

# Youth Risk Behaviors

## Duval County Middle School Students 2009

### Alcohol, Tobacco, and Other Drug Behaviors

#### Key Findings

- \*56% of students have never consumed alcohol
- \*71% of students have never smoked a cigarette although 8% are current smokers
- \*Nearly 15% of male middle school students have purchased cigarettes in a store or gas station
- \*82% of students have never tried marijuana
- \*Significantly more females than males have tried inhalants

#### Youth Risk Behaviors

The Youth Risk Behavior Survey (YRBS) is a self-administered, school-based, confidential, and anonymous survey that was conducted in the Duval County Public Schools during the spring of 2009. This is part of a national effort by the Centers for Disease Control and Prevention (CDC) to obtain information pertaining to youth social behaviors. These behaviors include but are not limited to: violence, safety, sex, nutrition and weight management, suicide, and more. In the 27 middle schools in Duval County, 3,138 students participated.

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#### Why Monitor Alcohol, Tobacco and Other Drug Behaviors?

The use of alcohol, tobacco, and other drugs is a widespread sociological and public health problem not only in Duval County, but at the state and federal levels. The underage use of alcohol has been an issue that has been combated for many decades and has not seen much of a decrease according to the findings from the YRBS.

Experimental use of alcohol, tobacco

and other drugs is common among teenagers, although, most use does not develop into more significant issues. However, some teenagers may develop dependency, engage in risky behaviors, and/or go on to use more dangerous drugs possibly causing long term harm to themselves or others. Teens with a family history of substance use/abuse, who are depressed and/or lack self-esteem and who don't feel like they

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### Why Monitor Alcohol, Tobacco, and Other Drug Use Behaviors?

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belong are more likely to develop serious alcohol and drug problems.<sup>1</sup> Teens who drink alcohol are more likely to be sexually active and to have unsafe, unprotected sex. Teens who drink excessively at an early age are also more likely to have high blood pressure as a young adult, be overweight, and to become an alcoholic than their non-drinking peers.<sup>1,2</sup> Intervention strategies that attempt to postpone early use strive to prevent alcohol-related problems later in life.

Tobacco use in particular has negative long term health outcomes. According to the CDC, more than 3,000 young people become regular smokers every day, and many of them continue to smoke regularly into adulthood, thereby increasing their risk of dying prematurely from smoking-related diseases, such as lung cancer, heart disease, and stroke. The CDC also reports that 'Teen smoking is often an early warning sign of future problems. Teens who smoke are three times as likely as nonsmokers to use alcohol, eight times as likely to use marijuana, and 22 times as likely to use cocaine. Smoking is also associated with numerous other high risk behaviors, including fighting and having unprotected sex.' Communitywide, comprehensive tobacco-control programs that use coordinated evidence-based strategies should be implemented and revitalized to further limit cigarette use by high school students.<sup>3</sup>

### Why Monitor Youth Behaviors?

Monitoring risky behaviors within the middle school population is critical for school and public health officials to understand the cause and effect of these behaviors and how they may or may not continue into adulthood. Health behavior patterns are often established in childhood and adolescence, leading to a lifestyle that contributes to many of the chronic diseases that plague our society today, including obesity, diabetes and heart disease. This transition into adolescence also prompts a rise in risky behaviors, which frequently leads to increases in motor vehicle accidents, violence, unprotected sexual activity, and drug and alcohol use.<sup>4</sup> As part of the National Initiative to Improve Adolescent Health by the Year 2010, the CDC and the Health Resources and Services Administration (HRSA) have identified six critical health behaviors for adolescents including alcohol and drug use, injury and violence (including suicide), tobacco use, nutrition, physical activity, and risky sexual behaviors.<sup>5</sup> These measurable indicators are used to assess the status and progress of each of these health behaviors. It is these behaviors that the YRBS is designed to examine in the youth population. By implementing this type of self-reporting surveillance, one can, with a significant measure of reliability, monitor the behavior of the youth and readily identify those groups that may or may not be at risk. This allows for the development of in-

terventions and programs that directly target those groups that may be at most risk.

Adolescents are influenced by various levels and types of interpersonal relationships, which in turn, contribute to an adolescent's health and well-being.<sup>4</sup> Because of this complex system of adolescent influences, developing comprehensive approaches and interventions to promote adolescent health is often difficult. In addition, adolescent health is influenced by a wide array of socio-economic factors, such as education and poverty, which require more primary intervention techniques that can lead to societal and environmental changes, frequently resulting in policy change. Addressing these factors is challenging, costly and time consuming, and requires many levels of decision-making. In order to address adolescent health issues, surveillance of adolescent health indicators is necessary for planning, program implementation, evaluation, and policy change.



