

2013 Youth Risk Behavioral Survey Winston-Salem WSFC Middle School Students Highlights



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Introduction & Overview

The Youth Risk Behavior Survey System (YRBSS) was developed by the Centers for Disease Control and Prevention (CDC)/Division of Adolescent and School Health (DASH) to monitor six health risk behaviors. These health risk behaviors are unintentional injuries and violence, sexual behaviors, alcohol and other drug use, tobacco use, unhealthy dietary behaviors, and inadequate physical activity.

The Youth Risk Behavior Survey (YRBS) is one component of the YRBSS. It has been modified to reflect the health questions deemed pertinent to North Carolina middle school students. North Carolina Healthy Schools has conducted the survey state wide every two years. The results of the survey can assist government agencies, schools, community organizations and other stakeholders to identify the critical health needs of children and adolescents and develop programs to mitigate them.

Parents had the option to decline their child’s participation in the survey by returning the Passive Parental Consent Form that was sent home before the scheduled survey date. Students could choose not to participate or skip any question that they choose not to answer.

In 2013, the Winston-Salem/Forsyth County Schools (WSFCS) YRBS was administered in 19 public middle schools to 1,930 students of which 1,710 responded. After editing, 1,683 questionnaires were usable for analysis. Each questionnaire consisted of 74 questions. The response rate for schools was 100% and the response rate for students was 87%.

Demographic Characteristics	Number of Students in this Sub-group	Sampled Percentage
Gender		
Male	839	51.1
Female	838	48.9
Grade		
6th	572	33.4
7th	588	33.6
8th	507	32.6
Other	16	0.4
Race/Ethnicity		
Black Non-Hispanic	439	28.5
Hispanic/Latino	442	21.0
White Non-Hispanic	601	43.7
All other races	60	2.6
Multiple races	102	4.1

In general, recent trends in WSFC Middle Schools YRBS results suggest significant improvements in health behaviors such as *alcohol* and *tobacco use*. However, the results also suggest that significant behavioral changes are necessary in areas such as *carrying a weapon such as a gun, knife or club; hours spent playing video/computer games, and marijuana use*.

WSFC middle school students’ health behavioral trends are comparable to the State of North Carolina’s in most categories. However, they were better than the state’s in areas such as *ever carried a weapon such as a gun, knife, or club* and *ever been bullied on school property*.

The 2013 highlights provide a snapshot on WSFC youth health behaviors for the school year, 2012-2013. The brief multi-year analyses that are included are better assessors of WSFC youth health behavior. For more information, please contact Ayotunde Ademoyero, Director of Epidemiology, Forsyth County Department of Public Health at ademoyat@forsyth.cc

Alcohol, Tobacco & other Drug Use

Alcohol, tobacco and other drug use among children and adolescents have been associated with increased risk of injuries, violence, and other diseases.¹

The use of alcohol, tobacco and other drugs is associated with academic achievement. For example, analysis of the 2013 YRBS results showed that **2%** of middle school students who earned mostly A's, **6%** who earned mostly B's, **12%** who earned mostly C's, and **21%** who earned mostly D/F's *used marijuana in the past 30 days*.

Figure 1

Figure 1 shows that in 2013, about 1 in 10 (10%) WSFC middle school students reported that they *were offered, sold, or given an illegal drug on school property in the past 12 months*. Almost 1 in 12 (8%) reported *marijuana use in the past 30 days*, and about 1 in every 8 (13%) *drank alcohol in the past 30 days*. About 1 in 20 (5%) *smoked cigarettes on one or more of the past 30 days*.

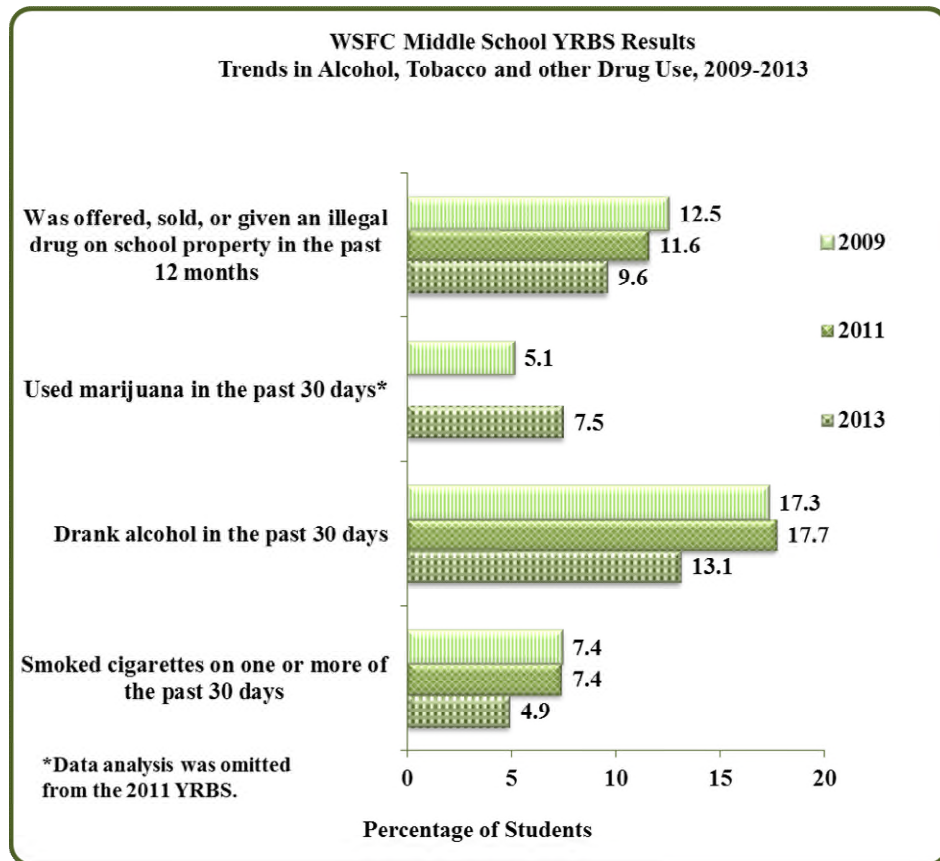


Figure 1 also compares the overall trend in the prevalence rates between 2009 and 2013 for WSFC middle school students. There was a 23% decrease in the prevalence rate among WSFC middle school students who *were offered, sold or given an illegal drug on school property in the past 30 days*. In contrast, the prevalence rate among middle school students for *marijuana use in the past 30 days* increased by 47%. There was a 24% decrease in the prevalence rate among middle school students who *drank alcohol in the past 30 days*. Similarly, the prevalence rate for having *smoked cigarettes in the past 30 days* decreased by 34% between 2009 and 2013.

Figure 2

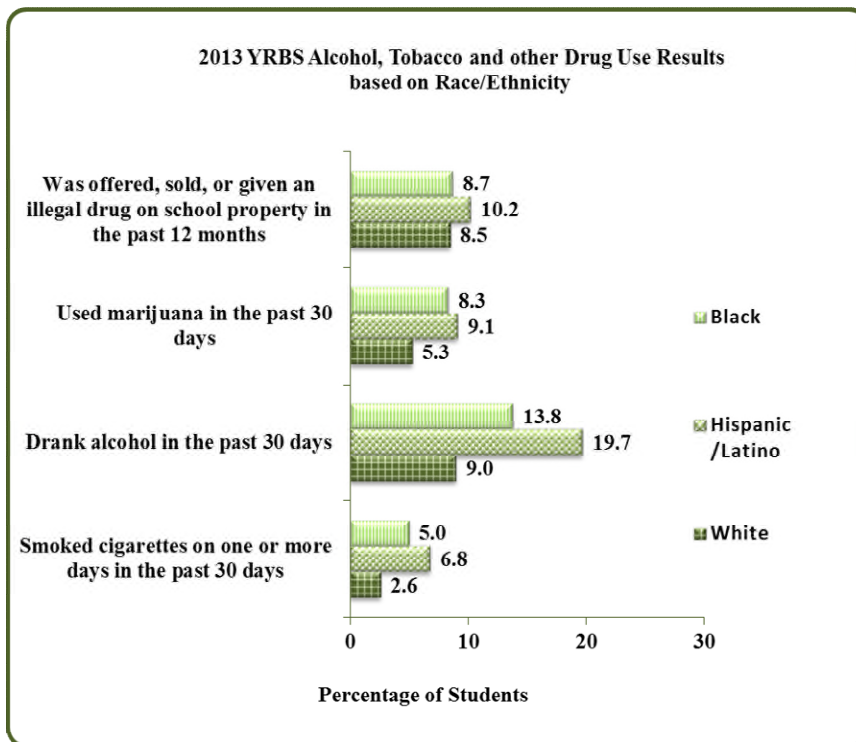
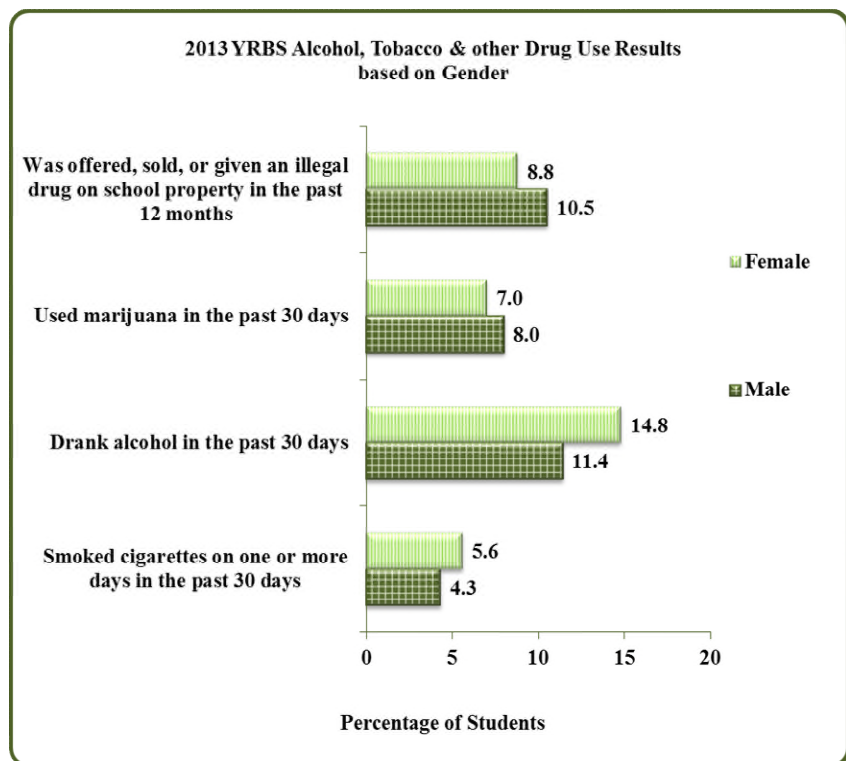


Figure 2 shows that Hispanic/Latino middle school students were more likely than Black or White middle school students to report that *they were offered, sold, or given an illegal drug on school property in the past 12 months*. White middle school students were significantly less likely than Black or Hispanic/Latino middle school students to have a) *used marijuana in the past 30 days*, and b) *drank alcohol in the past 30 days*. Hispanic/Latino and Black middle school students were almost two times more likely than White middle school students to report that they *smoked cigarettes in the past 30 days*.

