

2010 Chatham County Youth Health Behavior Report

Final Report
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2010 Chatham County Youth Health Behavior Report

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2010 Chatham County Youth Health Behavior Report

Executive Summary

Introduction and Methods

In the Spring of 2010, the Chatham County Public Health Department and Chatham County Schools partnered to survey 6th-12th grade students about their health behaviors and attitudes. This survey was conducted in conjunction with the 2010 Chatham County Community Health Assessment, which the Chatham County Public Health Department completes every four years to ensure that their work stays focused on current community needs. Students were surveyed online using the Chatham County Youth Health Behavior Survey tool, a modified version of the Centers for Disease Control and Prevention's Youth Risk Behavior Survey. The survey included questions covering four main areas of youth health: nutrition and physical activity, safety and violence, substance abuse, and sexual health.

Overall, 2539 6th-12th grade students participated in the 2010 Chatham County Youth Health Behavior Survey (CCYHBS), representing all Chatham County schools that serve grades 6-12. Because of the data collection and analysis process, the data presented in the Chatham County Youth Health Behavior Report truly reflect only those students who participated in the survey. Given these limitations, however, these data do present a sketch of what the county's youth as a whole may be doing and thinking about their health.

Overall, the data collected suggest that the percentage of youth engaging in health and risk behaviors in Chatham County is similar to the prevalence of these behaviors among students in North Carolina and in the United States as a whole. Some areas show possible differences, but there is no one area in which a far greater number of Chatham County students report risk behaviors as compared to parallel data for the state or nation.

Obesity and Related Behaviors

Childhood obesity and related behaviors such as nutrition behaviors and levels of physical activity, are of major interest and concern to communities around the country. Childhood obesity has been on the rise, and according to data from the 2010 CCYHBS, a slightly higher percentage of students in Chatham County may be overweight as compared to state and national data. More of Chatham County's students report higher levels of physical activity as compared to the state and nation, however less students report eating the recommended amount of fruits and vegetables. Additionally, slightly more of the Chatham County students who participated in the 2010 CCYHBS reported drinking soda than students in the state and nation. With changes being made throughout the county to increase opportunities for physical activity, including the opening of new parks and the inception of new school-based physical activity promotion programs, we will hope to see a leveling off or downward trend to the childhood obesity rate in the years to come.

Injury and Violence

Injury and violence are of concern because they are the leading causes of death among young people state wide and nationwide. In terms of injury prevention and violence related behaviors, data from the county compare favorably to data from North Carolina and the United States. Fewer Chatham County students participating in the 2010 CCYHBS reported rarely or never wearing a helmet when riding a bicycle compared to students in the state and nation. The percentage of Chatham County middle school students who report riding with a driver who had been drinking is less than the state prevalence of this behavior, and the percentage of Chatham County high school students who report riding with a driver who had been drinking is less than the nationwide prevalence. The percentage of Chatham County high school students who report considering and attempting suicide also lies below state and national prevalence.

Substance Abuse

Substance abuse can have adverse short and long-term health impacts on youth. According to the 2010 CCYHBS, it seems that overall, Chatham County students are engaging in less substance abuse than their counterparts in the state and the nation. Most notably, the percentage of students who reported abusing prescription drugs in Chatham County is far less than in the state. The percentage of students who report alcohol use in the past month also falls below the state and national level. One area in which Chatham County is lagging, however, is in tobacco use. Chatham County students' tobacco use may be slightly above the prevalence in North Carolina, while about the same as students nationwide.

Sexual Health and Risk Behaviors

Because of the health and social impact of unintended pregnancy and sexually transmitted infections, sexual risk behaviors among youth are of concern to public health and to the community. The prevalence of sexual risk factors among Chatham County students seems to be about average in comparison to the state and nation; on many indicators, the county places slightly higher than the national prevalence but slightly lower than the state prevalence. This is the case for the percentage of high school students who report ever having sexual intercourse, the percentage of high school students who report initiating sexual intercourse before the age of 13, and the percentage of high school students who report more than four sexual partners over their lifetimes. On a positive note in terms of sexual risk reduction, a great majority of Chatham County high school students reported using a condom during their last sexual encounter. Additionally, the adolescent pregnancy rate in Chatham County ranks in the lowest third of North Carolina counties.

Conclusion

In regards to health-related behaviors of youth overall, Chatham County seems to rank slightly better than average when compared to North Carolina and the United States. There are still plenty of students engaging in risky behaviors, however and a couple of areas in particular in which the county could improve. The Chatham County Public Health Department, Chatham County Schools, and multiple community-based organizations are already working in many of these areas and will use the data presented above to guide their future work and continued

collaboration. Hopefully these efforts will improve the lives of all of Chatham County's young people, and keep Chatham County a safe and healthy place to grow up.

2010 Chatham County Youth Health Behavior Report

Introduction

During the spring of 2010, the Chatham County Schools and the Chatham County Public Health Department partnered to administer the Chatham County Youth Health Behavior Survey. This report summarizes and provides analysis of the findings from this survey. Chatham County began surveying local youth health-related behaviors comprehensively in 2005 as part of the Community Health Assessment, a process completed by the Chatham County Public Health Department every four years. The 2010 Chatham County Youth Health Behavior Survey and this report focus on four main areas of youth health: obesity, safety and violence, substance abuse, and sexual health. Data related to these four areas is presented after an introduction to the methods that were used in developing the survey tool and collecting and analyzing the data.

Methods

Introduction

The Chatham County Schools and the Chatham County Public Health Department have a long history of collaboration. These two organizations worked together to ensure the successful administration of the 2005 Chatham County Youth Risk Behavior Survey (CCYRBS) and the 2010 Chatham County Youth Health Behavior survey (CCYHBS). When planning the 2010 CCYHBS, decisions about the survey questions, the administration of the survey, and survey analysis were made with the needs of both organizations in mind. The Community Health Assessment (CHA) team was formed in September 2009 to advise the 2010 Community Health Assessment process. This team was consulted on major decisions to ensure that the survey would complement other Community Health Assessment activities and meet the needs of other county organizations with a stake in youth health issues.

Survey Question Development

The Chatham County Youth Health Behavior Survey is modeled after the Centers for Disease Control's (CDC) Youth Risk Behavior Surveillance System (YRBSS) tool. Since 1991, the CDC has used the YRBS to get a picture of the behaviors in which youth are engaged that may positively or negatively influence their health.¹ The data collected through both illustrate trends in youth risk-taking and healthy behaviors and helps determine priority areas for intervention.¹ The CCYHBS collected basic demographic data from respondents as well as information about behaviors and perceptions related to: obesity, injury, violence, substance abuse, and sexual activity. Copies of both the middle school and high school versions of the 2010 YHBS can be found in Appendix A and B respectively.

The 2010 Chatham County Youth Health Behavior Survey has the same basic format as the CDC's 2009 YRBS, and includes many of the same questions. Because of the changes that were made however, the name of the survey was changed from "risk behavior survey" to "health behavior survey" so as minimize confusion about the two surveys and data sets. The CDC has tested their YRBS questions for reliability and validity.¹ The major differences between the

YRBS and the CCYHBS lie in the drug use, bullying, and intimate partner violence questions. The Chatham County Schools has used their own survey to collect drug use behaviors data from their students since 1990. In order to get a clear picture of Chatham County youth drug use behavior trends, the decision was made to change some of the drug questions so that they more closely follow what has been asked in the past. The 2008-2009 Chatham County Alcohol and Other Drug Use survey has been included in Appendix C for reference.

Similarly, Chatham County Schools surveyed its students regarding bullying behavior during the 2008-2009 school year, so it was decided that the bullying questions could be removed from the CCYHBS. Responses from the 2008-2009 CCS bullying survey have been included in this report to ensure that it provides a full picture of students' health-related behaviors. A copy of the 2008-2009 CCS bullying survey can be found in Appendix D. Because of feedback from the Community Health Assessment team, the questions related to violence against a partner and forced sexual contact were changed from their original YRBS wording. A few questions were also added or changed in the 2010 CCYHBS because they were changed in the 2005 Chatham County YRBS, and it seemed important to be able to follow-up on local trends.

The 2010 CCYHBS surveys were presented to the CHA team on two separate occasions during their development to solicit feedback. Additionally, the survey was tested with a group of middle school students to determine if any questions were unclear, and if the survey could be completed in 30-45 minutes. The Chatham County Schools administration and the Chatham County Health Director both reviewed and approved the surveys before they were administered.

Survey Administration Format

The CDC's YRBS is usually administered during class time with paper and pencil, as was the 2005 Chatham County Youth Risk Behavior Survey (CCYRBS). However, the decision was made to conduct the 2010 CCYHBS online. It seemed as though completing the survey online would be feasible at the high school level because of the 1 to 1 laptop program in Chatham County high schools, through which each student has his/her own laptop. Because this program does not extend to the middle grades, younger students would take the survey in their school's computer lab. Middle grades teachers and principals indicated that they would be able to schedule time in the computer lab for their classes to complete the survey if they were given a long enough window in which to do so.

The Community Health Assessment used the online survey tool Survey Monkey to complete its 2005 and 2010. The Chatham County Schools regularly use an online survey tool called K-12 Insight for internal assessments. Because of the ease of creating and administering surveys using these online tools, the lower cost as related to printing and analyzing paper surveys, and the community's familiarity with using these online tools, the decision was made to conduct the 2010 YHBS online, using the CCS K-12 Insight program.

Survey Administration Planning

As with the 2005 Chatham County YRBS, the 2010 YHBS was administered through the Chatham County Schools. Principals were apprised of the survey plan and schedule during a

principals meeting on January 19, 2010. Letters asking for teachers' cooperation and participation, with the URL for accessing the survey, and the time frame for administering the surveys were sent to all 6th through 12th grade teachers throughout the county. A copy of this letter can be found in Appendix E.

Permission slips were also sent at this time for teachers to send home through their classes. A copy of this permission slip is included in Appendix F. The permission slips included contact information for staff at the CCS and CCPHD and directed parents and caregivers to a URL at which they could find the survey questions. A passive permission system was used, meaning that parents and caregivers were only to send the slip back to their students' teacher if they did not want him/her to participate. An "instant alert" was scheduled to accompany the permission slips, letting parents and caregivers know via phone message/text message about the permission slip and the upcoming survey.

Survey Administration

The CCYHBS was administered during the week of March 8, 2010 at all Chatham County Schools sites serving students in grades 6-12. Students in charter schools in Chatham County were not surveyed. In the middle grades, homeroom teachers administered the survey with their students. As mentioned above, middle grades students generally completed the survey in the school computer lab. In the high schools, students took the survey in their first period classes. As mentioned above, high school students generally took the survey on their own laptop computers.

Survey Administration Barriers and Lessons Learned

Although an instant alert was scheduled to notify families about the survey, it was not sent out. Having not received this message, and not seen the permission slip (either because their student was not in class when it was sent home or because their student did not show it to them), some parents, unknowingly consented to their students' participation. One parent suggested that there be an active permission process instead, considering that some parents may consider the content of the survey sensitive or inappropriate, especially for the middle grades.

This was the first time that the Chatham County Schools administered a large scale survey electronically with students. While for the most part there were no major technological barriers, at one school, when multiple classes of student accessed the survey at the same time, there were technical difficulties and students were logged out of the survey without completing it.

No system was set up to verify which teachers completed the survey with their classes. Therefore, follow-up calls to encourage participation during the survey administration period could only be targeted broadly, at the whole school level, and not specifically toward those teachers who had not yet participated. Tracking which teachers administered the survey may also have allowed for them to be rewarded for their effort, which may have encouraged greater participation.

Although it may be useful data, the survey data was not analyzed by race/ethnicity to determine disparities among groups. Certain sampling strategies and statistical analyses are necessary to get

an accurate depiction of these differences. The data collection process as planned for the 2010 CCYHBS did not include the necessary steps. The CHA team determined that it would not be appropriate to analyze the data gathered along these lines. As such, it was also decided that this report would not cover youth health disparities, and instead this would be touched on in the 2010 CHA Health Disparities Report. A data collection process designed to account for differences among racial and ethnic groups may be considered for the next administration of the CCYHBS.

