

2013 Youth Risk Behavioral Survey Winston-Salem Forsyth County High 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 behavior questions deemed pertinent to North Carolina high 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 YRBS was administered in 19 public high schools to a total of 1,711 students in the Winston-Salem/Forsyth County (WSFC) School System of which 1,379 responded. After data editing, 1370 survey questionnaires were usable for analysis. The questionnaire consisted of 94 questions. The response rate for schools was 100% and the response rate for students was 80%.

In general, recent trends in WSFC High Schools YRBS results suggest significant improvements in alcohol and marijuana use as well as physical fighting. However, the results also suggest that significant behavioral changes are necessary in areas such as *texting/emailing while driving, gambling, and bullying*.

WSFC high school students’ health behavioral trends are comparable to the State of North Carolina and the United States’ in most categories. However, their health behavioral trends for *marijuana use, the carrying of weapons, and others* are better than the state and the nation’s.

The 2013 highlights provide a snapshot of 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 behaviors. For more information, please contact Ayotunde Ademoyero, Director of Epidemiology, Forsyth County Department of Public Health at ademoyat@forsyth.cc.

Demographic Characteristics	Number of Students in this Subgroup	Sampled Percentage
Gender		
Male	641	50.5
Female	723	49.5
Grade		
9 th	176	14.9
10 th	186	13.1
11 th	142	11.3
12 th	134	11.5
Other	3	-
Race/Ethnicity		
Black Non-Hispanic	188	16.0
Hispanic/Latino	126	7.6
White Non-Hispanic	232	23.5
All other races	35	1.4
Multiple races	48	2.1

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. Analysis of the 2013 YRBS results showed that **20%** of high school students who earned mostly A's, **28%** who earned mostly B's, **37%** who earned mostly C's and **43%** who earned mostly D/F's *drank alcohol on one or more days in the past 30 days*.

Figure 1

Figure 1 shows that in 2013, almost 1 in 4 (24%) WSFC high school students reported that *they were offered, sold, or given an illegal drug on school property in the past 12 months*. About 1 in 5 (18%) reported that they had *used marijuana one or more times in the past 30 days*. About 1 in 8 (13%) reported that they had *had 5 or more drinks in a row within a couple of hours on one or more days in the past 30 days*, and that they had *smoked cigarettes on one or more days in the past 30 days*. Almost 1 in 4 (28%) had *had a drink of alcohol on one or more times in the past 30 days*.

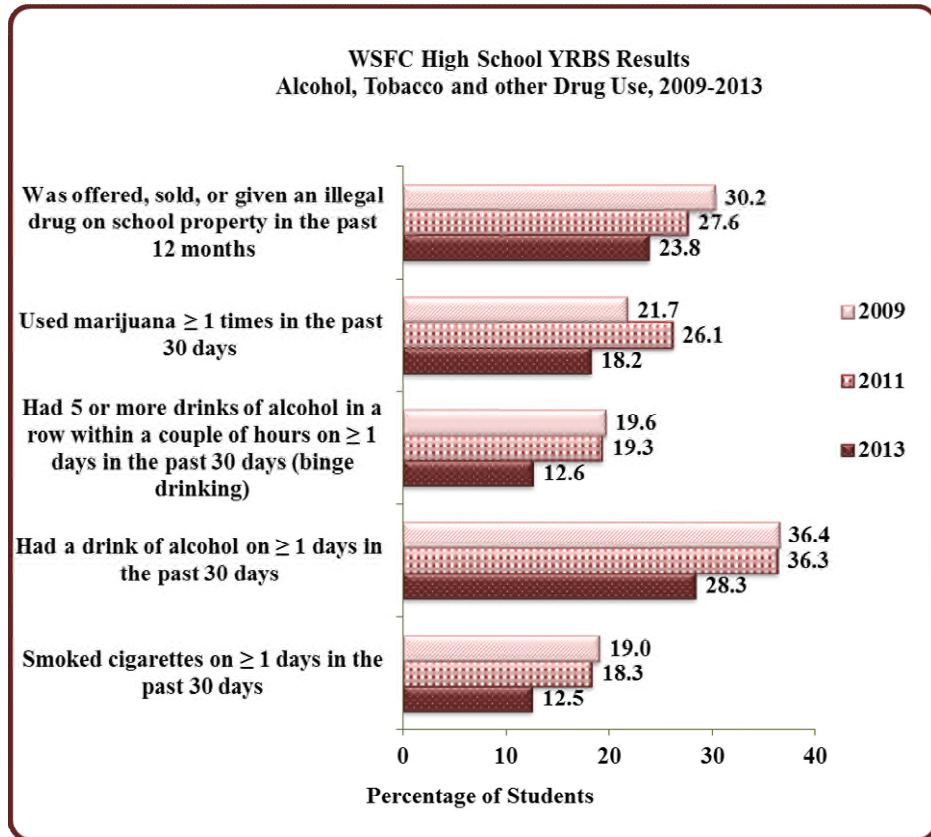
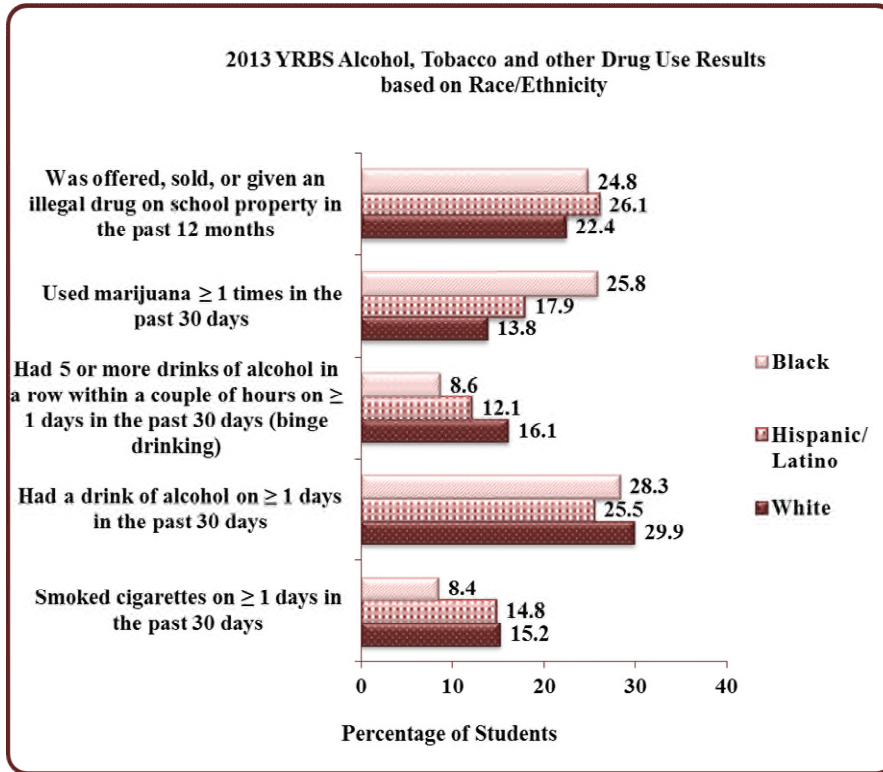


Figure 1 also compares the overall trend in the prevalence rates for alcohol, tobacco and other drug use for WSFC high school students between 2009 and 2013. There was a 21% decrease in the prevalence rate for high school students who were *offered, sold or given an illegal drug on school property*. The prevalence rate for *marijuana use in the past 30 days* decreased by 16% between 2009 and 2013. There was a 36% decrease in the prevalence rate of high school students who reported *having 5 or more drinks in a row in a couple of hours (binge drinking)*. Between 2009 and 2013, the prevalence rate increased by 22% for high school students *who drank alcohol on one or more days in the past 30 days*. There was a 34% decrease in the prevalence rate of *smoking cigarettes in the last 30 days*.

Figure 2 shows that in 2013, Hispanic/Latino high school students were more likely than Black or White high school students to report being *offered, sold, or given an illegal drug on school property in the past 12 months*. White high school students were much less likely than Black or Hispanic/Latino high school students to have reported *using marijuana on one or more days in the past 30 days*.

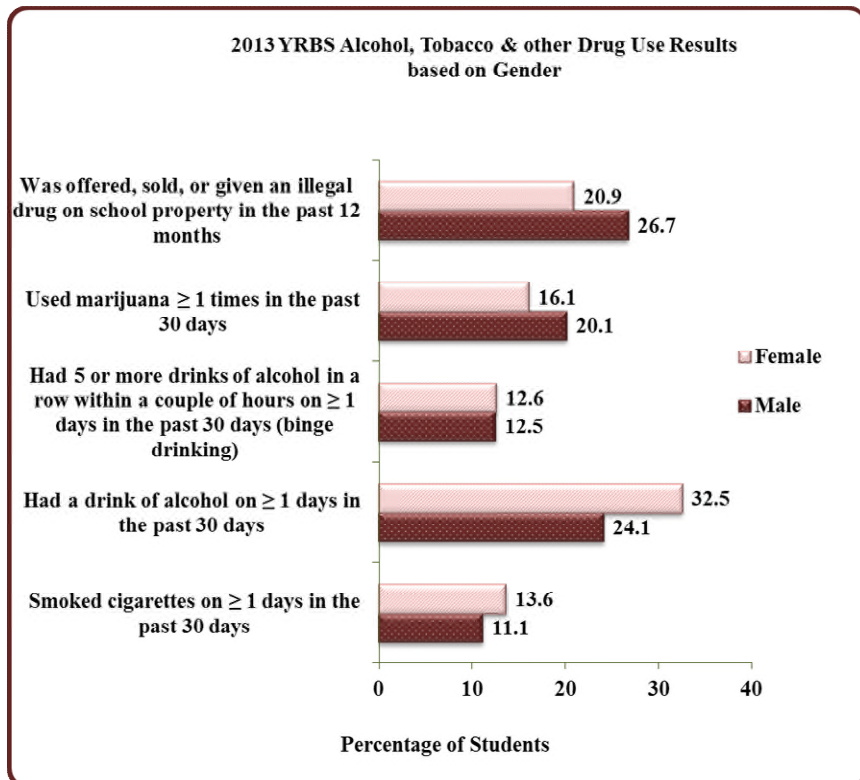
Figure 2



Black high school students were much less likely than Hispanic/Latino or White high school students to have *had 5 or more drinks in a row within a couple of hours on one or more days in the past 30 days*. Hispanic/Latino high school students were less likely than Black or White high school students to have *had at least one drink of alcohol on at least one day in the past 30 days*. Hispanic/Latino or White high school students were almost twice as likely than Black high school students to report *smoking cigarettes on at least one day in the past 30 days*.

Figure 3

Figure 3 shows that high school males were significantly more likely than high 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) *used marijuana on one or more days in the past 30 days*. High school females were much more likely than high school males to report having *had a drink of alcohol and smoking cigarettes on at least one day in the past 30 days*. Most surprisingly, high school males and females who drank alcohol were equally likely to have *had 5 or more drinks of alcohol in a row within a couple of hours on one or more days in the past 30 days*.



