Youth Risk Behaviors

Duval County Middle School Students 2009

Violence, Suicide, and Safety Behaviors

Key Findings

- Almost half of all middle school students have been in a physical fight at school
- Approximately one-third of middle school students have been bullied at school
- Over 80% of students have never/rarely worn a bicycle helmet or skate helmet while bicycling or skating
- 35% of students have ridden in the car with someone that has been drinking alcohol
- Over 30% of students have carried a weapon for protection

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.

This Issue

Why Monitor Violence, Suicide, and Safety Behavior?

The prevalence of violence, suicide, and safety occurrences in the middle school population has always been an issue of public concern. Organizations like *MADD©* are prime examples of this very issue. According to *Healthy People 2010,* "The risk of injury is so great that most persons sustain a significant injury at some time during their lives. Nevertheless, this widespread human damage too often is taken for granted, in the erroneous belief that injuries happen by chance and are the result of unpreventable "accidents." In fact, many injuries are not "accidents," or random, uncontrollable acts of fate; rather, most injuries are predictable and preventable." From this we can view the YRBS as a means of examining the frequency of behaviors that lead to these negative outcomes.[1]

Death by accident, injury, or violent act is the leading cause of death among persons 1 to 18 years of age.

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Why Monitor Violence, Suicide and Safety Behaviors?

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In addition, health-risk behaviors such as violence are consistently linked to academic failure.[2] The inherit importance of investigating this age group for these behaviors is critical. *Healthy People 2010*, point out the role this group has, specifically, in regards to violence: "Youth continue to be involved as both perpetrators and victims of violence. Elderly persons, females, and children continue to be targets of both physical and sexual assaults, which are frequently perpetrated by individuals they know. Examples of general issues that impede the public health response to progress in this area include the lack of comparable data sources, lack of standardized definitions and definitional issues, lack of resources to establish adequately consistent tracking systems, and lack of resources to fund promising prevention programs."[1] These behaviors are mirrored throughout Duval County, while they may be comparable to the state of Florida or even the national average, there is a high prevalence of risky behaviors that lead to injury or even death.

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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.[3] 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.[4] 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 interventions 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.[3] 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 and Florida Middle School Report Card

The Duval County data report card provides a comparison between local and state data for youth risk behaviors for which data was available. Florida data were not available for 2009 at the time of this report. Confidence intervals that do not overlap indicate statistical significance. The terms "significant", and "statistically significant" are used interchangeably throughout this report. What is apparent from the report card below is violence-related behaviors are more likely to occur in Duval County than in the state. A higher percentage of students carried weapons for protection overall and at school, have been in a fight at school, and have been bullied in the county than in the state. All of the differences were statistically significant. Likewise, more students locally considered suicide, made a suicide plan, or tried to commit suicide than statewide, with all differences statistically significant. The behaviors of wearing bicycle or skate helmets and seat belts is comparable in the county and state. However, the action of riding with a drinking driver was dissimilar locally and statewide with nearly twice as many students in Duval County who reported the behavior than in Florida; thus, yielding a significant difference.

Risk Factors	Duval County Students 2009 95% (CI's)	Florida Students 2007 95% (CI's)
Violence		
Carried weapon for protection	32.2%[1] (30.3 - 34.4)	18.1% (16.4 - 19.9)
Carried weapon for protection at school	9.8%[1] (8.6 - 11.3)	2.3% (1.9 - 2.7)
Been in fight at school	46.3%[1] (44.2 - 48.7)	18.5% (16.9 - 20.1)
Been bullied at school	33.3%[1] (31.3 - 35.3)	28.6% (27.0 - 30.3)
Have been electronically bullied	17.6%[1] (16.1 - 19.5)	21.3% (20.0 - 22.6)
Suicide		
Thought about suicide	21.5%[1] (19.9 - 23.2)	15.2% (14.2 - 16.1)
Made suicide plan	14.5%[1] (13.3 - 16.2)	8.5 (7.8 - 9.3)
Tried to commit suicide	10.3%[1] (9.1 - 11.6)	5.6% (5.0 – 6.2)
Safety		
Never/rarely wore bicycle helmet	83.3% (81.4 - 85.2)	79.9% (77.9 – 81.9)
Never/rarely wore skate helmet	83.6% (81.2 - 86.0)	85.2% (83.4 – 87.1)
Never/rarely wore seat belt	13.4% (12.0 - 15.2)	10.8% (9.5 – 12.0)
Rode with drinking driver	35.1%[1] (33.1 - 37.2)	18.8% (17.6 – 20.0)

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. [1]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.