Data Analysis

Once the survey was closed, data was exported from K-12 Insight and imported into STATA for analysis. Data files were kept on compact disks in a locked file cabinet. Data was scoured for irregularities and the decision was made not to include certain responses within question categories based on the following:

- If an individual's response to the drug use question was extreme; responding yes to recent use of tobacco, alcohol, marijuana, cocaine, inhalants, methamphetamines, LSD, steroids, and prescription medications
- If an individual's response to the contraception use question was extreme; indicating use of multiple forms of birth control during last sexual encounter, as well as using no method and/or indicating that they didn't know which method was used.
- If an individual's height and/or weight were improbable and/or if their BMI when calculated was improbable, i.e., under 11 or over 50.
- If an individual responded inconsistently to the drug use questions, indicating that they had both *used* and *never used* tobacco, alcohol, marijuana, cocaine, inhalants, methamphetamines, LSD, steroids, or prescription medications.
- If an individual identified with every racial and ethnic category.

From the cleaned data, STATA was used to calculate frequency distributions, yielding the percentage of students participating in each of the behaviors. Additionally, BMI's were calculated from height and weight and analyzed in terms of weight categories based on CDC growth charts.² Cross tabulations were also performed on some of the drug use related data because past data had been analyzed in this manner and this would allow for comparison.

Overall Methods Limitations

The methods that the CDC uses in its administration of the YRBS provide a standard next to which the methods used in the 2010 CCYHBS process can be compared. In its administration of the YRBS, the CDC requires a scientifically selected sample of schools and students and requires at least a 60% response rate among schools in a jurisdiction and among students in those schools in order to use their data for national reporting.¹ After data are collected from jurisdictions that meet these requirements, they are statistically weighted, so that the data set more accurately reflects that of the actual distribution of students by grade level, race/ethnicity and gender within the jurisdictions.¹

For ease of implementation, convenience sampling (as described above) was used for the 2010 CCYHBS, which does not yield a scientifically selected sample. All schools serving 6th-12th grade students participated in the survey. A basic estimate of participation was calculated given estimated enrollment at the schools at the time of the survey and the number of students responding to the survey question “Which school do you attend?” About 77% of middle school students in Chatham County participated in the 2010 CCYHBS and about 47% of high school students. While the middle school response rate would be acceptable in terms of the CDC’s requirements, the high school response rate would not. No statistical weighting was performed to correct for differences between the survey sample and the actual characteristics of the student body, partially due to the convenience sampling and response rates and partially due to the complexity of this process given staff time and resources. Therefore, the data presented in this report are not generalizable to the entire 6th-12th grade population of Chatham County. These data truly reflect only the group of students who took the survey. However, they do give a general idea of the health and health behaviors of Chatham County’s students.

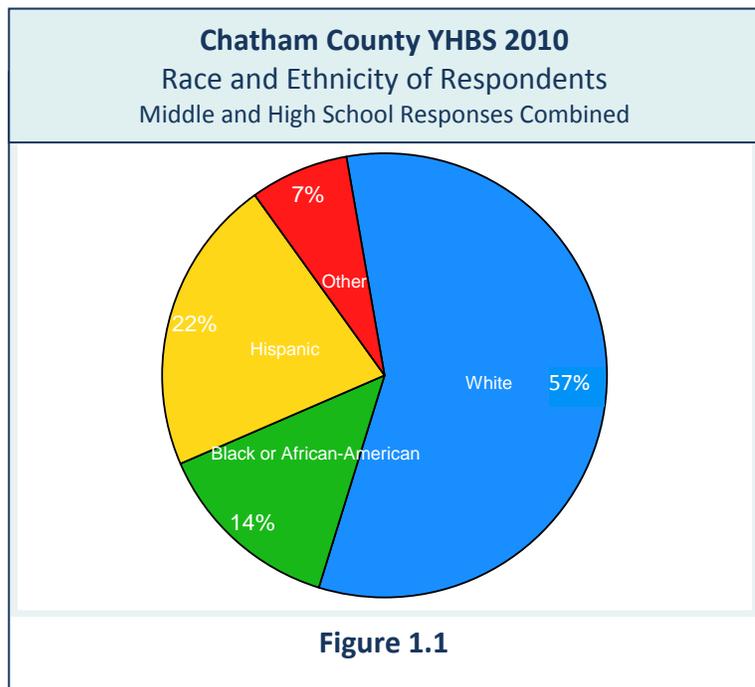
YHBS Results and Analysis

Introduction

The 2010 Chatham County Youth Health Behavior Survey (YHBS) was comprised of questions in these four main areas: nutrition and physical activity, safety and violence, substance abuse, and sexual health, and the following sections of the report are organized by these topics. Within each topic, results from the CCYHBS and other local youth health surveys are compared to state and national data when possible to show Chatham County’s standing within the wider context of youth health behaviors. When possible, data from the 2010 CCYHBS is also compared to data collected in 2005 locally, statewide, and nationally, to illustrate possible trends.

Student Characteristics

A total of 2539 students participated in the survey, including students from all of Chatham County’s schools serving grades 6 through 12. Overall, there were a higher number of respondents from the middle grades (6th-8th) than from grades 9th-12th. Participating schools include: Bennett School, Bonlee School, Chatham Middle School, Horton Middle School, J.S. Waters School, Moncure School, North Chatham School, Perry Harrison, Silk Hope, SAGE, Chatham Central High School, Jordan-Matthews High School, and Northwood High School. The



gender break-down of the YHBS respondents was close to that of the wider county population with 51.3% reporting their gender as male and 48.7% reporting their gender as female. As show in Figure 1.1, of those students that gave race/ethnicity data,

- **57.2 %** identified as White or Caucasian
- **14.3%** identified as Black or African American
- **21.5%** identified as Latino or Hispanic (Note: This percentage includes individuals identifying as Latino/Hispanic and another race/ethnicity)
- **4.5%** identified as being of more than one race/ethnicity (Note: This percentage excludes individuals identifying as Latino/Hispanic who are included in the Latino/Hispanic percentage above)
- **1.2%** identified as Native American or Alaska Native
- **.8%** identified as Asian
- **.4%** identified as Native Hawaiian or Pacific Islander

The basic demographics of the students who took the YHBS differ somewhat from the demographic spread of the county as a whole. The proportion of county residents that identify as Black or African American is very close to the proportion of YHBS respondents, 14.2% and 14.3% respectively.³ The major differences lie in the proportion of white or Caucasian and of Hispanic/Latino county residents. The 2006-2008 census data for Chatham County estimates that 75.6% of residents identify as White or Caucasian and not of Hispanic/Latino origin and that 12.4% of residents identified as being of Hispanic or Latino origin.³ Our student sample included more Latino youth, and fewer Caucasian youth. Not all youth in Chatham County were surveyed, and the racial/ethnic characteristics of our sample really reflect only those youth that participated in the survey and not the entire youth population of the county. Additionally, the way this data was collected on the YHBS differs from how it is collected through the census. These two factors may account for much of the difference between the census demographics and the CCYHBS demographics.

Response Rate and Implications for Data

Overall, participation among the middle grades was higher than among high school students. As described above, a basic estimate of participation was calculated showing that about 77% of middle school students in the County participated in the 2010 CCYHBS along with about 47% of high school students. As mentioned above, because of a variety of factors, including the low high school response rate, the data reported below truly reflects only the sample of students that participated in the survey. While this data should not be generalized to describe all 6th-12th grade students of the county, it can provide a basic picture of the prevalence of health behaviors among local youth.

Additionally it should be noted that the 2009 North Carolina YRBS data for middle school students, which is used for comparison purposes in this report, has not been statistically weighted and should mainly be seen as giving a basic sketch of the health behaviors among the state's middle school students, as opposed to a true representation. The 2009 North Carolina YRBS

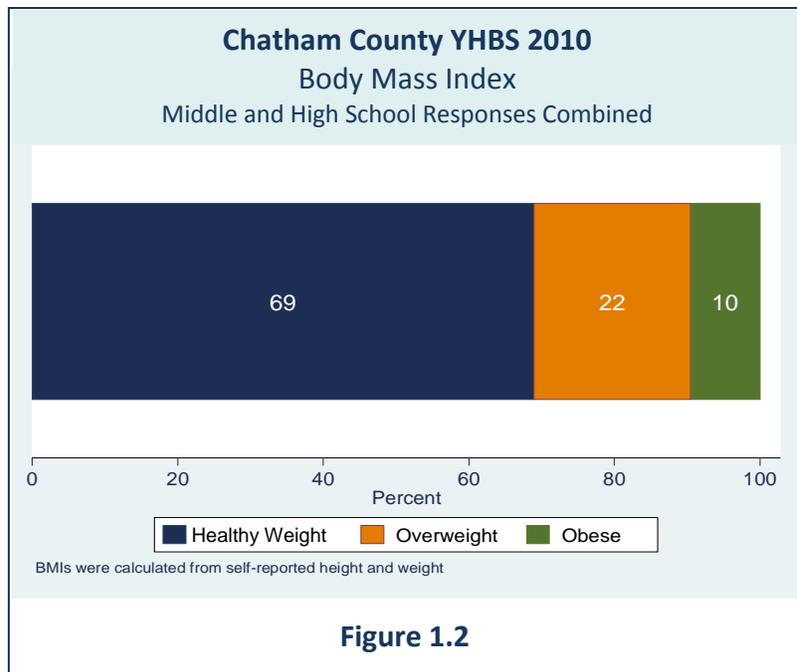
data for high school students and the 2009 US high school student data have been statistically weighted and can be considered generalizable to those respective populations.

Obesity

Overweight and obesity, especially among children is a major concern both nationally and locally. Many influences working in combination, from policy and environmental factors to individuals' health behaviors have contributed to increasing levels of obesity in the population.⁴ Overweight and obesity can lead individuals to develop high blood pressure and cholesterol, diabetes, and other physical and emotional conditions.⁵ Overweight and obesity in youth are of particular concern because overweight youth are more likely to become overweight adults and experience these health effects throughout their lives.⁵

The 2010 CCYHBS asked students for their height, weight, age, and gender. With this information Body Mass Index (BMI) was calculated for each individual and interpreted against the CDC's BMI for age growth charts.² BMI is an indicator of body fatness.⁶ For children and teens, BMI is calculated and interpreted within the context of the individual's age and sex using the CDC's BMI for age growth charts.⁵ It should be noted that in testing the validity of self-reported height and weight on the 1999 YRBS, the CDC found that on average students over-reported their height (reported that they were taller than they actually were) and under-reported their weight (reported that they weighed less than they actually did) slightly.¹ Because of this test, they believe that the YRBS may underestimate the prevalence of overweight and obesity among youth in the US.¹ Because the CCYHBS also relies on self-reported height and weight data, the data below may also underestimate the percentage of students participating in the survey who were overweight or obese.