Alcohol, Tobacco & other Drug Use, WSFC, North Carolina & U.S. High Schools

Table 1*

Select Alcohol, Tobacco & other Drug Use	2013 WSFC	2013 NC	2013 US	2011 WSFC	2011 NC	2011 US	2009 WSFC	2009 NC	2009 US
Offered, sold, or given an illegal drug on school property in the past 12 months	24%	24%	22%	28%	30%	26%	30%	30%	23%
Used marijuana \geq 1 times in the past 30 days	18%	23%	23%	26%	24%	23%	21%	20%	21%
Had \geq 5 drinks in a row in a couple hours on \geq 1 days in the past 30 days	13%	15%	21%	19%	18%	22%	20%	19%	24%
Had a drink of alcohol on \geq 1 days in the past 30 days	28%	32%	35%	36%	34%	39%	26%	35%	42%
Smoked cigarettes on \geq 1 days in the past 30 days	13%	15%	16%	19%	18%	18%	19%	18%	20%

*1) In comparison to Figure 1, percentages will be slightly 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 high school students compared favorably to the state and the nation’s in most categories. For example, the overall trend in the prevalence rates for WSFC youths reported current behavior for *marijuana use* (\downarrow 14%), *binge drinking* (\downarrow 35%), and *smoking cigarettes* (\downarrow 32%) in the past 30 days were significantly better than the state (\uparrow 15%, \downarrow 21%, \downarrow 17%, respectively) and the nation’s (\uparrow 7%, \downarrow 13%, \downarrow 20%, respectively).



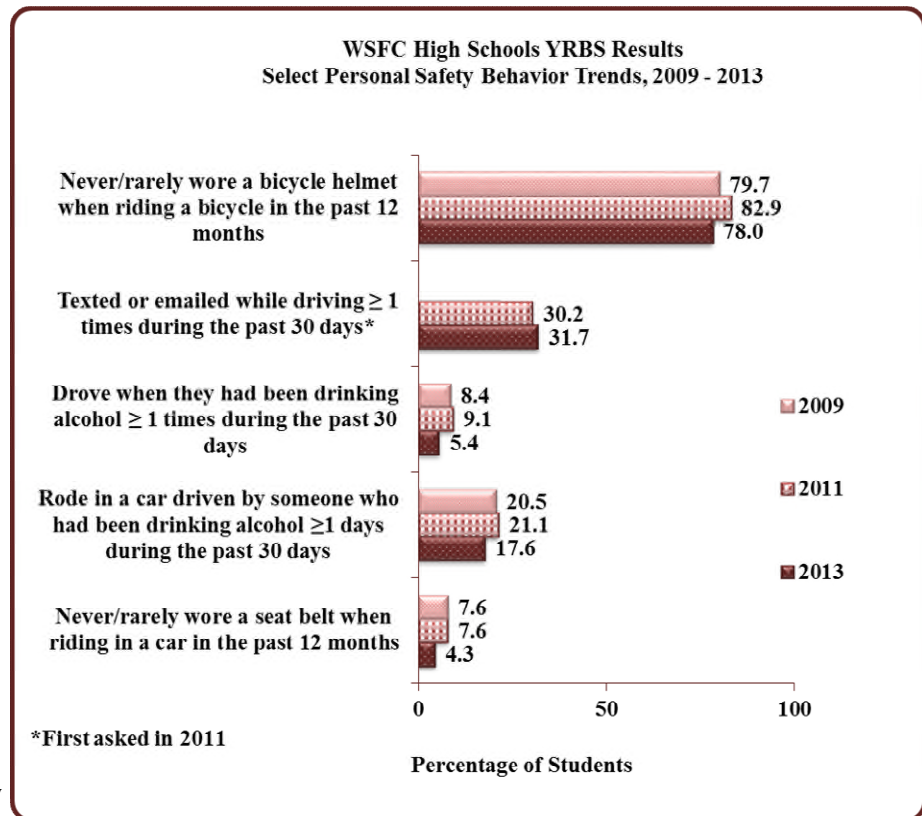
Personal Safety

The YRBS included a series of questions that asked 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.²

Some personal safety risk behaviors that result in unintentional injuries are associated with academic achievement. Analysis of the 2013 YRBS results showed that about **13%** of high school students who earned mostly A's, **16%** who earned mostly B's, **21%** who earned mostly C's, and **36%** who earned mostly D/F's *rode in a car driven by someone who had been drinking alcohol on one or more days in the past 30 days*.

Figure 4

Figure 4 shows that in 2013, almost 8 out of every 10 (78%) WSFC high school students who rode bicycles reported that they *never or rarely wore a helmet when riding their bicycle*. Almost 1 in every 3 (32%) high school students who drove cars in the past 30 days, reported that they had *texted and/or emailed while driving on at least one or more times*. About 1 in 20 (5%) reported that they had *driven a vehicle after drinking alcohol on one or more times during the past 30 days*. Similarly, about 1 in 20 (4%) reported that they *never or rarely wore a seat*



belt when riding in a car. About 1 in 6 (18%) reported that they had *rode in a car driven by someone who had been drinking alcohol on one or more days in the past 30 days*.

Figure 4 also compares the overall trend in the prevalence rates of personal safety risk behaviors for WSFC high school students between 2009 and 2013. There was a 2% decrease in the prevalence rate for high school students who *never/rarely wore a helmet when riding a bicycle in the past 12 months*. The prevalence rate for *texting/ emailing while driving on one or more days in the past 30 days* increased by 5% between 2009 and 2013. There was a 36% decrease in the prevalence rate of high school students who *drove when they had been drinking alcohol on one or more times during the past 30 days*. Between 2009 and 2013, the prevalence rate decreased by 14% for high school students who *rode in a car on one or more days during the past 30 days driven by someone who had been drinking alcohol*. There was a 4% decrease in the prevalence rate of high school students who *never/rarely wore a seatbelt when riding in a car during the past 12 months*.

Figure 5

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

were almost equally likely to have *texted and/or emailed while driving in the past 30 days*.

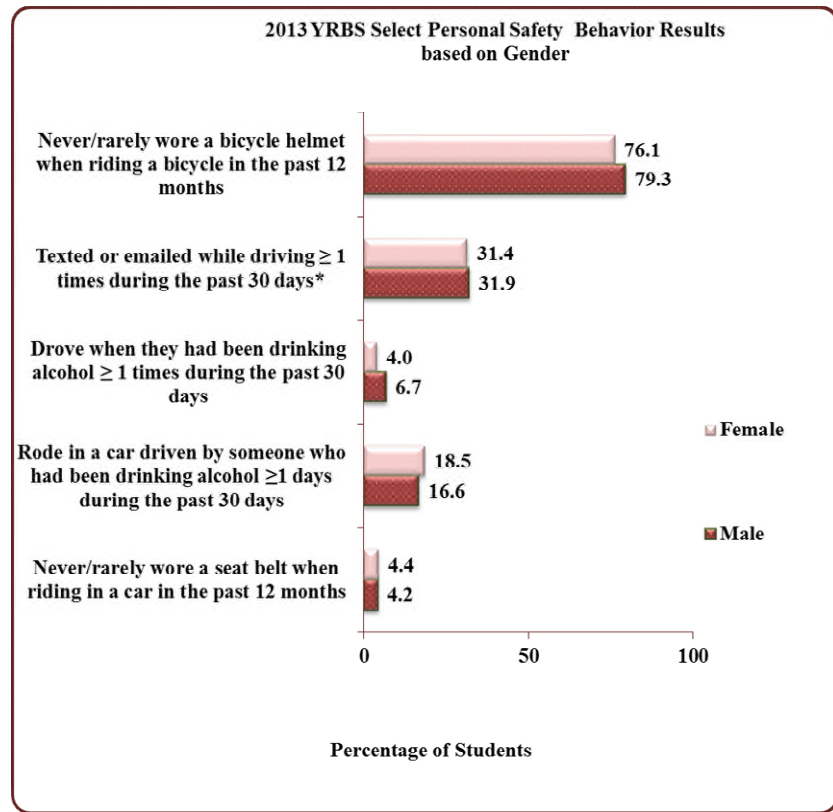
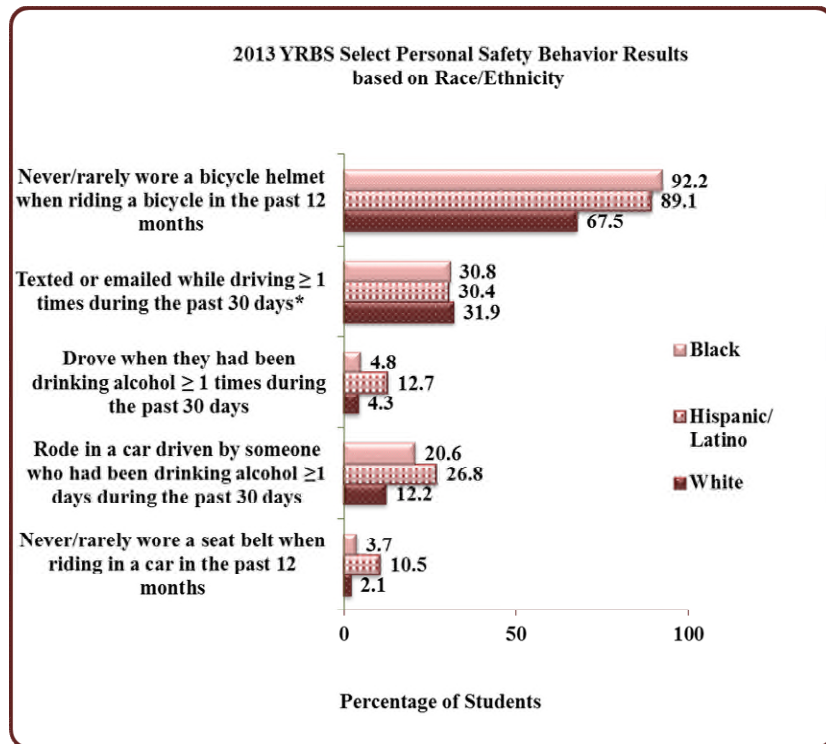


Figure 6

Figure 6 shows that high school males were more likely than high school females to report that they had *never or rarely worn a bicycle helmet when riding a bicycle*, and *drove when they had been drinking one or more times in the past 30 days*. High school females were more likely than high school males to *ride in a car driven by someone who had been drinking alcohol*. High school males and high school females were equally likely to report that they had *never or rarely worn a seat belt when riding in a car*, and *texted and/or emailed while driving one or more times in the past 30 days*.