Data by health zone shows statistical significance across several health zones for violence-related behaviors. The percent of students in Health Zone 1 who carried a weapon to school for protection is almost double Health Zones 2, 3, and 6. The difference was statistically significant between Health Zones 1 and 2. Similarly, Health Zone 1 had the highest percentage of students who reported being in a fight at school; it was more than 50% higher than Health Zones 2, 3, and 6. It was also significantly higher than the county percentage. More than 20% of middle school students have thought about suicide with the most living in Health Zone 3. Nearly 15% of students in Health Zone 4 made a suicide plan followed by over 14% in Health Zone 3, although the difference was not statistically significant. Even though it is not significant, it is worth noting that the percent of students in Health Zone 1 who have tried to commit suicide is 13%, which is the highest for all the Health Zones and higher than the county percentage. Safety behaviors vary across Health Zones, yet Health Zone 1 has the most unsafe behaviors related to not wearing a bicycle helmet, skate helmet, or seat belt.

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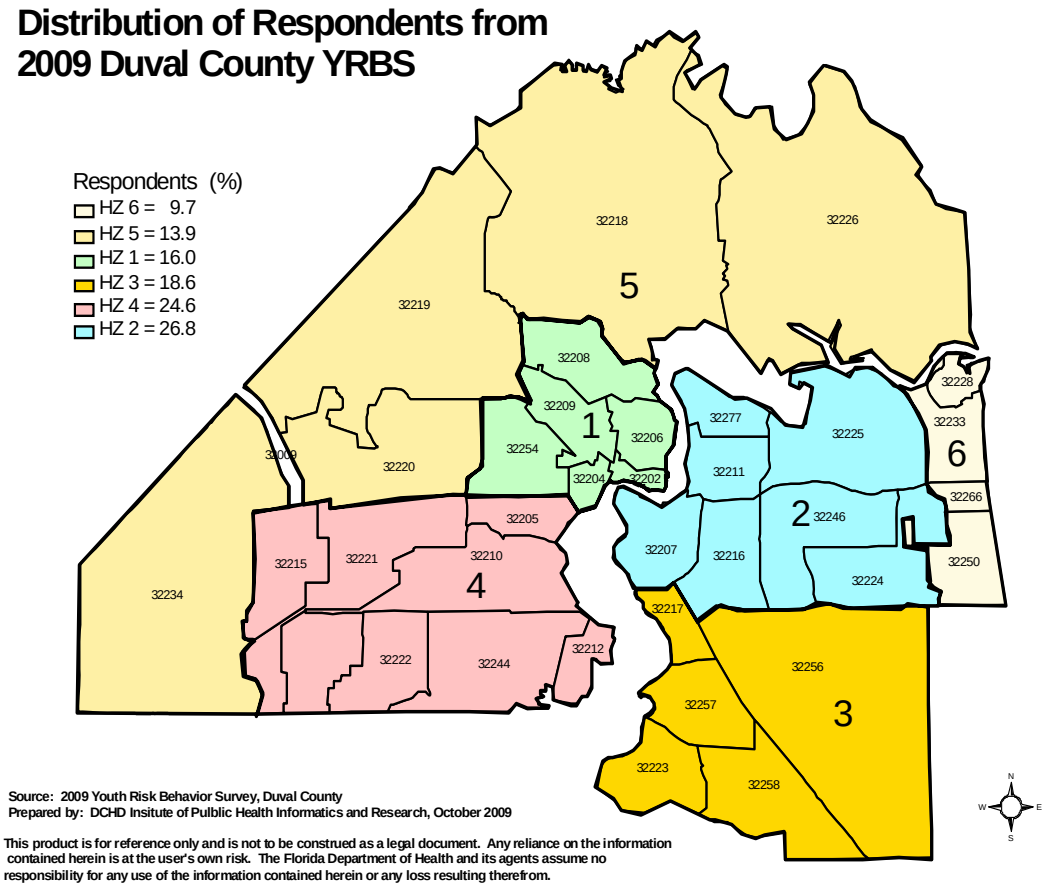
Figure 1



Source: 2009 Youth Risk Behavior Survey, Duval County
Prepared by: DCHD Insitute of Pulblic Health Informatics and Research, October 2009

Duval County Middle School Report Card by Health Zone

(continued from page 4)

Over 92% of students in Health Zone 1 reported never or rarely wearing bicycle or skate helmets; eighteen percent rarely or never wore a seat belt. The percentage of students in Health Zone 1 who have ridden with a drinking driver is slightly less than Health Zone 6, but still greater than the county percentage of 35.1%.

