tobacco company merchandise. This represents a significant decline of 21.1% from the year 2000 (49.7%).

- Current young smokers (65.9%) were significantly more likely to be living in a household with someone who smoked cigarettes than never smokers (34.5%).

- High school students who had at least one smoker in their close friend circles were *8 times more likely* to be current smokers than those who had not. A similar pattern was also seen for smokeless tobacco users.

- Of all students in middle and high schools, 77.6% had seen or heard anti-smoking commercials on TV, the Internet, or on the radio in the 30 days preceding survey administration. The rate of exposure to anti-tobacco messages has significantly declined since 2000 (82.3%).

INTRODUCTION

Introduction

The Arkansas Youth Tobacco Survey (YTS) conducted in 2000 was the first comprehensive study on youth tobacco use in Arkansas. Since then, there have been landmark accomplishments in the fight against youth tobacco in the state, most importantly, the launch of the Arkansas Comprehensive Tobacco Program in July 2001. Managed by the Arkansas Department of Health and Human Services-Division of Health, and in partnership with statewide community coalitions, the program has been developing and implementing activities and campaigns intended to prevent initiation of tobacco use among youth, promote quitting among young users, and reduce youth exposure to secondhand smoke. In 2005, the YTS was conducted again to provide Arkansas with the data needed to design, implement, and evaluate its comprehensive tobacco control program.

YTS is an anonymous, self-administered school-based survey that collects and measures several short-term, intermediate, and long-term indicators related to the use of cigarettes and other tobacco products among young people in grades 6 though 12. Prior to conducting the 2005 Arkansas YTS , youth tobacco surveillance data was limited to prevalence rates for cigarette, cigar, and smokeless tobacco use - available through the Arkansas Youth Risk Behavior Surveillance System (YRBSS). Measures that were missing include prevalence of other tobacco products (i.e., pipe use, bidis and kreteks), knowledge and attitudes regarding tobacco use, indicators of the impact of media and advertising, information on enforcing minors' access regulations and laws, knowledge of tobacco in school curriculum, cessation attempts and successes, and exposure to secondhand smoke (SHS). Availability of these program outcomes and tracking them over term allow Arkansas to measure progress toward state and national objectives.

The 2005 YTS was a joint effort by the Arkansas Department of Health and Human Services-Division of Health and the Office on Smoking and Health at the Centers for Disease Control and Prevention (CDC). Arkansas planned, coordinated, and implemented the survey, whereas CDC assisted with data processing, quality control, and data management.

This report highlights current findings of the 2005 Arkansas YTS, acknowledges areas of progress since 2000, and identifies critical areas for improvement.

METHODOLOGY

Methodology

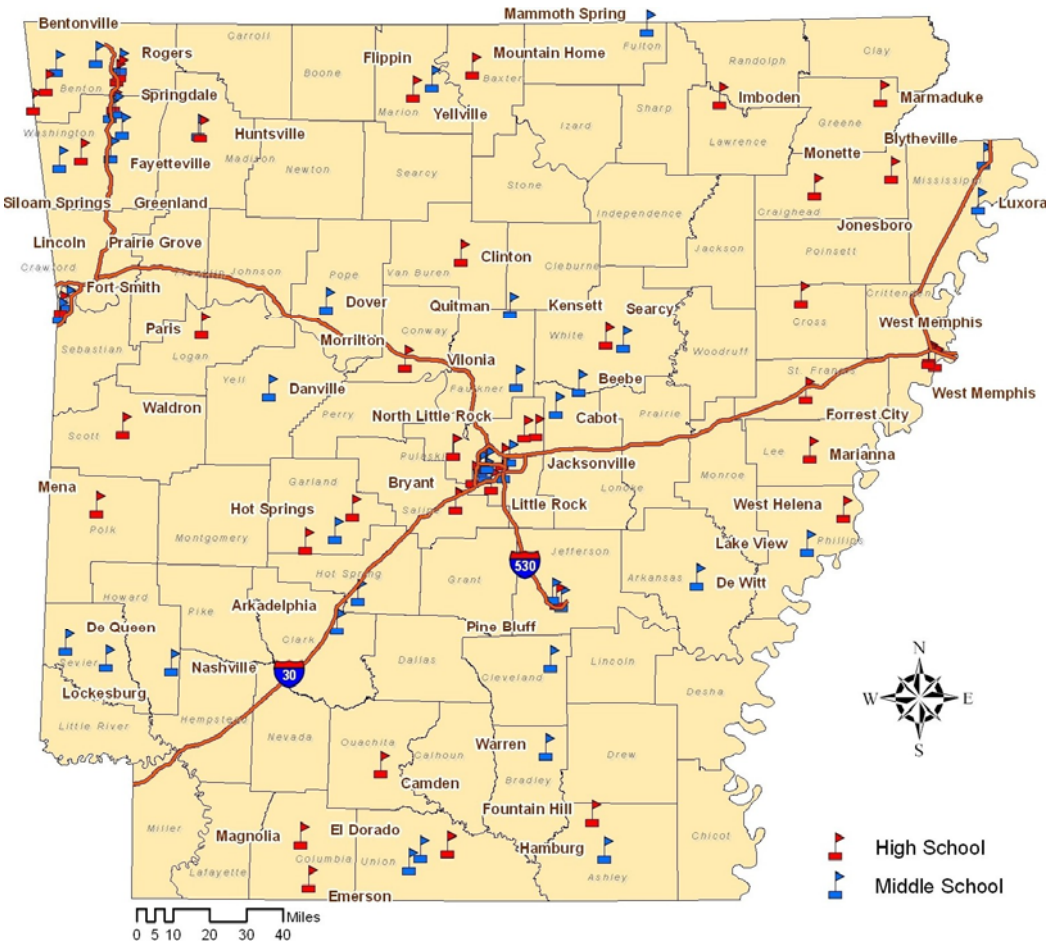
Instrument

Students were surveyed using the 2005 CDC-YTS core questionnaire that collects data on 64 tobacco-related items. The 2005 YTS instrument addresses eight content areas: tobacco prevalence, access to tobacco, smoking cessation, smoking intention, perceived consequences of tobacco use, mass media, awareness of tobacco industry strategies, and secondhand smoke (Appendix C).

Sample Description

Data collected for the Arkansas 2005 YTS is a representative sample of all regular public middle and high school students in the state. The survey was administered to 2,353 middle school students in 45 sampled schools, and 2,282 high school students in 43 sampled schools located throughout the state (Figure 1).

Figure 1. Schools Participated in the 2005 Arkansas YTS



In effect, the 2005 Arkansas YTS consisted of two studies: a middle school survey (grades 6-8) and a high school survey (grades 9-12). Both surveys employed a two-stage cluster sample design to produce representative samples of students in middle schools and high schools.

At the first sampling stage, for each frame, schools were selected with probability proportional to enrollment size (PPS). The second stage of sampling entailed systematic equal probability sampling (with a random start) of classes from participating schools. All second period classes in selected schools were included in the sampling frames. All students in selected classes were eligible to participate in the survey.

Data Collection

The 2005 Arkansas YTS was administered between March and June. Student participation was anonymous and voluntary. Before students in selected classes were allowed to participate, passive parental permissions were obtained. Students completed YTS questionnaires in their classrooms, recording their responses on an answer sheet.

Response Rates

Overall participation rates of 75.2% in middle schools and 69.5% in high schools were achieved. Overall participation rates are calculated by multiplying school participation rate by student participation rate. Table 1 displays the numbers of schools and students that were sampled, as well as the numbers of schools and students that participated in the 2005 Arkansas YTS.

Table 1. The 2005 Arkansas YTS Response Rates

Frame	Schools		Students		Overall Response Rate
	Sampled	Participated	Sampled	Participated	
Middle Schools	55	45	2,353	2,163	75.21%
High Schools	55	43	2,282	2,028	69.48%

Data Analysis

Data were weighted to adjust for non-response and unequal probabilities of selection. SAS® statistical software Version 9.1, which corrects for complex sampling designs, was used to generate 95% confidence intervals. Differences between estimates were considered statistically significant at the $p = 0.05$ level if the 95% confidence intervals did not overlap.

DEMOGRAPHICS

Demographics

Gender and Age

For middle and high schools, the weighted sex and age distributions are shown in Figures 2 and 3, respectively.

Figure 2. Weighted Sex and Age Distributions of Sampled Middle School Students, Arkansas Youth Tobacco Survey 2005

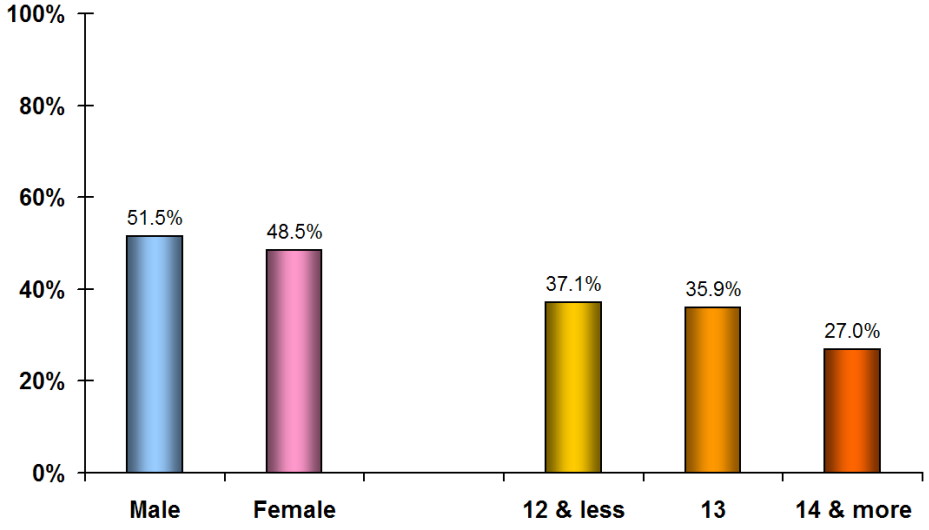
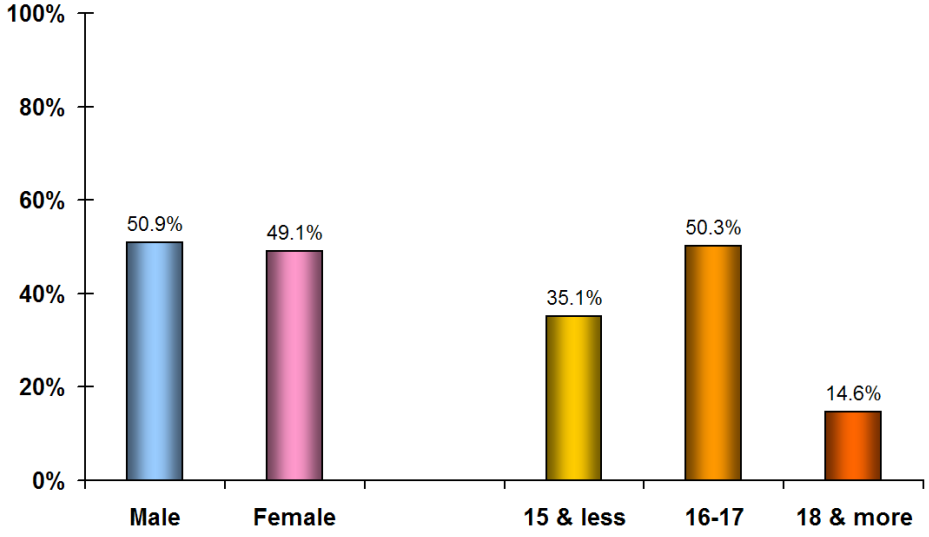


Figure 3. Weighted Sex and Age Distributions of Sampled High School Students, Arkansas Youth Tobacco Survey 2005



Race/Ethnicity

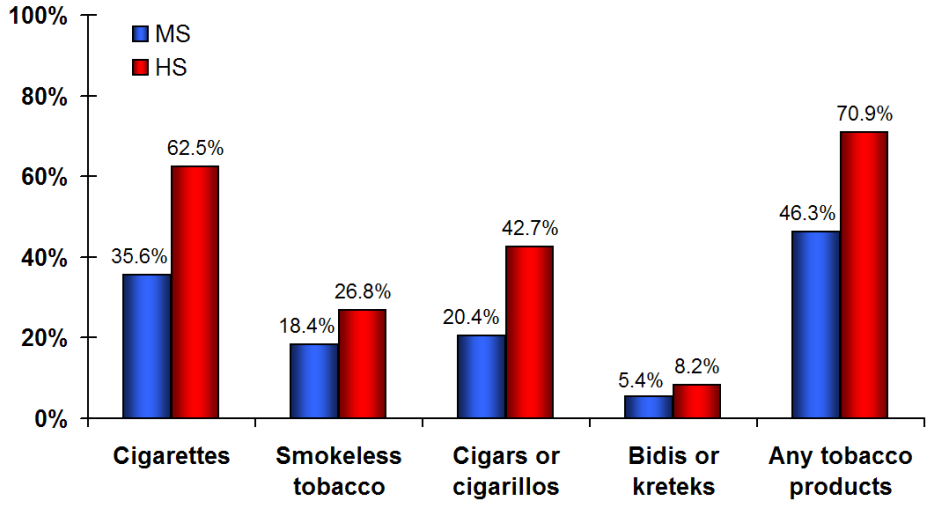
In the weighted middle and high school samples, 70% of surveyed students were whites, 23% were blacks, 4% were Hispanics, and the remaining 3% were from all other race/ethnicities.