The 2010 CCYHBS found that the BMI's of the majority of students in the 6-12th grades (68.9%) who took the survey, fall into the healthy weight range.(See Figure 1.2) The BMI's of 21.5% of the students were classified as overweight. The BMI's of 9.5% fall into the obese range. A separate category for underweight BMI's could not be calculated, so a fraction of those students in the healthy weight category may actually be underweight. For an estimate of how many students may be underweight, the National Health and Nutrition Examination Survey found that between 2003 and 2006, 3.8% of 12-19 year olds in the US were underweight and that this percentage had been declining over time.⁷



For a comparison, more of the high school students participating in the CCYHBS report overweight and obese BMI's than North Carolina students on a whole or students nationally. (See Table 1.1)

| Table 1.1 - Percentage of students overweight or obese | | | |
|--|------------------------------|---------------------------------|--------------------------------|
| Chatham Co. Middle School 2010 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 28.5% | 34.1% | 28% | 27.8% |

Nationally, 12% of high school students reported BMI's in the obese range and 15.8% in the overweight range.⁸ In North Carolina, 13.4% of high school students reported obese BMI's and 14.6% of students were reportedly overweight.⁹

For an interesting counterpoint to the BMI data, the CCYHBS also asked for students' perception of their own weight and asked if they were trying to do anything about their weight. Students' responses show some discrepancies between the calculated BMI's and students' self-perception of their weight. Assuming a percentage of underweight students around 4%, there is quite a jump between this number and the 14% of students reporting that they perceive themselves as underweight. The percentage of students identifying as "very overweight" (3%) is less than the 10% of students whose BMI's were calculated to be in the obese range. (See Figure 1.3)

There seem to be major differences between what actions students are taking in regards to their weight and their BMI's and self-perception of weight. While roughly 69% of

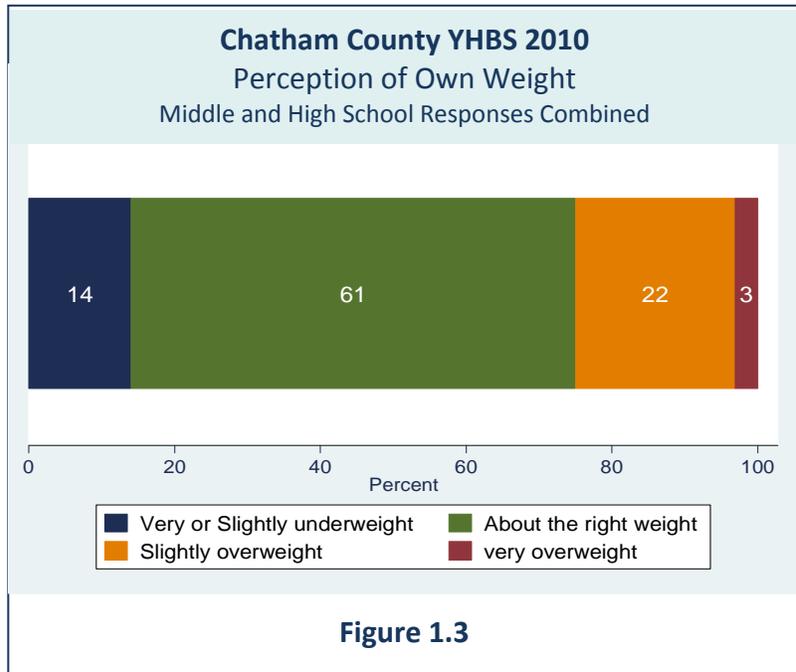


Figure 1.3

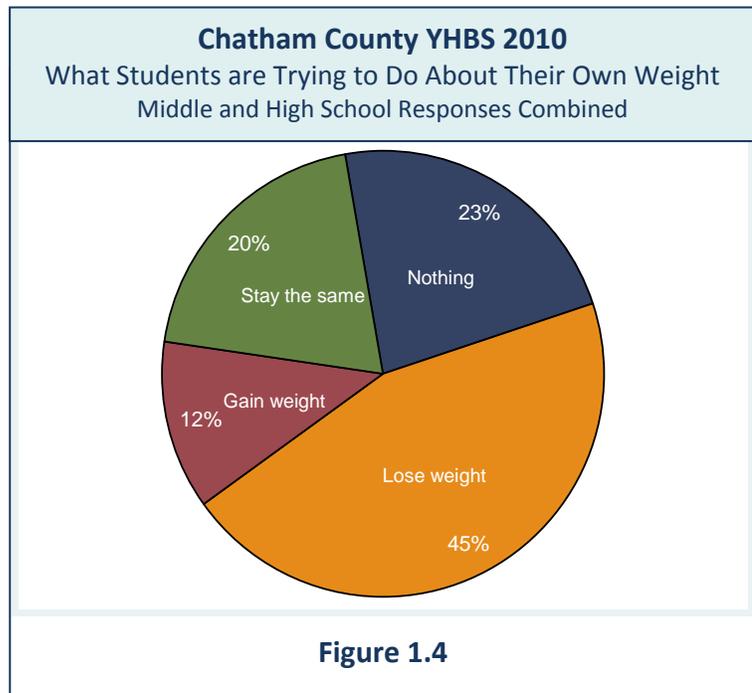


Figure 1.4

participating students reported BMI's in the healthy weight range and 61% considered themselves to be of about the right weight, only 43% of students claimed that they were either trying to maintain their current weight or do nothing about their weight. (See Figure 1.2) While 32% of the students had BMI's in the overweight or obese range and 25% considered themselves overweight, 45% of the students claimed that they were trying to lose weight.

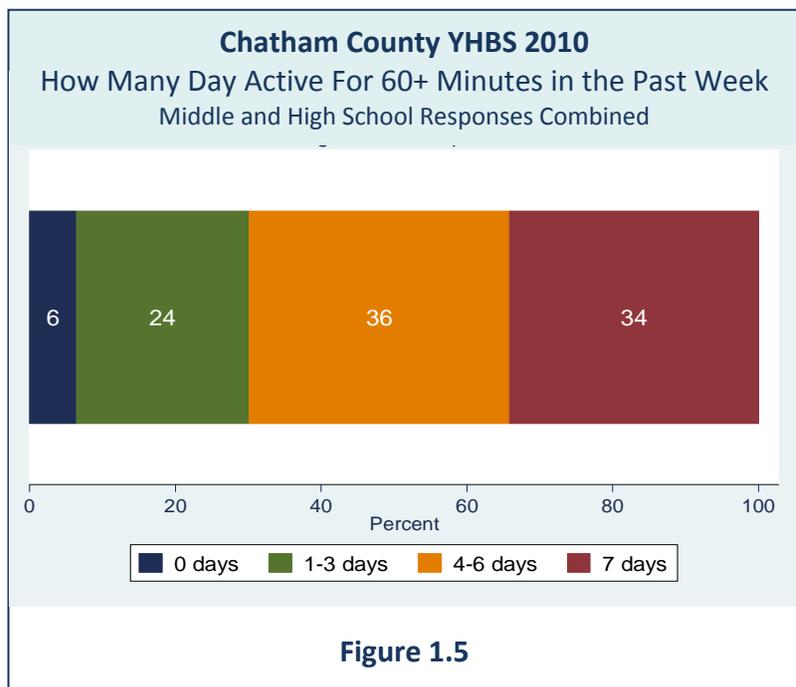
The disparities above are mirrored in state and national data as well and may be explained in part by students' interpretation of the questions, and by self-reporting bias.^{8,9} For example, students may have misreported their height and weight. Additionally, those students in the higher range of the healthy BMI category might be trying to lose weight to get to what they see as an optimal weight. Some of those students reporting that they were "about the right weight" might also weigh a bit more than they think is ideal, prompting them to try to lose weight.

The 2010 CCYHBS also collected information about weight loss and dieting behaviors, which could shed some light on the actions of the 45% of students trying to lose weight. Of those unhealthy dieting behaviors measured by the CCYHBS, the most commonly reported was fasting for 24 hours or more. Of Chatham County students taking the CCYHBS, 9.1% reported this behavior. The percentage of Chatham County students engaging in this and other unhealthy dieting behaviors was comparable or less than state and national prevalence estimates.^{8,9}

Physical Activity

Physical activity is a key behavior related to overweight/obesity prevalence and to individuals' overall wellbeing and quality of life. Participation in physical activity not only helps young people build muscle strength and endurance, but can reduce their risk of cardiovascular disease, reduce anxiety and stress, and help them live longer, healthier lives.⁹ Physical activity levels can be influenced by a young person's preferences and attitudes about exercise, but also by the attitudes and encouragement of peers and parents and the availability of environments and programs that offer opportunities to exercise.¹⁰

The US Department of Health and Human Services (USDHHS) recommends that youth participate in at least 60 minutes of moderate to vigorous physical activity every day.¹¹ Through the CCYHBS, students were asked on how many of the past seven days they were physically active for a total of at least 60 minutes. Over one third of participating students were reportedly meeting the



USDHHS recommended level of physical activity. (See Figure 1.5) Over one third of additional students responded to meeting the 60 minutes a day recommendation on 4-6 days during the past week.

The levels of physical activity reported by Chatham County students participating in the 2010 CCYHBS compare favorably to youth in North Carolina and the nation as a whole.^{8,9,12} (See Table 1.2) Comparing Chatham County’s middle school and high school students however, more middle school students taking the survey reported more days of physical activity than high school students taking the survey, and more high school students report zero days of physical activity in the past week than middle school students. This difference between age groups is consistent with the state YRBS data from 2009.^{9,12} (See Table 1.2) Interestingly, of those Chatham County students participating in the CCYHBS, the high school and middle grades students reported relatively similar levels of two common sedentary behaviors, watching television and using computers.

| Table 1.2 - Percentage of students physically active 5-7 of the past 7 Days | | | | |
|--|--|-------------------------------------|--|---------------------------------------|
| Chatham Co. Middle School 2010 | North Carolina Middle School 2009 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 64.6% | 60% | 52.7% | 46% | 37% |

This difference in activity levels may be partially explained by the differences in the structure of the school day at the high school and middle grade levels. While it is required that elementary and middle school students are provided a certain number of minutes of physical activity each week at school through a combination of physical education and recess, these mandates do not exist at the high school level.¹³ High school students are required to take one unit of Healthful Living and usually do so in the 9th grade, and all other physical activity related classes are electives. So, at the time of the survey it seems likely that a greater percentage of middle school students would have been involved in school-based physical activity in the past week than high school students.

In terms of trends, high school aged students’ participation in physical activity in general has not significantly increased or decreased since 2005 according to statewide and national data.^{14,15} There is no comparable local data assessing student physical activity levels from years past, so local trends cannot be determined. However, given that youth physical activity levels have held steady in the state and the nation, it is likely that local physical activity levels have not seen dramatic increases or decreases.

Nutrition Behaviors

Nutrition behaviors relate to overweight and obesity among young people and to their overall growth and development.¹⁶ While young people’s attitudes and preferences relating to food can impact what they eat, they are often dependent on parents to choose and purchase their meals, or they have their meal choices decided for them according to the school lunch menu. Healthy

| Table 1.3 - Percentage of students who ate vegetables 3+ times per day in the past week | | | |
|--|-------------------------------------|--|---------------------------------------|
| Chatham Co. Middle School 2010 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 10.2% | 8.8% | 9.1% | 13.8% |

eating behaviors in youth not only impact weight, also but dental health and academic performance.¹⁶

Fruit and vegetable consumption is one measure of healthy eating assessed through the CC YHBS. Although the number of servings of fruits and vegetables that the USDA recommends for youth varies by age, older children should be eating around 4 servings of fruits and 5 servings of vegetables, daily.¹⁷ The YHBS did not ask about servings, but instead asked how many times in the past week students ate fruits and vegetables. About 40% of Chatham County’s middle and high school students, participating in the 2010 CCYHBS, reported eating both fruits and vegetables at least 1-3 times per day. (See Figure 1.6) This leaves about 60% of these students reporting eating fruits and vegetables less than once per day. For the purpose of comparison, responses from Chatham County’s high school students reporting through the 2010 CCYHBS, show that they are eating vegetables almost often as North Carolina’s high school population and but less than US high school students as a whole.^{8,9} (See Table 1.3)