Risk Factors	Health Zone1 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)
Violence							
Carried weapon for protection	32.3% (27.6 - 37.4)	28.1% (23.9 - 32.8)	28.8% (22.9 - 35.5)	34.2% (29.8 - 38.8)	32.6% (27.2 - 38.6)	33.7% (25.9 -42.4)	32.2%[1] (30.3 - 34.4)
Carried weapon for protection at school	14.5%[3] (10.2 - 20.2)	6.6% (4.9 - 8.8)	7.4% (4.9 - 11.1)	9.3% (6.7 - 12.7)	10.0% (6.9 - 14.3)	7.3% (3.3 - 15.1)	9.8%[1] (8.6 - 11.3)
Been in fight at school	62.4%[2,4] (56.4 - 68.0)	40.8% (36.2 - 45.6)	35.9%[2] (30.7 - 41.5)	46.6% (41.7 - 51.6)	49.8% (44.0 - 55.6)	37.2% (28.4 -47.0)	46.3%[1] (44.2 - 48.7)
Been bullied at school	22.5%[2] (17.7 - 28.3)	37.2% (33.1 - 41.5)	30.1% (25.1 - 35.6)	36.3% (32.2 - 40.5)	30.1% (25.4 - 35.3)	40.1% (27.7 -53.9)	33.2%[1] (31.3 - 35.3)
Have been electronically bullied	11.5%[2,6] (8.5 - 15.4)	19.9% (16.8 - 23.4)	20.9% (16.5 - 26.2)	16.3% (13.6 - 19.6)	16.6% (12.1 - 22.3)	18.7% (12.9 -26.2)	17.6%[1] (16.1 - 19.5)
Suicide							
Thought about suicide	21.4% (16.8 - 27.0)	19.7% (16.6 - 23.2)	23.8% (18.6 - 29.9)	22.3% (18.7 - 26.5)	20.3% (16.5 - 24.7)	19.5% (14.7 -25.5)	21.5%[1] (19.9 - 23.2)
Made suicide plan	13.6% (10.0 - 18.2)	13.4% (10.9 - 16.5)	14.3% (10.7 - 18.8)	14.7% (11.7 - 18.2)	12.9% (9.7 - 16.8)	13.9% (8.7 - 21.5)	14.5%[1] (13.3 - 16.2)
Tried to commit suicide	13.0% (9.4 - 17.9)	8.5% (6.4 - 11.3)	7.6% (4.9 - 11.4)	8.9% (6.7 - 11.8)	12.3% (9.1 - 16.5)	7.2% (3.9 - 12.8)	10.3%[1] (9.1 - 11.6)
Safety							
Never/rarely wore bicycle helmet	92.5%[2,7] (88.3 - 95.3)	79.1%[9] (74.8 - 82.9)	81.3% (75.1 - 86.3)	86.4% (83.1 - 89.2)	83.0% (76.6 - 87.9)	67.9%[2,8] (57.9 -76.5)	83.3% (81.4 - 85.2)
Never/rarely wore skate helmet	92.5%[2,9] (87.7 - 95.5)	78.0%[9] (72.7 - 82.4)	86.8% (81.1 - 91.1)	89.5%[10] (85.8 - 92.3)	84.2% (77.1 - 89.4)	75.0% (62.3 -84.5)	83.6% (81.2 - 86.0)
Never/rarely wore seat belt	18.1%[5] (13.7 - 23.7)	10.3% (8.3 - 12.8)	11.1% (7.0 - 17.3)	10.4% (7.9 - 13.6)	11.9% (7.8 - 17.6)	12.7% (6.8 - 22.2)	13.4% (12.0 - 15.2)
Rode with drinking driver	37.1% (32.2 - 42.3)	33.7% (29.9 - 37.8)	33.5% (26.5 - 41.4)	33.0% (28.8 - 37.5)	33.6% (26.5 - 41.5)	37.3% (28.8 -46.8)	35.1%[1] (33.1 - 37.2)

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.