Personal Safety, WSFC, North Carolina & U.S. High Schools

Table 2*

Select Personal Safety Behaviors	2013 WSFC	2013 NC	2013 US	2011 WSFC	2011 NC	2011 US	2009 WSFC	2009 NC	2009 US
Never/rarely wore a bicycle helmet when riding a bicycle in the past 12 months	78%	88%	88%	83%	87%	88%	80%	84%	85%
Texted or emailed while driving ≥ 1 times during the past 30 days	32%	34%	41%	30%	35%	n/a	n/a	n/a	n/a
Drove when they had been drinking alcohol ≥ 1 days during the past 30 days	5%	6%	10%	9%	6%	n/a	8%	8%	n/a
Rode with a driver who had been drinking alcohol ≥ 1 days during the past 30 days	18%	19%	22%	21%	21%	24%	21%	21%	28%
Never/rarely wore a seat belt when riding in a car in the past 12 months	4%	7%	8%	7%	8%	8%	8%	7%	10%

*1) In comparison to Figure 4, percentages will be slightly off due to rounding, and 2) n/a = not available

Table 2 shows that between 2009 and 2013, the overall trend in personal safety risk behavior among WSFC high school students compared favorably to the state and the nation’s in most categories. For example, the overall trend in the prevalence rates for WSFC high school students who *never or rarely wore a bicycle helmet in the past 12 months* ($\downarrow 3\%$) was significantly better than the state ($\uparrow 5\%$) and the nation’s ($\uparrow 4\%$). Also, among those who drove after they drank alcohol, the overall trend in the prevalence rate for WSFC high school students ($\downarrow 38\%$) were better than the state ($\downarrow 25\%$). U.S. data in this category was not available before 2013.



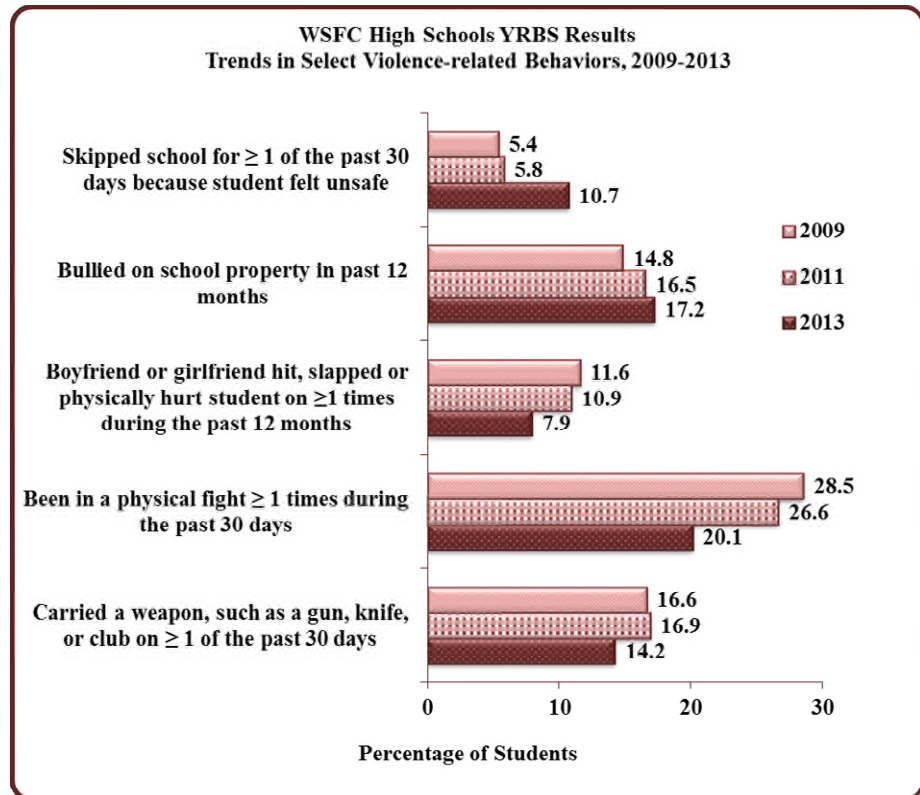
Violence-related Behaviors

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}

Violence-related behaviors are associated with academic achievement. Analysis of the 2013 YRBS results showed that about **12%** of high school students who earned mostly A's, **19%** who earned mostly B's, **26%** who earned mostly C's and **42%** who earned mostly D/F's had *been in a physical fight on one or more times in the past 30 days*.

Figure 7

Figure 7 shows that in 2013, about 1 in 10 (11%) WSFC high school students reported that they had *skipped school for one or more days in the past 30 days because they felt that they would be unsafe at school or on their way to or from school*. Almost 1 in 6 (17%) reported that they were *bullied on school property in the past 12 months*. About 1 in 12 (8%) reported that their *boyfriend or girlfriend had deliberately physically hurt them at least once during the past 12 months*. About 1 in 5 (20%) high school



students had been in a *physical fight at least once during the past 30 days*, and about 1 in 7 (14%) reported that they had *carried a weapon, such as a gun, knife, or club on one or more days during the past 30 days*.

Figure 7 also compares the overall trend in the prevalence rates of violent-related behaviors among WSFC high school students between 2009 and 2013. There was a 98% increase in the prevalence rate for high school students who *skipped school on one or more days of the past 30 days because he or she felt unsafe at school or to and from school*. The prevalence rate for *bullied on school property during the past 12 months* increased by 16% between 2009 and 2013. There was a 32% decrease in the prevalence rate of high school students whose *boyfriend or girlfriend hit, slapped or physically hurt him or her on one or more times during the past 12 months*. Between 2009 and 2013, the prevalence rate decreased by 30% for high school students who *had been in a physical fight on one or more times during the past 30 days*. There was a 15% decrease in the prevalence rate of high school students who *carried a weapon, such as a gun, knife, or club on one or more of the past 30 days*.

Figure 8 shows that in 2013, Hispanic/Latino high school students were almost two times more likely than Black or White high school students to *skip school in the past 12 months because they felt unsafe at school or on their way to or from school*.

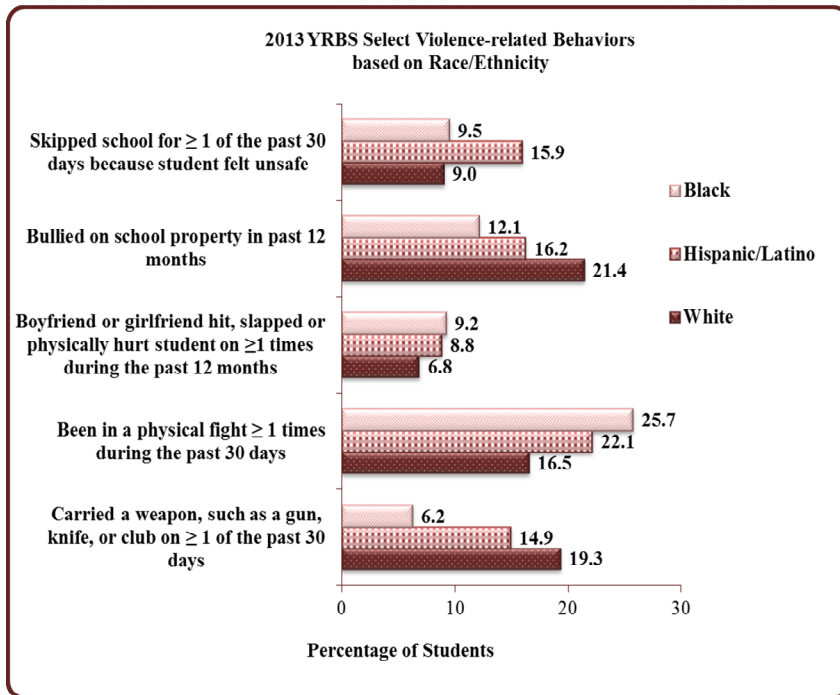


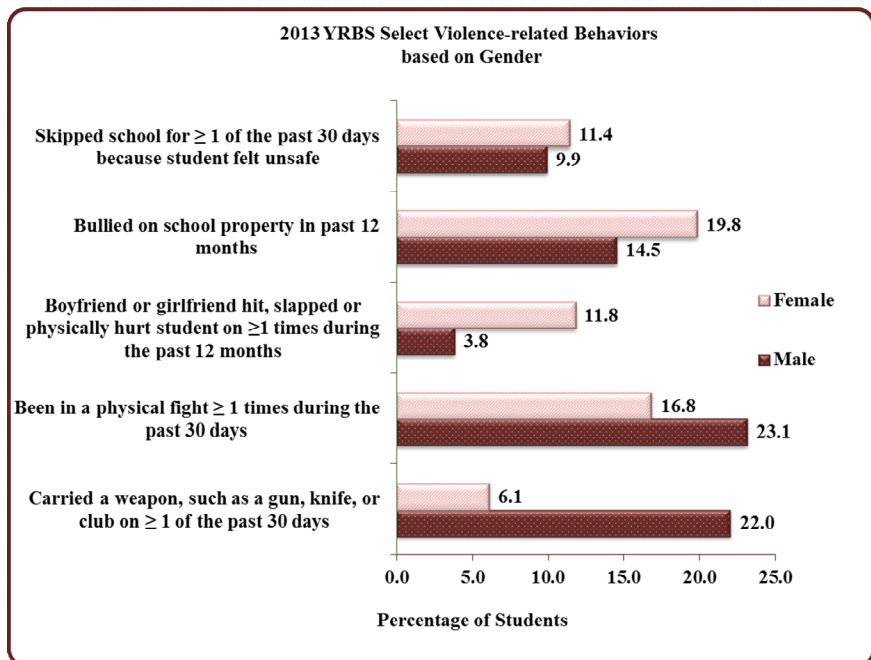
Figure 8

Black high school students were significantly less likely than White or Hispanic/Latino high school students to be *bullied on school property in the past 12 months*. White high school students were less likely than Black or Hispanic/Latino high school students to report that they were *deliberately physically harmed by their boyfriend or girlfriend at least once in the past 12 months*. White high school students were significantly less likely than and Hispanic/Latino or Black high school students to have been in a *physical fight in the past 30 days*. Black high school

students were significantly less likely than Hispanic/Latino or White high school students to have *carried a weapon, such as gun, knife or club, on one or more days in the past 30 days*.

Figure 9

Figure 9 shows that high school females were more likely than high school males to report that they had *skipped school because they felt unsafe*. High school males were significantly less likely than high school females to have experienced *bullying on school property in the past 12 months*. High school females reported that they had been *deliberately physically hurt by their boyfriend or girlfriend at about three times the rate of high school males*. High school males were more likely than high school females to have been in a *physical fight one or more times during the past 30 days*. High school males were almost 4 times more likely than high school females to have *carried a weapon, such as a gun, knife, or club on one or more times in the past 30 days*.