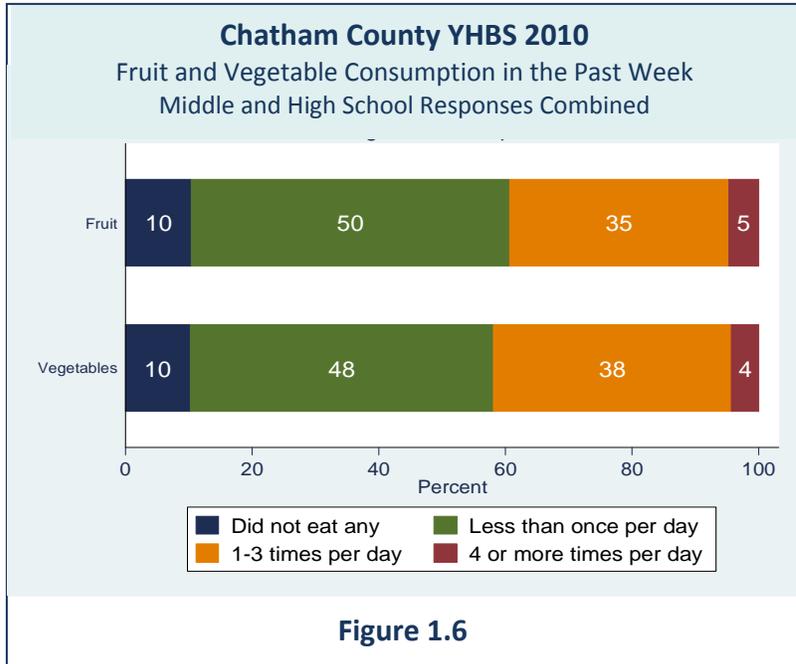


Figure 1.6

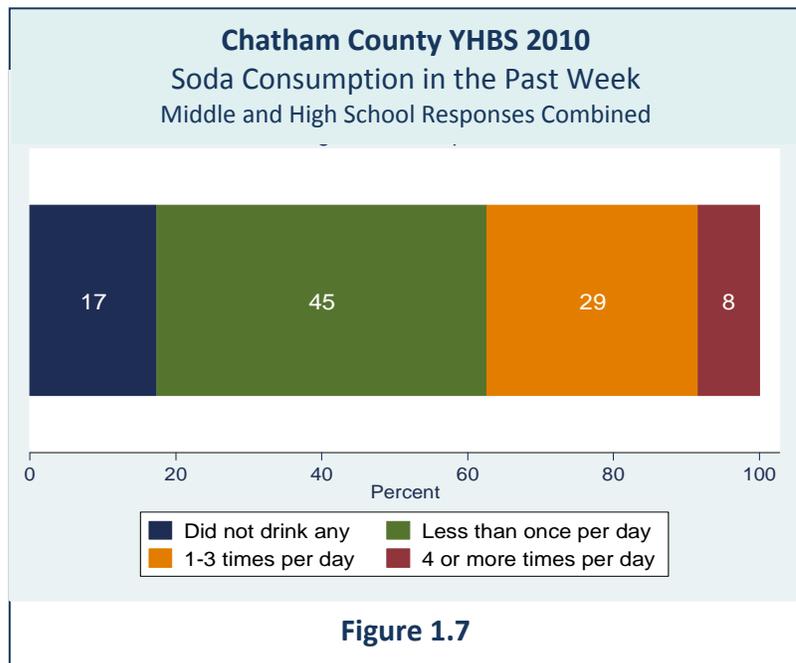


Figure 1.7

Another measure of healthy diet is consumption of soda. There is evidence to show an association between the consumption of sweet drinks and weight gain in youth.⁴ A majority of Chatham County’s students, participating in the 2010 YHBS, reported drinking soda less than once per day or not at all. However, as compared to the prevalence of youth soda intake state-wide and nation-wide, more of Chatham County’s middle school and high school student respondents reported drinking soda once or more times per day.^{8,9} (See Figure 1.7)

| Table 1.4 - Percentage of students who drank soda 1+ times per day in the past week | | | |
|--|-------------------------------------|--|---------------------------------------|
| Chatham Co. Middle School 2010 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 39.3% | 34.9% | 32.5% | 29.2% |

Preventing and Reducing Childhood Obesity: Best Practices and Local Efforts

The CDC has multiple recommendations for preventing and decreasing obesity and those that focus on childhood obesity including program, policy, and environmental changes to both school and community settings.¹⁸ In terms of physical activity, it is important that youth have opportunities to engage in structured and unstructured physical activity, have access to safe environments that encourage physical activity, and have support and encouragement regarding participation in physical activity from adults including parents, school staff, healthcare providers and others.^{18,10} In terms of community environmental changes that support physical activity, it is recommended to work toward more walkable and bikeable communities in which community members can safely travel by foot or bicycle to schools and to purchase healthy foods.¹⁸ In terms of nutrition behaviors, at the school and community levels, it is important to increase access to affordable healthy foods, restrict access to unhealthy foods, and provide students with quality nutrition education.^{18,19}

A couple of promising state-wide initiatives may impact Chatham County students’ levels of physical activity and access to healthier foods. In 2005, the NC State Board of Education passed the Healthy Active Children Policy (HSP-S-000), requiring that students in the elementary and middle grades be provided a minimum of 30 minutes during each school day for moderate to vigorous physical activity.¹³ Additionally, federal and state laws governing school food service have been increasing pressure on schools to provide healthier meals. In 2005, the NC State Board of Education adopted a policy (EEO-S-002) guiding the nutritional content of school lunch for elementary grade students, and North Carolina passed a state law (NC General Statute 115C-264.2) limiting the sale of unhealthy foods in school vending machines.^{20,21}

The North Carolina Alliance for Athletics, Health, Physical Education, Recreation and Dance (NCAAHPERD) piloted the In-School Prevention of Obesity and Disease initiative (IsPOD) in 2006, and has been working with school districts since then to provide the evidence-based physical education curriculum SPARK and corresponding teacher training, and FITNESSGRAM fitness testing software.²² Chatham County’s K-8th grade PE teachers participated in this program

during the 2010-2011 school year. The goal is to have a positive effect on students' levels of physical activity during the school day.

On the local level, there has been political will to address obesity within Chatham County. A new Childhood Obesity Prevention Coordinator, housed in the Chatham County Public Health Department, will begin work in 2011. This staff person will work to develop and coordinate childhood obesity prevention initiatives in the county. Additionally, five schools throughout the county are currently implementing a school-based physical activity promotion program developed by Be Active North Carolina called Just Push Play, which should lead to sustainable organizational and environmental changes that make these schools more active. Two new parks were opened in 2010, one near Silk Hope and one in Pittsboro, and the Chatham County section of the American Tobacco Trail was completed. Other parks and greenway projects are in the planning stages.

Injury and Violence

Injuries are generally divided into two categories, unintentional injury, which includes incidents such as motor vehicle crashes and fires, and intentional injury, which includes acts of violence and suicide.²³ The rates of unintentional and intentional injury among Chatham County youth are of interest because in 2007, in the US and in the state, unintentional injuries were the leading cause of death in young people aged 1-24.²⁴ Additionally, among 15-24 year old youth in both the state and the nation, homicide was the second leading cause of death and suicide was the third leading cause of death.²⁴

To assess injury-related behaviors among youth in Chatham County, the CCYHBS collected information on helmet and safety belt use, drinking and driving, carrying a weapon, dating violence, and suicidal thoughts and attempts. In the youth context, bullying is another concerning form of violence, and a summary of bullying data from the CCS bullying survey will also be included here.

Unintentional Injuries

Helmet Use

In the U.S., youth under age 16 accounted for 13% of all cycling crash related fatalities and 25% of all cycling crash related injuries in 2008.²⁵ In all, over two thirds of bicycle fatalities involve head injury; bicycle helmet use is the most effective way to reduce bicycle crash related head injuries and death.²⁶ Accordingly, the importance of bicycle helmet use is included as a learning objective in the North Carolina state standards for K-12 health education.²⁷

Among 2010 CCYHBS respondents who rode a bicycle in the past year, over two thirds reported never or rarely wearing a bicycle helmet. More middle school students than high school students reported wearing a helmet some of the time, most of the time, or always. The percentage of Chatham County's middle and high school student respondents who never or rarely wore helmets while cycling is similar to the percentages of North Carolina students and students nationally engaging in this risk behavior. (See Table 1.5)^{8,9,12} Comparing the 2010 CCYHBS data with the 2005 Chatham County YRBS data, the percentage of students reporting that they never or rarely wore bicycle helmets shows little change.²⁸ Similarly, there has been no discernable trend nationally in terms of helmet use since 2001.²⁹ However, the percentage of North Carolina high school students reporting that they never/rarely wear bicycle helmets decreased from 2007 to 2009.¹⁵

| Table 1.5 - Percentage of students who never/rarely wore bicycle helmet | | | | |
|--|--|---|--|---|
| Chatham Co. Middle School 2010 | North Carolina Middle School 2009 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 73.1% | 76.2% | 85.4% | 84.1% | 85% |

Overall, more students reported wearing helmets while riding motorized vehicles such as four-wheelers and motorcycles than while cycling. About a third of students reported sometimes, most of the time or always wearing a helmet while riding a 4-wheeler or ATV. This still leaves two thirds who never or rarely do. Among Chatham County’s high school students who ride motorcycles and participated in the 2010 YHBS survey, 51% reported sometimes, most of the time or always wearing a helmet. This percentage is low in comparison to US students as a whole. About 68% of high school students nationwide reported sometimes, most of the time or always wearing a helmet while riding a motorcycle.⁸ It should be noted that because of the small portion of students who reported riding a motorcycle (248), these helmet use statistics cannot be taken as a true reflection of the behaviors of this group of students or Chatham County students as a whole.

Motor Vehicle Injury Behaviors

In 2007, motor vehicle crashes were the leading cause of unintentional injuries and death in young people aged 5-24 years nationwide.²⁴ To assess the risks and safety precautions being taken by Chatham County’s youth related to motor vehicle injuries, the 2010 CCYHBS surveyed safety belt usage and behaviors related to impaired driving.

About 84% of CCYHBS respondents reported always or most of the time wearing a safety belt while riding in (not driving) a car. About 7% of students reported never or rarely wearing a seat belt and this is comparable to state and national data.^{8,9,12} (See Table 1.6) In 2005, 11% of Chatham County’s students participating in the 2005 CCYRBS, reported never or rarely wearing a seat belt, which might indicate a decrease in this risk behavior locally over this 4 year period.²⁸

| Table 1.6 - Percentage of students who never/rarely wore seat belt | | | | |
|---|--|-------------------------------------|--|---------------------------------------|
| Chatham Co. Middle School 2010 | North Carolina Middle School 2009 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 7.2% | 6.7% | 7.2% | 7% | 9.7% |

The majority of Chatham County’s students participating in the 2010 CCYHBS (82.7%) reported that, during the month before they took the survey, they had not ridden in a car with someone who had been drinking alcohol. However, about 15% of middle school student respondents and about 20% of high school students reported this behavior. For middle school students, this percentage is lower than the state data indicates.¹² (See Table 1.7) For high school students, this percentage is comparable with state data but below the national percentage.^{12,8}

| Table 1.7 - Percentage of students who rode with driver who had been drinking | | | | |
|--|--|-------------------------------------|--|---------------------------------------|
| Chatham Co. Middle School 2010 | North Carolina Middle School 2009 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 15 % | 26.5% | 20.3% | 20.7 | 28.3% |

Of high school level CCYHBS respondents, almost 92% reported that during the month before they took the survey, they had not driven a car while drinking alcohol. This leaves about 8% of students engaging in this behavior. This percentage is comparable with North Carolina data and slightly lower than the national percentage of students driving while drinking alcohol.^{8,9} (See Table 1.8)

| Table 1.8 - Percentage of high school students who drove when drinking | | |
|---|----------------------------|---------------------------|
| Chatham County 2010 | North Carolina 2009 | United States 2009 |
| 8.1% | 8.2% | 9.7% |

Intentional Injuries

Bullying and School-Related Violence

Violence is a major contributor to youth injury and death in the United States and North Carolina, and a portion of this violence occurs in school.²⁴ Less than 1% of homicides and suicides among school-age youth happen on school grounds or on the way to or from school or a school-sponsored event. However, any violence within school can disrupt learning and impact student achievement along with student physical and emotional wellbeing.³⁰ Fear of bullying at school leads to as many as 160,000 students nationally leaving school early on any given day.³⁰ Additionally, in 2009, 5.6% of North Carolina high school students reported not going to school for fear of violence on at least one of the 30 days before they were surveyed on this topic.⁹