Figure 3

Figure 3 shows that middle school males were more likely than middle school females to report that they were a) *offered, sold, or given an illegal drug on school property in the past 12 months*, and b) *had used marijuana in the past 30 days*.

Middle school females were significantly more likely than middle school males to report that they *drank alcohol in the past 30 days*. Middle school males were less likely than middle school females to have *smoked cigarettes in the past 30 days*.



Alcohol, Tobacco and other Drug Use, WSFC and North Carolina Middle Schools

Table 1*

Alcohol, Tobacco & other Drug Use	2013 WSFCS	2013 NC	2011 WSFCS	2011 NC	2009 WSFCS	2009 NC
Smoked cigarettes on one or more days during the past 30 days	5%	6 %	7%	8%	7%	8%
Drank alcohol during the past 30 days	13%	n/a	18%	30%	17%	n/a
Used marijuana during the past 30 days	8%	6%	n/a	6%	5%	5%
Offered, sold or given an illegal drug on school property during the past 12 months	10%	9%	12%	10 %	13%	9%

*1) In comparison to Figure 1, percentages will be off due to rounding, and 2) n/a = not available

Table 1 shows that between 2009 and 2013, the overall trend in alcohol, tobacco and other drug use among WSFC middle school students compared favorably to the state in some categories and not in others. For example, the overall trend in the prevalence rates for WSFC youths reported current behavior for *cigarette smoking* (↓29%), and *being offered, sold or given an illegal drug on school property during the past 12 months* (↓23%) compared favorably to those observed among North Carolina’s middle school students (↓25%, *unchanged, respectively*). In contrast, the overall trend in the prevalence rate for WSFC middle school students’ *marijuana use* (↑60%) compared unfavorably to North Carolina’s middle school students (↑20%).



Personal Safety

The YRBS includes a series of questions to measure the extent to which children and adolescents practice behaviors that could result in unintentional injuries. Unintentional injuries is one of the top four causes of death among children and adolescents in Forsyth County, NC. ²

Some personal safety risk behaviors that result in unintentional injuries are associated with academic achievement. For example, analysis of the 2013 YRBS results showed that about **52%** of middle school students who earned mostly A's, **71%** who earned mostly B's, **84%** who earned mostly C's, and **92%** who earned mostly D/F's *never or rarely wore a bicycle helmet when riding a bicycle*.

Figure 4

Figure 4 shows that in 2013, about 7 out of every 10 (71%) middle school students who rode bicycles reported that they *never or rarely wore a bicycle helmet*. Almost 1 in 5 (18%) middle school students reported that they *rode in a car driven by someone who had been drinking alcohol*. Almost 1 in every 14 (7%) reported that they *never or rarely wore a seat belt when riding in a car*.

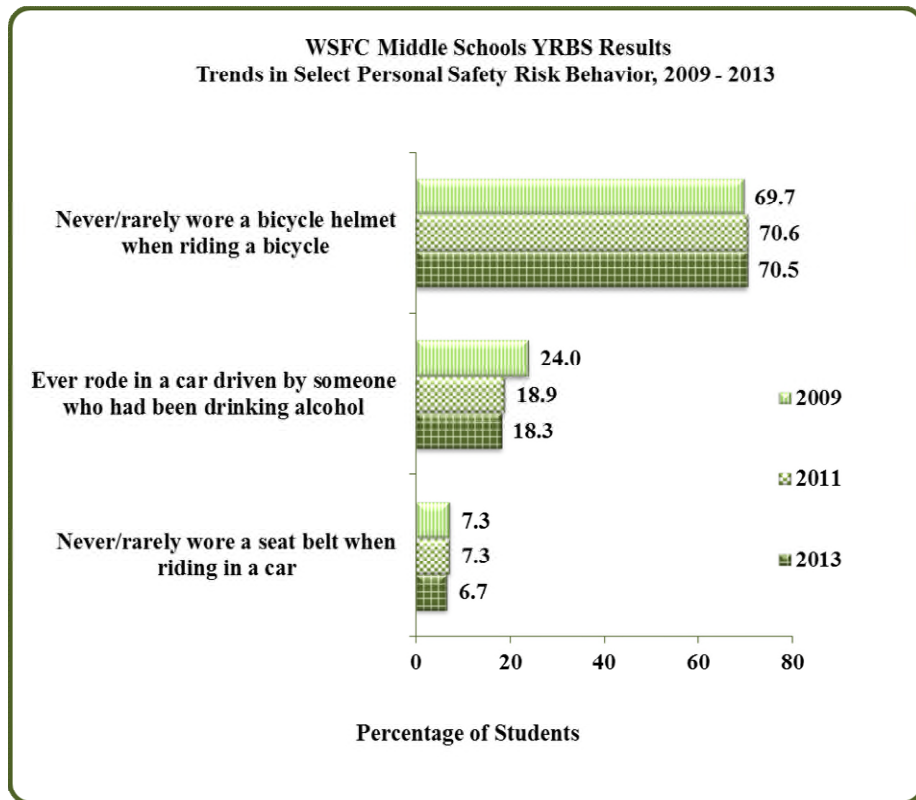


Figure 4 also compares the overall trend in the lifetime prevalence rates between

2009 and 2013 for WSFC middle school students. Between 2009 and 2013, the lifetime prevalence rate for middle



school students who rode bicycles and had *never or rarely worn a helmet when riding a bicycle* increased by 1%. There was a 24% decrease in the lifetime prevalence rate for middle school students who had *ever rode in a car driven by someone who had been drinking alcohol*. The lifetime prevalence rate for middle school students who had *never or rarely worn a seat belt when riding in a car* decreased by 8% from 2009 to 2013.

Figure 5

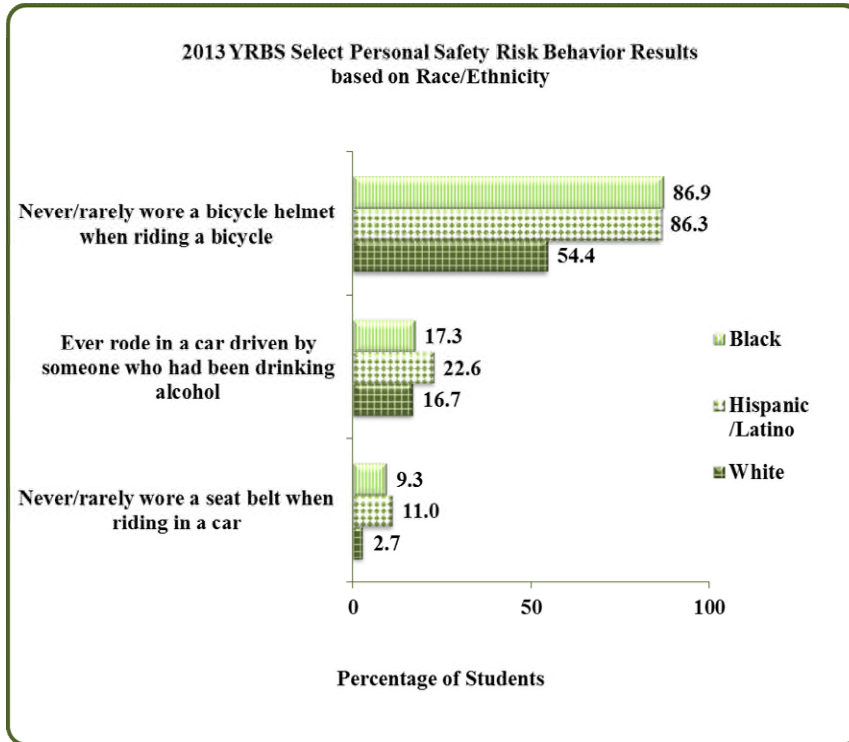


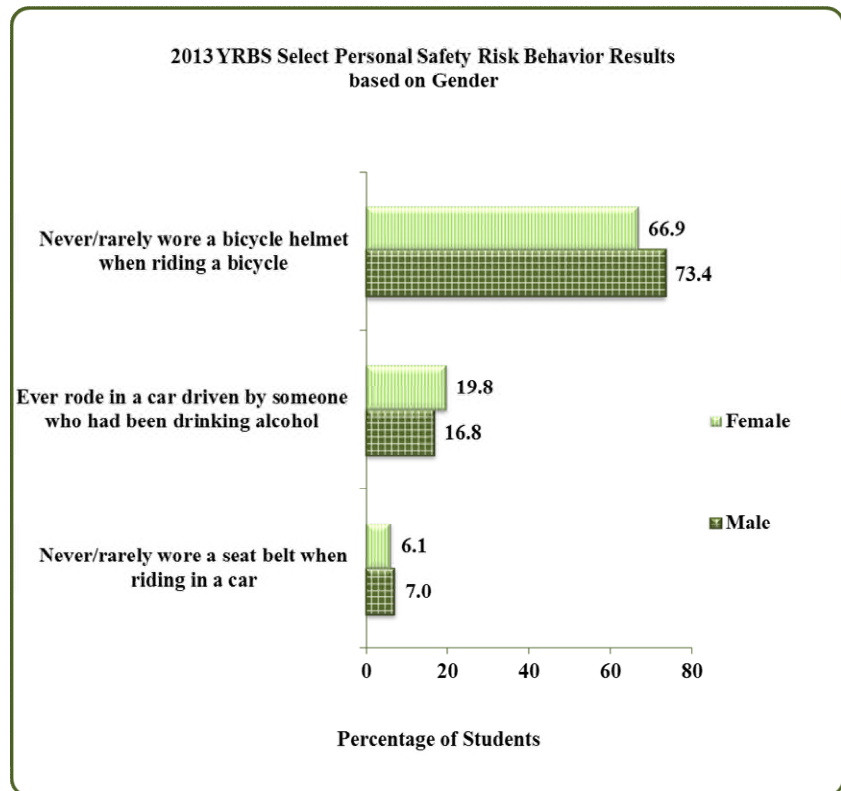
Figure 5 shows that Black and Hispanic/Latino middle school students were significantly more likely than White middle school students to report that they *never or rarely wore a bicycle helmet when riding a bicycle*. Black or White middle school students were significantly less likely than Hispanic/Latino middle school students to report that they *rode in a car driven by someone who had been drinking alcohol*. Hispanic/Latino and Black middle school students were about three times more likely than White middle school students to report that they had *never or rarely worn a seat belt when riding in a car*.

Figure 6

Figure 6 shows that middle school males were significantly more likely than middle school females to report that they had *never or rarely worn a bicycle helmet when riding a bicycle*.

Middle school females were significantly more likely than middle school males to report that they had *ridden in a car driven by someone who had been drinking alcohol*.

Middle school females were less likely than middle school males to report that they had *never or rarely worn a seat belt when riding in a car*.