Violence-related Behaviors, WSFC, North Carolina and U.S. High Schools

Table 3*

Violence-related Behaviors	2013 WSFC	2013 NC	2013 US	2011 WSFC	2011 NC	2011 US	2009 WSFC	2009 NC	2009 US
Skipped school for ≥ 1 of the past 30 days because student felt unsafe	11%	7%	7%	6%	7%	6%	5%	6%	5%
Bullied on school property in past 12 months	17%	19%	20%	17%	21%	20%	15%	17%	20%
Boyfriend/girlfriend physically hurt you on purpose ≥ 1 times in the past 12 months	8%	9%	10%	11%	14%	n/a	12%	13%	n/a
Been in a physical fight ≥ 1 times during the past 30 days	20%	24%	25%	27%	28%	33%	29%	29%	32%
Carried a weapon, such as a gun, knife or club on ≥ 1 of the past 30 days	14%	21%	18%	17%	21%	17%	17%	20%	18%

*1) In comparison to Figure 7, percentages will be slightly off due to rounding, and 2) n/a = not available

Table 3 shows that between 2009 and 2013, the overall trend in violent-related behaviors among WSFC high school students did not compare favorably to the state and the nation’s in some categories but did in others. For example, the overall trend in the prevalence rates for WSFC high school students who *skipped school on one or more days because of safety concerns* ($\uparrow 120\%$) compared unfavorably to the state ($\uparrow 17\%$) or the U.S. ($\uparrow 40\%$). In contrast, the overall trend in the prevalence rates for WSFC high school students who *carried a weapon, such as a gun, knife, or club on or more days in the past 30 days* ($\downarrow 18\%$) compared favorably to the state ($\uparrow 5\%$) and the nation’s (*no change*).



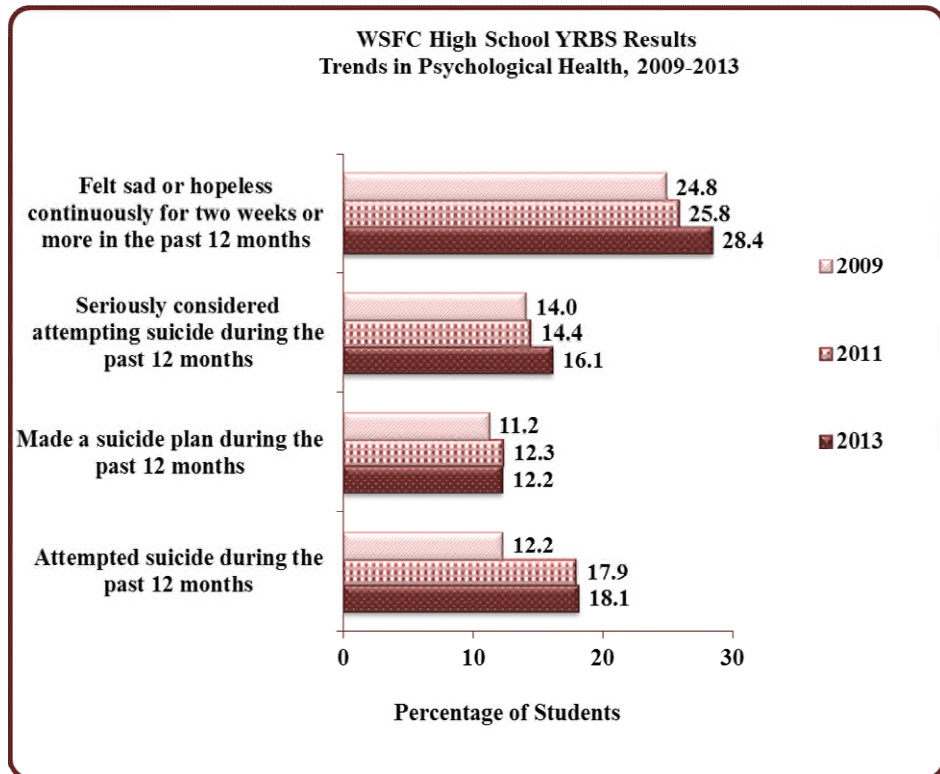
Psychological Health

Early intervention to improve psychological health is critical to a reduction in the prevalence of suicides. In 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. Analysis of the 2013 YRBS results showed that about **22%** of high school students who earned mostly A's, **28%** who earned mostly B's, **34%** who earned mostly C's, and **45%** 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 every 4 (28%) WSFC high school students reported that they felt *sad or hopeless continuously for two weeks or more in the past 12 months which prevented them from doing their usual activities*. Almost 1 in 6 (16%) reported that they had *seriously considered suicide in the past 12 months*, and about 1 in to 8 (12%) *made a suicide plan*. Almost 1 in 5 (18%) high school students reported that they had *attempted suicide during the past 12 months*.



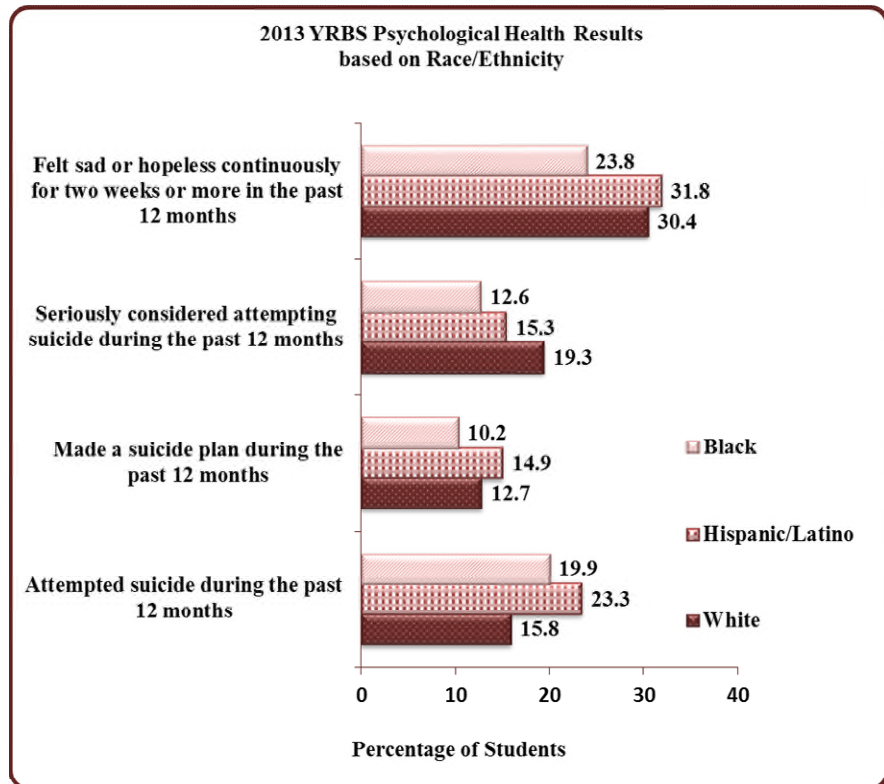
Of note, though not included in the graph, about 1 in 3 high school students who attempted suicide reported that they had sustained injuries from their attempts which required the services of a doctor or nurse.

Figure 10 also compares the overall trend in the prevalence rates between 2009 and 2013 for WSFC high school students. There was a 15% increase in the prevalence rate for high school students who *felt sad or hopeless continuously for two weeks or more in the past 12 months*. The prevalence rate for *seriously considered attempting suicide during the past 12 months* increased by 15% between 2009 and 2013. There was a 9% increase in the prevalence rate of high school students who *made a suicide plan during the past 12 months*. Between 2009 and 2013, the prevalence rate increased by 48% for high school students who *attempted suicide during the past 12 months*.

Figure 11 shows that in 2013, Black high school students were significantly less likely than Hispanic/Latino or White high school students to report that they had *felt sad or hopeless continuously for two weeks or more in the past 12 months*.

Figure 11

Black high school students were significantly less likely than White or Hispanic/Latino high school students to report that they had *seriously considered attempting suicide in the past 12 months*. Hispanic/Latino high school students were more likely than Black or White high school students to have *made a suicide plan in the past 12 months*. White high school students were less likely than Black or Hispanic/Latino high school students to have *attempted suicide in the past 12 months*.



2013 YRBS Psychological Health Results based on Gender

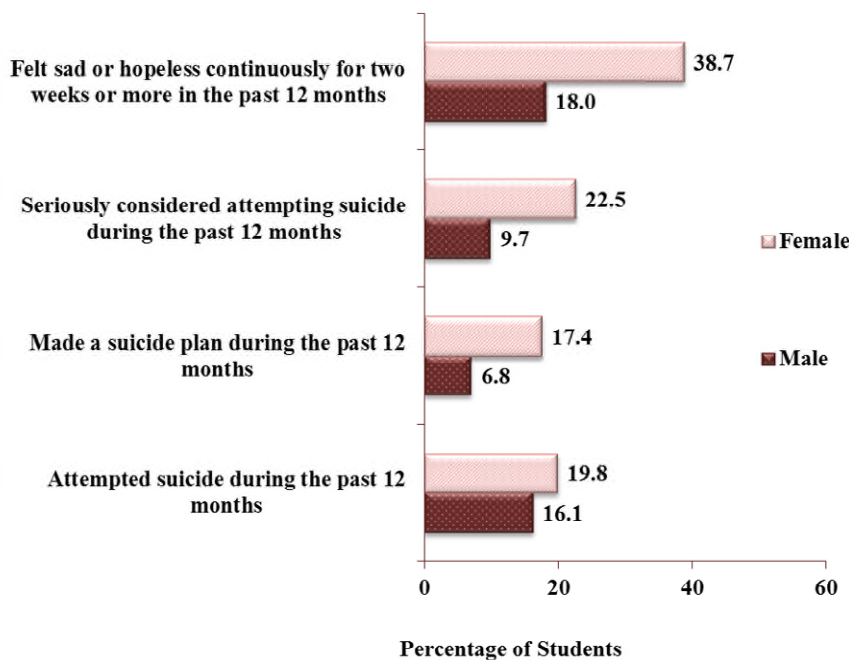


Figure 12

Figure 12 shows that in 2013, WSFC high school females were two times or more likely than males to report that they had a) *felt sad or hopeless continuously for two weeks or more in the past 12 months*, b) *seriously considered attempting suicide*, and c) *had made a suicide plan*. **Almost 1 in 5 females and 1 in 6 males reported that they had attempted suicide in the past 12 months.**

Psychological Health, WSFC, North Carolina, and U.S. High Schools

Table 4*

Psychological Health	2013 WSFC	2013 NC	2013 US	2011 WSFC	2011 NC	2011 US	2009 WSFC	2009 NC	2009 US
Felt sad or hopeless continuously for ≥ 2 weeks in a row during the past 12 months	28%	29%	30%	26%	28%	29%	25%	27%	26%
Seriously considered attempting suicide during the past 12 months	16%	17%	17%	14%	14%	16%	14%	13%	14%
Made a suicide plan during the past 12 months	12%	13%	14%	12%	14%	13%	11%	10%	11%
Attempted suicide during the past 12 months	18%	n/a	8%	18%	n/a	8%	12%	n/a	6%

*1) In comparison to Figure 10, percentages will be slightly 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 high school students compared favorably to the state and the nation's in some categories but did not in others. For example, the overall trend in the prevalence rates for WSFC high school students who seriously considered attempting suicide during the past 12 months ($\uparrow 14\%$), and those who made a suicide plan in the past 12 months ($\uparrow 22\%$) compared favorably to the state ($\uparrow 31\%$, $\uparrow 30\%$, respectively) or the U.S. ($\uparrow 21\%$, $\uparrow 27\%$, respectively). In contrast, the overall trend in the prevalence rate for WSFC high school students who attempted suicide during the past 12 months ($\uparrow 50\%$) compared unfavorably to the U.S.'s ($\uparrow 33\%$). North Carolina's data trend for attempted suicides is unavailable.