PREVALENCE

Lifetime Prevalence of Tobacco Use

Definition Ever tried cigarettes, cigars or cigarillos, smokeless tobacco (spit or snuff), bidis or kreteks[a], or smoked tobacco in a pipe in their lifetime.

Figure 4. Percent of all middle and high school students who ever used tobacco by tobacco product, Arkansas Youth Tobacco Survey 2005



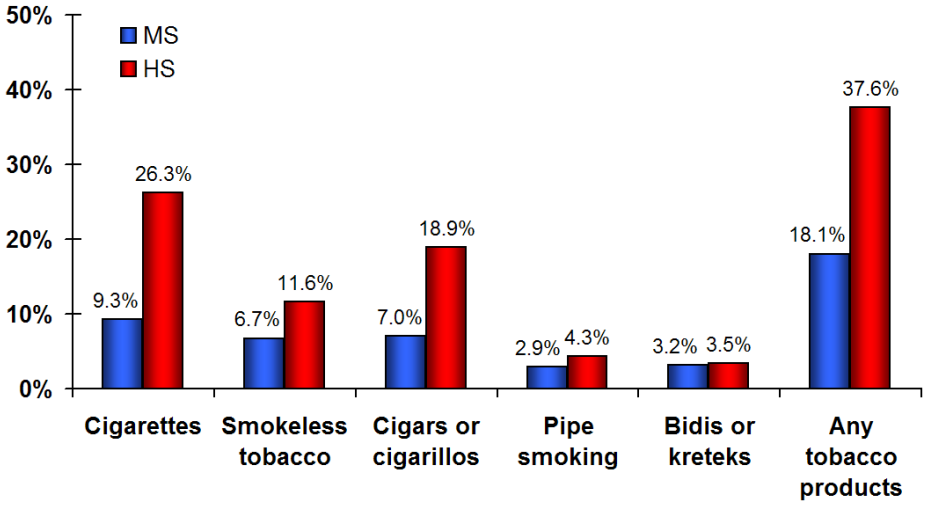
- As shown in Figure 4, cigarettes were the most commonly tried tobacco product among both middle and high school students, followed by cigars/cigarillos, smokeless tobacco, and bidis/kreteks.
- About 46% of middle school students and 71% of high school students have ever tried any form of tobacco.
- In both middle and high schools, white non-Hispanic students were significantly more likely to have ever tried smokeless tobacco than their black non-Hispanic and Hispanic counterparts.
- Male students were significantly more likely than female students to have ever tried smokeless tobacco in middle and high schools. Male high school students were also significantly more likely to have tried cigars relative to female high school students.

[a] Bidis are small brown hand-rolled cigarettes primarily made in India and other Southeast Asian countries. Kreteks (or clove cigarettes) are cigarettes containing tobacco and clove extract.

Current Use of Any Tobacco Product

Definition Used cigarettes, smokeless tobacco (spit or snuff), cigars/cigarillos (little cigars), bidis or kreteks, or smoked tobacco in a pipe on one or more days in the past 30 days.

Figure 5. Percent of all middle and high school students who were current users of tobacco by tobacco product, Arkansas Youth Tobacco Survey 2005



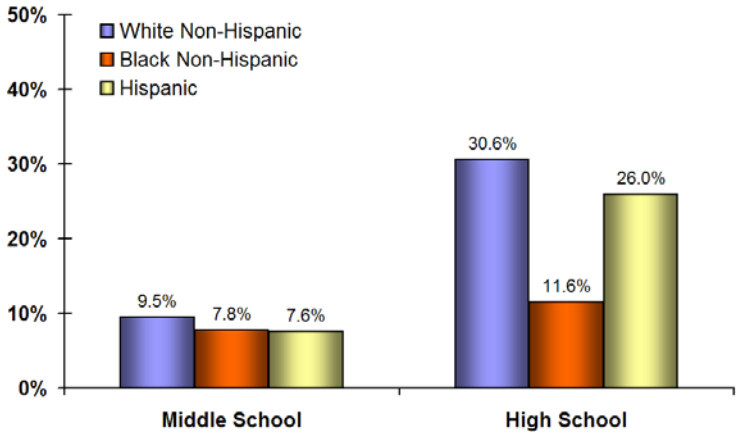
- About 18% of Arkansas middle school students and 38% of high school students were current users of some form of tobacco in 2005 (Figure 5).
- Cigarettes were the most prevalent form of tobacco used, followed by cigars/cigarillos, smokeless tobacco, pipe smoking, and bidis or kreteks.
- Between 2000 and 2005, the reported use of some form of tobacco in the 30 days preceding the survey dropped significantly among middle school students from 23.5% to 18.1%, indicating a decline of 23%. Current use of any form of tobacco also declined significantly among high school students from 45.5% in 2000 to 37.6% in 2005, a 17% reduction.

Current Cigarette Smoking

Definition Smoked cigarettes on one or more days in the past 30 days.

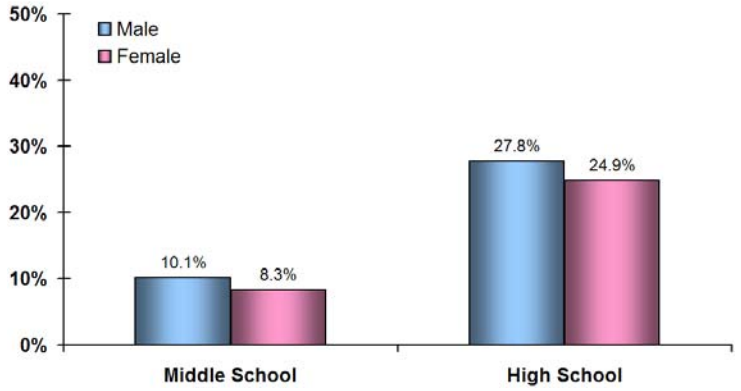
- About 9.3% of Arkansas middle school students and 26.3% of high school students were current cigarette smokers. *This amounts to an estimated 9,710 middle school students and 34,223 high school students who were current cigarette smokers in 2005.*

Figure 6. Percent of all middle and high school students who were current users of cigarettes by race/ethnicity, Arkansas Youth Tobacco Survey 2005



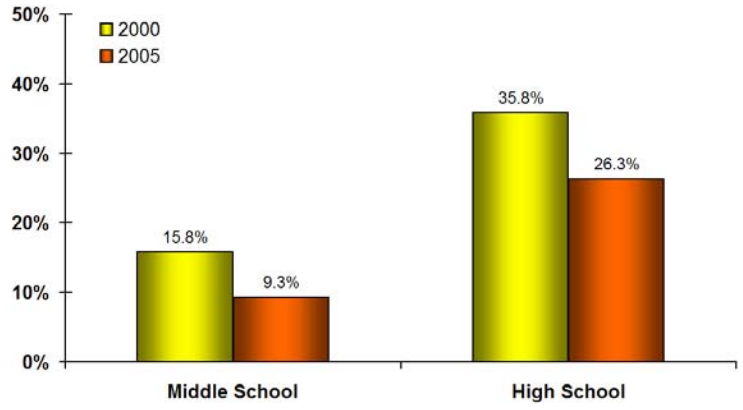
- In middle schools, no significant differences in current cigarette smoking were noted by race/ethnicity. However, among high school students, white and Hispanic students reported significantly higher rates of current cigarette smoking than black students (Figure 6).

Figure 7. Percent of all middle and high school students who were current users of cigarettes by gender, Arkansas Youth Tobacco Survey 2005



- No gender differences in current cigarette smoking were observed in both middle and high schools (Figure 7).

Figure 8. Percent of all middle and high school students who were current users of cigarettes, Arkansas Youth Tobacco Survey 2000 vs. 2005



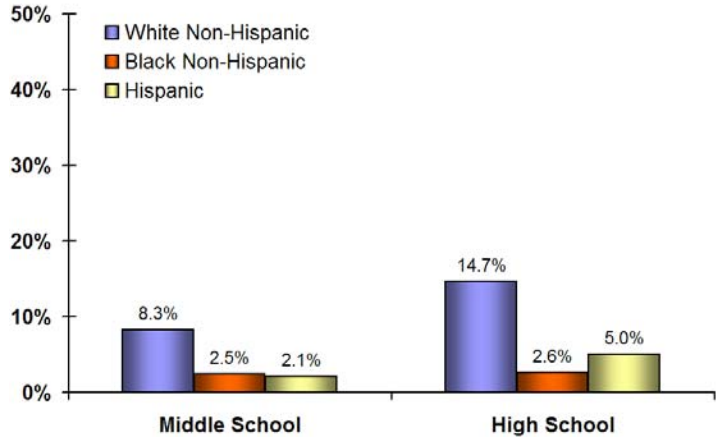
- Overall, current cigarette smoking declined significantly among middle school students from 15.8% in 2000 to 9.3% in 2005, a 41% reduction. Among high school students, rates dropped from 35.8% in 2000 to 26.3% in 2005, a significant decline of more than 26% (Figure 8).

Current Smokeless Tobacco Use

Definition Used smokeless tobacco, snuff, or dip on one or more days in the past 30 days.

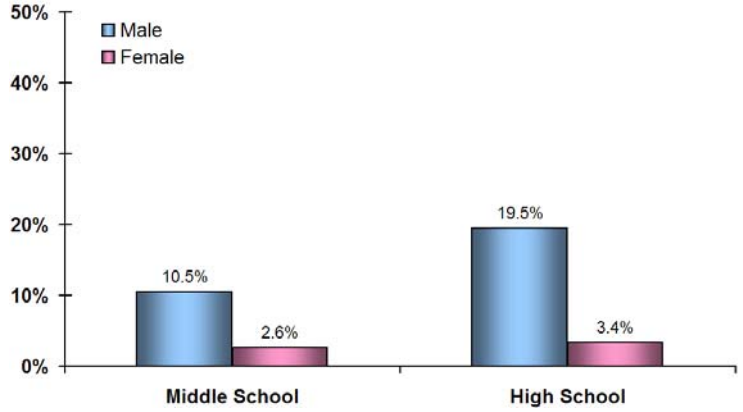
- Overall, 6.7% of Arkansas middle school students and 11.6% of high school students were current smokeless tobacco users in 2005.

Figure 9. Percent of all middle and high school students who were current users of smokeless tobacco by race/ethnicity, Arkansas Youth Tobacco Survey 2005



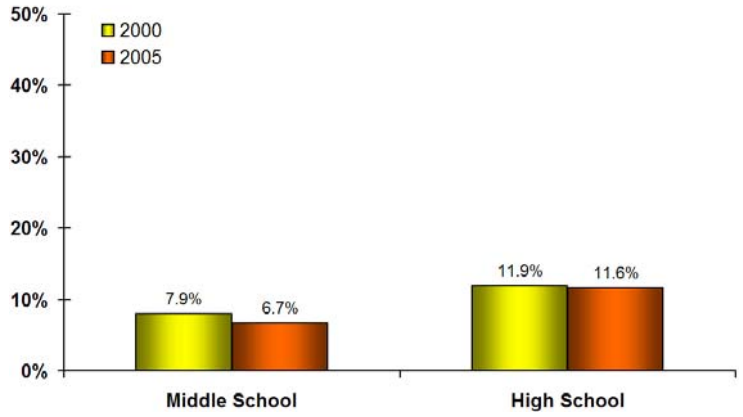
- Racial/ethnic differences in the current use of smokeless tobacco in both middle and high schools were prominently noticeable. As shown in Figure 9, the rates among white students in middle and high schools were significantly higher than that among students of other racial/ethnic groups.

Figure 10. Percent of all middle and high school students who were current users of smokeless tobacco by gender, Arkansas Youth Tobacco Survey 2005



- Gender differences in current smokeless tobacco use were also noticed. As seen in Figure 10, 10.5% of male students in middle schools were current users of smokeless tobacco as compared to 2.6% of females, whereas the rate among males in high schools was 19.5%, significantly higher than the rate among females (3.4%).