Personal Safety Risk Behavior, WSFC and North Carolina Middle Schools

Table 2*

Personal Safety Risk Behavior	2013 WSFCS	2013 NC	2011 WSFCS	2011 NC	2009 WSFCS	2009 NC
Never/rarely wear a helmet when riding a bicycle	71%	73%	71%	77%	70%	76%
Rode in a car w/someone who had been drinking alcohol	18%	19%	19%	23%	24%	27%
Never/rarely wore a seat belt when riding in a car	7%	6%	7%	7%	7%	7%

***In comparison to Figure 4, percentages will be slightly off due to rounding**

Table 2 shows that between 2009 and 2013, the overall trend in personal safety risk behavior among WSFC middle school students compared unfavorably to the state’s in the three categories examined. For example, the overall trend in the prevalence rates for WSFC middle school students who *never or rarely wore a bicycle helmet in the past 12 months* (↑1%), *rode in a car driven by someone who had been drinking alcohol* (↓25%) and *never or rarely wore a seat belt when riding in a car* (unchanged) were not as strong as among North Carolina’s middle school students (↓4%, ↓30%, ↓14% respectively).



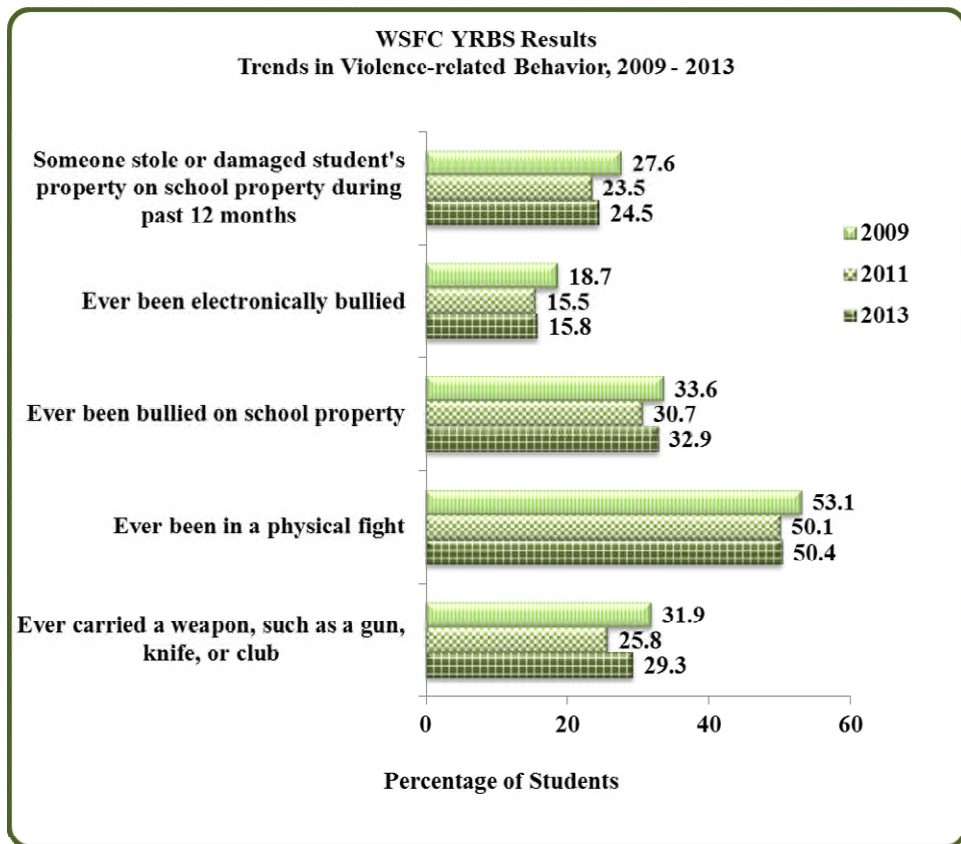
Violence-related Behaviors

Violence-related behaviors such as bullying, fighting or carrying weapons to school increase the risk of mortality and morbidity among children and adolescents.^{3,4,5}

Violence-related behaviors are associated with academic achievement. For example, analysis of the 2013 YRBS results showed that about **32%** of middle school students who earned mostly A's, **50%** who earned mostly B's, **69%** who earned mostly C's and **77%** who earned mostly D/F's were in a *physical fight at some point in their lives*.

Figure 7

Figure 7 shows that in 2013, about 1 in 4 (25%) WSFC middle school students reported that *someone stole or damaged their books or other personal items on school property in the past 12 months*. About 1 in 6 (16%) reported that they had been *electronically bullied at some point in their lives*. Almost 1 every 3 (33%) middle school students reported that they were *bullied on school property at some point in their lives*. About 1 in every 2 (50%) reported that they were in a

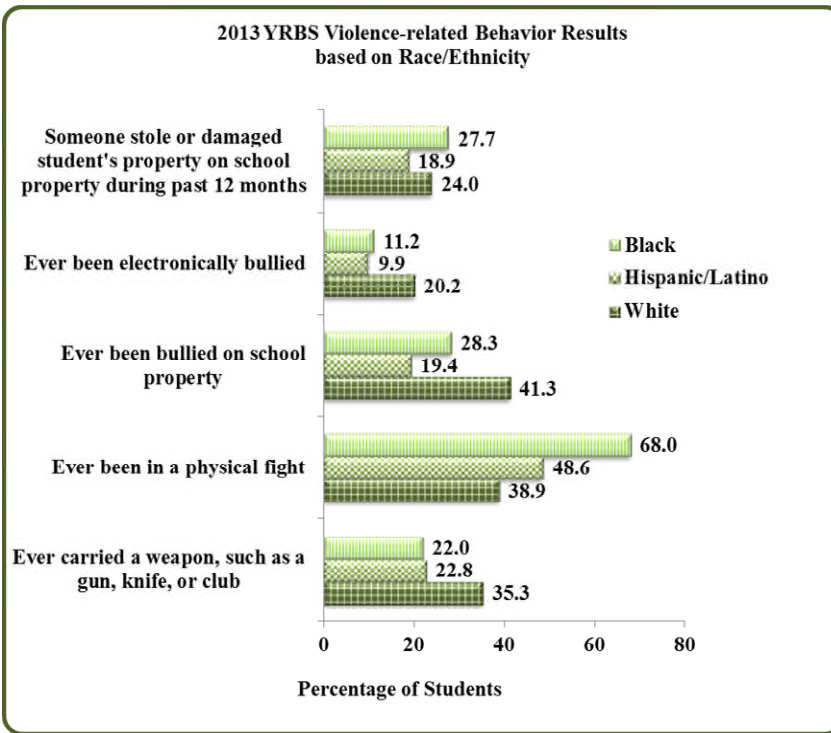


physical fight at some point in their lives. Almost 1 in every 3 (30%) middle school students reported that *at some point in their lives, they carried a weapon, such as a gun, knife or club*.

Figure 7 also compares the overall trend in the prevalence and lifetime prevalence rates between 2009 and 2013. There was an 11% decrease in the prevalence rate for *someone stealing or damaging other students books or other personal items on school property in the past 12 months*. Lifetime prevalence rate for *ever been bullied on school property* decreased by 2%. There was a 16% decrease in the lifetime prevalence rate for *ever been electronically bullied*. Similarly, the lifetime prevalence rate for *ever being in a physical fight* decreased by 5%. Lifetime prevalence rate for *ever carrying a weapon, such as a gun, knife, or club* decreased by 8% between 2009 and 2013.

Figure 8 shows that in 2013, Hispanic/Latino middle school students were less likely than Black or White middle schools to report that their *personal items were stolen or damaged on school property in the past 12 months*. White

Figure 8

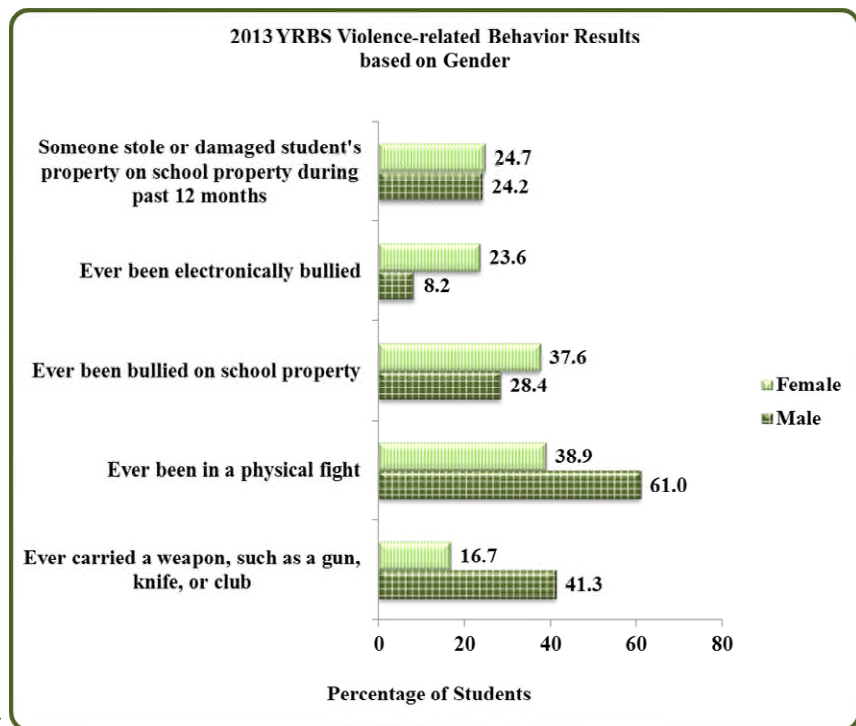


middle school students were almost 2 times more likely than Black or Hispanic/Latino middle school students to have *ever been electronically bullied*. White middle school students were significantly more likely than Black or Hispanic/Latino middle school students to report *being bullied on school property at some point in their lives*. White middle school students were significantly less likely than Black or Hispanic/Latino middle school students to report *being in a physical fight at some point in their lives*. Black or Hispanic/Latino middle school students were significantly less likely than White middle school students to report *carrying a*

weapon, such as a gun, knife, or club, at some time in their lives.

Figure 9

Figure 9 shows that middle school females were 3 times more likely than middle school males to be *electronically bullied at some point in their lives*. Middle school males were significantly less likely than middle school females to be *bullied on school property at some point in their lives*. Middle school males were significantly more likely than middle school females to have *been in a physical fight at some point in their lives*. Middle school females were more than two times less likely than middle school males to have *ever carried a weapon, such as a gun, knife or club at some point in their lives*.