Sexual Behavior

Sexual behavior among adolescents introduces the risk for unintentional health outcomes.⁶ Poor sexual behavior places adolescents at risk for unwanted pregnancies, contracting sexually transmitted diseases (STDs), and other health problems.⁶

Sexual behavior is associated with academic achievement. Analysis of the 2013 YRBS results showed that about **15%** of high school students who earned mostly A's, **27%** who earned mostly B's, **44%** who earned mostly C's, and **36%** who earned mostly D/F's *had sexual intercourse with one or more persons in the past 3 months*.

Figure 13

Figure 13 shows that in 2013, more than 1 in 4 (28%) WSFC high school students who were sexually active reported that they had *had sex with one or more persons in the past 3 months*. About 1 in every 2 (57%) reported that they had *used a condom the last time that they had sexual intercourse*. Almost 1 in 5 (18%) reported that they had *drank alcohol or used drugs before they had sexual intercourse the last time*, and about 1 in 8 (12%) reported that their *last sexual intercourse was with someone who was 3 years or more older than themselves*.

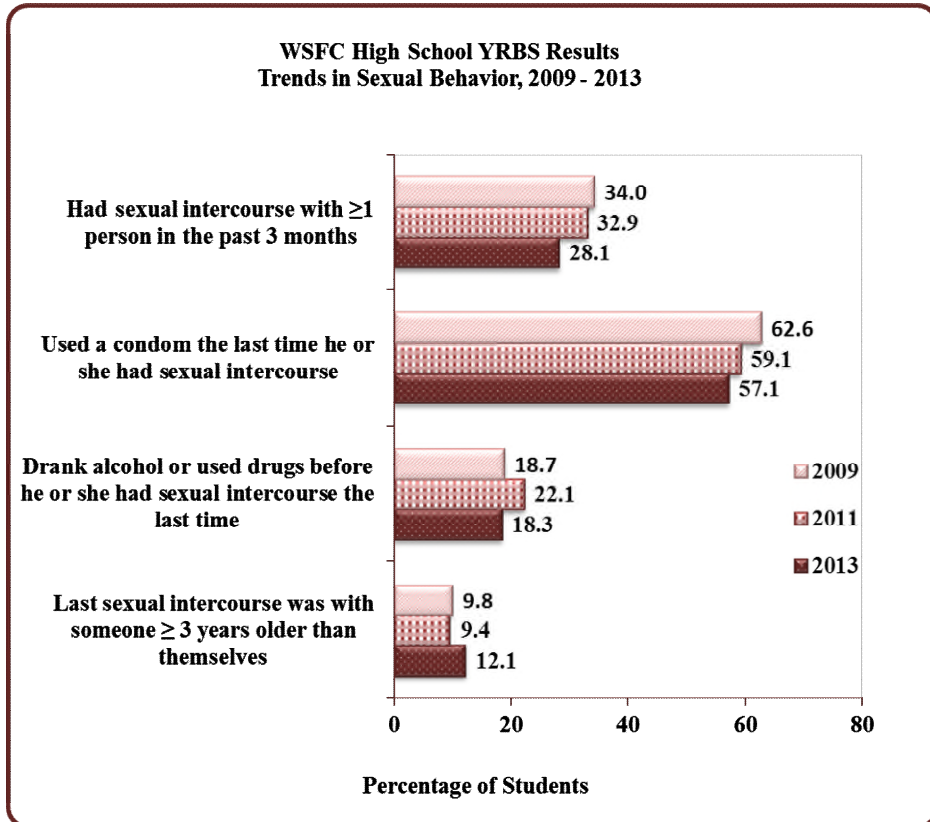


Figure 13 also compares the overall trend in the prevalence rates of sexual behavioral risks among WSFC high school students between 2009 and 2013. There was a 17% decrease in the prevalence rate for high school students who *had sexual intercourse with one or more persons in the past 3 months*. The prevalence rate for those who *used a condom the last time he or she had sexual intercourse* decreased by 9% between 2009 and 2013. Between 2009 and 2013, there was a 2% decrease in the prevalence rate of high school students who *drank alcohol or used drugs before having sexual intercourse the last time*. The prevalence rate increased by 23% for high school students who *last had sexual intercourse with someone who was 3 or more years older than themselves*.

Figure 14 shows that White high school students were significantly less likely than Black or Hispanic/Latino high school students to report that they have *had sexual intercourse with one or more person in the past 3 months*. Black high school students were significantly more likely than White high school students to report *using a condom the last time they had sexual intercourse*.

Figure 14

Black high school students were significantly less likely than White high school students to report *drinking or using drugs before their last sexual intercourse*. Hispanic/Latino high school students were significantly more likely than Black or White high school students to report that their *last sexual intercourse was with someone that was 3 or more years older than themselves*.

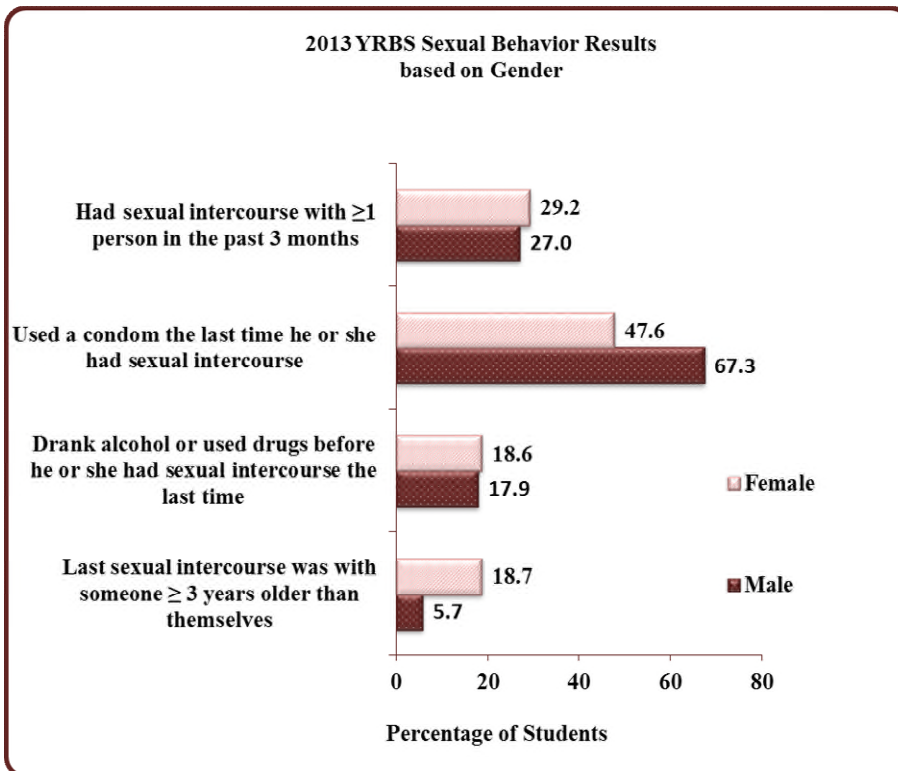
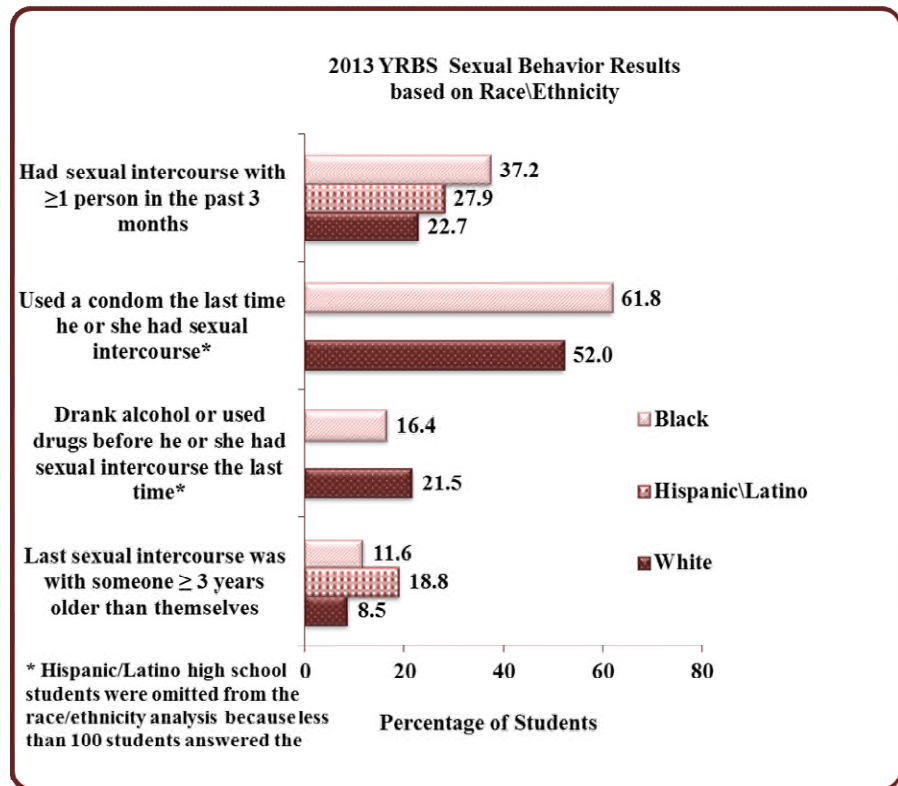


Figure 15

Figure 15 shows that WSFC high school females were more likely than males to report that they had *had sexual intercourse with one or more persons in the past 3 months*, and *drank alcohol or used drugs before their last sexual intercourse*. High school males were much more likely than high school females to *use a condom during the last time they had sexual intercourse*. High school females were 3 times more likely than high school males to report that their *last sexual intercourse was with someone who was 3 or more years older than themselves*.