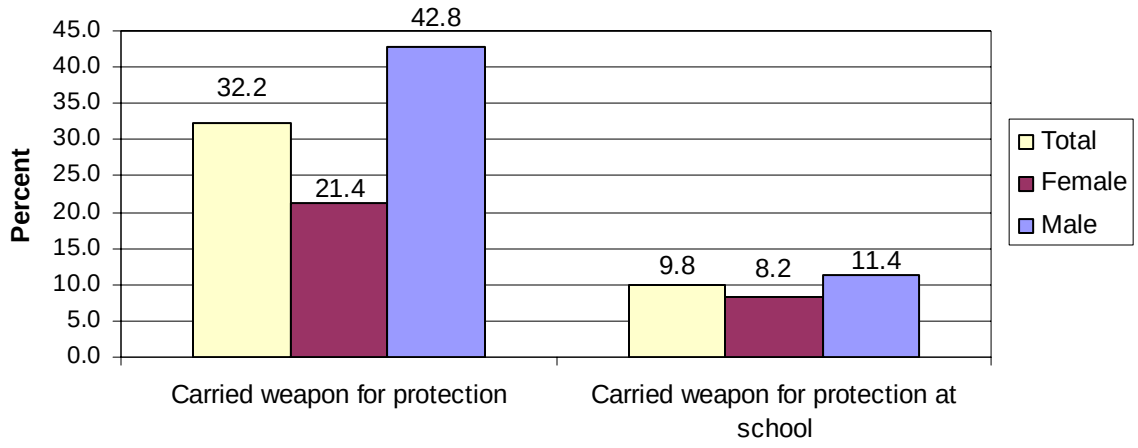
[1]Duval County statistically different from Florida;[2]Health Zone different from County; [3]Health Zone 1 is statistically different from Health Zone 2; [4]Health Zone 1 is statistically different from Health Zones 5 and 6; [5]Health Zone 1 is statistically different from Health Zones 2 and 4; [6]Health Zone 1 is statistically different from Health Zones 2 and 3; [7]Health Zone1 is statistically different from Health Zones 2,3, and 6; [8]HealthZone 6 is statistically different from Health Zones 4 and 5; [9]Health Zone 1 is statistically different from Health Zones 2 and 6; [9]Health Zone 3 is statistically different from Health Zone 4; [10]Health Zone 4 is statistically different from Health Zone 6

Violence

Thirty-two percent of students have carried a weapon for protection, with nearly 43% (95%CI=39.8,45.7) of males and 21.4% (95%CI=19.3,23.7) of females having done so. The difference was statistically significant. Almost 10% have carried a weapon for protection while at school. Males were also more likely to carry a weapon for protection at school although this difference was not statistically significant (see Figure 2).

Figure 2

Percentage of Students Who Have Carried a Weapon for Protection



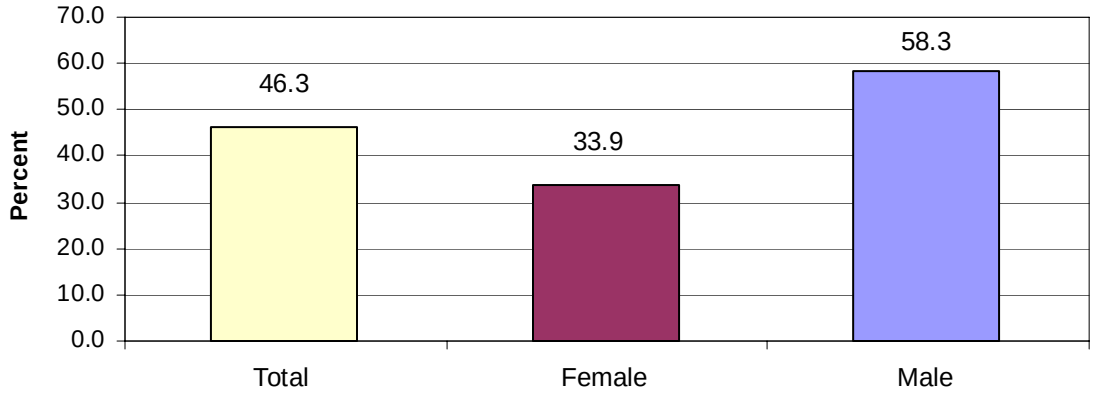
Nearly 43% of males have carried a weapon for protection in the 30 days prior to taking the survey

Source: Youth Risk Behavior Survey, Duval County, 2009
*Data Statistically Significant Between Gender for carried a *weapon for protection*

Over 46% of students have been in a physical fight at school. Fifty-eight percent (95%CI= 55.0, 61.5) of students were males and almost 34% (95%CI=31.4, 36.6) were females. The difference between sexes was statistically significant (see Figure 3).

Figure 3

Percentage of Students Who Have Been in a Physical Fight at School



46% of students have been in a physical fight at school

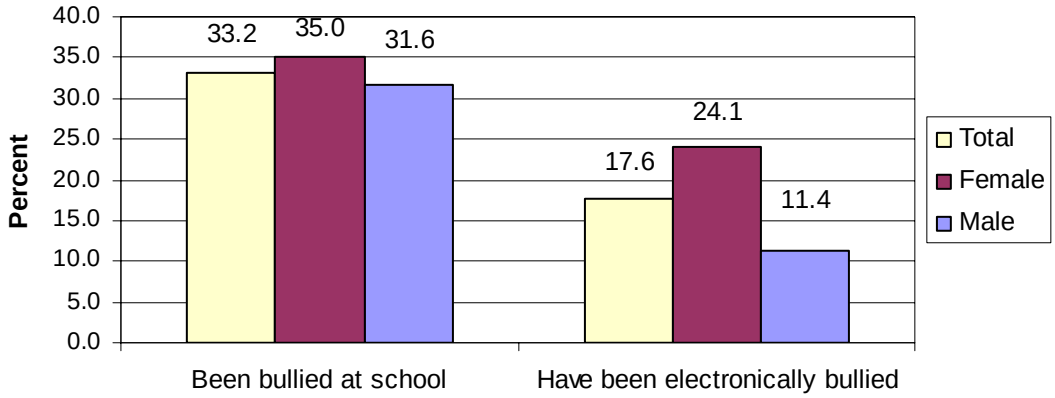
Source: Youth Risk Behavior Survey, Duval County, 2009
*Data Statistically Significant Between Gender