## Duval County, Florida and U.S. Middle School Report Card

The Duval County data report card provides an overall comparison between local and state data for youth risk behaviors for which data was available. Confidence intervals that do not overlap indicate statistical significance. The terms “significant”, and “statistically significant” are used interchangeably throughout this report. There is not a national YRBS for the middle school level, so our comparison is only between the state and county and within the county. The data show that there are numerous statistically significant differences between the county and state for the use of tobacco, alcohol and drugs. Duval County shows higher lifetime use of cigarettes, alcohol, marijuana and inhalants. Age of first alcohol consumption was also significantly higher. Current use of cigarettes was higher for the county than the state, (7.9% vs. 6.5%), although this difference was not statistically different. The lifetime use of cigarettes was almost 10% higher with similar patterns of difference in the other significant indicators. The use of illegal drugs, such as marijuana and inhalants, is also markedly higher. This data show significant behaviors that are major public health risks, especially in a middle school age group.

Risk Factors	Duval County Students 2009	Florida Students 2009
	95% (CI's)	95% (CI's)
<b><i>Tobacco</i></b>		
Ever tried cigarettes	29.4% <sup>1</sup> (27.2 - 31.9)	19.1% (17.4 - 20.8)
Smoke first cigarette before 11	6.4% (5.3 - 7.7)	N/A
Smoked one 1 or more cigarettes in past 30 days	7.9% (6.8 - 9.6)	6.5% (5.6 - 7.4)
<b><i>Alcohol</i></b>		
Drink alcohol ever	43.8% <sup>1</sup> (40.6 - 47.1)	31.9% (30.1 - 33.6)
Had first drink before age 11	18.5% <sup>1</sup> (16.8 - 20.3)	13.3% (12.2 - 14.4)
<b><i>Other Drug Use</i></b>		
Ever use marijuana	17.9% <sup>1</sup> (16.0 - 19.9)	10.9% (9.9 - 11.9)
Ever use inhalants	16.1% <sup>1</sup> (14.4 - 17.9)	10.2% (9.4 - 11.1)

Confidence Intervals (CIs) of 95% are used to provide statistical markers to gauge real trends verses differences that are more likely to reflect insignificant variation of data from year to year.

<sup>1</sup>Duval County statistically different from Florida;

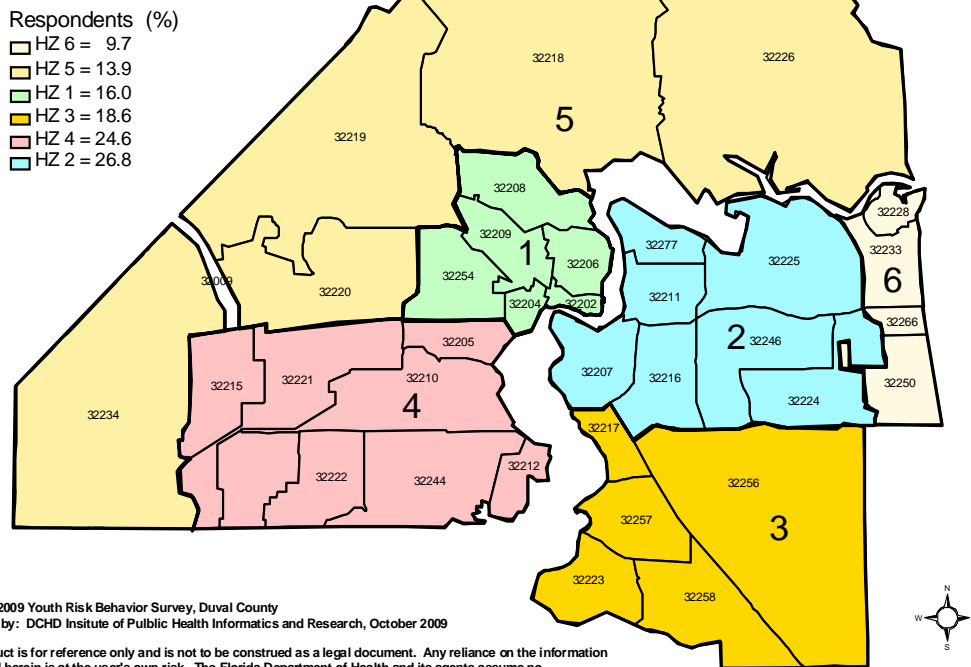
## Duval County Middle School Report Card by Health Zone

Duval County is located on the northeast coast of Florida. The county is divided into six health zones made up of zip codes. These zones are based on Duval County Public Schools, Jacksonville Sheriff's Office, and Community Planning Action Council's existing geographic boundaries. Health zones, made of mutually exclusive zip codes, were created to increase the statistical reliability of zip code data for more targeted program planning, practical surveillance of health indicators, and to ensure confidentiality of data. Figure 1 shows the distribution of all student respondents, according to where they reside, from the Duval County YRBS by health zone.