Violence-related Behavior, WSFC and North Carolina Middle Schools

Table 3*

Violence-related Behavior	2013 WSFCS	2013 NC	2011 WSFCS	2011 NC	2009 WSFCS	2009 NC
Ever carried a weapon, such as a gun, knife or club	29%	35%	26%	34%	32%	39%
Ever been in a physical fight	50%	51%	50%	55%	53%	53%
Ever been bullied on school property	33%	43%	31%	42%	34%	42%
Ever been electronically bullied	16%	19%	16%	21%	19%	21%
Books or clothing stolen/damaged on school property in past 12 months	25%	22%	24%	27%	28%	28%

*In comparison to Figure 7, percentages will be off due to rounding

Table 3 shows that between 2009 and 2013, the overall trend in violence-related behaviors among WSFC middle school students compared unfavorably to the state’s in some categories but did in others. For example, the overall trend in the prevalence rates for WSFC middle school students who *ever carried a weapon, such as a gun, knife or club* (↓9), and whose books or clothes were stolen/damaged on school property in past 12 months (↓11%) compared unfavorably to North Carolina middle school students’ (↓10%, ↓21%, respectively). In contrast, the overall trend in the prevalence rates for WSFC middle school students who had *ever been in a physical fight* (↓6%), *ever been bullied on school property* (↓3%), and *ever been electronically bullied* (↓16%) compared favorably to the state’s (↓4%, ↑2%, and ↓10%, respectively).



Psychological Health

Early intervention to improve psychological health is critical to positive health outcomes such as a reduction in the prevalence of suicides.⁶ In the North Carolina, suicide was the 7th leading cause of death for residents age 19 and under between 2008 and 2012.² In Forsyth County, for this same period, it was the 6th leading cause of death for residents age 19 and under.²

Psychological health is associated with academic achievement. For example, analysis of the 2013 YRBS results showed that about **18%** of middle school students who earned mostly A's, **20%** who earned mostly B's, **27%** who earned mostly C's, and **34%** who earned mostly D/F's *felt sad or hopeless almost every day for two weeks or more in a row during the past 12 months which stopped them from doing some of their usual activities.*

Figure 10

Figure 10 shows that in 2013, about 1 in 5 (22%) WSFC middle school students *felt sad or hopeless continuously for two weeks or more in a row during the past 12 months*. About 1 in every 5 (20%) reported that they seriously considered attempting suicide at some point in their lives. Almost 1 in 7 (14%) middle school students reported *ever making a suicide plan at some point in their lives* and about 1 in 10 (11%) reported that they had *attempted suicide at some point in their lives*.

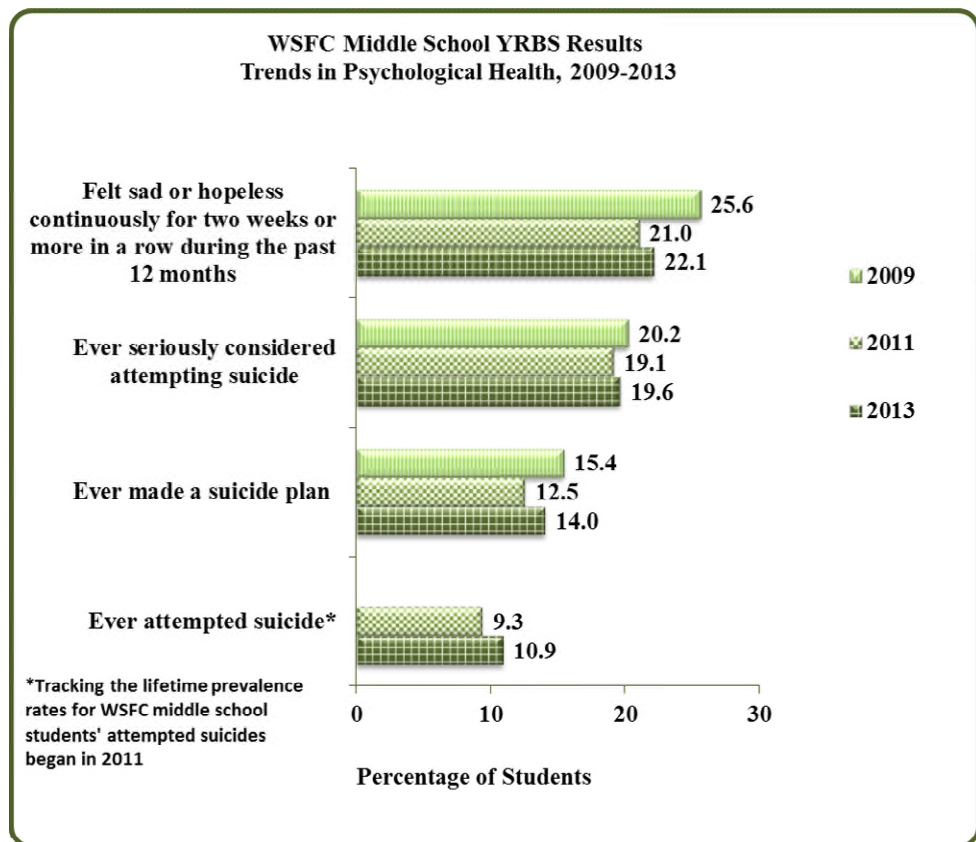


Figure 10 also shows the overall trend in the prevalence and lifetime prevalence rates for 2009 to 2013. There was a 14% decrease in the prevalence rate for WSFC middle school students who *felt sad or hopeless continuously for two weeks or more during the past 12 months*. The lifetime prevalence rate for middle school students who *ever seriously considered attempting suicide* decreased by 3% between 2009 and 2013. There was a decrease of 9% in the lifetime prevalence rate for middle school students who *ever made a suicide plan*. The lifetime prevalence rate for middle school students who *ever attempted suicide* increased by 17% from 2009 to 2013.

Figure 11

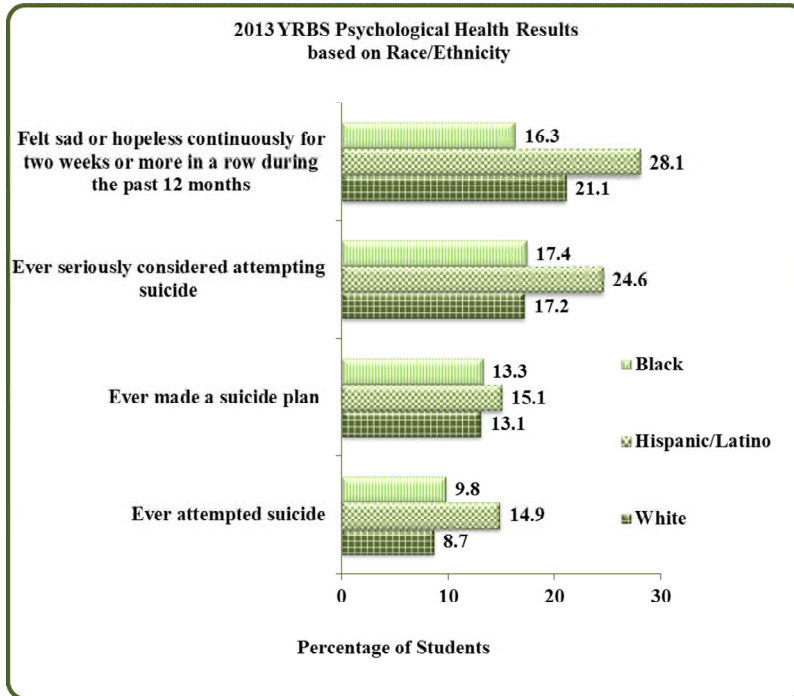
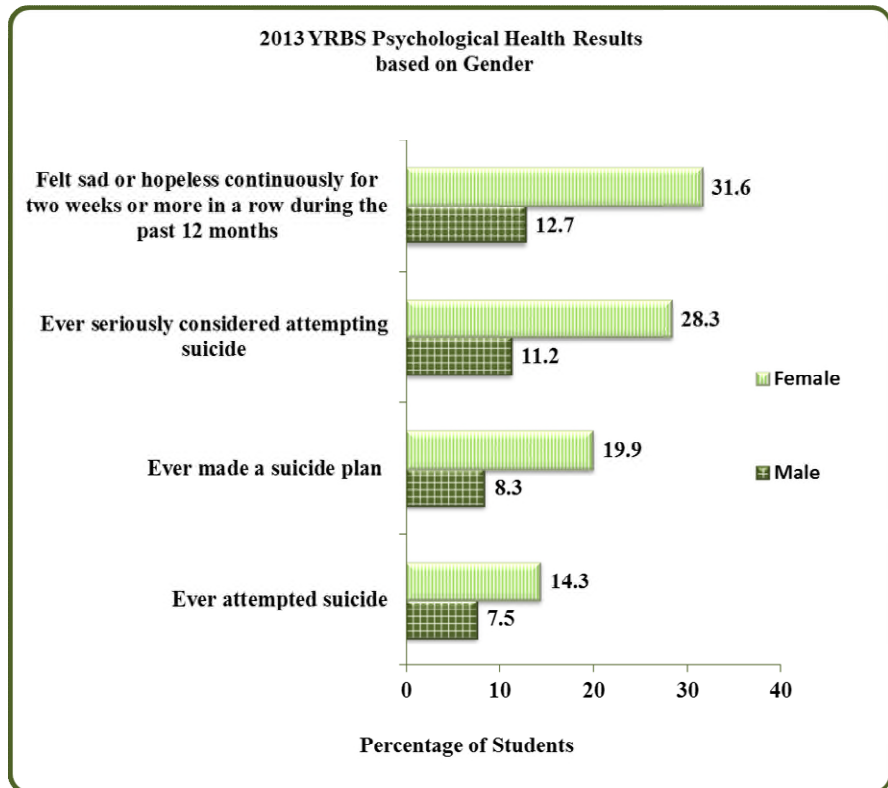


Figure 11 shows that Black middle school students were significantly less likely than Hispanic/Latino or White middle school students to have *felt sad or hopeless continuously for two weeks or more in the past 12 months*. Hispanic/Latino middle school students were significantly more likely than Black or White middle school students to have *ever seriously considered attempting suicide at some point in their lives*. Black or White middle school students were less likely than Hispanic/Latino middle school students to have *made a suicide plan at some point in their lives*. Hispanic/Latino middle school students were significantly more likely than Black or White middle school students to have

attempted suicide at some point in their lives.

Figure 12

Figure 12 shows that at about 2 times the rate of middle school males, middle school females were significantly more likely to report a) *feeling sad or hopeless continuously for two weeks or more in the past 12 months*, b) *seriously considered attempting suicide at some point in their lives*, c) *made a suicide plan at some point in their lives*, and d) *attempted suicide at some point in their lives*.



Psychological Health, WSFC and North Carolina Middle Schools

Table 4*

Psychological Health	2013 WSFCS	2013 NC	2011 WSFCS	2011 NC	2009 WSFCS	2009 NC
Felt sad or hopeless for two weeks or more during the past 12 months	22%	23%	21%	24%	26%	23%
Ever seriously thought about committing suicide	20%	19%	19%	21%	20%	19%
Ever made a suicide plan	14%	14%	13%	13%	15%	13%
Ever attempted suicide	11%	11%	9%	10%	n/a	n/a

*1)In comparison to Figure 10, percentages will be off due to rounding, and 2) n/a = not available

Table 4 shows that between 2009 and 2013, the overall trend in psychological health-related behaviors among WSFC middle school students compared favorably to the state in some categories but not in others. For example, the overall trend in the prevalence rates for WSFC middle school students who *felt sad or hopeless for two weeks or more during the past 12 months* (↓15%), and who *ever made a suicide plan* (↓7%) compared favorably to the state (*unchanged, ↑8%, respectively*). In contrast, the overall trend in the prevalence rate for WSFC middle school students who *attempted suicide during the past 12 months* (↑22%) compared unfavorably to North Carolina middle school students (↑10%). There was no difference in the overall trend in the prevalence rate between WSFC and North Carolina middle school students who had *seriously thought about committing suicide*.