Figure 11. Percent of all middle and high school students who were current users of smokeless tobacco, Arkansas Youth Tobacco Survey 2000 vs. 2005



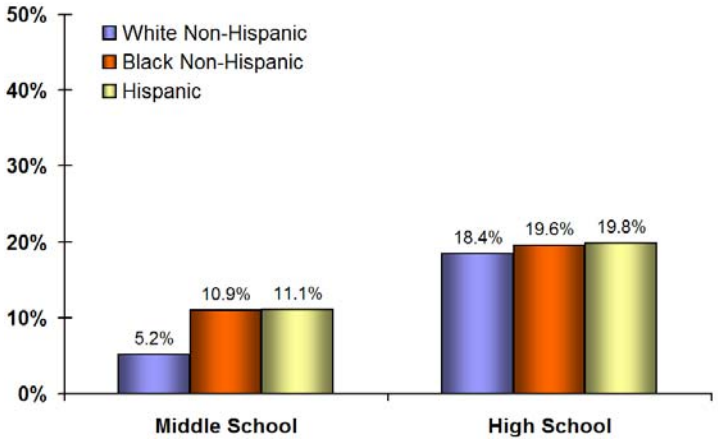
- The rate of smokeless tobacco use has not significantly changed since 2000 in both middle and high schools (Figure 11).

Current Use of Other Tobacco Products

Cigars

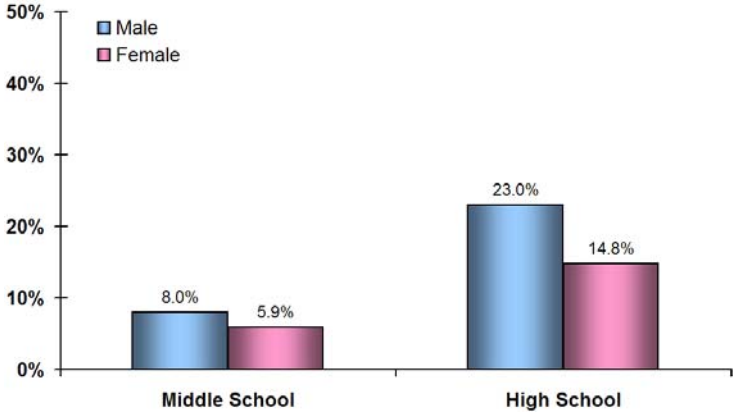
Cigars and cigarillos (little cigars) were the most prevalent tobacco product used after cigarettes. Overall, 7.0% of Arkansas middle school students and 18.9% of high school students were current cigar smokers.

Figure 12. Percent of all middle and high school students who were current users of cigars and cigarillos (little cigars) by race/ethnicity, Arkansas Youth Tobacco Survey 2005



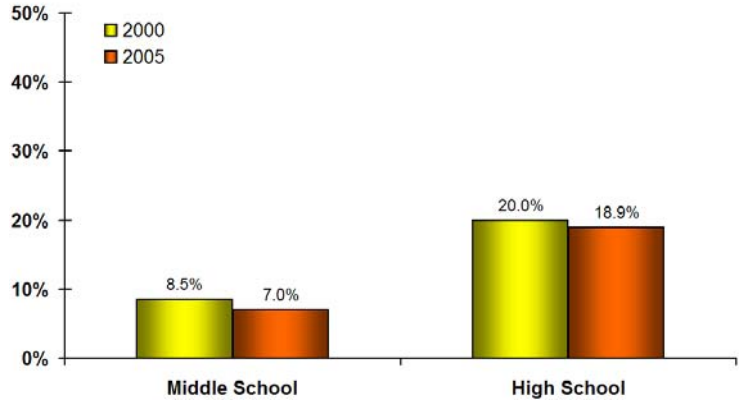
- In middle schools, current cigar smoking rates were not significantly different among black and Hispanic students, but the rates in these groups were higher than the rate among whites. No significant racial/ethnic differences in current cigar smoking were observed, however, in high schools (Figure 12).

Figure 13. Percent of all middle and high school students who were current users of cigars and cigarillos (little cigars) by gender, Arkansas Youth Tobacco Survey 2005



- No gender differences existed among middle school students regarding cigar use. In high schools, nonetheless, males reported significantly higher rates than females (Figure 13).

Figure 14. Percent of all middle and high school students who were current users of cigars and cigarillos (little cigars), Arkansas Youth Tobacco Survey 2000 vs. 2005



- In 2005, current cigar smoking rates did not significantly change as compared to 2000 in middle and high schools (Figure 14).

Bidis/Kreteks Bidis are small brown hand-rolled cigarettes primarily made in India and other Southeast Asian countries. Bidis are low-price tobacco products that come flavored with varieties, such as fruit (i.e., strawberry) and licorice, which makes them appealing to the youth market. Kreteks (or clove cigarettes) are cigarettes containing tobacco and clove extract. In 2005, 3.2% of middle school students and 3.5% of high school students reported using bidis or kreteks in the 30 days preceding the survey.

Figure 15. Percent of all middle and high school students who were current users of bidis or kreteks by race/ethnicity, Arkansas Youth Tobacco Survey 2005

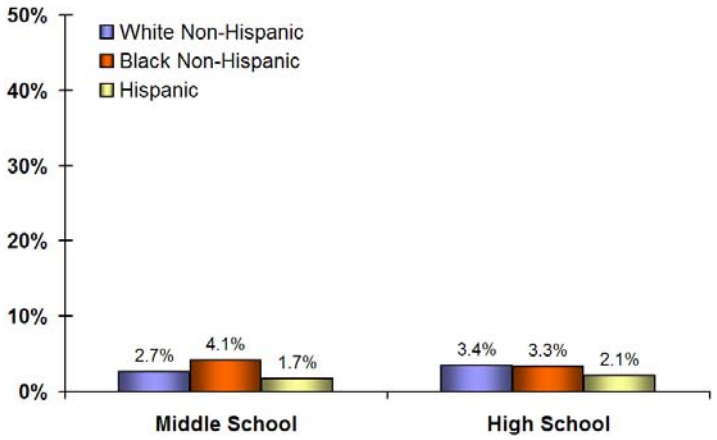
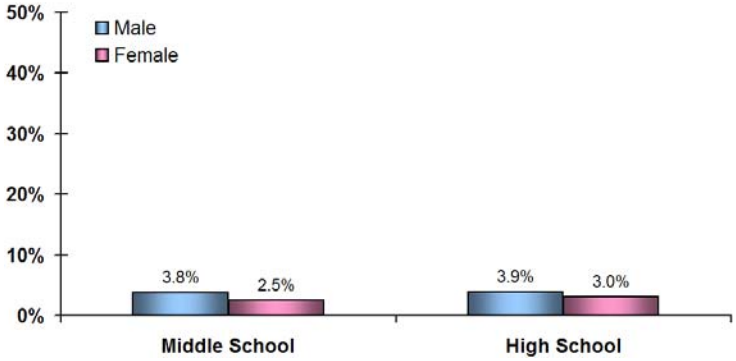
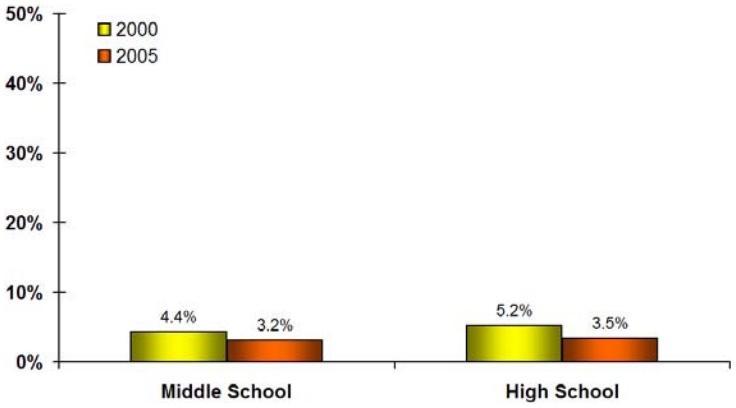


Figure 16. Percent of all middle and high school students who were current users of bidis or kreteks by gender, Arkansas Youth Tobacco Survey 2005



- No racial/ethnic or gender differences in the use of bidis or kreteks existed in middle and high schools, as shown in Figures 15 and 16, respectively.

Figure 17. Percent of all middle and high school students who were current users of bidis or kreteks, Arkansas Youth Tobacco Survey 2000 vs. 2005



- Between 2000 and 2005, the rate of using bidis or kreteks did not significantly change in middle and high schools (Figure 17).

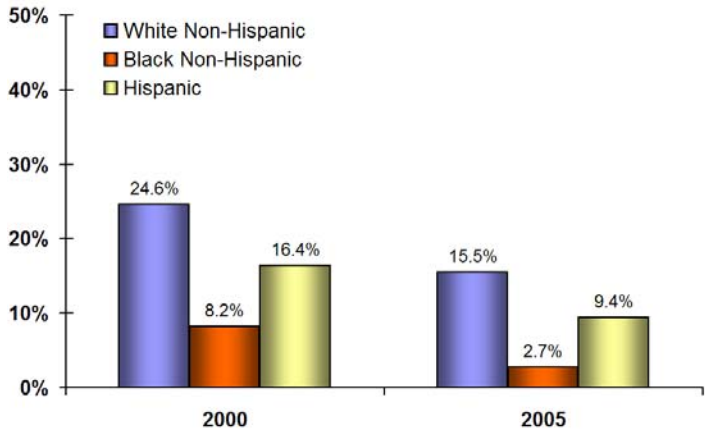
Frequent Cigarette Smoking

Definition Because current cigarette smoking measures the percent of students who smoked on one or more of the 30 days preceding the survey, which may capture experimenters, occasional smokers, and other non-regular smokers, the measure may not depict the extent of youth addiction to cigarettes. Frequent smoking, defined as smoking on 20 or more of the 30 days preceding the survey, can be used instead.

- In 2005, high school students (12.6%) were 6 times more likely than middle school students (2.1%) to report frequent cigarette smoking.

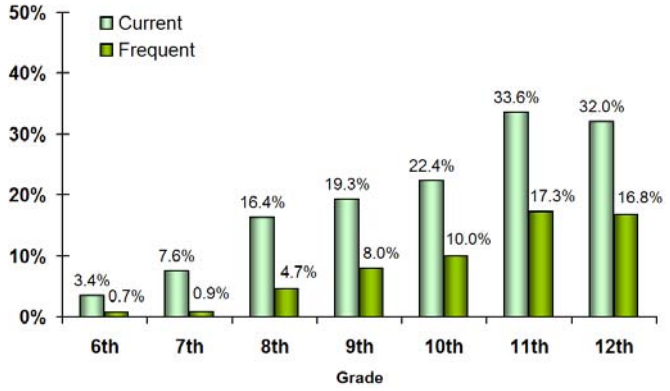
- Between 2000 and 2005, the rate of frequent cigarette smoking dropped significantly from 21.0% to 12.6% among Arkansas high schools students.

Figure 18. Percent of high school students who were frequent cigarette users by race/ethnicity, Arkansas Youth Tobacco Survey 2000 vs. 2005



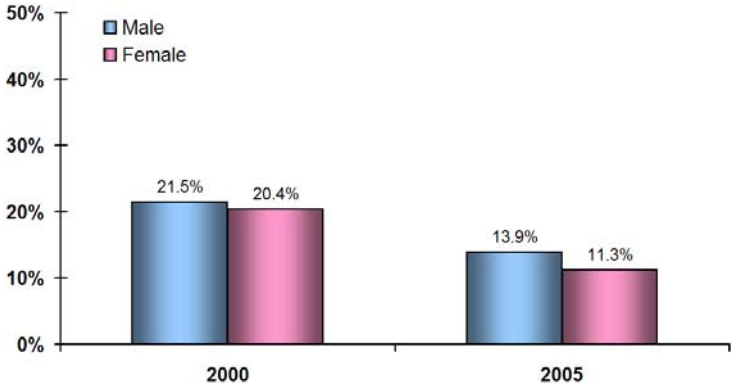
- The overall decline in frequent smoking among high school students between 2000 and 2005 was observed in all racial/ethnic subgroups. Nonetheless, racial/ethnic differences were significant in 2005 with white students being the most frequent users, followed by Hispanics and then blacks (Figure 18).