Violence

Thirty-three percent of students have been bullied at school; 35% of females have been bullied compared to 31.6% of males. Nearly 18% of students have been bullied through electronic methods. Twenty-four percent (95% CI 32.4, 37.7) of females have been bullied electronically versus 11.4% (95% CI 9.7, 13.2) of males. The difference is statistically significant (see Figure 4).

Figure 4

Percentage of Students Who Have Been Bullied at School or Electronically

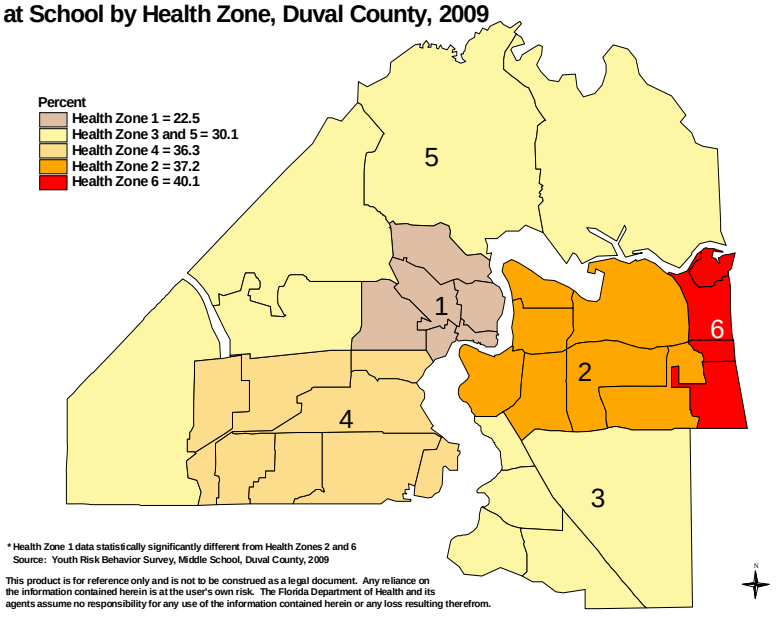


Over 33% of students have been bullied at school

Source: Youth Risk Behavior Survey, Duval County, 2009
*Data statistically significant between gender for *electronic bullying*

Over 33% of middle school students in Duval County have been bullied at school. The bullying varied geographically across the county as shown in Figure 5, below. The highest percentage reported was in Health Zone 6 with 40.1% of students reporting the behavior. Health Zones 2 and 4 were next followed by Health Zones 3 and 5, each with 30.1%. Health Zone 1 had the lowest percentage of students who reported bullying of all the zones.

Figure 5 **Percentage of Middle School Students Who Have Been Bullied at School by Health Zone, Duval County, 2009**



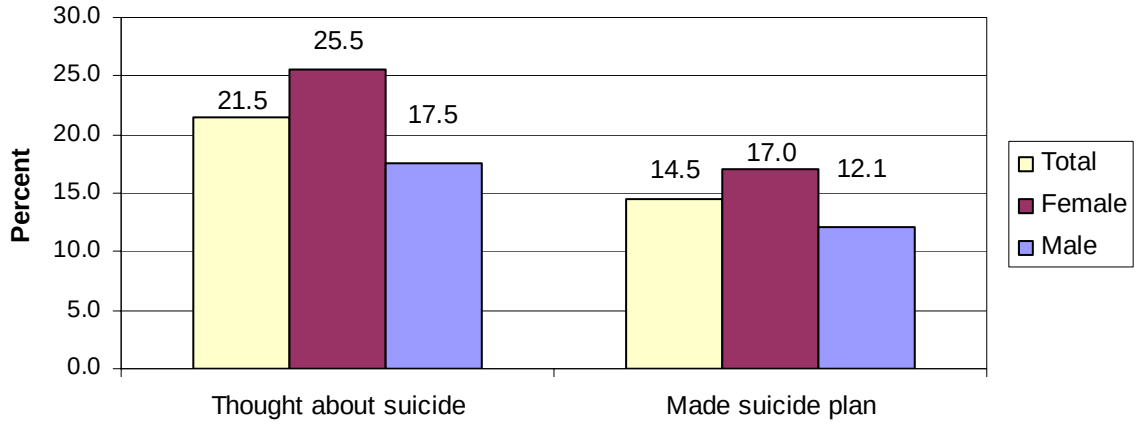
Over 40% of students who reside in Health Zone 6 have been bullied at school

Violence

The mental health needs of students are an important piece of overall health. Over 21% of students thought about suicide; 25.5% (95% CI 23.2, 28.0) of females and 17.5 (95% CI 15.6, 19.6) of males considered it. Over 14%actually made a suicide plan with 17% (95% CI 15.1, 19.1) of females and 12.1% (95% CI 10.2, 14.2) of males doing so (see Figure 6).