Health Education

Health education is critical for children and adolescent development because it reduces the risk of unwanted pregnancies, contracting sexually transmitted diseases (STDs), and other health problems.⁷

Sexual behavior is associated with academic achievement. For example, analysis of the 2013 YRBS results showed that about **73%** of middle school students who earned mostly A's, **69%** who earned mostly B's, **66%** who earned mostly C's, and **61%** who earned mostly D/F's reported that they *had been taught about abstaining from sexual activity at some point in their lives*.

Figure 13

Figure 13 shows that in 2013, about 1 in every 2 (46%) WSFC middle school students reported that they were *taught about chlamydia, gonorrhea, syphilis, human papillomavirus or genital warts* at some point in their lives. About 4 out of every 5 (78%) middle school students reported that they were *taught about AIDS or HIV infection in school* at some point in their lives, and about 2 out of 3 (67%) reported that they were *taught to abstain from sexual activity* at some point in their lives.

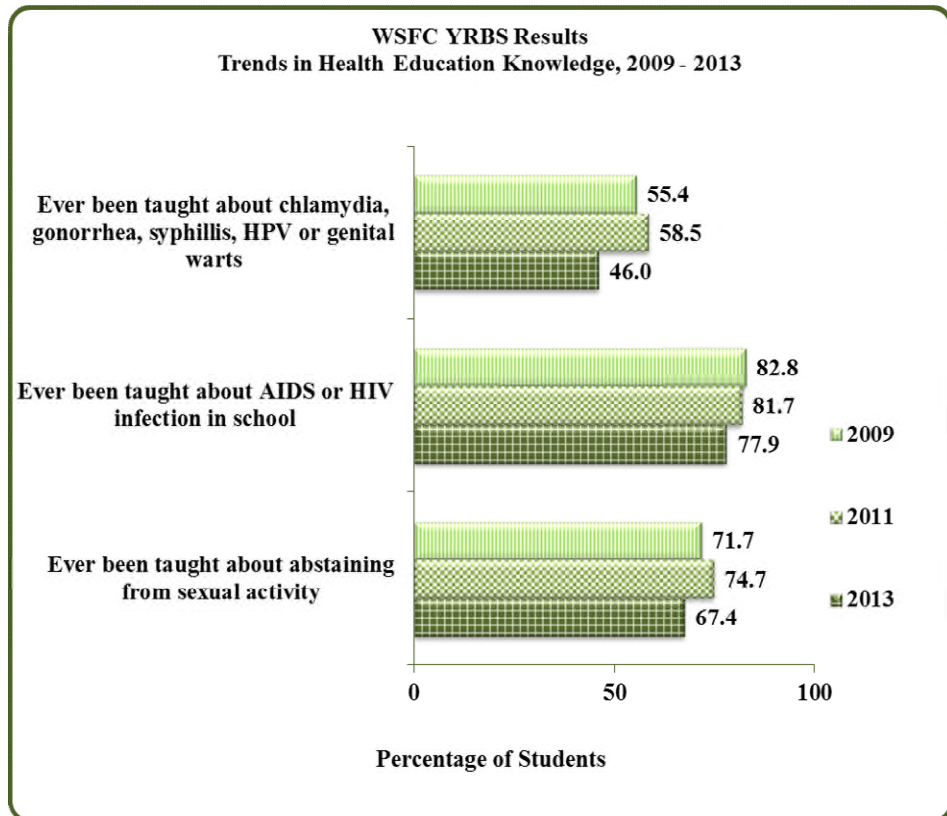


Figure 13 also shows the overall trend in the lifetime prevalence rates for 2009 to 2013. Between 2009 and 2013, there was a decrease of 17% in the lifetime prevalence rate among WSFC middle school students who were *taught about chlamydia, gonorrhea, syphilis, human papillomavirus or genital warts*. The lifetime prevalence rate for being *taught about AIDS or HIV infection in school* at some point in their lives decreased by 6% between 2009 and 2013. The lifetime prevalence rate among WSFC middle school students who were *taught to abstain from sexual activity* decreased by 6% from 2009 to 2013.

Figure 14

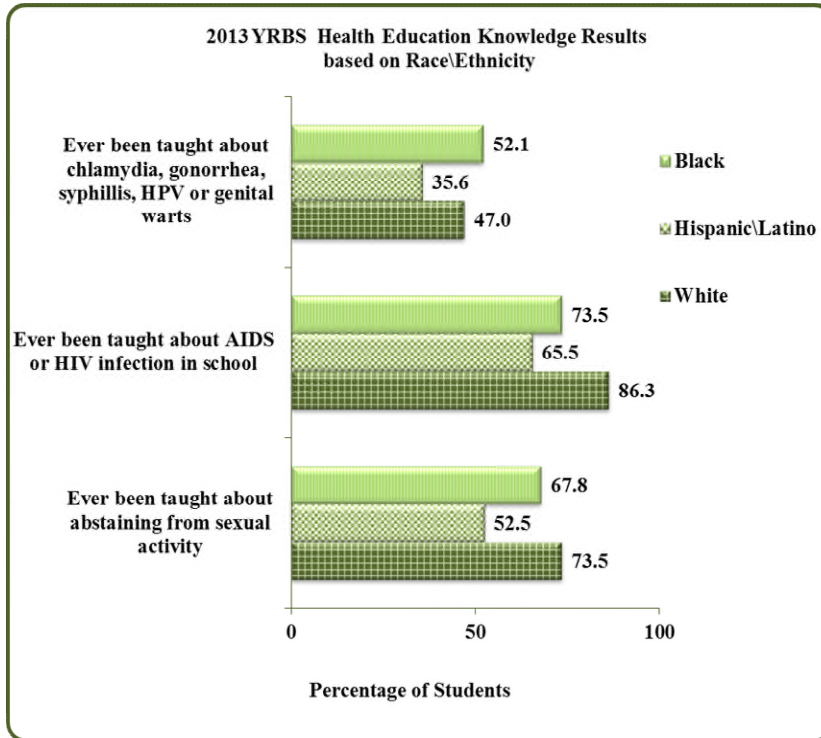
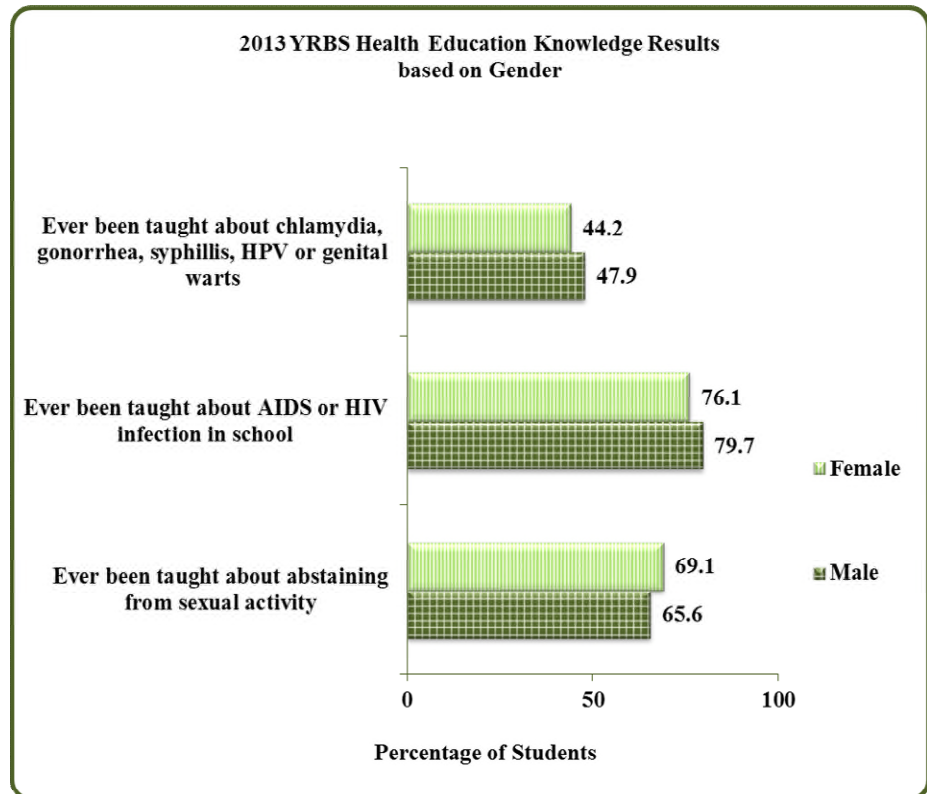


Figure 14 shows that Hispanic./ Latino middle school students were significantly less likely than Black or White middle school students to report that they were *ever taught about chlamydia, gonorrhea, syphilis, and HPV*, b) *ever taught about AIDS or HIV infection in school at some point in their lives*, and c) *ever taught about abstaining from sexual activity at some point in their lives*.

Figure 15

Figure 15 shows that middle school males were more likely than middle school females to report that they were a) *taught about chlamydia, gonorrhea, syphilis at some point in their lives*, and b) *about AIDS or HIV infection in school at some point in their lives*.

Middle school males were less likely than middle school females to report that they were *taught about abstaining from sexual activity at some point in their lives*.



Health Education, WSFC and North Carolina Middle Schools

Table 5*

Health Education	2013 WSFCS	2013 NC	2011 WSFCS	2011 NC	2009 WSFCS	2009 NC
Ever taught about abstaining from sexual activity	67	60	75	62	72	66
Ever taught about AIDS or HIV	78	67	82	62	83	69
Ever taught about chlamydia, gonorrhea, syphilis, etc.	46	40	59	41	55	49

*In comparison to Figure 13, percentages will be slightly off due to rounding

Table 5 shows that between 2009 and 2013, the overall declining trend in the prevalence rate of health education knowledge among middle school students were similar for WSFC and North Carolina for each category examined. For example, the overall trend in the prevalence rates for WSFC middle school students who were *ever taught about abstaining from sexual activity* (↓7%), *ever taught about AIDS or HIV* (↓6%), and *ever taught about chlamydia, gonorrhea, syphilis, etc.* (↓16%) were similar to those observed among North Carolina middle school students (↓10%, ↓3%, and ↓18%, respectively).