Sexual Behavior, WSFC, North Carolina and U.S. High Schools

Table 5*

Sexual Behavior	2013 WSFC	2013 NC	2013 US	2011 WSFC	2011 NC	2011 US	2009 WSFC	2009 NC	2009 US
Had sexual intercourse with ≥1 person in the past 3 months	28%	32%	34%	33%	35%	34%	34%	37%	34%
Used a condom the last time he or she had sexual intercourse in the past 3 months	57%	61%	59%	59%	54%	60%	63%	61%	61%
Drank alcohol or used drugs before you had sexual intercourse the last time in the past 3 months	18%	21%	22%	22%	25%	22%	19%	19%	22%
Last sexual intercourse in the past 3 months was with someone ≥ 3 years older than themselves	12%	17%	n/a	9%	19%	n/a	10%	10%	n/a

*1) In comparison to Figure 13, percentages will be slightly off due to rounding, and 2) n/a = not available

Table 5 shows that between 2009 and 2013, the overall trend in sexual health risk-related behaviors among WSFC high school students compared favorably to the state and the nation’s in some categories but did not in one other. For example, the overall trend in the prevalence rates for WSFC high school students who had sexual intercourse with one or more persons in the past 3 months (↓18%), drank alcohol or used drugs before their last sexual intercourse in the past 3 months (↓5%), and last sexual intercourse in the past 3 months was with someone 3 or more years older than themselves (↑20%) compared favorably to the state (↓14%, ↑11%, ↑70%, respectively) or the U.S. (no change, no change, data not available, respectively). In contrast, the overall trend in the prevalence rate for WSFC high school students who used a condom the last time he or she had sexual intercourse in the past 3 months (↓10%) compared unfavorably to the state (no change) and the U.S.’s (↓3%).



Weight Management

Healthy weight management strategies are critical to the prevention of overweight and obesity.⁷ Overweight and obesity have been linked to poor health outcomes such as diabetes and cardiovascular diseases in children and adolescents.⁷ Healthy weight management strategies include consuming fewer calories and adequate physical exercise.⁸ Unhealthy weight management strategies such as vomiting or taking laxatives may lead to bulimia, anorexia, and other diseases.^{8,9}

Analysis of the 2013 YRBS did not find significant association between obesity/overweight, identified weight management strategies and academic achievement.

Figure 16 shows that in 2013, about 1 in 4 (28%) WSFC high school students *were obese/overweight*, and about 2 in every 5 (42%) were *trying to lose weight*. In the 30 days prior to the survey's implementation, about 2 out of every 3 (63%) high school students reported that they *exercised to lose or keep from gaining weight*, and about 1 in 3 (32%) reported that they *ate less food, fewer calories, or foods low in fat to lose or keep from gaining weight*.

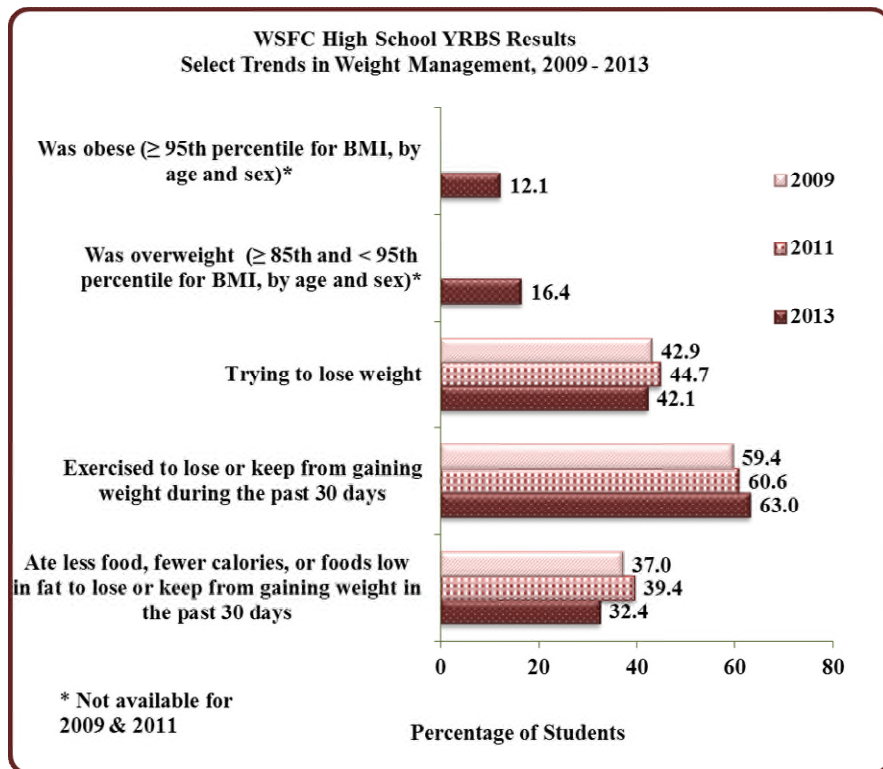
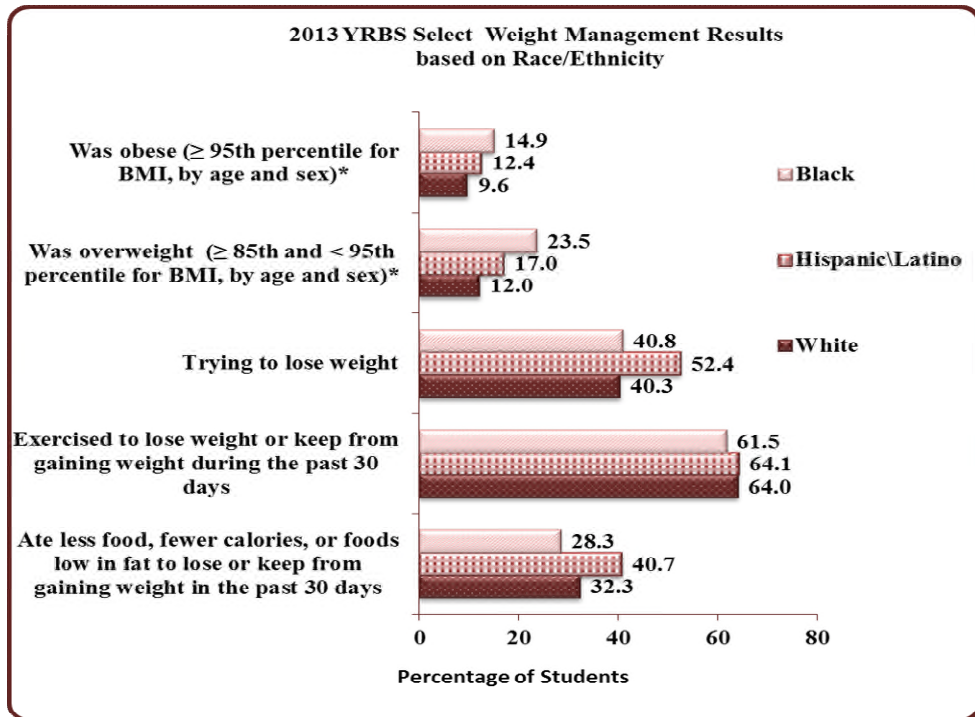


Figure 16 also compares the overall trend in the prevalence rates of weight management strategies among WSFC high school students between 2009 and 2013. There was a 2% decrease in the prevalence rate for high school students who *were trying to lose weight*. The prevalence rate for those who *exercised to lose or keep from gaining weight during the past 30 days* increased by 6% between 2009 and 2013. Between 2009 and 2013, there was a 12% decrease in the prevalence rate of high school students who *ate less food, fewer calories, or foods low in fat to lose or keep from gaining weight*.

Figure 17
Figure 17 shows that White high school students were significantly less likely than Black or White high school students to be *to be overweight/obese*. Hispanic/Latino high school students were significantly more likely than Black or White high school students to report *trying to lose weight*, and have *eaten less to lose or keep from gaining weight*. Black



high school students were less likely than Hispanic/Latino or White high school students to have *exercised to lose or keep from gaining weight during the past 30 days*.

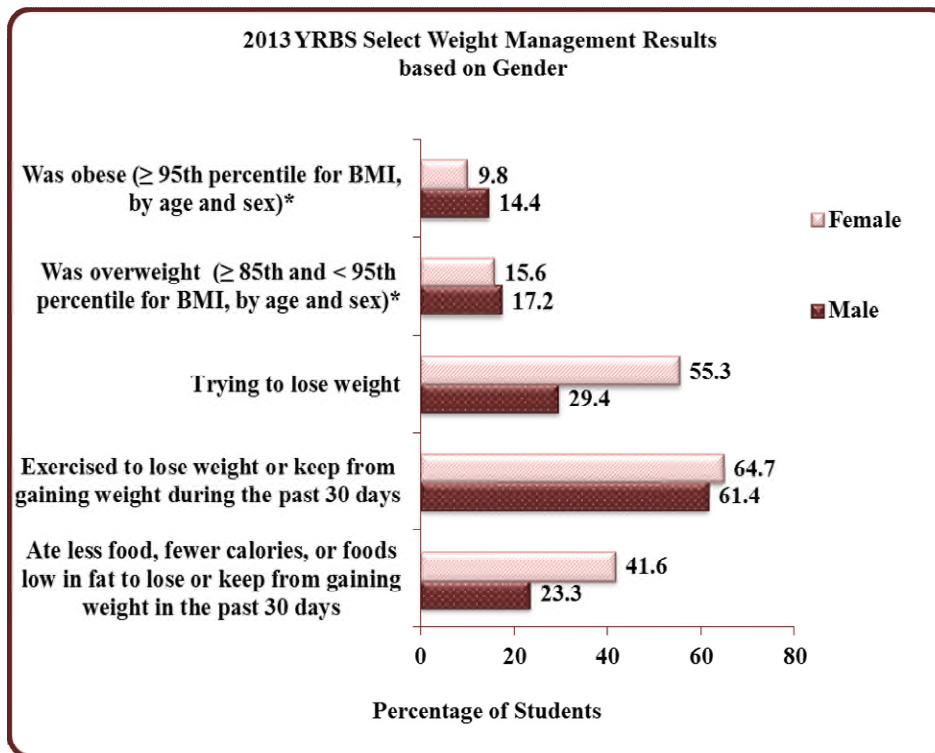


Figure 18

Figure 18 shows that high school females were significantly less likely than high school males to be *obese/overweight*. High school males were significantly less likely than high school females to report *trying to lose weight*, and have *eaten less food, fewer calories, or foods low in fat to lose or keep from gaining weight*. High school females were slightly more likely than high school males to have *exercised to lose or keep from gaining weight during the past 30 days*.

Weight Management, WSFC, North Carolina and U.S. High Schools

Table 6*

Weight Management	2013 WSFC	2013 NC	2013 US	2011 WSFC	2011 NC	2011 US	2009 WSFC	2009 NC	2009 US
Were obese (≥95th percentile for BMI, by age and sex)	12%	13%	14%	n/a	13%	13%	n/a	13%	12%
Were overweight (≥85th and <95th percentile for BMI, by age and sex)	16%	15%	17%	n/a	16%	15%	n/a	15%	16%
Trying to lose weight	42%	46%	48%	45%	45%	46%	43%	46%	44%
Exercised to lose or keep from gaining weight during the past 30 days	63%	61%	n/a	61%	60%	n/a	59%	62%	n/a
Ate less food, fewer calories, or foods low in fat to lose or keep from gaining weight in the past 30 days	32%	35%	n/a	39%	40%	n/a	37%	36%	n/a

*1) In comparison to Figure 16, percentages will be slightly off due to rounding, and 2) n/a = not available

Table 6 shows that between 2009 and 2013, the overall trend in weight management strategies among WSFC high school students compared favorably to the state in one category but did not in others. For example, the overall trend in the prevalence rate for WSFC high school students who *exercised to lose or keep from gaining weight during the past 30 days* (↑10%) compared favorably to the state (↓2%). In contrast, the overall trend in the prevalence rate for WSFC high school students who are *trying to lose weight* (↓2%), and have *eaten less food, fewer calories or foods low in fat to lose or keep from gaining weight in the past 30 days* (↓14%) compared unfavorably to the state (↓2%, ↓3%, respectively). National data was not available for analysis.