According to data from the 2008-2009 CCS bullying survey, 42% of students in 3rd through 10th grade reported that they have been bullied in school.³¹ The number of students that report being bullied has increased locally since 2005.³¹ Bullying behaviors that students reported experiencing included being teased and called names; being left out of groups; being called “gay”, “lesbian”, “faggot” or “queer”; being hit, kicked or pushed; having belongings taken; and having others not sit by or talk to them.³¹

In 2009, 41.7% of North Carolina middle school students reported being bullied at school, so it seems that Chatham County’s prevalence of being bullied may be comparable to the state.¹² In 2005, 32.8% of North Carolina middle school students reported being bullied or harassed at school, and that increase mirrors the increase seen in Chatham County between 2005 and 2009.³²

In terms of physical fights and assaults happening on school grounds, during the 2009-2010 school year, Chatham County Schools reported 120 incidents among students in the 4th-12th grades.³³ Of North Carolina high school students, 9.4% reported being in a physical fight on school property within the past year, 11.1% of students nationally reported this.^{8,9} The number of students who report engaging in a fight at school has decreased nationally since 1993, and statewide since 2005.^{15,34}

Weapons

In order to get a full picture of youth violence, it is important to understand the role of weapons. In 2007, 84% of 10 to 24 year old homicide victims in the US were killed with a firearm.²⁴ CCYHBS data indicates that a majority of Chatham County's middle school students do not carry weapons, however of CCYHBS respondents, 28.6% reported that they had ever carried a weapon, such as a gun, knife or club. In 2005, 32% of Chatham County's middle school students participating in the CCYRBS reported having ever carried a weapon.²⁸ In comparison, in 2009, 38.9% of North Carolina middle school students reported having ever carried a weapon, and in 2005, 41.5 % of North Carolina middle school students had ever carried a weapon.^{12,32} Both in the state and in Chatham County, it seems as though the percentage of middle school students who carry a weapon may be decreasing.

Similar to middle school students, a majority of Chatham County's high school students participating in the 2010 CCYHBS reported that, in the month prior to the survey, they did not carry a weapon. This leaves a minority of students, 19.6% that did carry a weapon on 1 or more days. Looking into further detail, 10% of students reported that they carried a weapon on 6 or more days in the 30 days prior to the survey. In 2005, 28% of students responding to the CCYRBS reported carrying a weapon in the month prior to the survey.²⁸ On this survey, 13% of students reported that they carried a weapon on six or more days in the past month.²⁸

In comparison, in 2009, 19.6% of North Carolina's students had carried a weapon on one or more days during the past month.⁹ (See Table 1.9) In 2009, 17.5% of high school students nationally carried a weapon.⁸ Trends in the local (2005-2009), state (1993-2009), and national (1991-2009) data, point to a decrease in the percentage of students carrying weapons.^{28,15,35}

| Table – 1.9 Percentage of high school students who carried a weapon in the past 30 days | | |
|--|--------------------------------|-------------------------------|
| Chatham County 2010 | North Carolina 2009 | United States 2009 |
| 19.6% | 19.6% | 17.5% |

Additionally, of students in Chatham County participating in the 2010 YHBS, 4.9% reported bringing a weapon to school in the month prior to the survey. This data is comparable to state and national data.^{8,9}

Dating Violence

Teen dating violence can include physical, emotional, or sexual abuse.³⁶ It is of concern in part because young people victimized by dating violence are more likely to do poorly in school and experience depression, and may engage in alcohol or drug use.³⁶ Additionally, teens are learning relationship skills and norms at this point in their lives; engaging in unhealthy relationships as a teen can set a pattern for future relationship violence. Learning healthy relationship skills at this time can prevent dating violence into adulthood.³⁶

Of Chatham County students responding to the CCYHBS, 4.7% reported that they had ever been hit or physically hurt by their dating partner in a way that made them feel afraid. For a general comparison, 12.6% of North Carolina high school students and 9.8% of high school students nationwide reported that they had been purposefully physically hurt by a dating partner.^{8,9} The dating violence question asked on Chatham County’s survey differed from the question on the state and national YRBS, making the results not accurately comparable. This may explain in part why Chatham County’s percentage is so much lower.

The percentage of high school students responding to the 2010 CCYHBS that they had been forced to engage in sexual intercourse or any sexual activity that they did not want to do is, at 8.3% percent, greater than the number of Chatham County high school students taking part in this survey who reported dating violence (6.5%). In 2005, 11% of Chatham County high school students responding to the CCYRBS reported forced sexual intercourse.²⁸

The percentage of Chatham County high school students participating in the CCYHBS reporting forced sexual activity is close to both the state and national prevalence.^{8,9} (Table 1.10) In North Carolina, 8.6% of high school students report a forced instance of sexual intercourse in 2009.⁹ Nationally, in 2009, 7.4% reported this.⁸ There have been no significant changes in these state and national percentages over the past 5 and 9 years, respectively.^{15,38}

| Chatham County 2010 | North Carolina 2009 | United States 2009 |
|--------------------------------|--------------------------------|-------------------------------|
| 8.3% | 8.6% | 7.4% |

Suicide

The counter to violence against another individual is self-inflicted violence. In North Carolina and in the nation in 2007, suicide was the third leading cause of death for 15-24 year olds and the fourth leading cause of death for 10-14 year olds.²⁴ There are many more suicide attempts than completions, and these attempts can leave individuals injured and in need of medical care.³⁹ Having attempted suicide in the past or having a family history of suicide put an individual at higher risk of suicide, as does drug and alcohol use, a history of depression or other mental illness, and feeling alone.³⁹

Because of the connection between depression and suicide, the 2010 CCYHBS asked high school students if, over the year preceding the survey, they had felt so sad or hopeless every day

for 2 or more weeks in a row that they stopped doing their usual activities. About a quarter of students reported that they had, while three quarters indicated they had not. These data are similar to 2009 state and national data. (See Table 1.11) Nationally, 26.1% of high school students and 27.4% of North Carolina high school students reported these depressive symptoms.^{8,9}

| Table 1.11 - Percentage of high school students who report feeling extremely sad or hopeless | | |
|---|--------------------------------|-------------------------------|
| Chatham County 2010 | North Carolina 2009 | United States 2009 |
| 25.4% | 27.4% | 26.1% |

In 2005, 27% of Chatham County students participating in the CCYRBS reported depressive symptoms, which would indicate no major change over the past 5 years.²⁸ North Carolina data do not indicate a major change in the prevalence of this youth experience over time either.¹⁵

In 2010, 14.6% of Chatham County middle school students participating in the CCYHBS reported that they had ever seriously thought about killing themselves. This compares to 19.2% of middle school students in North Carolina who reported in 2009 that they had ever seriously thought about killing themselves.¹² In 2010, 10.2% of Chatham County high school students taking part in the CCYHBS reported that in the year preceding the survey, they had thought seriously about killing themselves. This percentage is lower than the percentage of North Carolina high school students (13.2%) and high school students nationally (13.8%) who report this behavior.^{8,9} (See Table 1.12)

| Table 1.12 - Percentage of high school students who report seriously considering suicide in past year | | |
|--|--------------------------------|-------------------------------|
| Chatham County 2010 | North Carolina 2009 | United States 2009 |
| 10.2% | 13.2% | 13.8% |

In 2005, 12.9% of Chatham County high school students responding to the CCYRBS reported seriously considering suicide.²⁸ There seems to have been a downward trend nationally on this measure since 1991, and statewide since 1993, and this trend may be echoed locally.^{15,40}

In terms of suicide attempts, 5.7% of Chatham County middle school students responding to the 2010 CCYHBS reported that they had ever tried to kill themselves. Of Chatham County high school students participating in the 2010 CCYHBS, 4.3% reported that they had tried to kill themselves one or more times in the year preceding the survey. As you can see in Table 1.13, this percentage is lower than the 2009 state prevalence of this behavior among high school student (9.9%) and among US high school students as a whole (6.3%).^{8,9}

| Table 1.13 - Percentage of high school students who report attempting suicide in the past year | | |
|---|--------------------------------|-------------------------------|
| Chatham County 2010 | North Carolina 2009 | United States 2009 |
| 4.3% | 9.9% | 6.3% |

In 2005, the percentage of students who reported attempting suicide on the CCYRBS was 11.2%.²⁸ There has been a decline statewide in the number of students attempting suicide since 2005, and nationwide since 2001, and this decline may extend to Chatham County youth as well.^{15,40}

Preventing and Reducing Injury and Violence Among Youth: Best Practices and Local Efforts

To prevent youth violence, the CDC recommends a coordinated and comprehensive community approach that brings local community leaders, businesses and faith organizations together with the local school system, justice system, public safety and human services agencies.⁴¹ Quality implementation of interventions to change individual attitudes and behaviors and youth social and environmental contexts both within school and in the larger community is crucial.⁴²

Local organizations do collaborate in Chatham County to prevent youth violence. One example is the School Resource Officer (SRO) program, a long-standing collaboration between the Chatham County Schools and the Chatham County Sheriff’s Office.⁴³ Most of Chatham County’s high schools and middle school host School Resource Officers (SRO’s), who are certified law enforcement officers permanently assigned to a school or set of schools to fulfill 3 roles: (1) that of a law enforcement officer, (2) that of a law-related counselor, and (3) that of a law-related educator.⁴³ Just over half (53.8%) of students responding to the 2010 CCYHBS, whose school had a SRO, reported that they believed that the SRO had been helpful or very helpful in reducing violence at their schools. An additional 28.3% thought the SRO had been somewhat helpful.

Another example of collaboration is in the field of sexual abuse and rape. The Family Violence and Rape Crisis Center provides prevention and support services to Chatham County. This organization has had an ongoing relationship with Chatham County Schools, providing in-school rape prevention education and school based activities.

As an organization, Chatham County Schools has a policy prohibiting discrimination, bullying, and harassment, meant to guide the conduct of all staff, students, and guests on school campuses (Policy Code: 1710/4021/7230).⁴⁴ Individual schools implement their own bullying and violence prevention initiatives.

Substance Abuse

Adolescent substance abuse is of major concern because of both the short and long-term health effects it can have. These health effects are both direct, impeding physical and mental health, and indirect, playing a role in unintentional injuries such as motor vehicle crashes.⁴⁵ One unique concern relating to long-term impact, is that drug use during adolescence can irreversibly shape and change an adolescent’s developing brain.⁴⁶

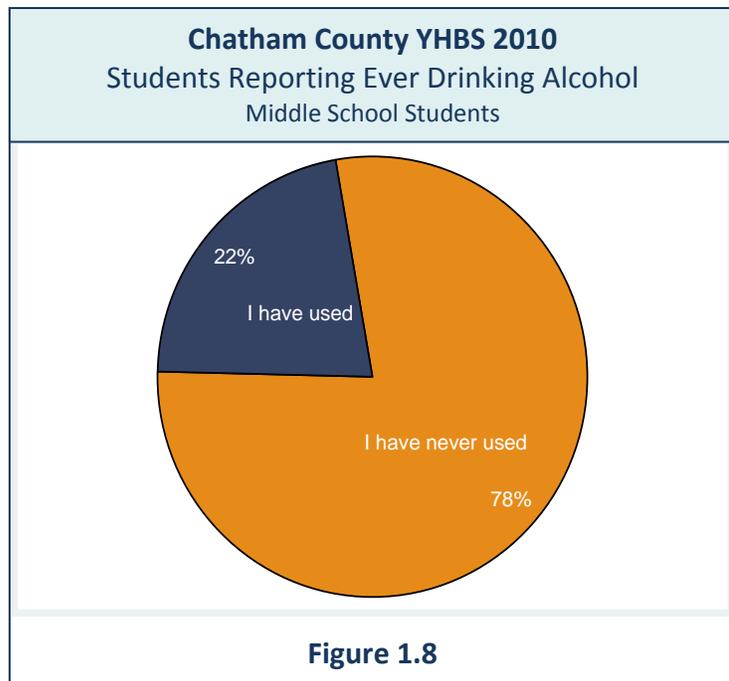
Alcohol, tobacco, marijuana, inhalants, and prescription drugs are the most commonly used drugs among Chatham County youth reporting on the 2010 CCYHBS. Smaller percentages of students also report using hallucinogens, cocaine, methamphetamines and abusing prescription steroids. More detailed information concerning the abuse of these drugs will be presented below.