YRBS data was compared across Duval County health zones for behavioral risk factors. The health zones do not show much variation from the county rates for these behaviors. The rates for middle school students residing in Health Zone 1 (the urban core) who have ever tried cigarettes, alcohol or marijuana is higher than for students in all the other health zones. In addition, rates for students residing in Health Zone 5 who currently smoke, age of first alcohol consumption and use of inhalants is higher than for students in the other health zones.

Figure 1

### Distribution of Respondents from 2009 Duval County YRBS



# Youth Risk Behaviors

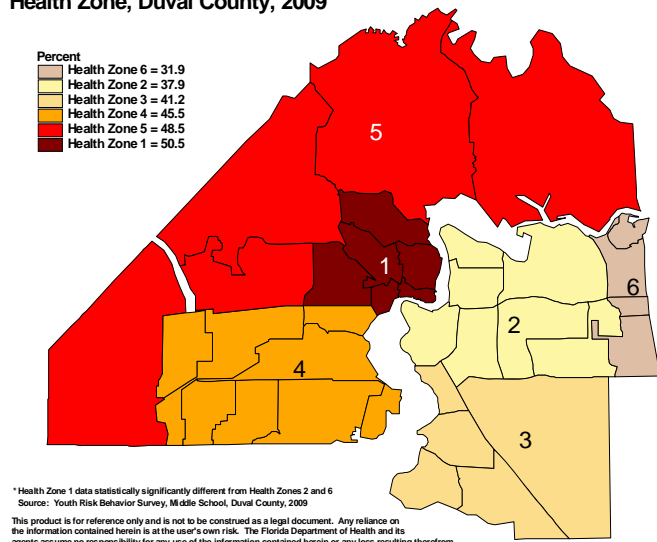
## Duval County Middle School Report Card by Health Zone

Risk Factors	Health Zone 1 2009 95% (CI's)	Health Zone 2 2009 95% (CI's)	Health Zone 3 2009 95% (CI's)	Health Zone 4 2009 95% (CI's)	Health Zone 5 2009 95% (CI's)	Health Zone 6 2009 95% (CI's)	Duval County Students 2009 95% (CI's)
<b>Tobacco</b>							
Ever tried cigarettes	32.1% (26.1 - 38.6)	26.5% (22.6 - 30.7)	31.9% (26.1 - 38.3)	27.5% (23.0 - 32.5)	27.2% (21.5-33.8)	24.5% (17.9 - 32.6)	29.4% <sup>1</sup> (27.2 - 31.9)
Smoke first cigarette before 11	4.3% (2.6 - 7.2)	5.0% (3.4 - 7.1)	6.8% (4.2 - 10.9)	6.8% (4.7 - 9.6)	4.0% (2.2 - 7.4)	3.8% (1.7 - 8.1)	6.4% (5.3 - 7.7)
Smoked 1 or more days in the past 30 days	7.9% (5.3 - 11.5)	5.5% (3.9 - 7.8)	8.5% (5.8 - 12.1)	6.0% (3.7 - 9.5)	9.5% (5.8 - 15.1)	6.2% (3.3 - 11.4)	7.9% (6.8 - 9.6)
<b>Alcohol</b>							
Drink alcohol ever	50.5% <sup>3</sup> (44.6 - 56.4)	37.9% <sup>2</sup> (33.0 - 43.0)	41.2% (32.8 - 50.2)	45.5% (39.6 - 51.6)	48.5% (41.0-56.0)	31.9% <sup>2</sup> (25.1 - 39.6)	43.8% <sup>1</sup> (40.6 - 47.1)
Had first drink before age 11	21.1% (16.5 - 26.6)	15.1% (12.2 - 18.7)	18.0% (12.5 - 25.3)	18.9% (15.7 - 22.8)	23.3% (18.3-29.2)	12.7% (8.5 - 18.5)	18.5% <sup>1</sup> (16.8 - 20.3)
<b>Other Drug Use</b>							
Ever use marijuana	22.9% (17.6 - 29.1)	16.6% (13.3 - 20.5)	14.2% (9.9 - 19.8)	14.9% (11.6 - 19.1)	18.8% (14.6 - 24.0)	21.6% (14.2-31.4)	17.9% <sup>1</sup> (16.0 - 19.9)
Ever use inhalants	15.8% (11.2 - 20.1)	15.1% (12.8 - 17.7)	16.4% (12.8 - 20.9)	15.9% (12.7 - 19.9)	17.5% (13.6 - 22.1)	13.0% (8.2 - 19.9)	16.1% <sup>1</sup> (14.4 - 17.9)