Weight Management

Healthy weight management strategies are critical to the prevention of overweight and obesity.⁸ Overweight and obesity have been linked to poor health outcomes such as diabetes and cardiovascular diseases in children and adolescents.⁸ Healthy weight management strategies includes consuming fewer calories and adequate physical exercise.^{9, 10} Unhealthy weight management strategies such as vomiting or taking laxatives may lead to bulimia, anorexia, and other diseases.^{9, 10}

Among WSFC middle school students, some weight management strategies were found to be associated with academic achievement. For example, analysis of the 2013 YRBS results showed that about **11%** of middle school students who earned mostly A's, **15%** who earned mostly B's, **20%** who earned mostly C's, and **23%** who earned mostly D/F's had gone without eating for 24 or more hours to lose or keep from gaining weight at some point in their lives.

Figure 16

Figure 16 shows that in 2013, about 1 in 4 (25%) middle school students described themselves as slightly or very overweight. About 1 in every 2 (46%) reported that they were trying to lose weight. About 7 out of every 10 (69%) middle school students reported that they had exercised to lose weight or keep from gaining weight at some point in their lives. Almost 1 in 2 (46%) reported that they had eaten less food, fewer calories, or foods low in fat to lose or keep from gaining weight at some point in their lives, and about 1 in 6 (16%) reported that they had gone without eating for 24 or more hours to lose weight or keep from gaining weight at some point in their lives.

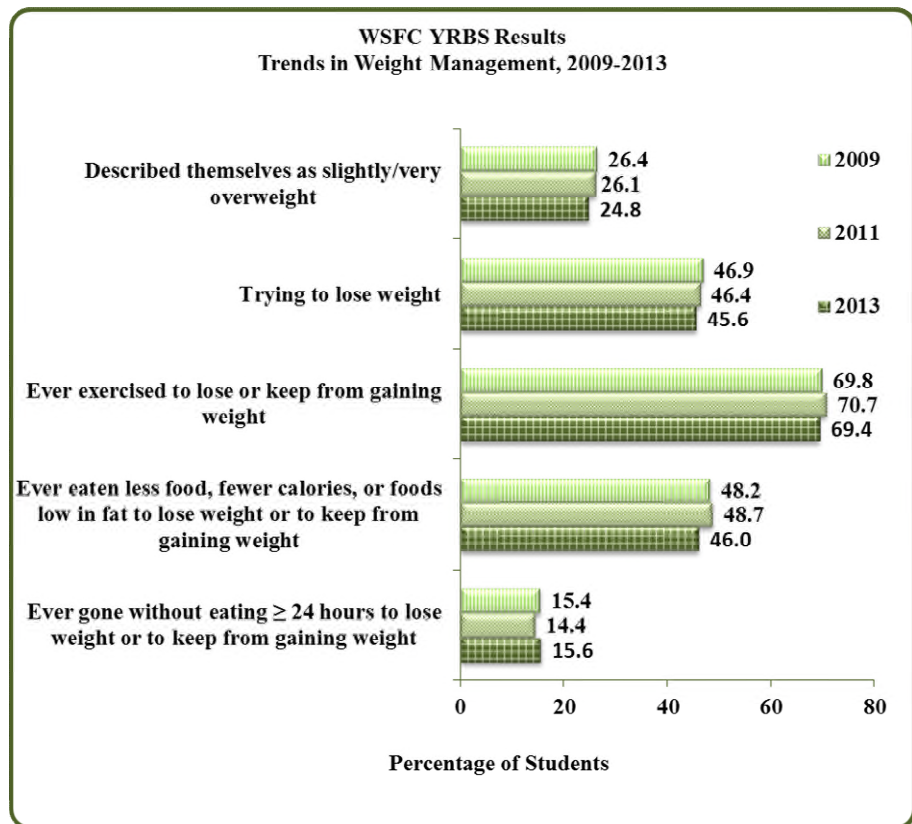


Figure 16 also shows the overall trend in the prevalence and lifetime prevalence rates for 2009 to 2013. There was a 6% decrease in the prevalence rate for WSFC middle school students who described themselves as slightly or very overweight, and a 3% decrease in those who were trying to lose weight. The lifetime prevalence rate for those who exercised to lose or keep from gaining weight at some point in their lives remained relatively unchanged between 2009 and 2013. The lifetime prevalence rate for those who ate less food, fewer calories, or foods low in fat to lose or keep from gaining weight at some point in their lives decreased by 6% between 2009 and 2013. There was a small increase of 1% in the lifetime prevalence rate among middle school students who went without eating for 24 or more hours to lose or keep from gaining weight at some point in their lives.

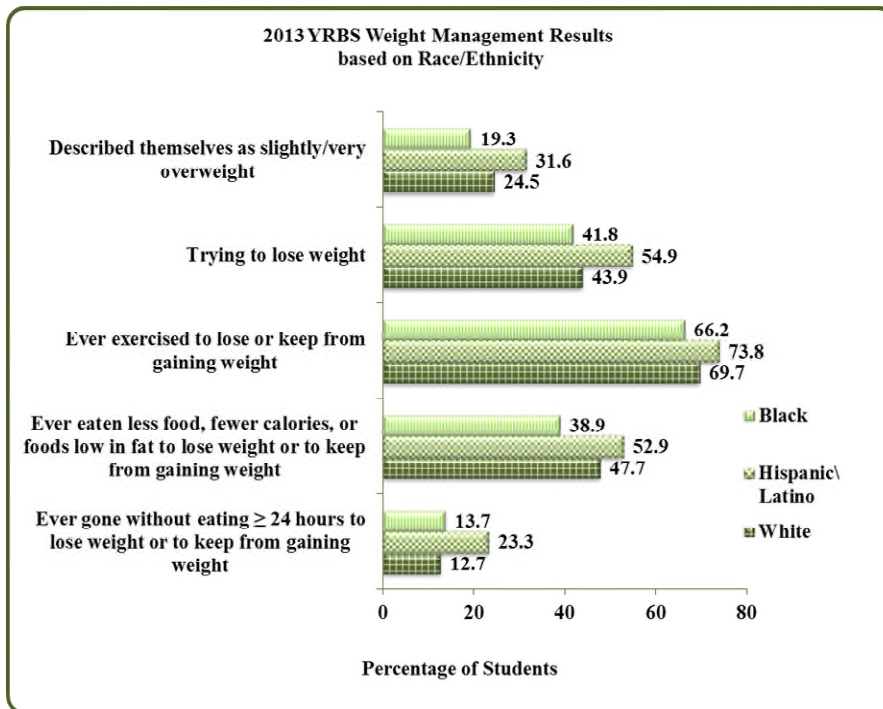


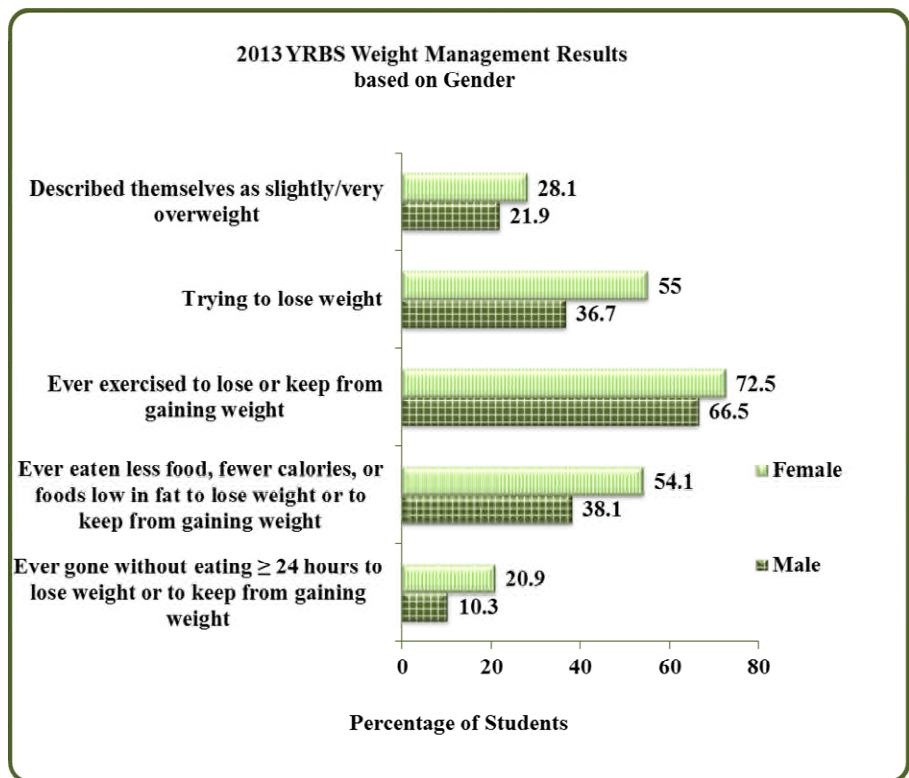
Figure 17

Figure 17 shows that Hispanic/Latino middle school students were significantly more likely than Black or White middle school students a) to describe themselves as slightly/very overweight, and b) are trying to lose weight. Black or White middle school students were less likely than Hispanic/Latino middle school students to report that they exercise to lose or keep from gaining weight. Black middle school students were significantly less likely than Hispanic/Latino or White middle school students to ever eat less food, fewer calories, or foods low in fat, to lose or keep from gaining weight. Hispanic/Latino middle school students were significantly more likely than Black or White middle school students to have gone without food for 24 hours or more to lose or keep from gaining weight.

Black middle school students were significantly less likely than Hispanic/Latino or White middle school students to ever eat less food, fewer calories, or foods low in fat to lose or keep from gaining weight. Hispanic/Latino middle school students were significantly more likely than Black or White middle school students to have gone without food for 24 hours or more to lose or keep from gaining weight.

Figure 18

Figure 18 shows that middle school males were significantly less likely than middle school females to report that they were slightly or very overweight, and that they were trying to lose weight. Middle school females were much more likely than middle school males to report that at some point in their lives, they a) exercised to lose or keep from gaining weight, b) had eaten less food, fewer calories or foods low in fat to lose or keep from gaining weight, and c) had gone without food for 24 or more hours to lose or keep from gaining weight.



Weight Management, WSFC & North Carolina Middle Schools, 2009—2013

Table 6*

Weight Management	2013 WSFCS	2013 NC	2011 WSFCS	2011 NC	2009 WSFCS	2009 NC
Described themselves as slightly overweight or very overweight	25%	26%	26%	25%	26%	26%
Trying to lose weight	46%	44%	46%	43%	47%	46%
Ever exercised to lose weight or keep from gaining weight	69%	70%	71%	68%	70%	71%
Ever eaten less food, fewer calories, or foods low in fat to keep from gaining weight	46%	45%	49%	46%	43%	46%
Ever gone without food for 24 hours or more to lose weight or keep from gaining weight	16%	17%	14%	15%	15%	15%

*In comparison to Figure 16, percentages will be off due to rounding

Table 6 shows that between 2009 and 2013, the overall trend in weight management strategies among WSFC middle school students were different from those observed among North Carolina’s middle school students most of the examined categories. For example, the overall trend in the prevalence rate of WSFC middle school students who had *ever eaten less food, fewer calories, or foods low in fat to lose weight or keep from gaining weight* (↑7%), and who *had gone without food for 24 or more hours to lose weight or keep from gaining weight* (unhealthy weight management strategy) (↑7%) were more favorable than the state’s (↓2%, ↑13%, respectively). The overall trend in the prevalence rate for WSFC middle school students who *ever exercised to lose or keep from gaining weight* (↓1%) was similar to the North Carolina’s (↓1%).