Alcohol Use

Alcohol is a legal drug commonly and regularly used by adults in the US. Estimates indicate that over half of the US adult population has had a drink in the past 30 days.⁴⁷ Perhaps mirroring the adult population, alcohol is the mostly commonly used drug among youth in the US.⁸ While, there are negative health effects associated with both youth and adult use of alcohol, underage drinking has unique qualities and associated risks.

Youth drink less frequently than adults, however when they do drink, youth drink a greater volume. In other words, youth are more likely than adults to exhibit binge drinking behavior.⁴⁸ Youth who binge drink are more likely to suffer the negative consequences associated with drinking than those that do not binge drink.⁴⁹ The negative consequences of adolescent alcohol use span from physical, to social and emotional distress, including: problems associated with school attendance and achievement; antisocial behavior; physical illness; unwanted, unplanned, and unprotected sexual activity; higher risk of intentional injuries such as assault, suicide, and homicide; and unintentional injuries such as motor vehicle crashes.⁴⁸

An additional concern associated with adolescent alcohol use is that, individuals who begin drinking before age 15 are more likely than young people who begin drinking at age 21 or after to develop alcohol dependence or abuse as adults.⁵⁰ Also, alcohol use in youth, like other drug use, can have long-term and irreversible effects on the developing adolescent brain.⁴⁸



For an overall look at youth alcohol use in Chatham County, 61.1% of high school students and 21.8% of middle school students participating in the 2010 YHBS reported ever having used alcohol. (See Figures 1.8 and 1.9) For comparison, in North Carolina, 30% of middle school students report ever having a drink of alcohol and nationally, 72.5% of high school students report having had at least one drink during their lives.^{8,9}

Among high school students in Chatham County responding on the 2010 CCYHBS, 34.4% reported using alcohol (including just a few sips) for the first time in 8th grade or before (12.3% in 6th grade or below, 22.1% in 7th or 8th grade). In North Carolina, 19% of high school students reported having their first full drink (beyond trying sips) before the age of 13, and nationally, 21.1% of high school students report this age for the initiation of alcohol use.^{8,9}

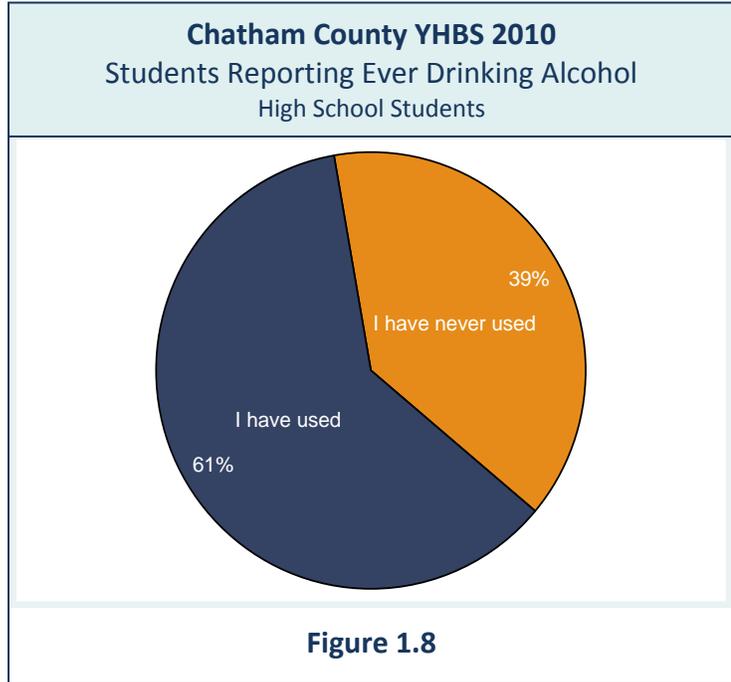


Figure 1.8

Since 1993, the percentage of North Carolina high school students who report having their first drink of alcohol before the age of 13 has declined, and students nationally are less likely now to drink before the age of 13 than students in 1991.^{15,51} Locally, there may also have been a decline in young initiation of alcohol use since 1998.⁵²

For a sense of what percentage of students may be drinking alcohol more regularly, 28.7% of Chatham County’s high school students taking the 2010 CCYHBS reported drinking alcohol within the 30 days preceding survey administration. Among middle school respondents, 6.5% reported this frequency. In comparison, in 2009, 35% of North Carolina high school students and 41.8% of high school students nationally reported using alcohol at least once in the month preceding the YRBS.^{8,9} (See Table)

| Chatham Co. Middle School 2010 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
|--------------------------------|------------------------------|---------------------------------|--------------------------------|
| 6.5 % | 28.7% | 35% | 41.8% |

The percentage of high school students who report drinking in the 30 days before taking the YRBS has decreased since 1999 nationally, and since 2005 in North Carolina.^{15,53} There also seems to have been a decrease in the number of students locally reporting alcohol use in the past month since this data started being collected in Chatham County in 1990.⁵²

As mentioned above, binge drinking is more common among youth than adults and of special concern due to its ramifications for short and long term mental and physical health.⁴⁸ In Chatham County 20.3% of high school students responding to the 2010 CCYHBS reported having 5 drinks in a row within a time span of a couple of hours on one or more of the past 30 days. Nationally, 24.2% of high school students report this behavior and in North Carolina, 18.7%.^{8,9} The percentage of students reporting binge drinking behavior seems to have been decreasing in North Carolina since 2005, and nationally since 1997.^{15,53}

In terms of local youth attitudes about alcohol use, 84.4% of participating students reported on the 2010 CCYHBS that they considered alcohol use somewhat or very harmful. This is close to the percentage of students reporting this attitude on past years' Chatham County Alcohol and Other Drug Surveys.⁵² Fewer students, 77.2% of students responding to the 2010 CCYHBS, reported that their parents would not approve if they found out that their child was using alcohol. Additionally, 18.6% of students reportedly did not know what their parents would think if they found out they were using alcohol.

Tobacco Use

Tobacco use is of concern for youth because of the short-term and long-term health consequences and the implications for addiction.⁵⁴ Smoking can do immediate respiratory harm and in the long-term, tobacco use can increase an individual's risk of various cancers as well as heart disease, stroke, and chronic lung disease.⁵⁴ Additionally, the nicotine in tobacco products is highly addictive and individuals who begin smoking at a young age are more likely to become strongly addicted to it.⁵⁵ Being a legal drug, it is more widely available and it is one that more youth may see adults using around them. For a reference point, the latest estimates show that about 20% of US adults are current smokers and this number has been on the decline.⁵⁶

For a broad picture of youth tobacco use in Chatham County, about 39.3% of Chatham County high school students participating in the 2010 CCYHBS and about 10.5 % of middle school students reported ever having used tobacco products. (See Figures 1.9 and 1.10) Tobacco products include cigarettes and various forms of smokeless tobacco. As a comparison, nationally, 46.3% of high school students report having ever tried smoking cigarettes.⁸

The age that youth start smoking is of concern for multiple reasons. The younger individuals start smoking cigarettes, the more likely they are to become seriously addicted to nicotine.⁵⁵ Additionally, starting earlier allows for more overall years of smoking, which heightens many of the health risks associated with smoking.⁵⁴ Among high school students participating in the 2010 CCYHBS, 22.8% reported beginning tobacco use in the 8th grade or younger (9.1% during 6th grade or before and 13.7% during 7th or 8th grade). For comparison, in North Carolina, 12.4% of high school students smoked their first whole cigarette before the age of 13.⁹ Nationally, a lower percentage, 10.7% of high school students, reported smoking their first whole cigarette before the age of 13.⁸

For a look into trends, in North Carolina, the percentage of students who smoked their first cigarette before age thirteen has declined since 2001.¹⁵ Additionally, the number of students who have ever tried smoking cigarettes has been decreasing since 1993 statewide and since 1999, nationally.^{15,57} Data from Chatham County’s Alcohol and Other Drug Surveys suggest a downward trend in the number of students who initiate tobacco use in the middle grades or before, and this may be supported by state and national trends.⁵²

For a measure of how many students are likely more regular users of tobacco products, the 2010 CCYHBS asked when the last time was that a student used tobacco. Among Chatham County high school students participating in the 2010 YHBS, 19.1% reported using tobacco at least once in the month prior to the survey. Only 2.6% of Chatham County middle school respondents reported this frequency of use, indicating that regular tobacco use may be more common among high school students than middle school students. In North Carolina 17.7% of high school students and 7.5% of middle school students reported smoking cigarettes one or more times in the past month.^{9,12} (See Table 1.15) This supports the assertion that more regular tobacco use is likely more prevalent among older students than younger students. Nationally, 19.5% of high school students reported this frequency of smoking.⁸ (See Table 1.15)

Looking at trends, in 2005, 12% of 5th-12th grade students in Chatham County reported use in the past month.⁵² This compares to an overall 9.7% of combined middle school and high school 2010 CCYHBS respondents. Nationally, regular cigarette smoking among adolescents has been

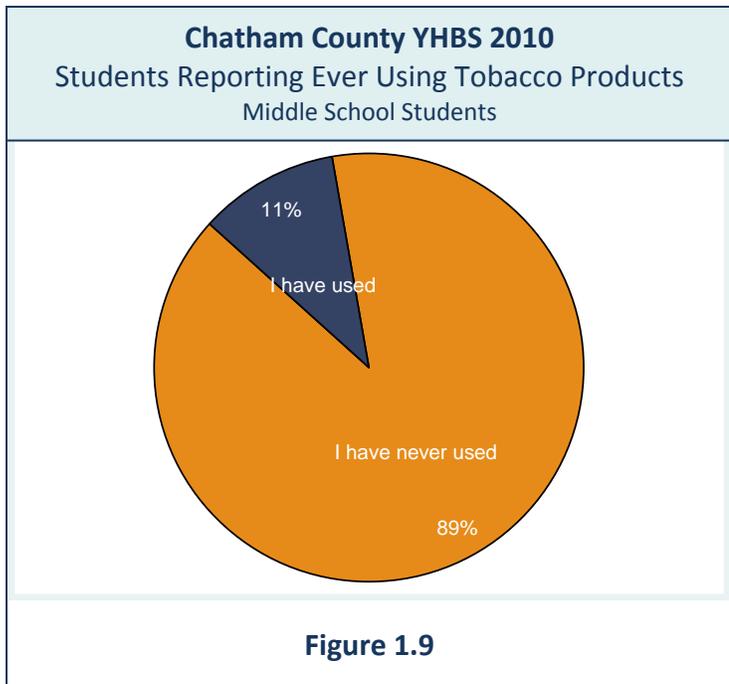


Figure 1.9

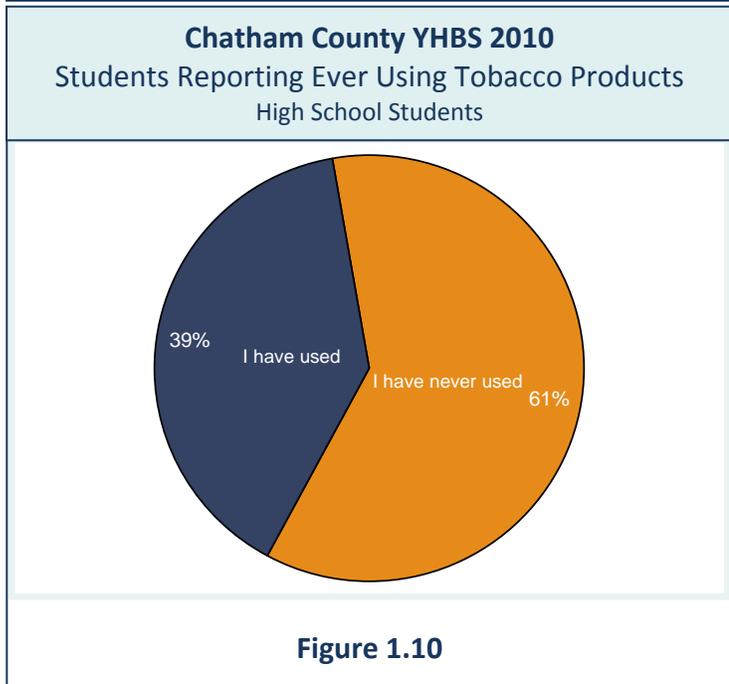


Figure 1.10

declining since 1997 and in North Carolina since 2005.^{15,57} This may be mirrored in local declines.⁵²

| Table 1.15 - Percentage of students who used Tobacco/Cigarettes* 1+ times in the past month | | | | |
|--|--|-------------------------------------|--|---------------------------------------|
| Chatham Co. Middle School 2010 | North Carolina Middle School 2009 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 2.6 % | 7.5% | 19.1% | 17.7% | 19.5% |
| * Chatham County percentages reflect reported tobacco use, NC and US percentages reflect reported cigarette use specifically | | | | |