Figure 6

Percentage of Students Who Have Thought about Suicide or Made a Suicide Plan



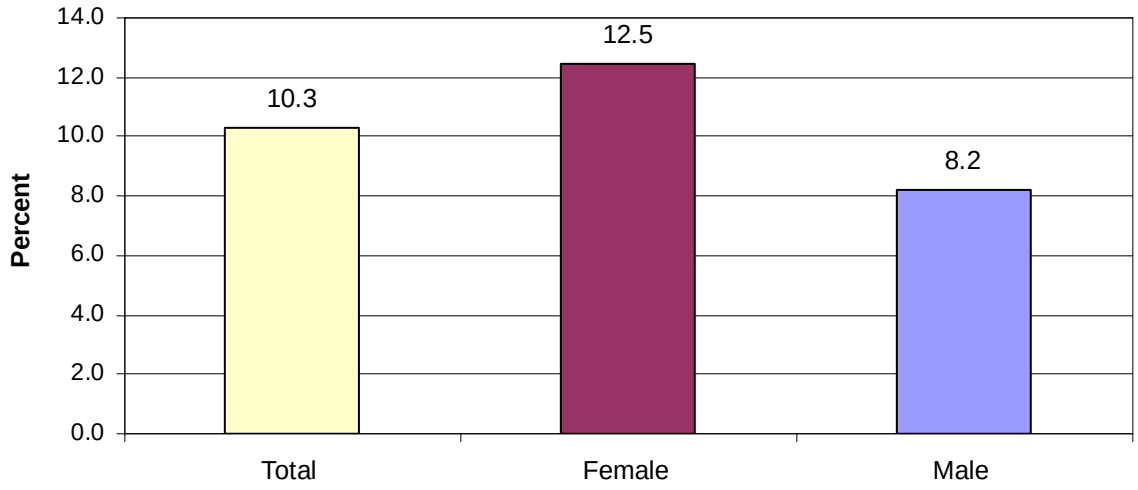
Over 21% of students have thought about suicide

Source: Youth Risk Behavior Survey, Duval County, 2009

Over 12% (95% CI 10.8, 14.3) of female students tried to commit suicide and over 8% (95% CI 6.9, 9.7) of males did. The difference was statistically significant between sexes. Overall, 10% of all middle school students tried to commit suicide (see Figure 7).

Figure 7

Percentage of Students Who Tried to Commit Suicide



Over 12% of female students tried to commit suicide

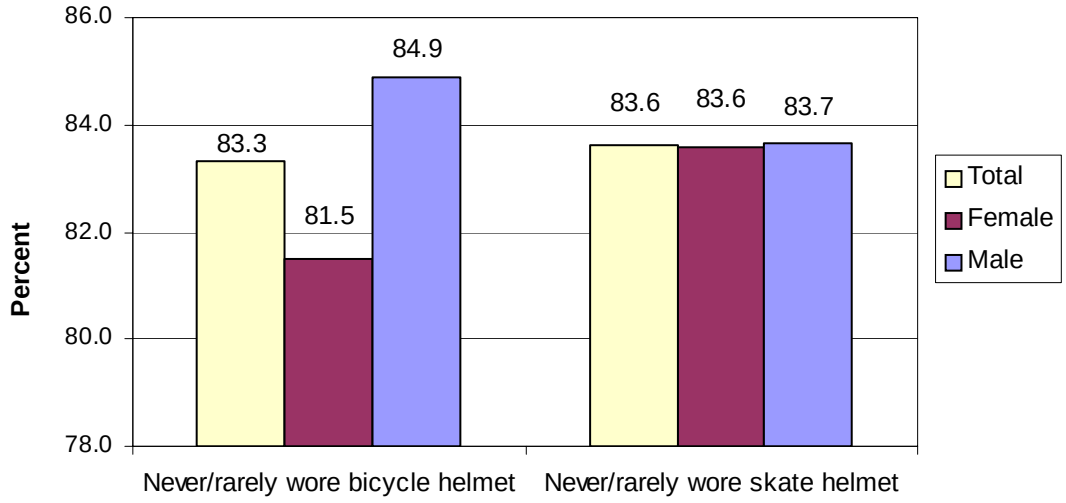
Source: Youth Risk Behavior Survey, Duval County, 2009
Data is statistically different between gender

Safety

Students did not always engage in safe habits while riding bikes or skating. Over 83% reported never or rarely wearing a bicycle helmet and 83.6% never or rarely wore a skate helmet. Females (18.5%) were more likely to wear a bicycle helmet than males (15.1%). The differences were not significant (see Figure 8).