Figure 19. Percent of all students who were current and frequent cigarettes smokers by school grade, Arkansas Youth Tobacco Survey 2005



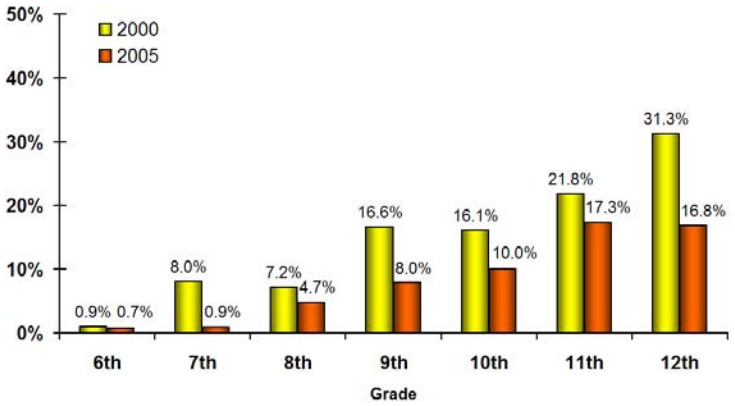
- In general, both the rates of current and frequent use of cigarettes increased by school grade level (Figure 19). It was also noticed that frequent smokers, as a proportion of current smokers, generally increased with school grade advancement.

Figure 20. Percent of high school students who were frequent cigarette users by gender, Arkansas Youth Tobacco Survey 2000 vs. 2005



- No gender differences were observed in the prevalence of frequent cigarette smoking, although the rates dropped for both males and females between 2000 and 2005 (Figure 20).

Figure 21. Percent of all students who were frequent cigarette users by school grade, Arkansas Youth Tobacco Survey 2000 vs. 2005



- The drop in frequent smoking between 2000 and 2005 was noted in all middle and high school grade levels. It was almost entirely eliminated among 7th grade students (Figure 21).

Age of Initiation

In 2005, of all students who had ever smoked, about 17.6% had first smoked a whole cigarette before the age of 11 years. This represents a significant 24.5% decline from the 2000 value (23.3%).

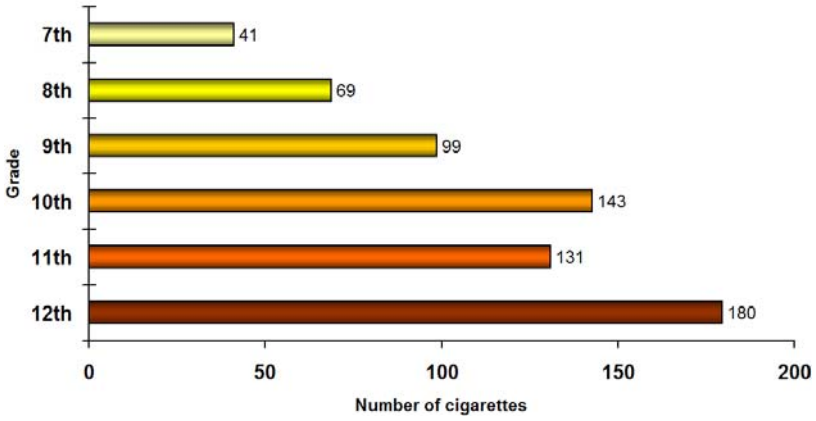
CIGARETTE CONSUMPTION

Cigarette Consumption

Methods

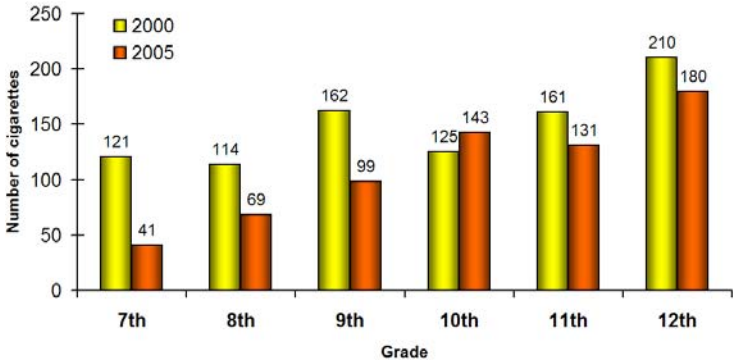
Prevalence estimates of cigarette smoking among young people reveal "how often" but not "how much" youth are smoking[1]. Adopting an approach used by the American Legacy Foundation[2] and other state YTS reports[1,3], we estimated the average per capita cigarette consumption among current smokers over a 30-day period as the product of the average number of days smoked, and the average number of cigarettes smoked on these days. Figure 22 below shows the results by school grade level.

Figure 22. Average per capita cigarette consumption over a 30-day period among all students who were current users by school grade, Arkansas Youth Tobacco Survey 2005



- With the exception of the 10th-to-11th grade progression, the amount of cigarettes smoked by young current smokers increased by school grade.

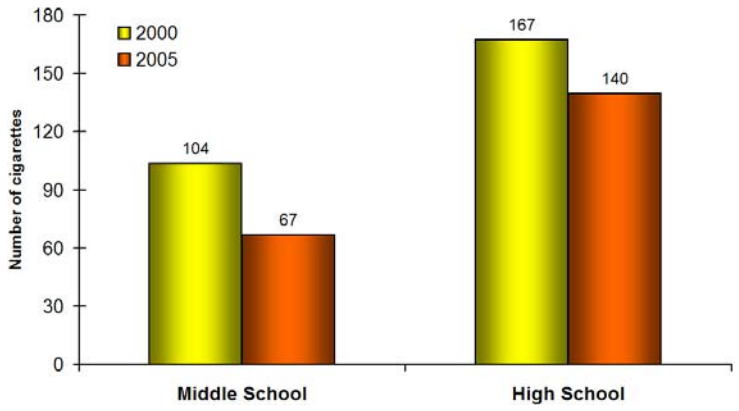
Figure 23. Average per capita cigarette consumption over 30-day period among all school students who were current users by school grade, Arkansas Youth Tobacco Survey 2000 vs. 2005



- Additionally, with the exception of 10th grade, the amount of cigarettes consumed considerably decreased for current smokers in all grades from 2000 to 2005 (Figure 23).

- The decline in cigarette consumption from 2000 to 2005 was reflected on the overall consumption of current smokers in middle and high schools (Figure 24).

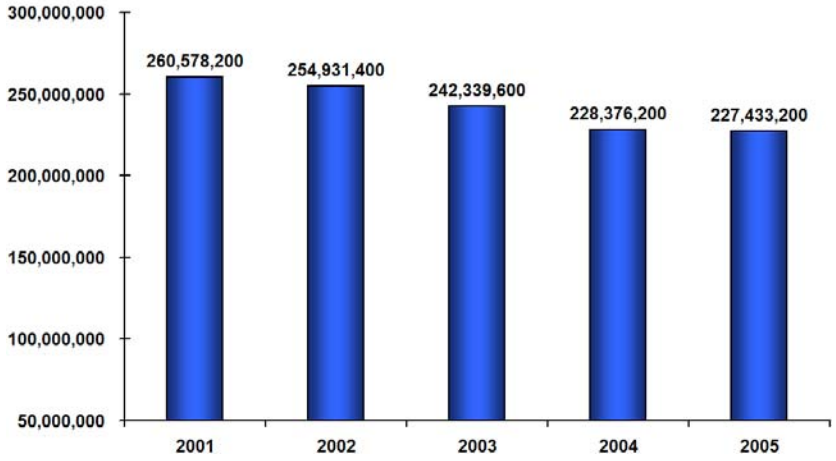
Figure 24. Average per capita cigarette consumption over 30-day period among middle and high school students who were current users, Arkansas Youth Tobacco Survey 2000 vs.2005



Impact on State-Overall Cigarette Consumption

Arkansas has been experiencing a significant decrease in the overall cigarette consumption (Figure 25), as determined by the number of cigarette stamps issued (packs sold taxed) in the state[b]. Findings from the 2005 YTS suggest that this overall decline is paralleled by a decline in youth consumption trends.

Figure 25. Arkansas Cigarette Stamps Issued, CY 2001-2005



[b] Obtained from the Arkansas Department of Finance and Administration – Division of Special Taxes

To estimate the total number of packs of cigarettes consumed by current young smokers, we multiplied the average grade-specific per capita cigarette consumption by the statewide student population in each grade. We found that young Arkansans in grades 7 though 12 consumed an estimated 271,342 packs of cigarettes over a period of 30 days (Table 2). This accounts to an annual 3,256,108 packs of cigarettes, representing 1.4% of state overall consumption in 2005. At the Arkansas excise tax rate of 59¢ per pack, youth smoking in 2005 generated an estimated $1,921,104 in state cigarette tax revenue. It should be noted, however, that since the 2005 Arkansas YTS was conducted on regular public middle and high schools, these conservative estimates do not include the amounts of cigarettes consumed by students in private schools, school dropouts, home-schooled students, as well as 6th grade students who were excluded from the analysis due to sample size limitations.

Table 2. Estimated cigarette consumption among youth: Average number of packs of cigarettes smoked in the 30 days preceding the survey and annually, Arkansas Youth Tobacco Survey 2005

Grade*	Current smoking rate	Student population within grade+	Estimated number of smokers	Average per capita packs of cigarettes smoked in past 30 days	Estimated no. of packs smoked by current smokers in past 30 days
7th	7.6%	36,808	2,782	2.05	5,712
8th	16.4%	37,292	6,104	3.44	20,975
9th	19.3%	38,144	7,380	4.93	36,410
10th	22.4%	35,672	7,983	7.13	56,941
11th	33.6%	31,895	10,700	6.54	70,000
12th	32.0%	28,597	9,152	8.89	82,163
		208,408	**44,101**		**271,342**
Estimated number of packs of cigarettes smoked in one year^					**3,256,108**

*Consumption estimates for current smokers in 6th grade were excluded due to sample size limitations

+School enrolment SY 2004-2005 provided by the Arkansas Department of Education

^Assuming a constant annual cigarette consumption pattern

PROGRESSION TO ESTABLISHED SMOKING

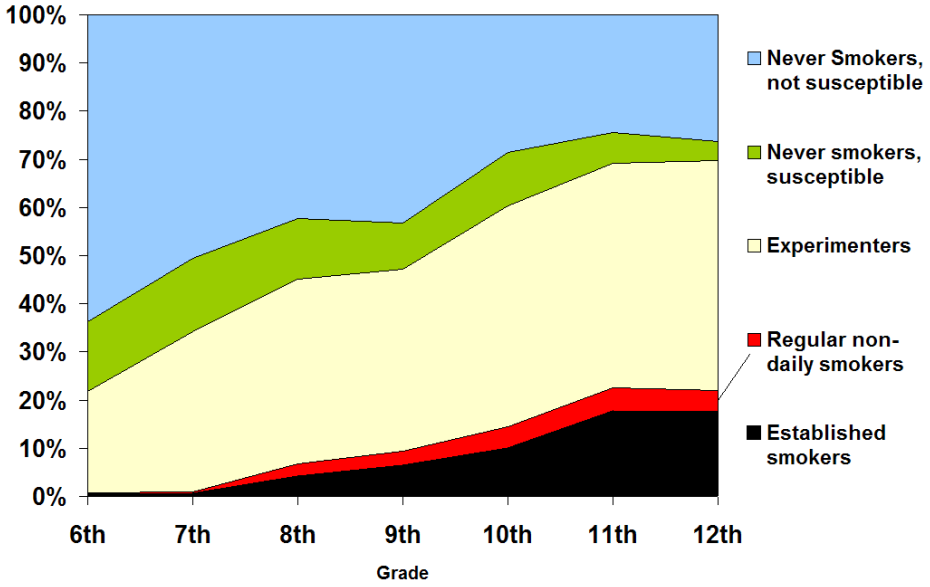
Progression to Established Smoking

As described by the American Legacy Foundation[4], an established young smoker is a student who has smoked at least 100 cigarettes in his/her lifetime, and smoked on at least 20 of the 30 days preceding YTS administration. Defined in Table 3 and graphically illustrated by grade in Figure 26, stages to established smoking were determined based on openness to smoking (susceptibility), experimentation, and regularity, using multiple survey questions.

Table 3. Stages of Youth Progression to Established Smoking, Arkansas Youth Tobacco Survey 2005

Stage	Definition
1. Never smokers, not susceptible to smoking	- Never tried a cigarette, not even a few puffs, - answered "No, will not try a cigarette soon, - answered "Definitely no, will not smoke a cigarette in the next year", and - answered "Definitely no, would not smoke a cigarette if best friend offered one".
2. Never smokers, susceptible	Never tried a cigarette, not even a few puffs, but whose answers to susceptibility questions were anything other than in stage 1.
3. Experimenters	Smoked less than 100 cigarettes in lifetime.
4. Regular non-daily smokers	Smoked ≥ 100 cigarettes in lifetime, and smoked on 1-19 days in the 30 days preceding the survey.
5. Established smokers	Smoked ≥ 100 cigarettes in lifetime, and smoked on ≥ 20 days in the 30 days preceding the survey.