Students attitudes about tobacco are generally thought to impact their behaviors regarding tobacco. Of Chatham County middle and high school students responding to the CCYHBS, 86.6% of students reported that they think that tobacco is somewhat or very harmful. There doesn't seem to be much difference in the percentage of students who report this view locally comparing 2009 data to survey data from 2000 and 2004.⁵²

An individual's attitudes and behaviors can be shaped by what he/she perceives to be the attitudes of other important people in his/her life. As a measure of this, 81.5% of Chatham County students responding on the 2010 CCYHBS reported that their parents would not approve if they found out they were using tobacco products. This may indicate that a majority of parents are discussing their attitudes about tobacco use with their students, and this is an important first step for parents in terms of what they can do to deter their child's tobacco use.

Marijuana Use

According to the most recent available data (2006), marijuana is the most commonly used illegal drug among youth in the US, and in the adult population.⁵⁸ As with alcohol, there can be physical, social, and emotional consequences associated with marijuana use, including impaired learning, memory, and problem solving abilities; risks to heart and lung function; and increased risk of anxiety, depression, suicidal ideation, and schizophrenia.⁵⁹

In Chatham County, about 29.9% of high school students and 5.4% of middle school students participating in the 2010 CCYHBS reported ever using marijuana. Of North Carolina middle school students as a whole, 9.5% reported this behavior.¹² (See Table 1.16) Among older youth, 27% of North Carolina high school students report having ever used marijuana and 36.8% of high school students nationwide, report the same.^{8,9} (See Table 1.16)

Nationally, reported marijuana use among youth has declined since 1999.⁶⁰ In North Carolina, adolescent marijuana use has not shown marked declines.¹⁵ Marijuana use in Chatham County seems as though it has declined since 1995.⁵²

| Table 1.16 - Percentage of students who report ever using marijuana | | | | |
|--|--|---|--|---|
| Chatham Co. Middle School 2010 | North Carolina Middle School 2009 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 5.4% | 9.5% | 29.6% | 27% | 36.8% |

In Chatham County, 12.5% of high school students first tried marijuana in 8th grade or before (4.4% at or before 6th grade, 8.1% in 7th or 8th grade). Of high school students nationwide, 7.5% reported initiating marijuana use before age 13 and 8.1% of North Carolina high school students reported the same.^{8,9} Statewide, the percentage of students who try marijuana at age 13 or before has been on the decline since 2003.¹⁵ Chatham County data also indicate decline in the percentage of students who report initiating marijuana use in the middle grades or before.⁵²

For a rough measure of more habitual use, 16.2% of Chatham County high school students participating in the 2010 CCYHBS reported using marijuana once or more during the 30 days preceding the survey. Of middle school respondents, 2.3% reported use in the past month. In North Carolina, 19.8% of high school students and 5% of middle school students and nationally, 20.8% of high school students indicated marijuana use in the month preceding the survey.^{8,9,12} (See Table 1.17) More habitual marijuana use among teens has been on the decline nationally since 1999, and in North Carolina since 2003, however, local data show little change.^{15, 52, 60}

| Table 1.17 - Percentage of students who report using marijuana in the past month | | | | |
|---|--|---|--|---|
| Chatham Co. Middle School 2010 | North Carolina Middle School 2009 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 2.3% | 5% | 16.2% | 19.8% | 20.8% |

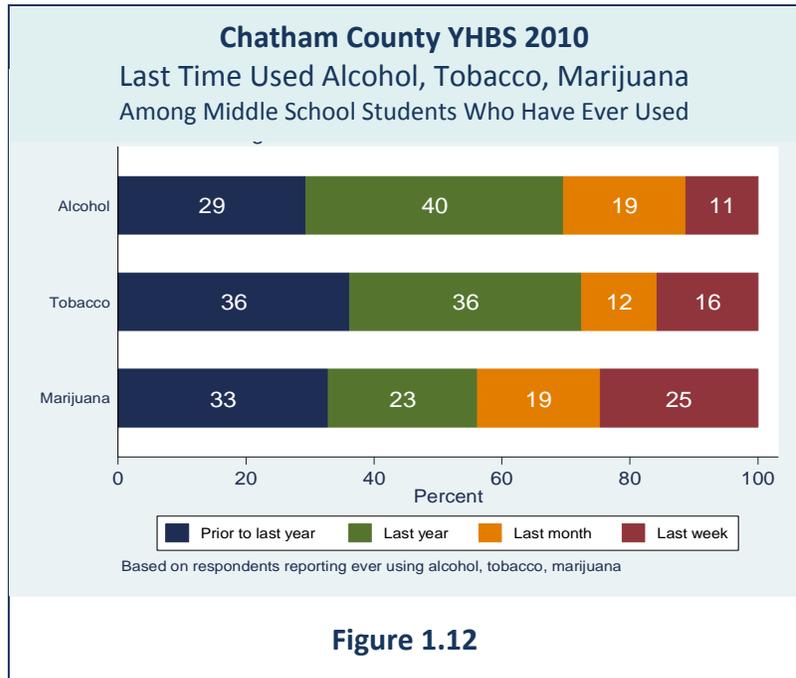
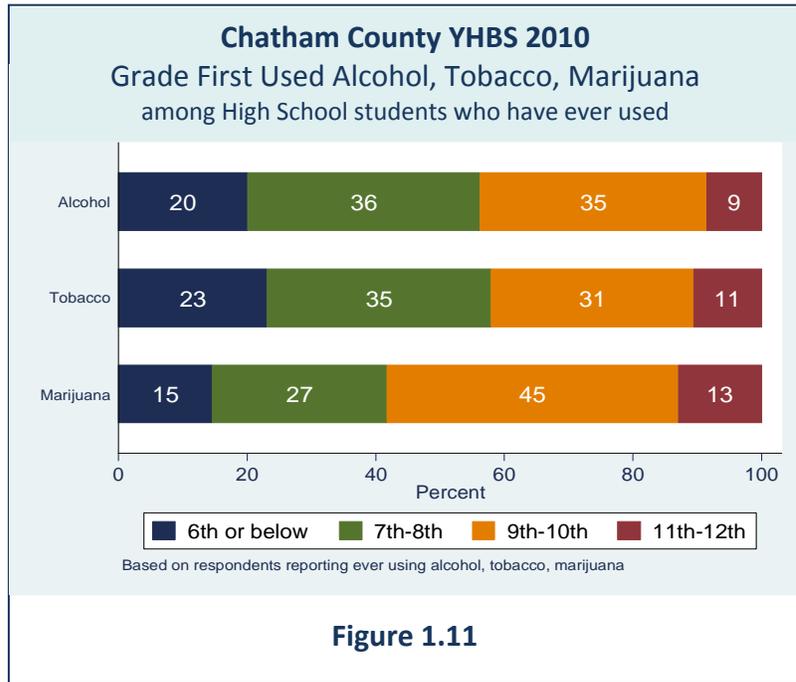
In terms of students' attitudes and perceptions about marijuana use, among all student respondents on the 2010 CCYHBS, 77.7% reported that they believe marijuana use to be somewhat or very harmful. This differs somewhat from past Chatham County survey data that show's a consistent 84% of students reporting marijuana use to be somewhat or very harmful in 2004, 2006, and 2008.⁵² In terms of perceived parental attitudes toward marijuana use, 83.2% of student respondents indicated that they did not think their parents would approve of them using marijuana.

Overview of Alcohol Tobacco and Marijuana Use

Comparing the most commonly used drugs among youth, alcohol, tobacco, and marijuana, some interesting patterns emerge from the responses of Chatham County students surveyed through the 2010 YHBS. For example, more students seem to try tobacco and alcohol at a younger age than marijuana, likely due to the fact that tobacco products and alcohol are both legal drugs and therefore more generally accessible. (See Figure 1.11)

Comparing use patterns of middle school student respondents to high school student respondents, it seems as though these data support the idea that middle school is more a time for experimentation with alcohol, tobacco, and marijuana, whereas in high school, the use of these drugs may become more habitual. Comparing the percentage of middle school student respondents (who have ever used) who report use in the past month or week, to the percentage of high school student respondents (who have ever used) who report use in the past month or week, (Figures 1.12 and 1.13 respectively) a much larger percentage of high school students fall on the recent use side of the spectrum.

Conversely, the middle school graph is weighted more toward use in the last year or prior to last year. Given this information, thought, it should be noted here that on many different measures, the overall percentage of students indicating any kind of use of tobacco, alcohol, or marijuana seems to be on the decline nationally, statewide, and locally.^{15,52,53,57,60}



Another interesting comparison, more students participating in the 2010 CCYHBS reported thinking that tobacco was somewhat or very harmful than reported this attitude about alcohol or marijuana. In terms of perceived parental attitudes toward the use of these three drugs, more students reported thinking that their parents would disapprove of their marijuana use or tobacco use than their use of alcohol. More students also reported not knowing what their parents would think about their alcohol use as compared to responses about tobacco and marijuana. This slightly elevated ambivalence and perceived parental permissiveness may be related to the more prevalent use of alcohol among adults than tobacco or marijuana. Given these observations, however, it should be restated that the great majority of students reported that their parents would disapprove of their use of any of these drugs.