Confidence Intervals (CIs) of 95% are used to provide statistical markers to gauge real trends verses differences that are more likely to reflect significant variation of data from year to year.

<sup>1</sup>Duval County statistically different from Florida; <sup>2</sup>Health Zone statistically different from Duval County; <sup>3</sup>Health Zone 1 statistically different from Health Zones 1, and 6

Figure 2 Percentage of Middle School Students Who Have Drunk Alcohol by Health Zone, Duval County, 2009



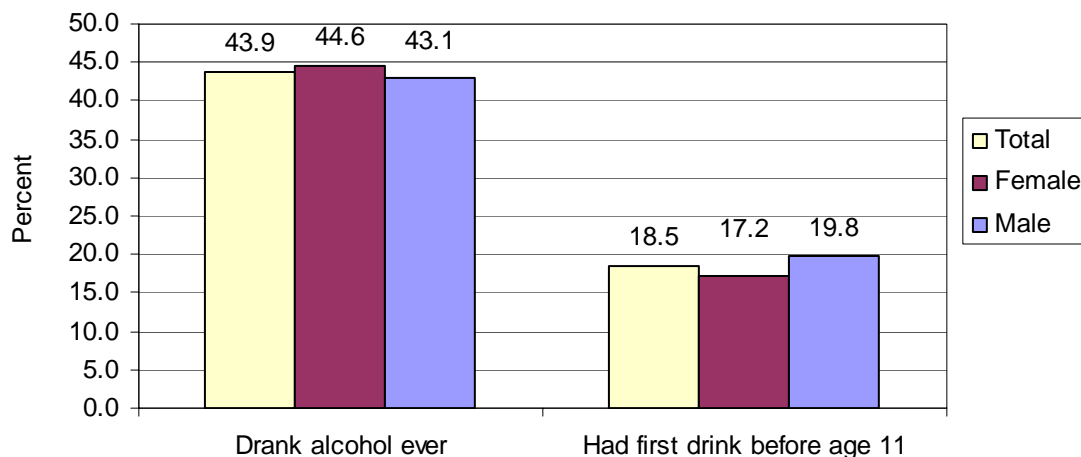
The rates of consuming alcohol, by geographical area, are shown in Figure 2. According to the data from the YRBS, Health Zone 1 had the highest rate of students who have drunk alcohol. Statistical significance is found when compared to those rates for Health Zones 2 and 6.

# Youth Risk Behaviors

## Alcohol

More than 43% of middle school students have consumed alcohol with more females (44.6%) having done so than males (43.1%). The difference was not statistically significant. On the other hand, more males (19.8%) had their first drink prior to the age of 11 than females (17.2%). This difference was also not significant (Figure 3).

Figure 3  
**Percentage of Students Who Have Ever Used Alcohol**



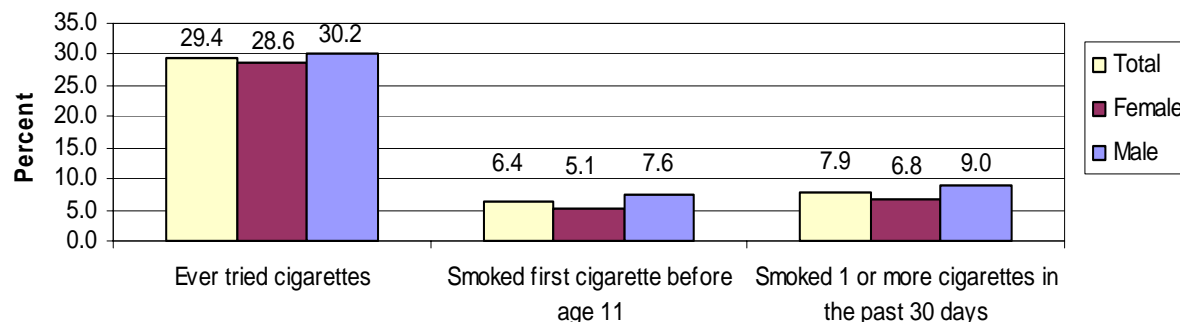
*Almost 44% of middle school students have consumed alcohol at some point in the past*