Figure 26. Youth Progression to Established Smoking (Susceptibility Index), Arkansas Youth Tobacco Survey 2005



- It has been found that youth transition from experimentation to established smoking, and hence tobacco addiction, takes about 3 years[5].

- The percentage of never smokers, comprising stages 1 and 2, decreased by grade. A little more than 63% of 6th grade students were never smokers, not susceptible to smoking as compared to about 26% in 12th grade.

- Approximately 31.2% of middle school students and 44.3% of high school students were experimenters. The transition from experimentation to regular and established smoking slowed down by the end of middle school (grades 8th to 9th), but began to climb once students entered high schools. Transition peaked between 11th and 12th grades.

- Although constitutes a small fraction of middle and high school students (1.2% and 4.2%, respectively), regular non-daily smokers are at the highest risk of becoming established smokers. Students may not stay at this stage for long as they progress to established smoking at a faster rate than do students in lower stages.

- The percentage of established smokers progressed from a little less that 0.05% among 6th grade students to more than 17% among students in 12th grade. In Arkansas, about 1.7% of middle school students and 12.3% of high school students were established smokers in 2005.

ACCESS, PURCHASING, & USAGE PATTERNS

Methods of Obtaining Tobacco

Restricting adolescents' access to tobacco products is an essential element in tobacco prevention. Communities that have adopted tighter restrictions achieved reductions in purchases by minors[5]. In fact, enforcement of minors' access laws is a state and federal mandate, as well as a CDC-recommended best practice. Yet, underage current smokers still manage to obtain cigarettes through a variety of methods, including social and retail sources.

- Among all current smokers under the age of 18, the most common methods of obtaining cigarettes were to give someone money to buy cigarettes for them (31%), borrow or "bum" a cigarette (25%), or to buy them in a store (13.5%).

Figure 27. How current cigarette smokers in middle schools usually obtain cigarettes, Arkansas Youth Tobacco Survey 2005

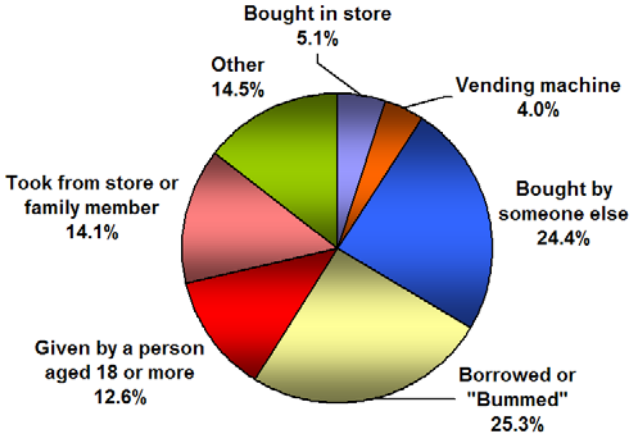
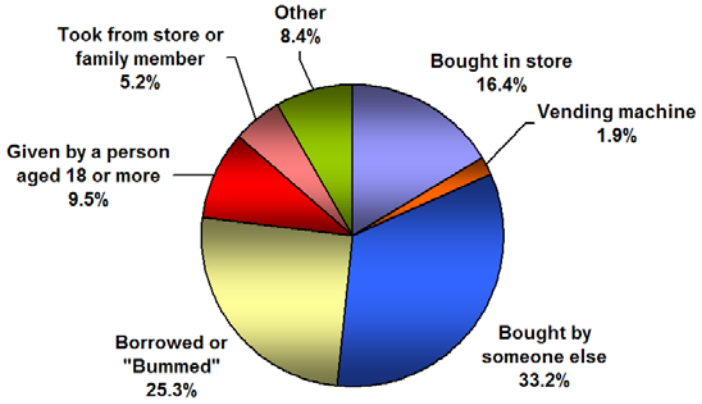


Figure 28. How current cigarette smokers in high schools (<18 years) usually obtain cigarettes, Arkansas Youth Tobacco Survey 2005



- As shown in Figure 27, borrowing or "bumming" a cigarette was the most common method of obtaining cigarettes for middle school current smokers (25.3%), followed by giving someone else money to purchase cigarettes (24.4%). About 14% of middle school current smokers usually took (stole) them from a store or family member.

- Among high school current smokers (Figure 28), giving someone money to buy cigarettes was the most frequent way of obtaining cigarettes, followed by borrowing them. High school current smokers were significantly more likely to purchase cigarettes from a store (16.4%) than current smokers in middle schools (5.1%). Between 2000 and 2005, the percent of high school current smokers under the age of 18 who usually obtained their cigarettes through purchasing them declined significantly from 29.8% to 16.4%.

- Of all underage current smokers who usually bought their cigarettes in the 30 days preceding the survey, the majority (31.7% in middle schools and 51.3% in high schools) purchased their last pack in a gas station.

Sales to Minors

- About 69.5% of current smokers in middle schools and 62.3% of current smokers in high schools, who reported buying cigarettes in the 30 days preceding the survey, were not asked to show proof of age.

- About 69.0% of middle school current smokers and 56.4% of high school current smokers who usually bought their cigarettes in a store were not refused cigarette sale because of their age. These rates did not change between 2000 and 2005.

Caution Findings in the previous section do not represent the rate of retailer noncompliance with Arkansas laws prohibiting the sale of tobacco to minors, and therefore, should be interpreted carefully. As seen in Figures 27 and 28, only 5.1% of middle school current smokers and 16.4% of high school current smokers usually obtained their cigarettes by buying them in a store. According to the Arkansas Synar reports[6], an annual survey conducted in all states under federal Synar regulations[7], the weighted retailer violation rates in the state were 4.2% and 2.2% for Federal Fiscal Years (FFY) 2005 and 2006, respectively.

Brands of Cigarettes Usually Smoked

- As shown in Figures 29 and 30 below, Marlboro was the most commonly smoked brand of cigarettes among current smokers in both middle schools (48%) and high schools (57%). Manufactured by Philip Morris USA, which controls more than 50% of cigarette market share, Marlboro is the most heavily advertised cigarette brand in the United States[8].

- Newport and Camel were the second and third most preferred brands of cigarettes among current smokers in middle schools (17.3% and 9.1%) and high schools (14% and 9%), respectively.

- In middle schools, current smokers were significantly more likely to smoke menthol cigarettes (43.3%) than current smokers in high schools (31.7%).

- No gender differences in the use of menthol cigarettes were observed among current smokers in middle schools. However, female current smokers in high schools (40.2%) were more likely to smoke menthol cigarettes than male current smokers (24.4%).

- Differences existed in brand preference by race/ethnicity. Among middle school current smokers, Marlboro was the most preferred brand by white students (57.5%), while Newport was the most preferred among black students (57.7%). Most Hispanic current smokers in middle schools did not have a usual brand. In high schools, Marlboro was also the usual brand among white (64.3%) and Hispanic (55.0%) students, while Newport continued to be the most common brand among blacks (65.9%).

Figure 29. Brands of cigarettes usually smoked during the past 30 days among middle school students who were current users, Arkansas Youth Tobacco Survey 2005

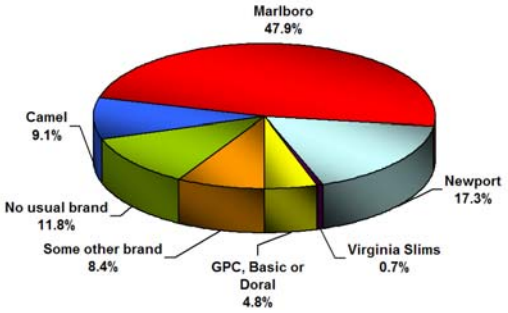
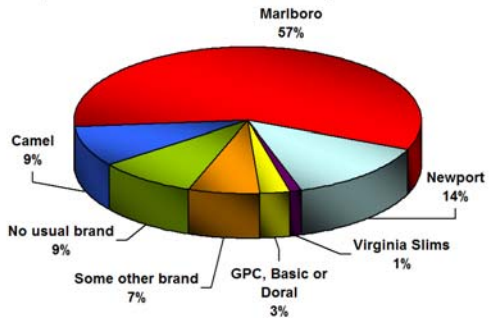


Figure 30. Brands of cigarettes usually smoked during the past 30 days among high school students who were current users, Arkansas Youth Tobacco Survey 2005



Tobacco Use on School Property

A complete ban on smoking or using smokeless tobacco by anyone on school grounds is a U.S. Surgeon General recommended policy to prevent the onset of tobacco use[5], since such a ban establishes a social norm. Among students, not only the use of tobacco products is prohibited on school campuses, but also tobacco possession. Nonetheless, students in Arkansas continued to smoke and use smokeless tobacco on school property.

All Students

- About 5.4% of all students (2.6% in middle schools and 7.7% in high schools) reported smoking cigarettes on school property in the 30 days preceding the survey. Although this rate was lower than that in 2000 (7.6%), the decline is not statistically significant.

- No significant differences in cigarette smoking on school property were noted between male (6.2%) and female (4.6%) students in 2005.

- Among all male students, 9.4% reported using smokeless tobacco on school property in the 30 days preceding the survey (6.2% in middle schools and 12.0% in high schools). Smokeless tobacco use by boys on school property did not show a statistically significant change as compared to 2000 (10.2%).

Current Smokers/Smokeless Tobacco Users

- Among middle school current smokers, about one quarter (25.1%) smoked on school property in the 30 days preceding the survey. In high schools, 28.1% of current smokers smoked on school property in the 30 days prior to survey administration.

- Among all middle school and high school male current smokeless tobacco users, 52.3% and 55.7%, respectively, used it on school property in the 30 days preceding the survey.

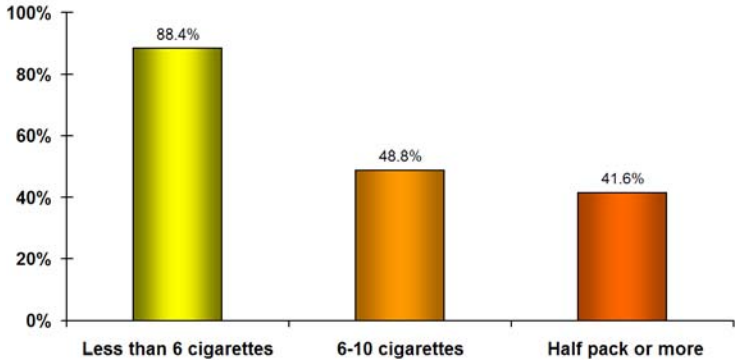
SMOKING CESSATION

Desire to Quit and Self-Efficacy

A common misconception about smoking among youth is that adolescents are not interested in quitting[1]. Among all current smokers in 2005, 53.9% indicated that they wanted to stop smoking (50.3% in middle schools and 54.9% in high schools). Tobacco addiction, however, was strongly evident as 33.1% of current smokers in middle schools and 47.3% in high schools reported that they needed a cigarette everyday.

Self-efficacy is the belief that one could be successful in quitting smoking. About 18.4% of current smokers in middle schools and 31.5% in high schools thought they would NOT be able quit smoking now if they wanted to. Self-efficacy among current smokers who reported wanting to quit varied by the amount and frequency of cigarettes smoked. In high schools, frequent smokers reported significantly lower self-efficacy (50.8%) than current smokers (68.5%). Figure 31 below shows the strong association between self-efficacy among high school current smokers and how "heavy" they smoke.

Figure 31. Self-efficacy among high school students who were current cigarette smokers wanting to quit by number of cigarettes smoked, Arkansas Youth Tobacco Survey 2005

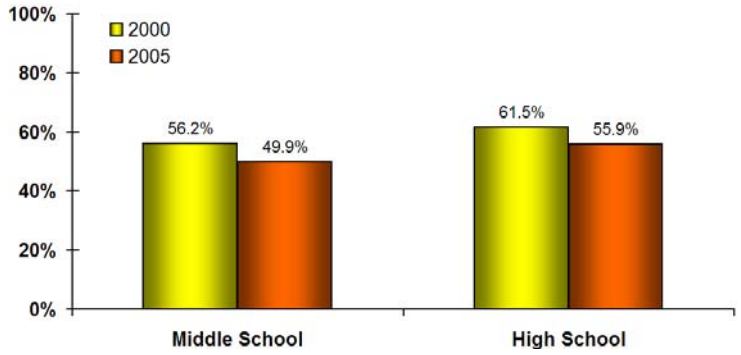


- Among those smoking less than six cigarettes on the days they smoked, most (88.4%) believed they could quit. However, among those smoking half a pack or more on the days they smoked, less than half (41.6%) thought they could be successful at quitting if they wanted to.