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.¹⁰ It is recommended that children and adolescents participate in 60 minutes or more of physical activity each day to maintain good health.¹⁰

Physical activity measures/sedentary lifestyle is associated with academic achievement. Analysis of the 2013 YRBS results showed that about **53%** of high school students who earned mostly A's, **44%** who earned mostly B's, **42%** who earned mostly C's and **28%** 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 **36%** of high school students who earned mostly A's, **37%** who earned mostly B's, **43%** who earned mostly C's and **46%** 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, less than one-half (45%) of WSFC high school students reported that they were *physically active for 60 minutes or more per day for 5 or more days*. Slightly more than 1 in 3 (38%) played on one or more sports teams in the past 12 months, and only about 1 in 5 (22%) participated in an individual sport during the past 12 months. About 1 in 3 (31%) watched television for 3 or more hours on an average school day, and slightly more than 1 in 3 (38%) played video or computer games for 3 or more hours on an average school day.

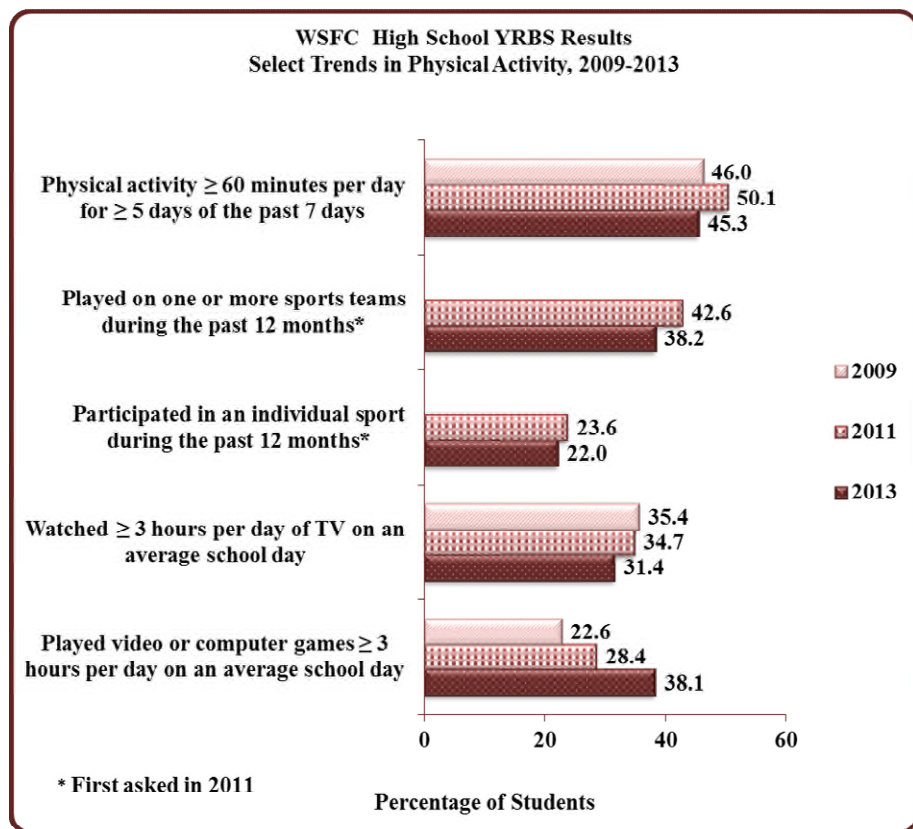
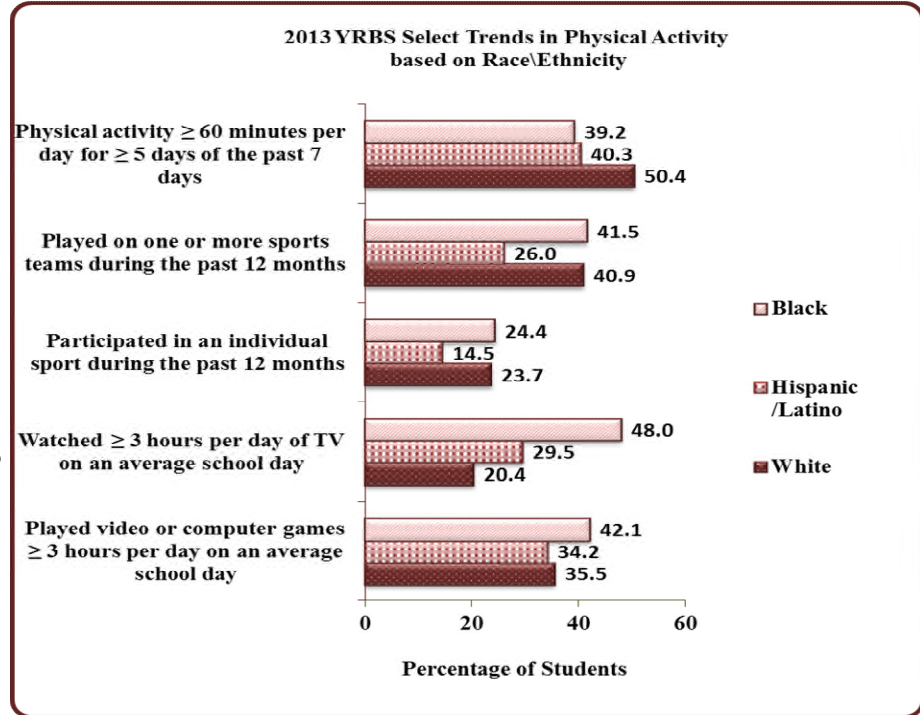


Figure 19 also compares the overall trend in the prevalence rates of physical activity measures among WSFC high school students between 2009 and 2013. There was a 2% decrease in the prevalence rate for high school students who were *physically active for 60 or more minutes on 5 of the past 7 days*. The prevalence rate for high school students who *played on one or more sports teams during the past 12 months* decreased by 10% between 2009 and 2013. There was a 7% decrease in the prevalence rate of high school students who *participated in an individual sport during the past 12 months*. Between 2009 and 2013, the prevalence rate decreased by 11% for high school students who *watched 3 or more hours of television on an average school day*. There was a 69% increase in the prevalence rate for high school students who *played video/computer games for 3 or more hours per day on an average school day*.

Figure 20

Figure 20 shows that White high school students were significantly more likely than Black or Hispanic/Latino high school students to be engaged in *physical activity that lasted 60 minutes or more for 5 or more days*. Hispanic/Latino high school students were significantly less likely than Black or White high school students to *play on one or more sports teams during the past 12 months*, and to have *participated in an individual sport during the past 12 months*. Black high school students were significantly



more likely than Hispanic/Latino or White high school students to *watch television for 3 or more hours on an average school day*, and to have *played video or computer games for 3 or more hours on an average school day*.

2013 YRBS Select Trends in Physical Activity based on Gender

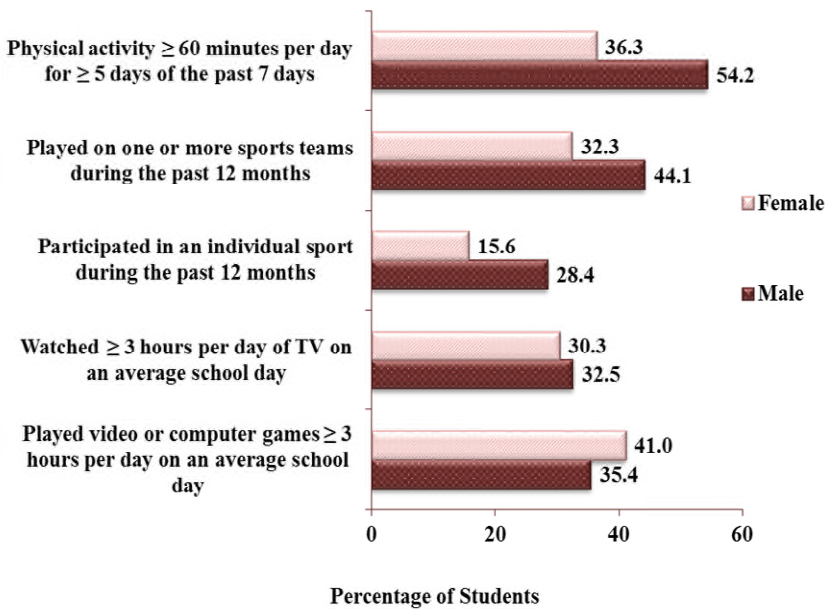


Figure 21

Figure 21 shows that high school males were significantly more likely than high school females to report that they were *physically active for greater than 60 minutes per day for 5 or more days*, and *played on one or more sports teams during the past 12 months*. High school males were almost twice as likely as high school females to have *participated in an individual sport in the past 12 months*. High school females were less likely than high school males to have *watched television for 3 or more hours on an average school day*. **High school females were significantly more likely than high school males to have played video or computer games for 3 or more hours during an average school day.**

Physical Activity, WSFC, North Carolina, and the U.S. High Schools

Table 7*

Physical Activity	2013 WSFC	2013 NC	2013 US	2011 WSFC	2011 NC	2011 US	2009 WSFC	2009 NC	2009 US
Physical activity ≥ 60 minutes per day for ≥ 5 of the past 7 days	45%	47%	37%	50%	48%	50%	46%	46%	47%
Played on ≥1 sports teams during the past 12 months	38%	39%	54%	43%	42%	58%	n/a	n/a	58%
Participated in an individual sport during the past 12 months	22%	25%	n/a	24%	25%	n/a	n/a	n/a	n/a
Watched ≥3 hours per pay of TV on an average school day	31%	33%	33%	35%	35%	32%	35%	36%	33%
Played video or computer games ≥3 hours per day on an average school day	38%	42%	41%	28%	28%	31%	23%	24%	25%

*) In comparison to Figure 19, percentages will be slightly off due to rounding, and 2) n/a = not available

Table 7 shows that between 2009 and 2013, the overall trend in physical activity measures among WSFC high school students were comparable to the state and the U.S. in one category 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 of the last 7 days (↓2%) was worse than the state (↑2%) but better than the U.S.'s (↓21%). The overall trend in the prevalence rate for WSFC high school students who watched television for 3 or more hours on an average school day (↓11%) was better than the state (↓8%) and the U.S.'s (no change).