Figure 8

Percentage of Students Who Never/Rarely Wear Helments When Bicycling or Skating



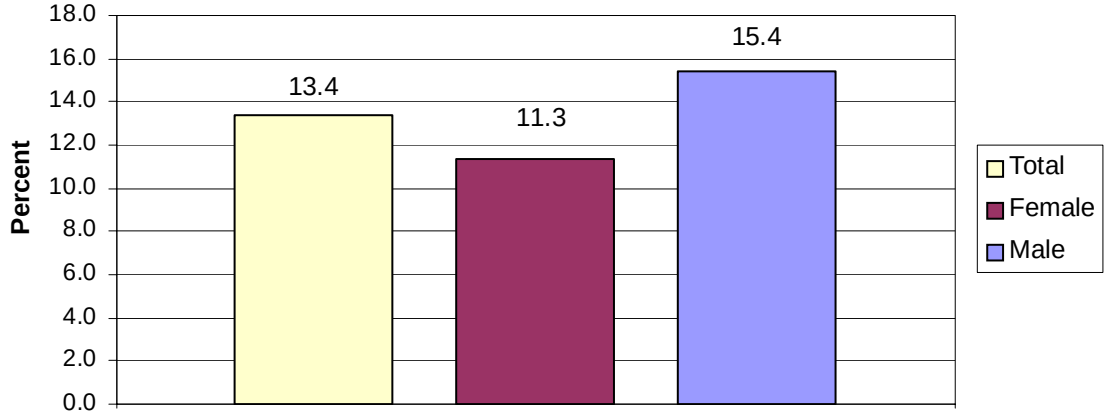
More than 80% of students never or rarely wore bicycle or skate helmets

Source: Youth Risk Behavior Survey, Duval County, 2009

Just over 15% of males never or rarely wore a seat belt, which was not statistically different than the percentage of females who exhibited the same behavior. Overall, thirteen percent of students never or rarely wore a seat belt when riding in a car (see Figure 9).

Figure 9

Percentage of Students Who Never/Rarely Wear a Seat Belt When Riding in a Car



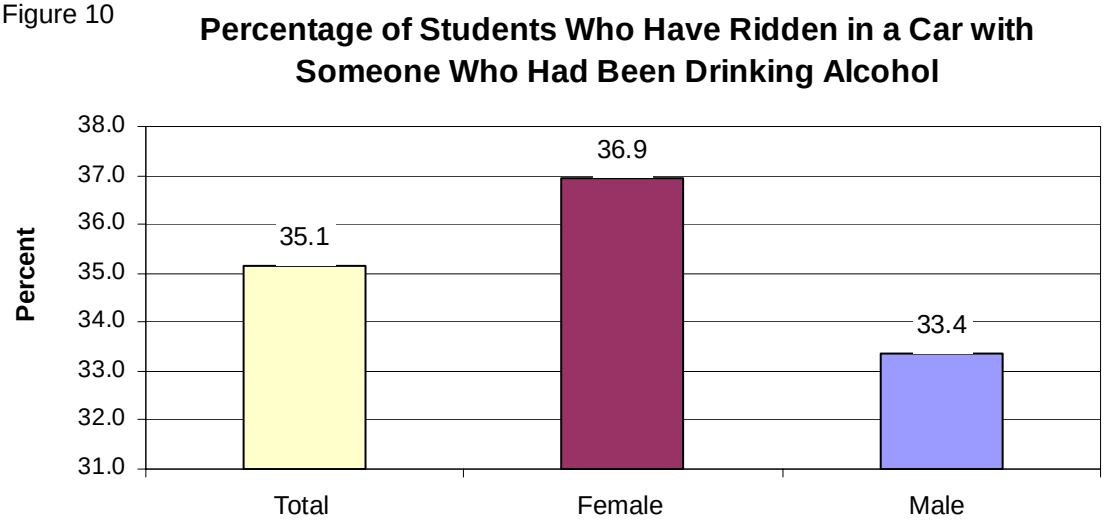
More males than females never or rarely wore a seat belt when riding in a car

Source: Youth Risk Behavior Survey, Duval County,

Safety

Thirty-five percent of middle school students have driven with someone who had been drinking alcohol. A higher percentage of females rode with a drinking driver than males although the difference was not statistically significant (see Figure 10).