Quit Attempts

It has been documented that young and adult smokers usually attempt to quit several times before they are finally able to quit. As shown in Figure 32, quit attempts in the 12 months preceding the survey were not encouraging among current middle and high school smokers, as the rates have not shown significant changes since 2000.

Figure 32. Percent of all middle and high school students who were current users of cigarettes and tried to quit during the past 12 months, Arkansas Youth Tobacco Survey 2000 vs. 2005



Sustained Abstinence from Smoking

- Of all current smokers in middle and high schools, more than one quarter (28.7%) believed it was safe for them to smoke for only a year or two, as long as they quit after that. Nevertheless, of current smokers who tried to quit in the 12 months preceding the survey, 52.4% in middle schools and 70.7% in high schools stayed off cigarettes for less than 30 days on the last quit attempt.

Youth Participation in Cessation Programs

- Only 16.5% of current smokers in middle schools and 9.2% of those in high schools had ever participated in a cessation program to help them quit using tobacco. Participation in cessation programs among middle school current smokers has increased significantly since 2000 (7.2%). However, the rate did not show a significant change in high schools from 2000 (6.3%).

EXPOSURE TO SECONDHAND SMOKE

Indoor and in Cars

- In 2005, 62.4% of all Arkansas public middle and high school students were exposed to secondhand smoke (SHS) by being in the same room with someone who was smoking cigarettes on at least on occasion in the seven days preceding the survey. This rate has significantly decreased by 12.7% since the year 2000 (71.5%).

- Additionally, about 51.9% of all students were exposed to SHS by riding in a car with someone who was smoking cigarettes on at least on occasion in the seven days preceding the survey. This also represents a statistically significant decline of 14.5% from the 2000 value (60.7%).

- Of all students, 90.5% believed that smoke from other people's cigarettes is harmful to their health. In spite of that, 68.0% of them were exposed to SHS by either being in the same room or riding with someone who smoked cigarettes on at least one occasion in the seven days preceding the survey.

Exposure to SHS Among Current vs. Never Smokers

- Since smoking patterns of family members and close friends reinforce youth smoking behaviors, it is was not surprising to find that exposure to SHS in a room and in a car was significantly higher among current smokers (95.3%) than exposure among never smokers (52.6%).

ATTITUDES, BELIEFS, & INFLUENCES

The Arkansas YTS included a series of items on the perceived harmful effects of smoking and its perceived benefits. Measurement of beliefs and perceptions toward tobacco is important since positive changes in attitudes precede changes in behavior, and therefore, constitute short-term outcome indicators necessary to evaluate program effectiveness in schools. Perceptions differed substantially by smoking status. In general, current cigarette smokers were more likely to perceive that tobacco had benefits and less likely to perceive its harmful effects.

Perceived Harmful Effects

- Overall, 88.7% of students thought that young people risk harming themselves if they smoke one to five cigarettes per day. This has not significantly changed since 2000 (88.7%).

- Current smokers were significantly less likely to believe that smoking one to five cigarettes is harmful (82.5%) than did never smokers (91.8%).

- Moreover, current smokers were significantly more likely to believe that it was safe to smoke for only a year or two, as long as they quit after that (28.7%) than did never smokers (6.5%).

Perceived Benefits

- Of all students, 20.3% thought that young people who smoke have more friends, and 11.8% thought that smoking by young people makes them look cool or fit in. These rates did not significantly change from 2000 (19.3% and 11.0%, respectively).

- Among current smokers, 32.9% believed that young people who smoke have more friends, as compared to 13.2% among never smokers. Also, current smokers (21.1%) were significantly more likely than never smokers (6.3%) to believe that young people who smoke look cool or fit in.

Youth Education and Empowerment

At Home

- About 44.3% of all students reported discussing the dangers of tobacco use with their parents or guardians in the 12 months preceding the survey.

- Discussing the dangers of tobacco use with a parent or guardian has declined significantly since the year 2000 (82.7%).

At School

- During 2005 school year, 63.1% of all students were taught about the dangers of tobacco use in any of their classes. *This indicator was not measured in the 2000 YTS*. Moreover, 33.7% of all students practiced ways to say NO to tobacco in any of their classes in 2005, indicating no significant change from the year 2000 (33.7%).

In the Community

- Of all students, about 19.2% had participated in any community event to discourage people from using tobacco in the 12 months preceding the survey. There was no significant change from the year 2000 (24.6%).

Tobacco Industry Advertising and Youth Receptivity

Tobacco Industry Advertising

- About 86.8% of all middle and high school students had seen actors using tobacco when watching movies or TV at least once in the seven days preceding the survey.

- About 32.1% of all students had seen athletes using tobacco when watching TV at least once in the seven days preceding the survey.

- A little less than half (45.0%) of all students had seen ads for tobacco products when using the Internet at least once in the seven days preceding the survey.

Receptivity

Receptivity of adolescents to tobacco industry adverting was measured by asking students if they had bought or received, or would ever buy or receive (definitely or probably) any item with a tobacco company name, logo, or picture printed on it, such as a T-shirt, hat, sunglasses, or a lighter.

- About 39.2% of all students were receptive to tobacco company merchandise. This represents a significant decline of 21.1% from the year 2000 (49.7%).

Family and Peer Group Influences

Family

- Of all students, 46.2% lived in the same household with someone who was a smoker. Living with a smoker has significantly declined since the year 2000 (52.0%). This might be explained by the decline in adult smoking rate in Arkansas[9] between 2000 and 2005, from 25.1% to 23.5%.

- Current young smokers (65.9%) were significantly more likely to be living with someone who smoked cigarettes than never smokers (34.5%).

Peer Group

- Current smokers develop friend circles that mostly include smokers. Of all students, 47.5% had one or more smokers among their four closest friends. However, current smokers were significantly more likely (90.4%) to have one or more smokers among their four closest friends, as compared to 27.4% of never smokers.

- As seen in previous sections, current cigarette smoking rate in high schools was 26.3% (Figure 8). The rate for high school students who had one or more smokers among their four closest friends was 43.9%, as compared to 5.2% for students who had no smokers among their four closest friends, indicating a prevalence ratio of 8.4. This implies that high school students who had at least one smoker in their friend circles were 8 times more likely to be current smokers than those who had not. A similar pattern was also seen for smokeless tobacco users.

Mass Media and Anti-Tobacco Campaigns

- Of all students in middle and high schools, 77.6% had seen or heard anti-smoking commercials on TV, the Internet, or on the radio in the 30 days preceding survey administration. The rate of exposure to anti-tobacco messages has significantly declined since 2000 (82.3%).

CONCLUSIONS & PROGRAM IMPLICATIONS

Conclusions

As more than 80% of adult tobacco users begin using tobacco regularly before the age of 18, the Arkansas comprehensive tobacco control program recognizes that development of prevention strategies to target youth is a public health long-term investment. Therefore, two of the program major goals are to prevent the initiation of tobacco use among young people, and to promote quitting among those who are current users. To realize these goals, the program employs a framework of key principles to guide its tobacco prevention and cessation activities, which is contingent with evidence-based guidelines "best practices" found by the Centers for Disease Control and Prevention (CDC) to be most effective in tobacco prevention and in reducing youth prevalence.

The program funds local community coalitions involved in a wide range of prevention activities, including conducting educational programs for youth, parents, and enforcement and school officials; and advocating for policies that promote clean indoor air, enforce laws governing youth access to tobacco products, and restrict youth-focused tobacco advertisements. In addition, the program supports school programs, through personnel and resources, to implement the CDC's guidelines for school health programs in order to prevent tobacco use and addiction. These guidelines entail adopting evidence-based curricula, teacher training, parental involvement, and linking school-based efforts with local community coalitions, statewide media, and educational programs.

Progress Toward Reducing Tobacco Use among Youth

Findings from the 2005 Arkansas YTS were promising in many facets, albeit alarming in others. The plummeting in current cigarette smoking among middle and high school students since 2000, coupled with a sizeable reduction in cigarette consumption among those who continued to smoke, indicates a noteworthy accomplishment of key program components. Additionally, the significant decline in the number of young people who initiated cigarette smoking before the age of 11 suggests that youth-targeted counteradvertising and media messages to parents and school officials were effective. The significant decline in cigarette smoking rate among high school students between 2000 and 2005 was supported by findings from the Youth Risk Behavior Survey (YRBS). An analysis of Arkansas YRBS from 2001 to 2005 found a consistent downward trend in youth smoking (Appendix B).

Priority Areas for Improvement

While the rates of current and frequent cigarette smoking among youth have decreased considerably since 2000, a large number of young people in Arkansas continued to smoke cigars and use smokeless tobacco (particularly boys) at rates higher than that observed nationally[10]. Although not statistically significant, the fact that smokeless tobacco use rate has slightly declined since 2000 (Figure 11) may suggest that youth who have been quitting cigarette smoking were, at least, not turning to smokeless tobacco use. Efforts by the Arkansas comprehensive tobacco control program must focus on all tobacco products, not just cigarettes.

Despite the relatively low prevalence of bidis/kreteks use, an emerging form of tobacco products, their appealing shapes and flavors to young individuals is a cause of concern. Black students in middle schools should be a target for primary prevention of bidis/kreteks use. In addition, the dangers of menthol cigarettes must be emphasized by counter-marketing activities as being no less than ordinary cigarettes, especially in middle schools and among high school girls.

Large numbers of students in middle and high schools were experimenters. The pace of transition from being a never smoker to an experimenter, and from an experimenter to an established smoker generally accelerates when students enter high schools. Hence, students in middle schools must be targeted vigorously for primary prevention.

Progress in enforcing laws prohibiting sales of tobacco products to minors since 2000 was evident by the decline in the number of high school smokers who usually obtained their cigarettes by buying them in stores. Young smokers, however, still manage to obtain cigarettes through social sources. The majority of smokers in middle and high schools usually obtained their cigarettes by giving someone else money to purchase them, or by borrowing cigarettes. Efforts should be directed toward making older students aware of the illegality of buying cigarettes to minors, as well as educating them about the harm of supplying tobacco to younger students.

Even though only 4.2% of the surveyed tobacco retail shops in Arkansas (according to Synar reports[6]) sold tobacco products to minors, most young current smokers who usually obtained their cigarettes by purchasing them in stores were neither asked to show proof of age, nor refused sale because of their age. A successful approach to completely eliminate tobacco sales to minors employed by the state of Hawaii was by publishing names of violators in local newspapers[11]. Gas stations should be prime targets for enforcing proof of age requirements for tobacco sale.

The decline by almost one half in the number of students who reported discussing the dangers of tobacco use with their parents or guardians since 2000 is alarming. This short-term objective reflects the immediate effects of three key program components: mass media, community coalitions, and school programs. Therefore, anti-tobacco campaigns in the media, community, and schools should focus on awareness among parents by requiring parental interaction and parent education.

Enforcing 100% tobacco-free policies in schools is recommended by the CDC to establish a social norm among students. In 2005, more than one quarter of all current smokers in Arkansas (25.1% in middle schools and 28.1% in high schools) reported smoking on school grounds. Because of the evident peer group influence on smoking behavior among young people, compliance with smoke-free policies in schools should be a priority for school officials.

Over half of all students in middle and high schools reported being exposed to secondhand smoke either indoor or in vehicles in the week preceding the survey. Although there has been a significant decline in secondhand smoke exposure since 2000, more vigorous community-based efforts should concentrate on the adoption of smoke-free rules at home and in the car by parents, particularly when young people are present.

As most adolescents are aware of the dangers of tobacco use, media campaigns and school programs should address the perceived *benefits* of tobacco use.

With tobacco industry advertising expanding to the Internet, anti-tobacco campaigns should make use of this important media on a wider scale to spread its messages.