Physical Activity

Regular physical activity is recommended in childhood and adolescence because it helps to improve short and long-term health outcomes that are associated with body weight and self-esteem.¹¹ It is recommended that children and adolescents participate in 60 minutes or more of physical activity each day to maintain good health.¹¹

Physical activity measures/sedentary lifestyle is associated with academic achievement. For example, analysis of the 2013 YRBS results showed that about **64%** of middle school students who earned mostly A's, **62%** who earned mostly B's, **51%** who earned mostly C's and **42%** who earned mostly D/F's were *physically active for 60 or minutes on 5 or more of the past 7 days*. In contrast, about **29%** of middle school students who earned mostly A's, **42%** who earned mostly B's, **49%** who earned mostly C's and **55%** who earned mostly D/F's had *played video/computer games for 3 or more hours on an average school day*.

Figure 19

Figure 19 shows that in 2013, almost 3 out of every 5 WSFC middle school students participated in a) *physical activity that lasted for 60 or more minutes per day for 5 or more of the past 7 days* (59%), and b) *played on one or more sports teams during the past 12 months* (58%). About 2 out of 5 middle school students reported that they a) *watched television 3 or more hours per day on an average school day* (39%), and b) *played video or computer games for 3 or more hours on an average school day* (40%).

Almost 1 in 5 (20%), *walked or rode their bike to school on one or more days per week*.

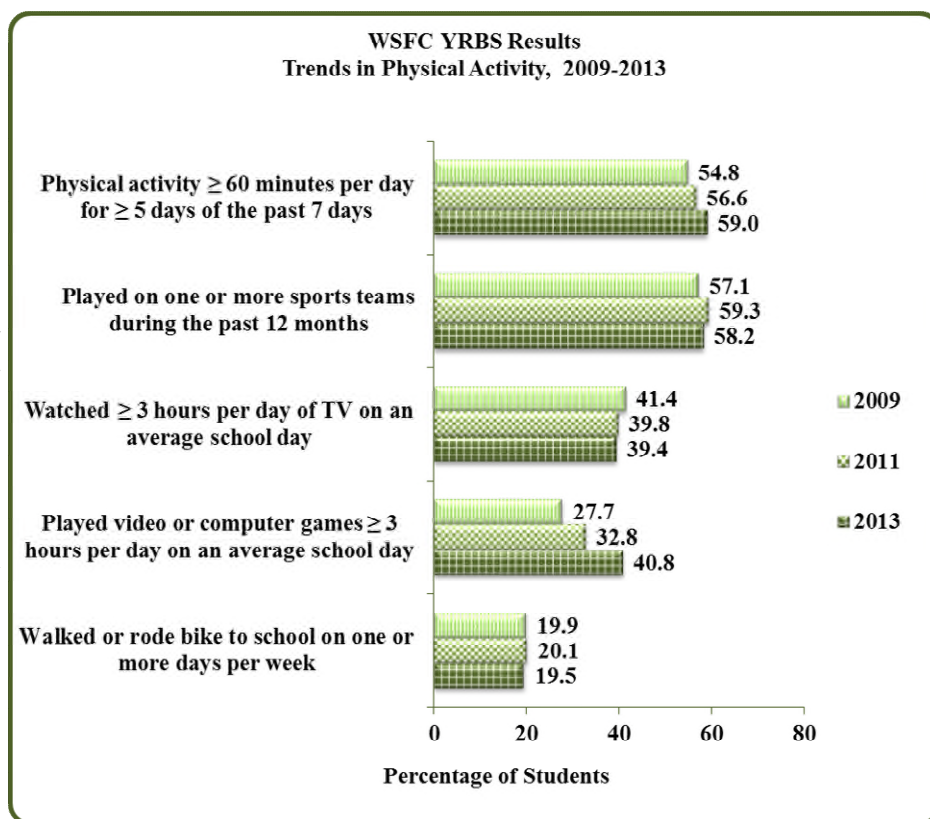
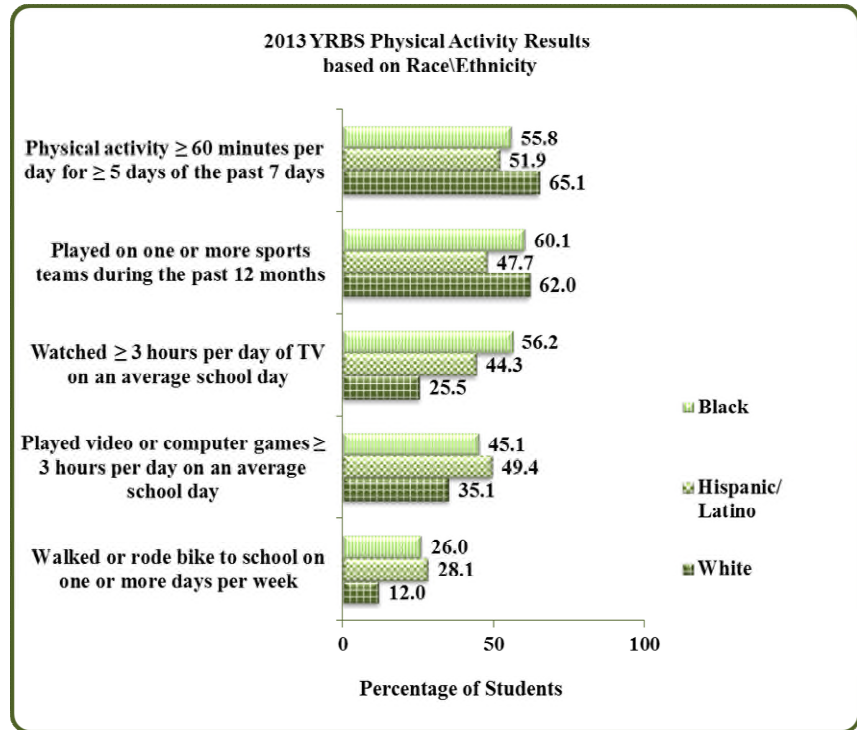


Figure 19 also shows the overall trend in the prevalence rates from 2009 to 2013. There was an 8% increase in the prevalence rate among WSFC middle school students who participated in *physical activity that lasted at least 60 minutes per day for 5 or more of the past 7 days*. The prevalence rate for WSFC middle school students who *played on one or more sports team during the past 12 months* increased by 2% between 2009 and 2013. There was a decrease of 5% in the prevalence rate of middle school students who *watched television for 3 or more hours per day on an average school day*. The prevalence rate for middle school students who *played video games or computer games for 3 hours or more on an average school day* increased by 47% between 2009 and 2013. The prevalence rate for *walking or riding to school on one or more days* decreased by 2% from 2009 to 2013.

Figure 20

Figure 20 shows that White middle school students were significantly more likely than Black or Hispanic/Latino middle school students to be engaged in *physical activity that lasted 60 minutes or more for 5 or more of the past 7 days*. Hispanic/Latino middle school students were significantly less likely than White or Black middle school students to *play on one or more sports teams during the past 12 months*. White middle school students were significantly less likely than Black or Hispanic/Latino middle school students a) to have *watched television for 3 or more hours per day on an average school day*, and



b) to have *played video or computer games 3 or more hours per day on an average school day*. Black and Hispanic/Latino middle school students were about two times more likely than White middle school students to *walk or ride their bikes to school*.

2013 YRBS Physical Activity Results based on Gender

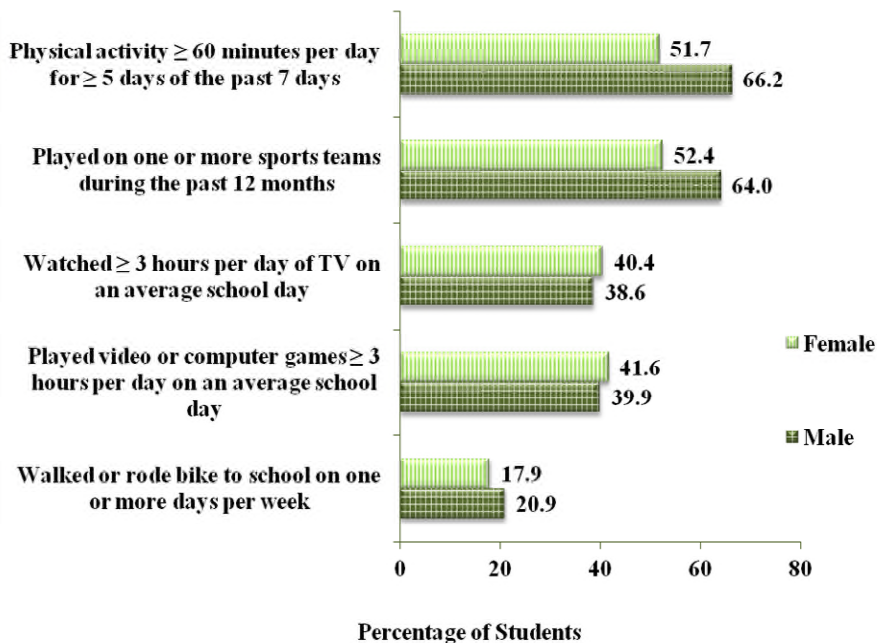


Figure 21

Figure 21 shows that middle school females were significantly less likely than middle school males a) to have *been physically active for greater than 60 minutes per day for 5 or more days*, and b) to have *played on one or more sports teams during the past 12 months*. Middle school females were more likely than middle school males a) to have *watched television 3 or more hours per day on an average school day*, and b) to have *played video or computer games*

Physical Activity, WSFC and North Carolina Middle Schools

Table 7*

Physical Activity	2013 WSFCS	2013 NC	2011 WSFCS	2011 NC	2009 WSFCS	2009 NC
Physically active for 60 minutes or more per day for 5 or more of the past 7 days	59%	57%	57%	59%	55%	60%
Played on 1 or more sports teams during the past 12 months	59%	60%	59%	59%	57%	62%
Watched TV for ≥3 hours per day on an average school day	40%	37%	40%	39%	41%	38%
Played video/computer games, use computer for other than school ≥3 hours on school day	41%	42%	33%	30%	28%	26%
Walked or rode their bicycle to school ≥ 1 days per week	20%	19%	20%	19%	20%	19%

*In comparison to Figure 19, percentages will be off due to rounding

Table 7 shows that between 2009 and 2013, the overall trend in physical activity measures among WSFC middle school students were better than the state in some of the examined categories but not in others. For example, the overall trend in the prevalence rate for WSFC high school students who were *physically active for 60 minutes or more for 5 or more of the past 7 days* (↑7%), and *played on 1 or more sports teams during the past 12 months* (↑4%) were better than the state’s (↓5%, ↓3%, respectively). The overall trend in the prevalence rate for WSFC middle school students who *played video/computer games, use computer for other than school work for 3 or more hours on an average school day* (↑46%) was worse than North Carolina’s (↑6%).