Other Select Health Issues

Health-related issues such as asthma, sleep deprivation, gambling addiction, and disability influence quality of life in adolescence and may persist through adulthood.^{11, 12}

Some of these health issues are associated with academic achievement. Analysis of the 2013 YRBS results showed that about **40%** of high school students who earned mostly A's, **36%** who earned mostly B's, **38%** who earned mostly C's, and **25%** who earned mostly D/F's *received 8 or more hours sleep on an average school day*. In contrast, about **9%** of high school students who earned mostly A's, **13%** who earned mostly B's, **20%** who earned mostly C's and **25%** who earned mostly D/F's *had trouble learning, remembering or concentrating because of a disability or health problems*.

Figure 22 shows that in 2013, 1 in 10 (10%) WSFC high school students reported that they were *told by a doctor or nurse that they had asthma and still have asthma*. More than 1 in 4 (29%) gambled on a sports team, while playing cards, or similar endeavors on one or more times within the past 12 months. About 1 in 10 (11%) reported that their participation in activities was limited because of health problems or disability. Almost 1 in 7 (14%) reported that they had trouble learning, remembering, or concentrating because of health problems or disability.

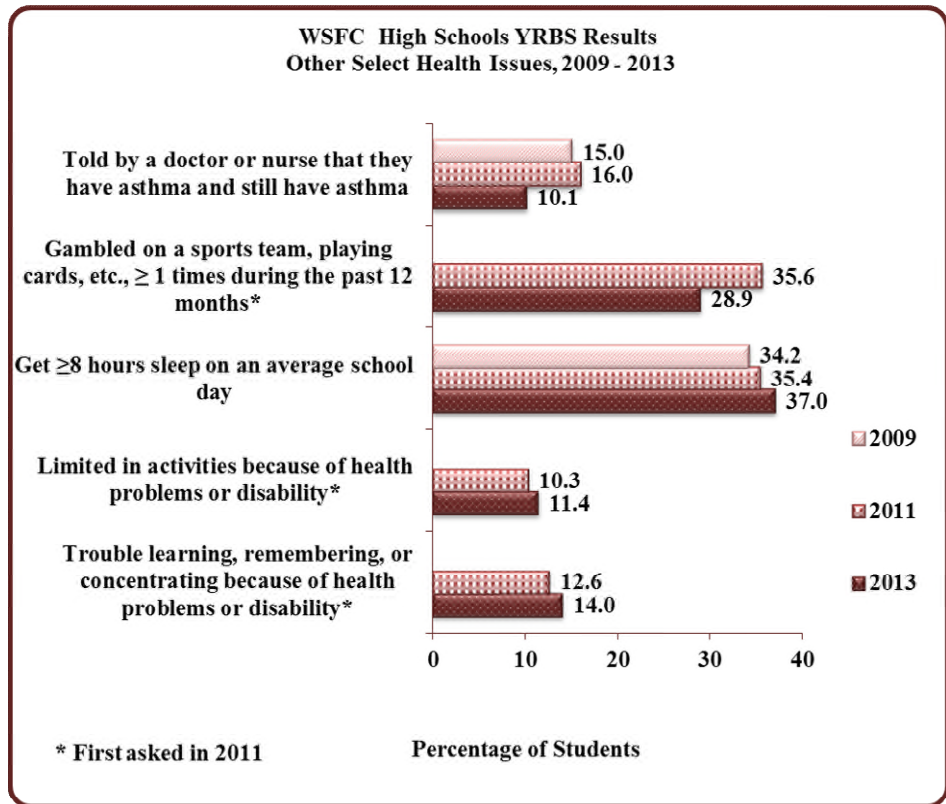
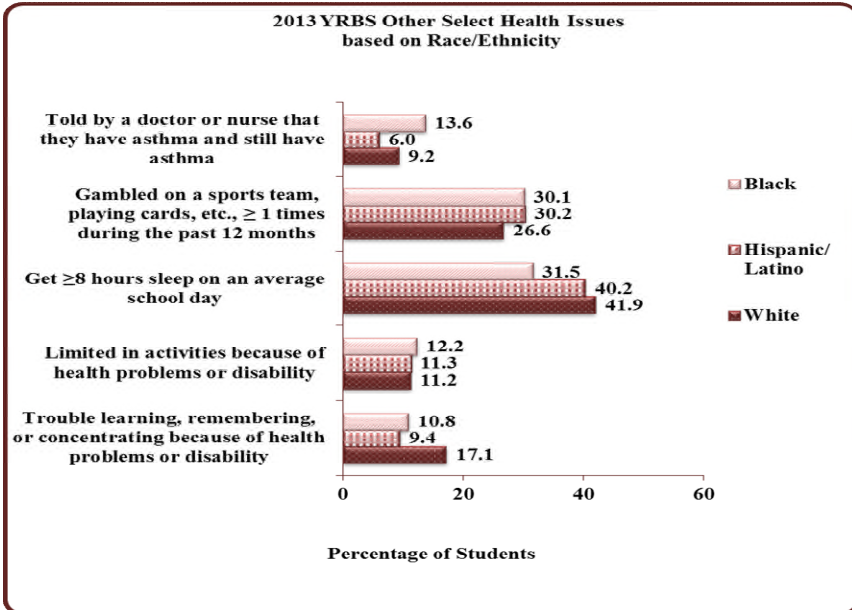


Figure 19 also compares the overall trend in the prevalence rate of select health issues among WSFC high school students between 2009 and 2013. There was a 33% decrease in the prevalence rate for high school students who were *told by a doctor or nurse that they have asthma and still have asthma*. The prevalence rate for high school students who *gambled on a sports team, playing cards or similar endeavors during the past 12 months* decreased by 19% between 2009 and 2013. There was an 8% increase in the prevalence rate of high school students who reported getting *8 or more hours of sleep on an average school day*. Between 2009 and 2013, the prevalence rate increased by 11% for high school students who *had limited participation in activities because of health problems or disability*. There was an 11% increase in the prevalence rate of high school students who *had trouble learning, remembering or concentrating because of health problems or disability*.

Figure 23

Figure 23 shows that significantly more Black high school students than White or Hispanic/Latino high school students were told by a doctor or nurse that *they had asthma and still have asthma*. White high school students were less likely than Black or Hispanic/Latino high school students to have *gambled on a sports team, while playing cards and similar activities on one or more times during the past 12 months*. Black high school students were less likely than Hispanic/Latino or White high school students to get



8 or more hours sleep on an average school night. Black high school students were more likely than Hispanic/Latino or White high school students to report *limited participation in activities due to health problems or disability*. White high school students were significantly more likely than Black or Hispanic/Latino high school students to report that they had *trouble learning, remembering, or concentrating because of health problems or disability*.

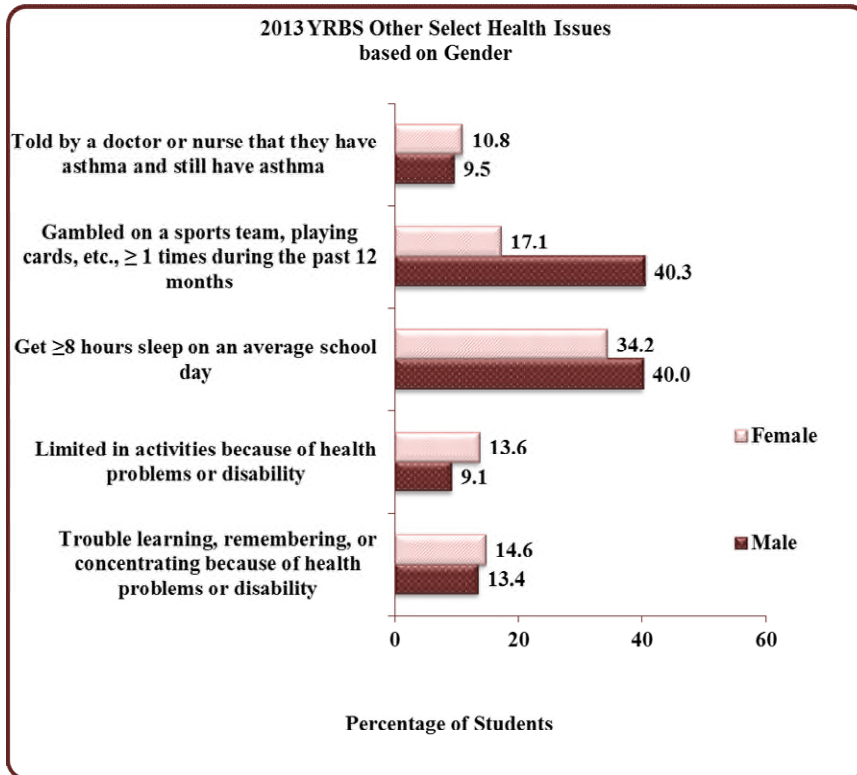


Figure 24

Figure 24 shows that high school females were more likely than high school males to report that a) *they had asthma and still have asthma*, b) *had limited participation in activities because of health problems or disability*, and c) *had trouble learning, remembering, or concentrating because of health problems or disability*. High school males were more than 2 times more likely than high school females to have *gambled on a sports team, while playing cards or similar endeavors on one or more times during the past 12 months*. High school females were significantly less likely than high school males to

have gotten 8 or more hours sleep on an average school day.

Other Select Health Issues, WSFC, North Carolina and U.S. High Schools

Table 8

Other Select Health Issues	2013 WSFC	2013 NC	2013 US	2011 WSFC	2011 NC	2011 US	2009 WSFC	2009 NC	2009 US
Told by a doctor or nurse that he or she had asthma and still have asthma	10%	12%	21%	16%	12%	23	15%	11%	22%
Gambled on a sports team, while playing cards, etc., ≥ 1 times during the past 12 mths.	29%	30%	n/a	36%	32%	n/a	n/a	n/a	n/a
Get ≥ 8 hours sleep on an average school day	37%	28%	32%	35%	27%	31	34%	29%	31%
Limited participation in activities because of health problems or disability	11%	11%	n/a	10%	11%	n/a	n/a	n/a	n/a
Trouble learning, remembering, or concentrating because of health problems or disability	14%	13%	n/a	13%	13%	n/a	n/a	n/a	n/a

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

Table 8 shows that between 2009 and 2013, the overall trend in the selected health issues among WSFC high school students were better than the state and the U.S. in most categories. For example, the overall trend in the prevalence rate for WSFC high school students *who still had asthma* (↓33%), and *who received 8 or more hours sleep on an average school day* (↑9%) were significantly better than the state (↑9%, ↓3%, respectively), and the U.S.'s (↓5%, ↑3%, respectively). The overall trend in the prevalence rate for WSFC high school students who *gambled on a sports team, while playing cards or similar events during the past 12 months*(↓19%) was better than the state (↓16%). National data for gambling among high school students were unavailable.





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