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APPENDICES

Appendix A: Summary Tables

Table 4. Percentage of Arkansas middle school and high school students who ever used any tobacco product*, cigarettes, smokeless tobacco, cigars or cigarillos, and bidis or kreteks by gender, race/ethnicity, and school grade level – 2005 Arkansas Youth Tobacco Survey

Middle schools	**Any**	**Cigarettes**	**Smokeless tobacco**	**Cigars or cigarillos**	**Bidis or kreteks**
	% (95%CI)	**% (95%CI)**	**% (95%CI)**	**% (95%CI)**	**% (95%CI)**
Race/Ethnicity					
White	44.2 ±5.8	34.1 ±5.5	21.2 ±4.1	18.1 ±4.3	5.0 ±1.5
Black	51.9 ±6.0	40.4 ±5.2	10.7 ±3.6	26.0 ±5.6	6.2 ±3.0
Hispanic	42.2 ±8.8	30.8 ±9.5	8.4± 5.0	21.6 ±7.1	4.4 ±4.3
Gender					
Male	51.1 ±4.8	38.1 ±4.5	25.7 ±4.6	24.0 ±3.9	6.5 ±1.9
Female	41.0 ±4.5	32.8 ±4.5	10.7 ±2.9	16.7 ±3.9	3.9 ±1.3
Grade					
6th	33.9 ±5.5	22.6 ±5.1	12.4 ±2.8	13.0 ±3.4	5.7 ±2.3
7th	46.9 ±6.2	36.0 ±4.2	17.8 ±4.1	19.7 ±4.1	4.0 ±1.8
8th	56.8 ±6.9	46.9 ±7.3	24.7 ±5.9	27.8 ±6.5	6.4 ±2.3
Total (middle schools)	46.3± 4.4	35.6 ±4.1	18.4 ±3.2	20.4 ±3.6	5. 4±1.2

High schools					
Race/Ethnicity					
White	70.5 ±6.1	63.1 ±6.5	32.1 ±5.5	43.8 ±5.2	8.1 ±2.4
Black	69.2 ±3.9	56.9 ±4.1	11.3 ±3.4	38.4 ±5.2	7.5 ±2.9
Hispanic	78.1 ±5.1	73.6 ±5.4	15.2 ±7.0	42.4 ±8.6	5.4 ±3.5
Gender					
Male	74.0 ±4.7	64.3 ±5.0	40.6 ±6.5	49.5 ±4.7	9.4 ±3.5
Female	67.4 ±6.0	60.5 ±6.3	12.4 ±2.5	35.6 ±4.9	7.0 ±2.4
Grade					
9th	58.4 ±7.4	49.5 ±6.1	20.0 ±5.5	32.3 ±5.3	6.0 ±2.0
10th	69.4 ±4.8	61.9 ±5.8	26.5 ±5.4	39.9 ±4.7	6.7 ±2.4
11th	78.5 ±4.6	69.8 ±5.4	30.5 ±6.0	48.2 ±5.9	9.2 ±5.1
12th	80.0 ±5.5	72.0 ±6.2	32.5 ±7.0	53.7 ±7.0	11.3 ±6.1
Total (high schools)	70.9 ±4.7	62.5 ±5.0	26.8 ±4.1	42.7 ±4.0	8.2 ±2.2

*Ever use of cigarettes, or cigars, or smokeless tobacco, or bidis/kreteks

Table 5. Percentage of Arkansas middle school and high school students who were current users of any tobacco product*, cigarettes, smokeless tobacco, cigars or cigarillos, pipes, and bidis or kreteks by gender, race/ethnicity, and school grade level – 2005 Arkansas Youth Tobacco Survey

Middle schools	Any	Cigarettes	Smokeless tobacco	Cigars or cigarillos	Pipes	Bidis or kreteks
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
Race/Ethnicity						
White	17.3±4.2	9.5±2.9	8.3±3.3	5.2±2.2	2.3±1.3	2.7±1.1
Black	19.3±3.8	7.8±2.2	2.5±1.6	10.9±2.3	4.5±1.8	4.1±2.0
Hispanic	15.3±10.5	7.6±7.6	2.1±2.1	11.1±6.9	2.3±2.3	1.7±1.7
Gender						
Male	21.5±3.6	10.1±2.5	10.5±4.0	8.0±2.0	3.6±1.2	3.8±1.7
Female	14.3±3.3	8.3±2.7	2.6±1.2	5.9±2.0	2.1±1.3	2.5±1.1
Grade						
6th	9.4±3.5	3.4±1.5	2.8±1.8	2.5±1.6	2.6±1.7	3.4±1.9
7th	16.8±3.3	7.6±1.9	6.6±2.6	7.1±1.6	2.2±1.7	2.0±1.1
8th	27.2±6.1	16.4±4.0	10.4±6.0	11.1±3.9	3.8±1.3	4.0±1.3
Total (middle schools)	18.1±3.0	9.3±2.1	6.7±2.4	7.0±1.8	2.9±1.1	3.2±1.0

High schools						
Race/Ethnicity						
White	40.6±5.6	30.6±5.0	14.7±2.8	18.4±3.9	4.1±1.4	3.4±1.1
Black	27.0±4.1	11.6±2.3	2.6±1.1	19.6±4.7	4.4±2.0	3.3±1.9
Hispanic	36.9±10.2	26.0±6.5	5.0±5.0	19.8±10.0	2.0±2.0	2.1±2.1
Gender						
Male	42.9±5.4	27.8±4.2	19.5±3.9	23.0±3.9	6.0±1.9	3.9±1.7
Female	32.1±4.9	24.9±5.3	3.4±1.1	14.8±3.0	2.4±1.2	3.0±1.3
Grade						
9th	29.2±5.0	19.3±4.9	9.3±2.7	12.7±3.8	4.1±2.4	4.3±1.8
10th	33.1±6.6	22.4±5.3	12.1±4.9	15.5±3.0	3.3±1.3	2.3±1.3
11th	45.0±6.8	33.6±6.1	13.9±3.8	20.9±5.4	3.8±1.8	2.8±1.3
12th	45.9±7.4	32.0±7.1	11.5±3.3	29.3±5.1	6.1±3.6	4.3±2.9
Total (high schools)	37.6±4.6	26.3±4.1	11.6±2.0	18.9±3.0	4.3±1.2	3.5±0.9

*Use of cigarettes, cigars, smokeless tobacco, or bidis/kreteks during > 1 day on the 30 days preceding YTS administration

Appendix B: 2005 YTS External Validity

External validity of a study can be assured if the study results hold across different experimental settings and participants. When a survey possesses external validity, results obtained from the study sample can be generalized to the larger population from which the sample was drawn.

The Youth Risk Behavior Survey (YRBS) 2005, administered by the Department of Education, was conducted on a sample of Arkansas high schools during the same time data were being collected for YTS. YRBS and YTS share the same methods of sample selection, data collection, consent procedures, implementation, as well as data analysis strategies. YRBS is intended to collect data on the prevalence of several health risk behaviors among young people, and includes a number of tobacco use-related questions that have the exact wording and response categories as those in YTS.

In order to reduce the burden on schools and students, the sampling process for the two surveys was coordinated so that schools selected in the YRBS sample were not selected in the *high school* YTS sample and vice versa (double-draw sampling method). In 2005, the CDC selected two nonoverlapping samples for YRBS and YTS consisting of 55 high schools each[c]. Although the overall participation rate for *high school* YTS (69.5%) was higher than that for YRBS (62.4%), both surveys achieved response rates higher than the 60% minimum required by CDC to produce representative samples of the population (Table 6). Weighted percent distributions of the demographic characteristics of participants in the two surveys are shown in Table 7.

Using the same analysis procedure (SURVEYFREQ in SAS® Version 9.1) to process the similar tobacco-related questions in *high school* YTS and YRBS, the compared results were found to be similar, as point estimates obtained from both surveys fell within the 95% confidence intervals (CI) of each other (Table 8).

[c] After the samples had been drawn, two high schools in the YRBS sample were found ineligible.

Table 6. Response rates to the *high school* Youth Tobacco Survey (YTS) and the Youth Risk Behavior Survey (YRBS) - Arkansas 2005

		YTS 2005	YRBS 2005
Schools	Sampled	55	53
	Participated	43	38
	Response rate	78.2%	71.7%
Students	Sampled	2282	1856
	Participated	2028	1615
	Response rate	88.9%	87.0%
Overall response rate		**69.5%**	**62.4%**

Table 7. Demographics of respondents to the *high school* Youth Tobacco Survey (YTS) and the Youth Risk Behavior Survey (YRBS) - Arkansas 2005

		YTS 2005 (n=2028)	YRBS 2005 (n=1615)
		Percent	Percent
Age	15 years and less	35.1	33.3
	16-17	50.3	53.2
	18 and more	14.6	13.5
Grade	9th	28.5	27.8
	10th	26.6	27.2
	11th	23.7	24.1
	12th	21.2	20.9
Sex	Male	50.9	50.2
	Female	49.1	49.8
Race	White non-Hispanic	70.7	72.9
	Black non -Hispanic	23.0	22.8
	Hispanic	3.7	2.2
	Other	2.6	2.1

Table 8. Comparison of tobacco-related results between the *high school* Youth Tobacco Survey (YTS) and the Youth Risk Behavior Survey (YRBS) - Arkansas 2005

Indicator	Definition	YTS 2005		YRBS 2005	
		Percent	95% CI	Percent	95% CI
Current cigarette smoking	Percentage of students who smoked cigarettes on one or more of the past 30 days	26.3	±4.1	25.9	±3.4
Current smokeless tobacco use	Percentage of students who used chewing tobacco, snuff, or dip on one or more of the past 30 days	11.6	±2.0	13.7	±2.6
Current cigar smoking	Percentage of students who smoked cigars, cigarillos, or little cigars on one or more of the past 30 days	18.9	±3.0	17.6	±2.5
Lifetime prevalence of cigarette smoking	Percentage of students who ever tried cigarette smoking, even one or two puffs	62.5	±5.0	63.2	±4.5
Smoking on school property	Percentage of students who smoked cigarettes on school property on one or more of the past 30 days	7.7	±2.5	8.3	±3.0
Using smokeless tobacco on school property	Percentage of students who used chewing tobacco, snuff, or dip on school property on one or more of the past 30 days	7.0	±1.8	8.0	±2.1
Sales to minors	Among students who are less than 18 year old and current smokers, the percentage who usually bought their own cigarettes in a store during the past 30 days	16.4	±4.9	15.5	±5.7
Attempts to quit	Percentage of students who are current smokers and tried to quit smoking during the past 12 months	55.9	±4.6	61.3	±3.9

Appendix C: 2005 Arkansas YTS Questionnaire

Arkansas Department of Health and Human Services
Division of Health

Tobacco Prevention and Education Program

2005 Arkansas Youth Tobacco Survey

This survey is about tobacco use. This is NOT a test! It will help us develop better tobacco education programs for young people like yourself.

DO NOT WRITE YOUR NAME ON THE SURVEY OR ANSWER SHEET. Your answers will be kept private. No one will know what you write. Answer the questions based on what you really know or do.

Taking part in this survey is voluntary. Your grades will not be affected, and no one will ever know your answers.

The questions about your background will only be used to describe the types of students completing this survey. The information will not be used to find out your name. No names will ever be reported.

Make sure you read every question on the survey. Be as honest as you can with your answers. USE THE PENCIL PROVIDED. Be sure you fill in the circles on the answer sheet completely. When you are finished, sit quietly and wait for instructions from the person giving the survey.

THE FIRST QUESTIONS ASK FOR SOME BACKGROUND INFORMATION ABOUT YOURSELF.

1. **How old are you?**
   a. 11 years old or younger
   b. 12 years old
   c. 13 years old
   d. 14 years old
   e. 15 years old
   f. 16 years old
   g. 17 years old
   h. 18 years old or older

2. **What is your sex?**
   a. Female
   b. Male

3. **What grade are you in?**
   a. 6th
   b. 7th
   c. 8th
   d. 9th
   e. 10th
   f. 11th
   g. 12th
   h. Ungraded or other grade

4. **How do you describe yourself? (CHOOSE ONE ANSWER, or MORE THAN ONE)**
   a. American Indian or Alaskan Native
   b. Asian
   c. Black or African American
   d. Hispanic or Latino
   e. Native Hawaiian or Other Pacific Islander
   f. White

5. **Which one of these groups BEST describes you? (CHOOSE ONLY ONE ANSWER)**
   a. American Indian or Alaska Native
   b. Asian
   c. Black or African American
   d. Hispanic or Latino
   e. Native Hawaiian or Other Pacific Islander
   f. White

THE NEXT GROUP OF QUESTIONS ASKS ABOUT TOBACCO USE.