Source: Youth Risk Behavior Survey, Duval County, 2009

## Tobacco

Nearly 30% of middle school students have tried cigarettes at some point in the past. Six and a half percent smoked their first cigarette prior to the age of 11 and 7.9% smoked at least 1 cigarette 30 days prior to taking the survey. More males than females reported engaging in each of the behaviors, although none of the differences were statistically significant (see Figure 4).

Figure 4  
**Percentage of Students Who Ever Smoked Cigarettes or Smoked 1 or More Cigarettes In the Past 30 Days**



*Almost a third of middle school students have tried a cigarette at some time in the past*

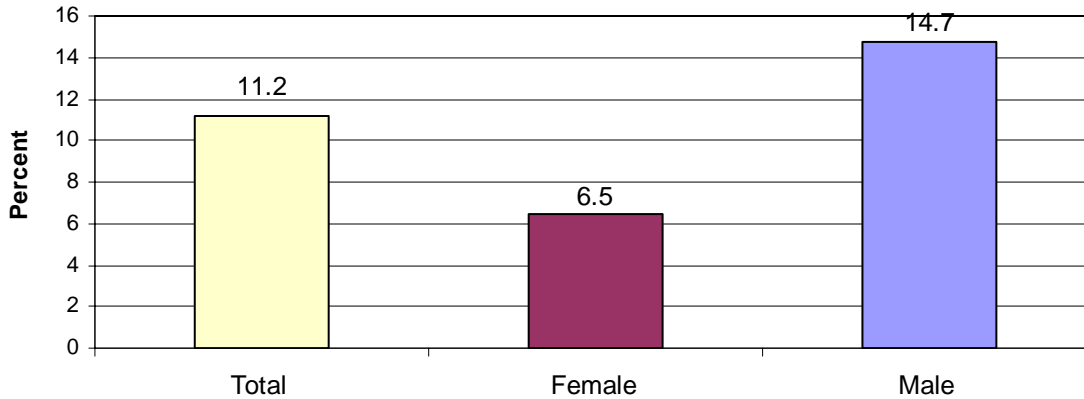
Source: Youth Risk Behavior Survey, Duval County, 2009

# Youth Risk Behaviors

## Tobacco

Over 11% of students were able to purchase cigarettes in a store or gas station. More males (14.7%, 95% CI 9.2, 22.7) bought cigarettes in a store or gas station than females (6.5%, 95% CI 2.5, 15.6). The difference, however, was not significant (Figure 5).

Figure 5 **Percentage of Students Who Bought Cigarettes in Store/Gas Station**



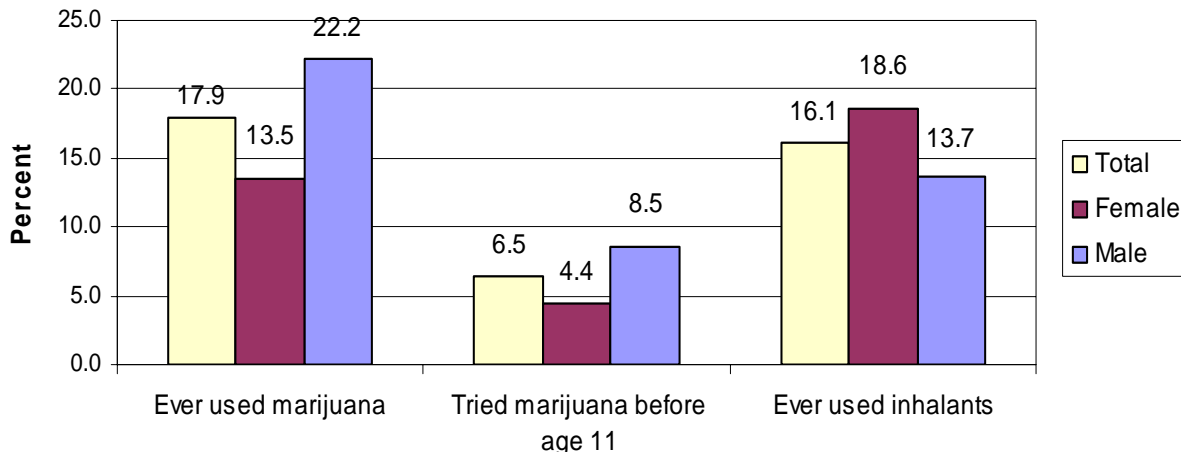
*Nearly 15% of male middle school students have purchased cigarettes in a store or gas station*