Figure 10



Source: Youth Risk Behavior Survey, Duval County, 2009

Almost 37% of females have ridden in a car with a driver who has consumed alcohol

Summary

Overall, there are many areas of concern when it comes to the safety and prevention of violence among the middle school student population. The presence of these behaviors should be a blaring wake up call to the public health and education communities, as well as the community of Jacksonville at large. The early prevention of many of these behaviors from occurring is possible and methods and policies should be scrutinized for lapses in their attempts at prevention. One of the more notable results reported is over 20% of middle school students have thought about suicide and nearly 15% have made a suicide plan. As seen throughout this report, Duval County has a lot of ground between itself and the state of Florida for the presence of these risky behaviors among its youth.

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.

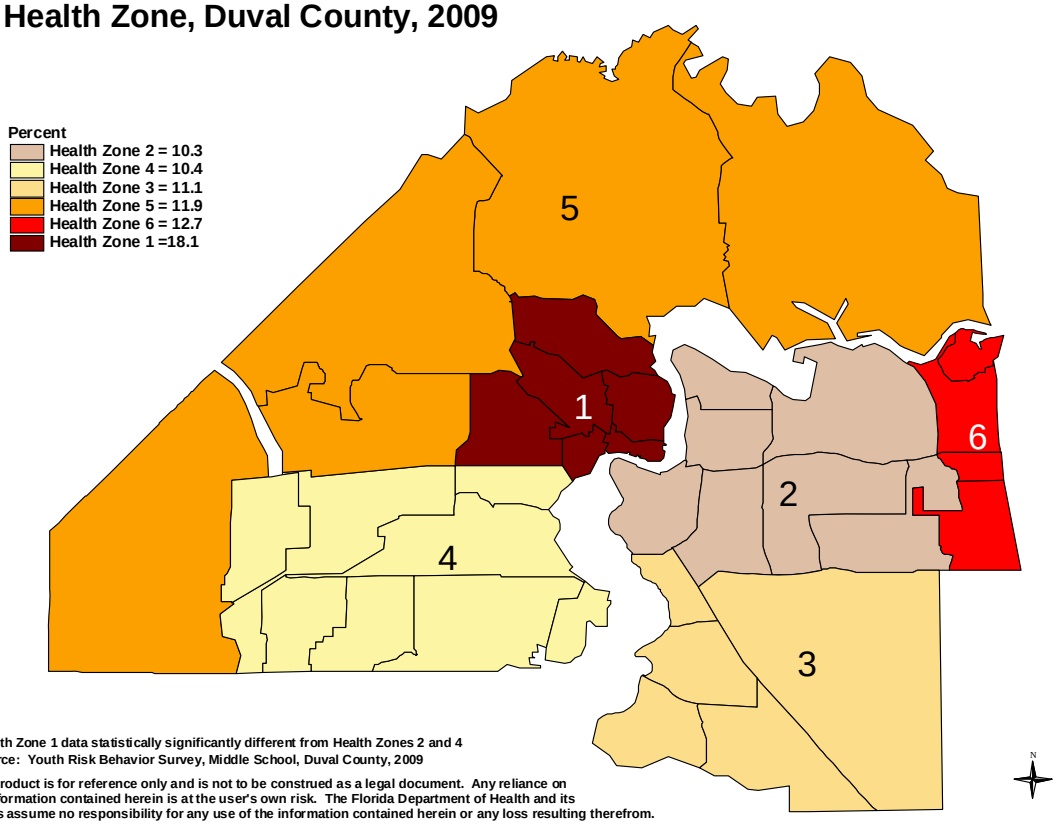
From the CDC, “Weighted results means that the survey got an overall response rate of at least 60%. Weighted results are representative of all students in grades 6 - 8 attending public schools in each jurisdiction. With weighted data, it is possible to say, for example, ‘X% of students in state Y never 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

[1]Healthy People 2010, Leading Health Indicators, http://www.healthypeople.gov/Document/HTML/uih/uih_4.htm
[2]Mandell, D.J., Hill, S.L, Carter, L., Brandon R.N. The impact of substance use and violence/delinquency on academic achievement for group of middle and high school students in Washington. Seattle, WA: Washington Kids County, Human Services Policy Center, Evans School of Public Affairs, University of Washington, 2002.
[3]http://www.cdc.gov/healthyyouth/adolescenthealth/index.htm
[4]Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. Improving the

Figure 11

Percentage of Middle School Students Who Never or Rarely Wear a Seatbelt by Health Zone, Duval County, 2009



* Health Zone 1 data statistically significantly different from Health Zones 2 and 4
Source: Youth Risk Behavior Survey, Middle School, Duval County, 2009

For more information, contact:
www.duvalschools.org/yrbs