Cigarette Smoking

6. **Have you ever tried cigarette smoking, even one or two puffs?**
   a. Yes
   b. No

7. **How old were you when you smoked a whole cigarette for the first time?**
   a. I have never smoked a whole cigarette
   b. 8 years old or younger
   c. 9 or 10 years old
   d. 11 or 12 years old
   e. 13 or 14 years old
   f. 15 or 16 years old
   g. 17 years old or older

8. **About how many cigarettes have you smoked in your entire life?**
   a. None
   b. 1 or more puffs but never a whole cigarette
   c. 1 cigarette
   d. 2 to 5 cigarettes
   e. 6 to 15 cigarettes (about 1/2 a pack total)
   f. 16 to 25 cigarettes (about 1 pack total)
   g. 26 to 99 cigarettes (more than 1 pack, but less than 5 packs)
   h. 100 or more cigarettes (5 or more packs)

9. **Have you ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days?**
   a. Yes
   b. No

10. **During the past 30 days, on how many days did you smoke cigarettes?**
    a. 0 days
    b. 1 or 2 days
    c. 3 to 5 days
    d. 6 to 9 days
    e. 10 to 19 days
    f. 20 to 29 days
    g. All 30 days

11. During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?

a. I did not smoke cigarettes during the past 30 days
b. Less than 1 cigarette per day
c. 1 cigarette per day
d. 2 to 5 cigarettes per day
e. 6 to 10 cigarettes per day
f. 11 to 20 cigarettes per day
g. More than 20 cigarettes per day

12. During the past 30 days, what brand of cigarettes did you usually smoke? (CHOOSE ONLY ONE ANSWER)

a. I did not smoke cigarettes during the past 30 days
b. I do not have a usual brand
c. Camel
d. Marlboro
e. Newport
f. Virginia Slims
g. GPC, Basic, or Doral
h. Some other brand

13. Are the cigarettes you usually smoke menthol cigarettes?

a. I do not smoke cigarettes
b. Yes
c. No

14. During the past 30 days, how did you usually get your own cigarettes? (CHOOSE ONLY ONE ANSWER)

a. I did not smoke cigarettes during the past 30 days
b. I bought them in a store such as a convenience store, supermarket, discount store, or gas station
c. I bought them from a vending machine
d. I gave someone else money to buy them for me
e. I borrowed (or bummed) them from someone else
f. A person 18 years old or older gave them to me
g. I took them from a store or family member
h. I got them some other way

14. During the past 30 days, where did you buy the last pack of cigarettes you bought? (CHOOSE ONLY ONE ANSWER)

a. I did not buy a pack of cigarettes during the past 30 days
b. A gas station
c. A convenience store
d. A grocery store
e. A drugstore
f. A vending machine
g. I bought them over the Internet
h. Other

16. When you bought or tried to buy cigarettes in a store during the past 30 days, were you ever asked to show proof of age?

a. I did not try to buy cigarettes in a store during the past 30 days
b. Yes, I was asked to show proof of age
c. No, I was not asked to show proof of age

17. During the past 30 days, did anyone ever refuse to sell you cigarettes because of your age?

a. I did not try to buy cigarettes in a store during the past 30 days
b. Yes, someone refused to sell me cigarettes because of my age
c. No, no one refused to sell me cigarettes because of my age

18. During the past 30 days, on how many days did you smoke cigarettes on school property?

a. 0 days
b. 1 or 2 days
c. 3 to 5 days
d. 6 to 9 days
e. 10 to 19 days
f. 20 to 29 days
g. All 30 days

19. When was the last time you smoked a cigarette, even one or two puffs?

a. I have never smoked even one or two puffs
b. Earlier today
c. Not today but sometime during the past 7 days
d. Not during the past 7 days but sometime during the past 30 days
e. Not during the past 30 days but sometime during the past 6 months
f. Not during the past 6 months but sometime during the past year
g. 1 to 4 years ago
h. 5 or more years ago

20. How long can you go without smoking before you feel like you need a cigarette?

a. I have never smoked cigarettes
b. I do not smoke now
c. Less than an hour
d. 1 to 3 hours
e. More than 3 hours but less than a day
f. A whole day
g. Several days
h. A week or more

21. Do you want to stop smoking cigarettes?

a. I do not smoke now
b. Yes
c. No

22. During the past 12 months, did you ever try to quit smoking cigarettes?

a. I did not smoke during the past 12 months
b. Yes
c. No

23. How many times during the past 12 months have you stopped smoking for one day or longer because you were trying to quit smoking?

a. I have not smoked in the past 12 months
b. I have not tried to quit
c. 1 time
d. 2 times
e. 3 to 5 times
f. 6 to 9 times
g. 10 or more times

24. When you last tried to quit, how long did you stay off cigarettes?

a. I have never smoked cigarettes
b. I have never tried to quit
c. Less than a day
d. 1 to 7 days
e. More than 7 days but less than 30 days
f. 30 days or more but less than 6 months
g. 6 months or more but less than a year
h. 1 year or more

Smokeless Tobacco: Chewing Tobacco, Snuff, or Dip

25. Have you ever used chewing tobacco, snuff, or dip, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?

a. Yes
b. No

26. How old were you when you used chewing tobacco, snuff, or dip for the first time?

a. I have never used chewing tobacco, snuff, or dip
b. 8 years old or younger
c. 9 or 10 years old
d. 11 or 12 years old
e. 13 or 14 years old
f. 15 or 16 years old
g. 17 years old or older

27. During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip?

a. 0 days
b. 1 or 2 days
c. 3 to 5 days
d. 6 to 9 days
e. 10 to 19 days
f. 20 to 29 days
g. All 30 days

28. During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip on school property?

a. 0 days
b. 1 or 2 days
c. 3 to 5 days
d. 6 to 9 days
e. 10 to 19 days
f. 20 to 29 days
g. All 30 days

29. During the past 30 days, how did you usually get your own chewing tobacco, snuff, or dip? (CHOOSE ONLY ONE ANSWER)

a. I did not use chewing tobacco, snuff, or dip during the past 30 days
b. I bought them in a store such as a convenience store, supermarket, discount store, or gas station
c. I gave someone else money to buy them for me
d. I borrowed (or bummed) them from someone else
e. A person 18 years old or older gave them to me
f. I took them from a store or family member
g. I got them some other way

Cigars

30. Have you ever tried smoking cigars, cigarillos, or little cigars, even one or two puffs?

a. Yes
b. No

31. How old were you when you smoked a cigar, cigarillo, or little cigar for the first time?

a. I have never smoked a cigar, cigarillo or little cigar
b. 8 years old or younger
c. 9 or 10 years old
d. 11 or 12 years old
e. 13 or 14 years old
f. 15 or 16 years old
g. 17 years old or older

32. During the past 30 days, on how many days did you smoke cigars, cigarillos, or little cigars?

a. 0 days
b. 1 or 2 days
c. 3 to 5 days
d. 6 to 9 days
e. 10 to 19 days
f. 20 to 29 days
g. All 30 days

33. During the past 30 days, how did you usually get your own cigars, cigarillos, or little cigars? (CHOOSE ONLY ONE ANSWER)

a. I did not smoke cigars, cigarillos, or little cigars during the past 30 days
b. I bought them in a store such as a convenience store, supermarket, discount store, or gas station
c. I gave someone else money to buy them for me
d. I borrowed (or bummed) them from someone else
e. A person 18 years old or older gave them to me
f. I took them from a store or family member
g. I got them some other way

Pipe

34. During the past 30 days, on how many days did you smoke tobacco in a pipe?

a. 0 days
b. 1 or 2 days
c. 3 to 5 days
d. 6 to 9 days
e. 10 to 19 days
f. 20 to 29 days
g. All 30 days

Bidis and Kreteks

THE NEXT QUESTIONS ARE ABOUT BIDIS (OR "BEEDIES") AND KRETEKS (ALSO CALLED "CLOVE CIGARETTES"). BIDIS ARE SMALL BROWN CIGARETTES FROM INDIA CONSISTING OF TOBACCO WRAPPED IN A LEAF TIED WITH A THREAD. KRETEKS ARE CIGARETTES CONTAINING TOBACCO AND CLOVE EXTRACT.

35. Have you ever tried smoking any of the following:
a. Bidis
b. Kreteks
c. I have tried both bidis and kreteks
d. I have never smoked bidis or kreteks

36. During the past 30 days, on how many days did you smoke bidis?
a. 0 days
b. 1 or 2 days
c. 3 to 5 days
d. 6 to 9 days
e. 10 to 19 days
f. 20 to 29 days
g. All 30 days

THE NEXT QUESTIONS ASK ABOUT YOUR THOUGHTS ABOUT TOBACCO.

37. Do you think that you will try a cigarette soon?
a. I have already tried smoking cigarettes
b. Yes
c. No

38. Do you think you will smoke a cigarette at anytime during the next year?
a. Definitely yes
b. Probably yes
c. Probably not
d. Definitely not

39. Do you think you will be smoking cigarettes 5 years from now?
a. I definitely will
b. I probably will
c. I probably will not
d. I definitely will not

40. If one of your best friends offered you a cigarette, would you smoke it?
a. Definitely yes
b. Probably yes
c. Probably not
d. Definitely not

41. In the past 12 months, how often have your parents or guardians discussed the dangers of tobacco use with you?
a. Never
b. Rarely
c. Sometimes
d. Often
e. Very Often

42. Do you think people can get addicted to using tobacco just like they can get addicted to using cocaine or heroin?
a. Definitely yes
b. Probably yes
c. Probably not
d. Definitely not

43. Do you think young people who smoke cigarettes have more friends?
a. Definitely yes
b. Probably yes
c. Probably not
d. Definitely not

44. Do you think smoking cigarettes makes young people look cool or fit in?
a. Definitely yes
b. Probably yes
c. Probably not
d. Definitely not

45. Do you think young people risk harming themselves if they smoke from 1 – 5 cigarettes per day?
a. Definitely yes
b. Probably yes
c. Probably not
d. Definitely not

46. Do you think it is safe to smoke for only a year or two, as long as you quit after that?
a. Definitely yes
b. Probably yes
c. Probably not
d. Definitely not

47. Do you think you would be able to quit smoking cigarettes now if you wanted to?
a. I do not smoke now
b. Yes
c. No

48. Have you ever participated in a program to help you quit using tobacco?
a. I have never used tobacco
b. Yes
c. No

49. During this school year, were you taught in any of you classes about the dangers of tobacco use?
a. Yes
b. No
c. Not sure

50. During this school year, did you practice ways to say NO to tobacco in any of your classes (for example by role-playing)?
a. Yes
b. No
c. Not sure

THE NEXT QUESTIONS ASK ABOUT EVENTS YOU MAY HAVE ATTENDED OR WHAT YOU HAVE SEEN ON TV, AT THE MOVIES, OR ON THE INTERNET.

51. During the past 12 months, have you participated in any community activities to discourage people your age from using cigarettes, chewing tobacco, snuff, dip, or cigars?
a. Yes
b. No
c. I did not know about any activities

52. During the past 30 days, have you seen or heard commercials on TV, the Internet, or on the radio about the dangers of cigarette smoking?
a. Not in the past 30 days
b. 1-3 times in the past 30 days
c. 1-3 times per week
d. Daily or almost daily
e. More than once a day

53. When you watch TV or go to movies, how often do you see actors using tobacco?
a. I don't watch TV or go to movies
b. Most of the time
c. Some of the time
d. Hardly ever
e. Never

54. When you watch TV, how often do you see athletes using tobacco?
a. I don't watch TV
b. Most of the time
c. Some of the time
d. Hardly ever
e. Never

55. When you are using the Internet, how often do you see ads for tobacco products?
a. I don't use the Internet
b. Most of the time
c. Some of the time
d. Hardly ever
e. Never

SOME TOBACCO COMPANIES MAKE ITEMS LIKE SPORTS GEAR, T-SHIRTS, LIGHTERS, HATS, JACKETS, AND SUNGLASSES THAT PEOPLE CAN BUY OR RECEIVE FREE.

56. During the past 12 months, did you buy or receive anything that has a tobacco company name or picture on it?
a. Yes
b. No

57. Would you ever use or wear something that has a tobacco company name or picture on it such as a lighter, t-shirt, hat, or sunglasses?
a. Definitely yes
b. Probably yes
c. Probably not
d. Definitely not

THE NEXT QUESTIONS ASK ABOUT YOUR EXPOSURE TO TOBACCO USE.

58. During the past 7 days, on how many days were you in the same room with someone who was smoking cigarettes?
a. 0 days
b. 1 or 2 days
c. 3 or 4 days
d. 5 or 6 days
e. 7 days

59. During the past 7 days, on how many days did you ride in a car with someone who was smoking cigarettes?
a. 0 days
b. 1 or 2 days
c. 3 or 4 days
d. 5 or 6 days
e. 7 days

60. Do you think the smoke from other people's cigarettes is harmful to you?
a. Definitely yes
b. Probably yes
c. Probably not
d. Definitely not

61. Does anyone who lives with you now smoke cigarettes?
a. Yes
b. No

62. Does anyone who lives with you now use chewing tobacco, snuff, or dip?
a. Yes
b. No

63. How many of your four closest friends smoke cigarettes?
a. None
b. One
c. Two
d. Three
e. Four
f. Not sure

64. How many of your four closest friends use chewing tobacco, snuff, or dip?
a. None
b. One
c. Two
d. Three
e. Four
f. Not sure

YOU ARE FINISHED.
THANK YOU FOR PARTICIPATING.