Other Select Health-related Issues

Health-related issues such as inadequate sleep, dental caries, and asthma significantly influence the health of children and adolescents.^{12, 13} Low socioeconomic status (SES) populations and minorities are at higher risk for much of these health issues.¹²

Some health-related issues are associated with academic achievement. For example, analysis of the 2013 YRBS results showed that about **63%** of middle school students who earned mostly A's, **53%** who earned mostly B's, **46%** who earned mostly C's, and **37%** who earned mostly D/F's *received 8 or more hours sleep on an average school day*. In contrast, about **9%** of middle school students who earned mostly A's, **11%** who earned mostly B's, **16%** who earned mostly C's, and **20%** who earned mostly D/F's *had trouble learning, remembering or concentrating because of a disability or health problems*.

Figure 22

Figure 22 shows that in 2013, about 1 in 8 (13%) WSFC middle school students *had asthma*. More than 1 in 2 (57%) saw a doctor or nurse for a routine appointment in the past 12 months. Almost 2 out of 3 (63%) middle school students was *seen by a dentist in the past 12 months*. About 1 in every 2 (53%) middle school students *received 8 or more hours of sleep on an average school day*. Almost 1 in 8 (13%) middle school students had *trouble learning, remembering, or concentrating because of health problems or disability*.

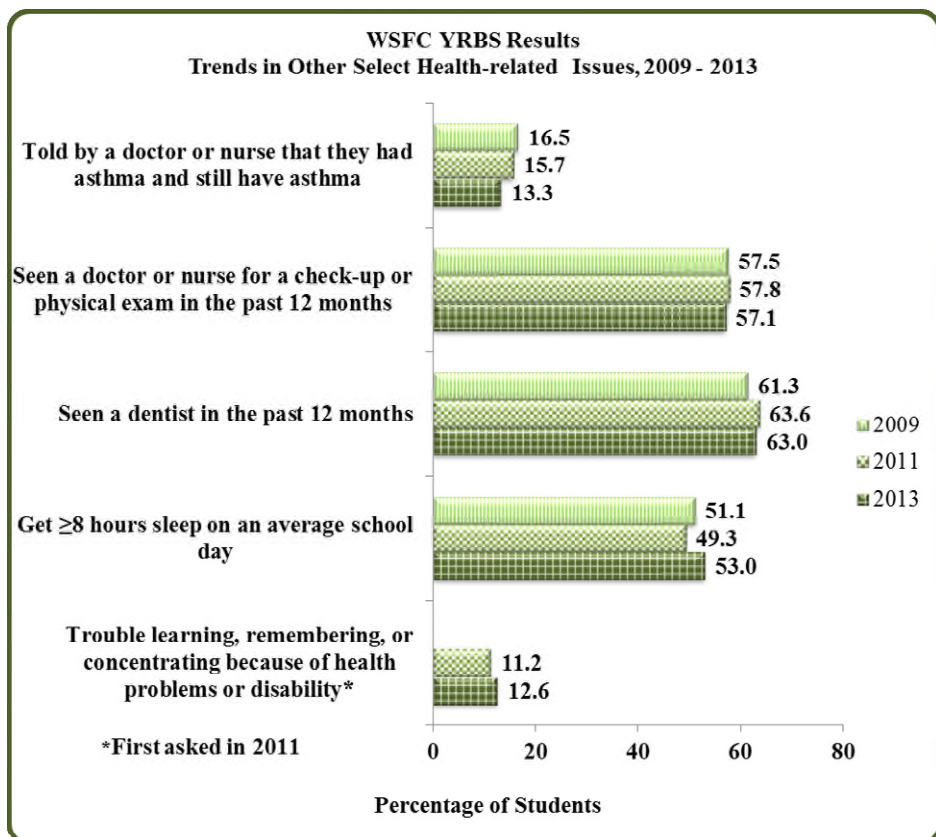


Figure 22 also shows the overall trend in the prevalence rates from 2009 to 2013. Between 2009 and 2013, there was a 19% decrease in the prevalence rate for WSFC middle school students who *had asthma*. The prevalence rate for middle school students who had *seen a doctor or nurse for a physical exam or check-up in the past 12 months* remains relatively unchanged. There was an increase of 3% in the prevalence rate of middle school students who saw a dentist in the past 12 months. The prevalence rate for middle school students who *get 8 or more hours sleep on an average school day* increased by 4% between 2009 and 2013. There was a 13% increase in the prevalence rate of middle school students who had *trouble learning, remembering, or concentrating because of health problems or disability*.

Figure 23

Figure 23 shows that Hispanic/Latino middle school students were significantly less likely than Black or White middle school students to be a) *told that they have asthma and still have asthma*, b) *seen a doctor or nurse for a check-up or physical in the past 12 months*, and c) *seen a dentist in the past 12 months*. Black middle school students were less likely than Hispanic/Latino or White middle school students a) to *have received 8 or more hours of sleep on an average school day*, and b) to report *having trouble learning, remembering, or concentrating because of health problems or disability*.

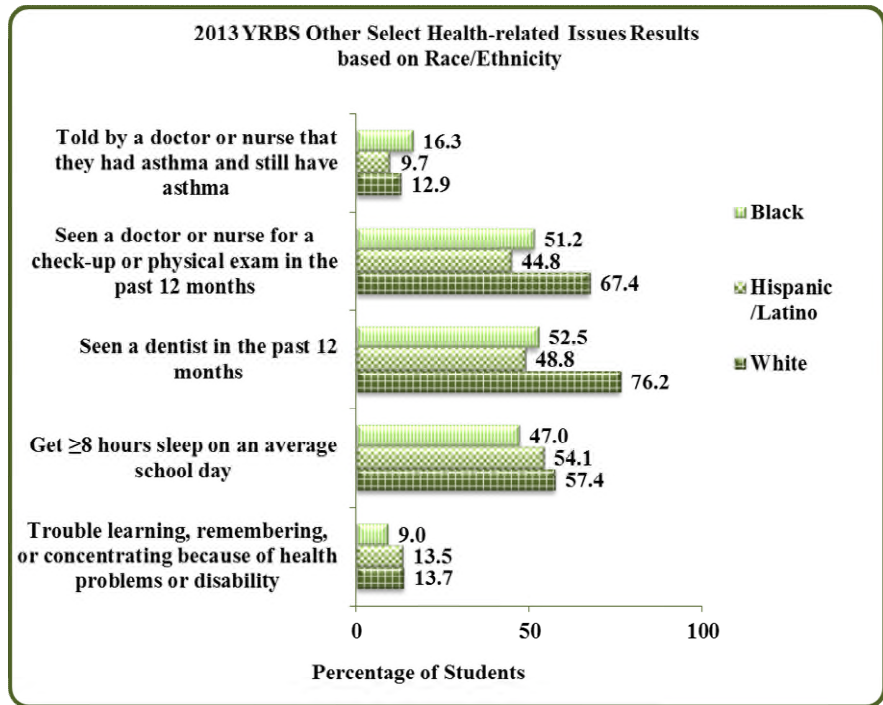
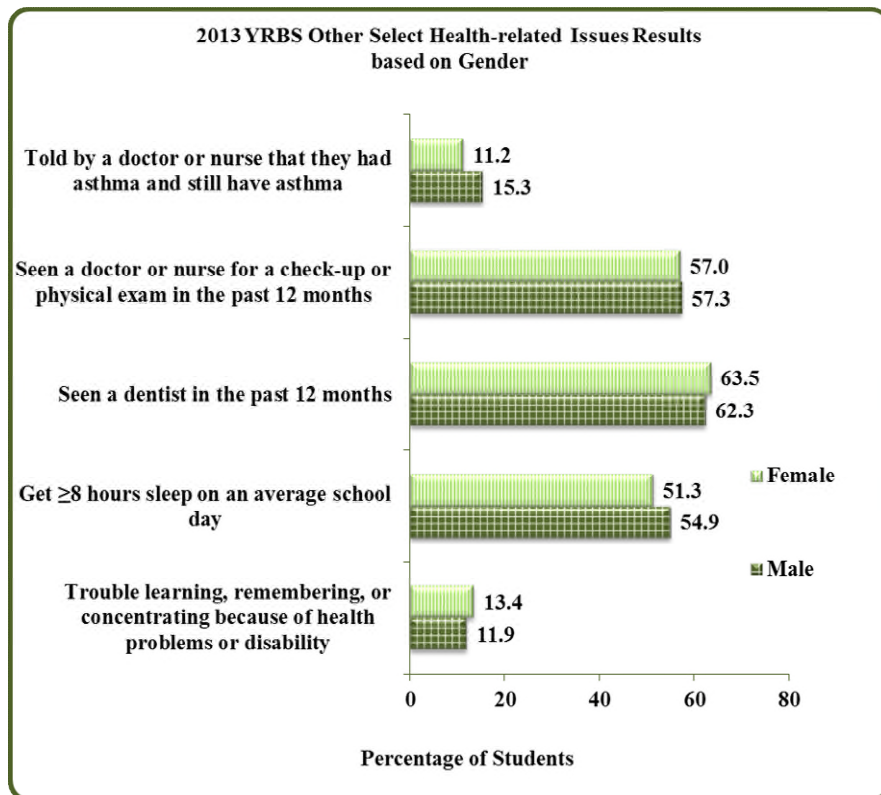


Figure 24

Figure 24 shows middle school males were more likely than middle school females to be told by a doctor or nurse that they *had asthma and still have asthma*. Middle school males were equally likely as middle school females to have *seen the doctor and the dentist in the past 12 months*. Middle school females were less likely than middle school males to have had *8 or more hours sleep on an average school day*. Middle school females were slightly more likely than middle school males to report that they have *had trouble learning, remembering, or concentrating because of health problems or disability*.



Other Select Health-related Issues, WSFC& North Carolina Middle Schools

Table 8*

Other Select Health-related Issues	2013 WSFCS	2013 NC	2011 WSFCS	2011 NC	2009 WSFCS	2009 NC
Told by doctor or nurse that they had asthma and still have asthma	13%	11%	16%	13%	17%	12%
Seen a doctor or nurse for a check-up or physical exam in the past 12 months	57%	56%	58%	55%	58%	58%
Seen a dentist in the past 12 months	63%	66%	64%	63%	61%	63%
Get ≥ 8 hours sleep on an average school day	53%	56%	49%	59%	41%	58%
Trouble learning, remembering, or concentrating because of health problems or disability	13%	12%	11%	14%	n/a	n/a

*1) In comparison to Figure 22, percentages will be off due to rounding, and 2) n/a = not available

Table 8 shows that between 2009 and 2013, the overall trend in the prevalence rates for select health-related issues among WSFC middle school students were better than the state’s in most categories. For example, the overall trend in the prevalence rate for WSFC middle school students *who still had asthma* (↓24%), and *who received 8 or more hours sleep on an average school day* (↑29%) were significantly better than the state (↓8%, ↓3%, respectively).





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