Source: Youth Risk Behavior Survey, Duval County, 2009

## Other Drugs

Overall, nearly 18% of middle school students have used marijuana at some time in their past with over 22% (95% CI 19.4, 25.2) of males and 13.5% (95% CI 11.6, 15.7) of females having done so. The difference between genders was statistically significant. More than 6% of students tried marijuana before 11 years of age; a greater number of males reported doing so than females which was a significant difference. Sixteen percent of middle school students have used inhalants with more females (18.6%) than males (13.7%) reporting the behavior, which was also a statistically significant difference (Figure 6).

Figure 6 **Percentage of Students Who Have Used Marijuana or Inhalants**



*18% percent of females reported using inhalants in the past*

Source: Youth Risk Behavior Survey, Duval County, 2009  
Data statistically significant between gender for all behaviors

## Data Collection Methods

### Description of the YRBS

The Youth Risk Behavior Survey (YRBS) is a self-administered, school-based, confidential, and anonymous survey that was conducted in the Duval County Public Schools in the spring of 2009. In Florida, weighted YRBS data has been collected at the state level every two years since 2001. Five Florida counties (Orange, Hillsborough, Palm Beach, Broward, and Miami-Dade) are funded by the CDC to collect county-level data. In the spring of 2009, Duval County, for the first time, received federal funding by the CDC to administer a specific county-level YRBS even though it has been included in the state-level data collection in the past. The YRBS is part of a national effort by the CDC to obtain information pertaining to social behaviors. These behaviors include, but are not limited to: violence, safety, sex, nutrition and weight management, suicide, and more. In the 27 public middle schools in Duval county, there were 3,138 students that participated. Initial county-level analysis was performed by Westat, a CDC contractor. Sub-county analysis was conducted through a joint effort by the Duval County Public Schools and the Duval County Health Department. A stratified analysis according to the six defined health zones was conducted to identify the risk for these behaviors at the sub-county level. This sub-county analysis allows Duval County to be unique in its ability to identify geographically, within its community, those groups at risk.

### Data Collection Methods

Nationally, schools are selected with probability proportional to the size of student enrollment in grades 6 - 8. Then, required classes are randomly selected to participate within selected schools with equal probability. The questionnaire is administered to all students in sampled classes in sampled schools. However, in Duval County, all schools were included in the study with the classes randomly selected, which resulted in the students being randomly selected. This ensures the reliability and validity of the sample to be a randomly generated one, which is important to the statistical process behind the administration of surveys and their analysis. Within selected classes, students are eligible to participate voluntarily, anonymously, and confidentially. Parental notification was provided. Survey administrators were Duval County Public Schools classroom instructors and were trained as to the appropriate method of administering and collecting the surveys. These precautions were necessary in order to ensure the complete privacy of the students.

From the CDC, "Weighted results means that the survey got an overall response rate of at least 60%. Weighted results are representative of all students in grades 6 - 8 attending public schools in each jurisdiction. With weighted data, it is possible to say, for example, 'X% of students in state Y never or rarely wore a seat belt when riding in a car driven by someone else.'" This means that a weight has been associated with each questionnaire to reflect the likelihood of sampling each student and to reduce bias by compensating for differing patterns of non-response. The objective of the weighting process is to develop sample weights that can be employed during analysis to generate results that accurately represent the entire student population in the county. The weighted results can be used to make important inferences concerning the priority health-risk behaviors of all regular public school students in grades 6 - 8.

### References

- <sup>1</sup>American Academy of Child and Adolescent Psychiatry. #3 Teens: Alcohol and Other Drugs, 2006<sup>2</sup>DeWit DJ, Adlaf EM, Offord DR, Ogborne AC: Age at first alcohol use: a risk factor for the development of alcohol disorders. *Am J Psychiatry* 2000; 157:745–750;  
<sup>3</sup>CDC. Cigarette Use Among High School Students: 1991-2007. *MMWR* 2008;57 (689-391) <sup>4</sup><http://www.cdc.gov/healthyyouth/adolescenthealth/index.htm>; <sup>5</sup>Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. *Improving the Health of Adolescents & Young Adults: A Guide for States and Communities*. 2004

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