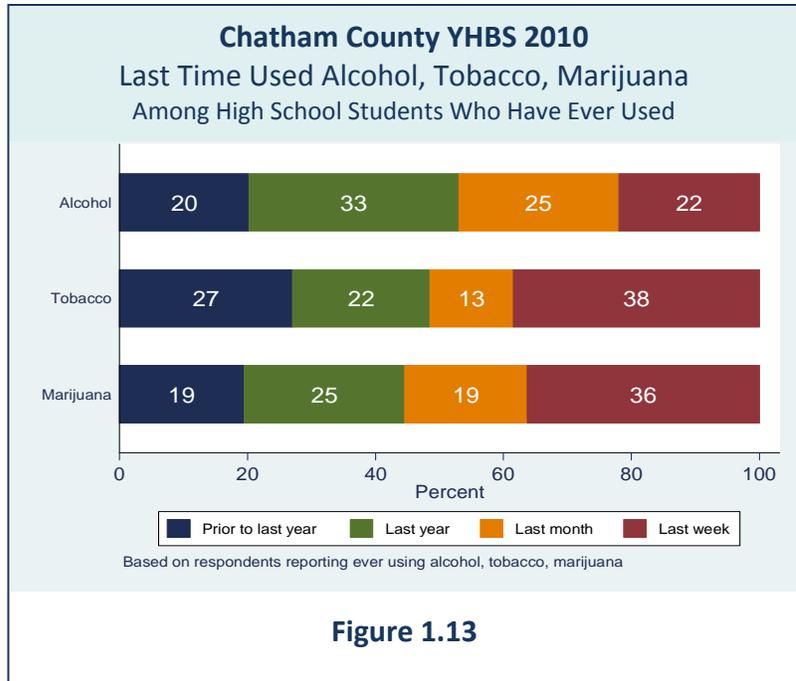


Figure 1.13

Inhalants Use

While alcohol, tobacco, and marijuana use are the most prevalent forms of drug abuse among Chatham County youth, the next most common is the use of inhalants. Unlike the drug abuse described previously, inhalant abuse generally involves breathing in concentrated fumes from *common household substances* (improper use of these products). National data shows that among 12-15 year old new users of inhalants, the most commonly abused substances are glue, shoe polish, spray paints, gasoline, and lighter fluid. Among older new users (ages 16-17) nitrous oxide and whipped cream aerosols or dispensers are most commonly abused.⁶¹

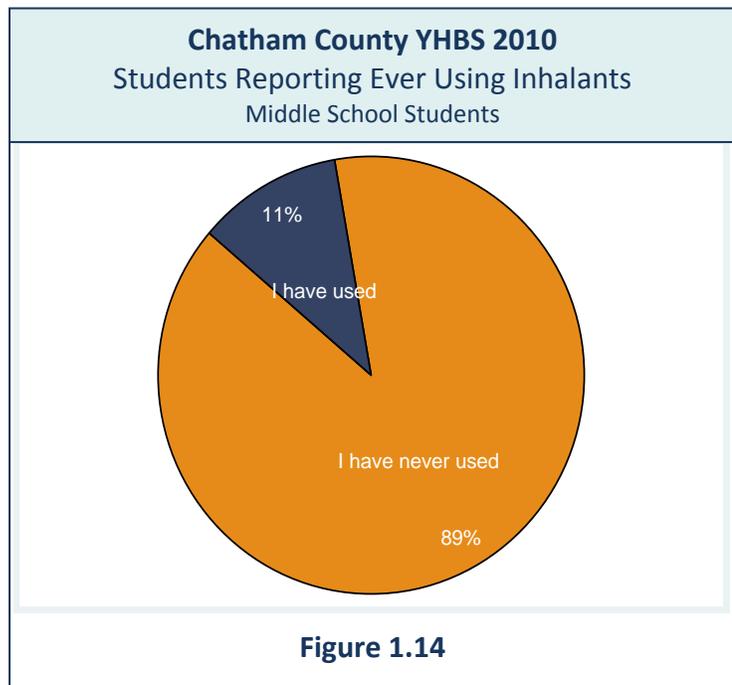
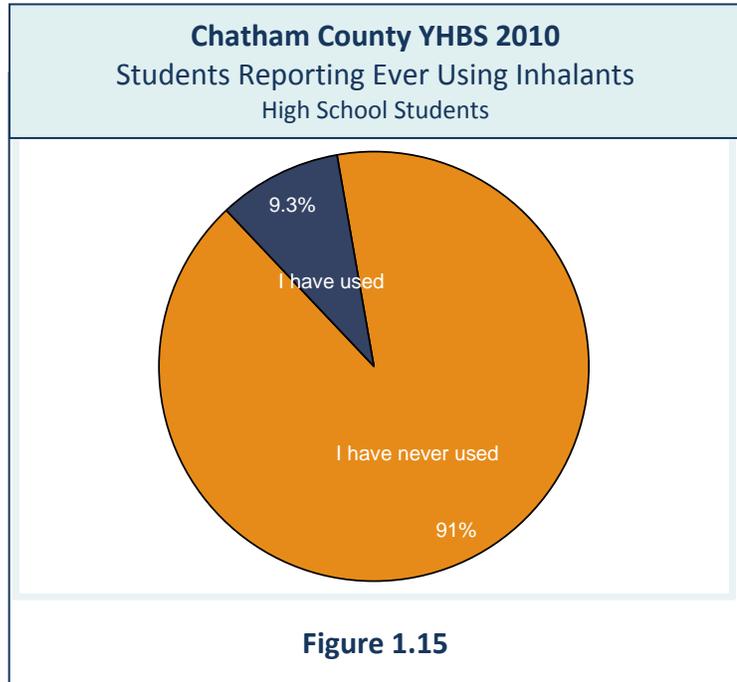


Figure 1.14

Because these products are so common, they are easily obtained for abuse by youth.⁶¹ Youth are more likely than adults to

abuse inhalants.⁶¹ Inhalant use is linked to short-term confusion and lack of coordination, short and long-term brain damage, and irreversible hearing loss and bone marrow damage.⁶¹

Of Chatham County student respondents to the 2010 YHBS, 11% of middle school students and about 9.3% of high school students report inhaling a substance for psychoactive effects. Whereas there are large gaps between the percentage of middle school students and the percentage of high school students using tobacco, alcohol, and marijuana, with far more high school students reporting use, this gap narrows in the case of inhalants and in fact slightly more middle school students in Chatham County reported this behavior than high school students.



This holds true at the state level as well, with 11.7% of high school students reporting inhalant use and 12.3% of North Carolina middle school students reporting this behavior.^{9,12} (See Table 1.18) The percentage of high school students abusing inhalants nationally is 11.7%.⁸ (See Table 1.18)

Unlike youth use of alcohol, tobacco, and marijuana, which have been steadily decreasing nationally in the last decade, inhalant use has held relatively steady, showing no change nationally between 2003 and 2009, and only declining statewide between 2007 and 2009.^{15,60}

| Table 1.18 - Percentage of students who report ever using inhalants | | | | |
|--|--|-------------------------------------|--|---------------------------------------|
| Chatham Co. Middle School 2010 | North Carolina Middle School 2009 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 11% | 12.3% | 9.3% | 11.7% | 11.7% |

Not surprisingly, given the data showing more middle school inhalant users than high school users, more Chatham County students seem to start inhalant abuse younger. The percentage of high school students who report starting at 6th grade or younger (5.8%) is greater than the percentage of students who reporting starting usage in 7th or 8th grade (3.2%) or in any subsequent grade. The percentage of students locally, who report trying inhalant use in the middle grades or earlier, seems to have hovered around the same level since at least 2004.⁵²

Prescription Drug Abuse

Prescription drug abuse is a growing health threat in the United States among both adults and adolescents.⁶² Excluding alcohol and tobacco, nationally, among 12th graders, prescription and over the counter drugs account for 7 of the 11 most frequently abused drugs.⁶³ The most commonly abused prescription drugs fall within the following three classes, opioids, central nervous system (CNS) depressants, and stimulants, and the abuse of each has its unique risks.⁶² Among youth nationally, the most commonly abused prescription drug is Vicodin, an opioid.⁶³

About 9.8% of Chatham County’s high school students reported prescription drug abuse in the year prior to their participation in the 2010 CCYHBS survey. Eleven percent of high school respondents reported ever having abused prescription drugs, as well as 4.5% of middle school respondents. For comparison, among North Carolina students in 2009, 6.5% of middle school students, and 20.5% of high school students reported having ever abused prescription drugs.^{9,12} (See Table 1.19) For an additional perspective on the prevalence of this behavior, in 2008, 15.4% of 12th graders nationally reported that they had taken prescription drugs non-medically in the past year.⁶³

| Table 1.19 - Percentage of students who report ever abusing prescription drugs | | | |
|---|--|---|--|
| Chatham Co. Middle School 2010 | North Carolina Middle School 2009 | Chatham Co. High School 2010 | North Carolina High School 2009 |
| 4.5% | 6.5% | 11% | 20.5% |

Fewer students locally reported this behavior on the 2010 CCYHBS than on past surveys of youth drug abuse administered in 2004, 2006, and 2008.⁵²

Cocaine, Methamphetamine and Prescription Steroid Use

On the 2010 CCYHBS, Chatham County students were also surveyed about and reported the use of cocaine, hallucinogens, methamphetamines, and prescription steroids. Smaller percentages of students reported the use of these drugs as compared to those examined above, with the fewest students reporting the abuse of prescription steroids. For a brief overview of the prevalence of the use of these drugs, as indicated by student responses on the 2010 CCYHBS, overall,

- 3.7% reported use of some form of cocaine
- 3.6% reported use of hallucinogens
- 2.3% reported use of methamphetamines
- 1.6% reported abuse of prescription steroids

Cocaine use among Chatham County students participating in the 2010 YHBS was reported by far more high school students than middle school students. Among high school student respondents, more reported trying cocaine for the first time in 9-10th grade than in the middle grades and below or the 11th-12 grade. The overall number of students reporting use is small

however, so these are not the most reliable data. See Table 1.20 for a comparison to state and national data.^{8,9}

| Table 1.20 - Percentage of students who report ever using cocaine | | | | |
|--|--|-------------------------------------|--|---------------------------------------|
| Chatham Co. Middle School 2010 | North Carolina Middle School 2009 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 1.8% | 3.3% | 6.3% | 5.5% | 6.4% |

While the 2010 CCYHBS surveyed general hallucinogen use (including ecstasy, LSD and PCP), the state and national YRBS ask specifically about ecstasy use, and therefore comparisons are not shown.

Reported methamphetamine use among Chatham County students seems to be relatively comparable among middle and high school students. However, the number of students reporting methamphetamine use is very small, so these data provide only a sketch of what may be actual patterns of use. See Table 1.21 for a comparison to state and national data.^{8,9}

| Table 1.21 - Percentage of students who report ever using methamphetamines | | | |
|---|-------------------------------------|--|---------------------------------------|
| Chatham Co. Middle School 2010 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 2.2% | 2.4% | 3.4% | 4.1% |

Reported abuse of prescription steroids is low and again seems to span both middle and high school students with less difference than other drugs, although because the number of students reporting is so small, these data truly provide only a sketch of what may be actual patterns of use. See Table 1.22 for a comparison to state and national data.^{8,9}

| Table 1.22 - Percentage of students who report ever abusing prescription steroids | | | | |
|--|--|-------------------------------------|--|---------------------------------------|
| Chatham Co. Middle School 2010 | North Carolina Middle School 2009 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 1.6% | 1.9% | 1.7% | 3.8% | 3.3% |

Perceptions of School Alcohol and Other Drug Use

The 2010 CCYHBS also included measures of students' perceptions of drug use and availability at school. Participating students were asked how easy they thought it would be for them to get alcohol or other drugs at school. Of middle and high school students participating in the survey,

31.6% responded that it would be extremely or fairly easy to obtain alcohol or other drugs at school. While the prevalence of this view seems to have decreased between 1990 and 1998, it seems to have remained relatively unchanged since 2000.⁵² As to whether students perceive there to be a drug or alcohol problem at their school, 31.6% of middle and high school students participating in the 2010 CCYHBS responded that they did believe there was a drug or alcohol problem. This prevalence seems to have been trending downward overall since 1990, and this 2010 data continues that trend.⁵²

Preventing and Reducing Youth Substance Abuse: Best Practices and Local Initiatives

Youth substance abuse prevention initiatives take many forms, including family, school, and community based programs. Effective programs take various approaches, including focusing on: developing students' social-emotional and academic skills, strengthening communication between parents/guardians and their children, building students' and families' knowledge about drugs and drug abuse, and on sending consistent drug prevention messages through various community, media, and social channels.^{64,65} School-wide initiatives to increase students' connectedness to adults and peers at school are seen as effective in decreasing the likelihood that young people will engage in risk behaviors such as substance abuse.⁶⁶ Additionally, federal and community-based programs to limit the availability of legal and illegal drugs to youth, such as those activities prescribed by the 2010 National Drug Control Strategy may also be effective.⁶⁷

Chatham County Schools has policies that prohibit alcohol, tobacco and other drug use on school campuses (Policies 4320, 4325, 5025, 5026-7250, 7240) and different schools implement different drug-use prevention curricula.⁶⁸ Additionally, the School Resource Officer program, mentioned in the previous section is meant to deter both student violence and substance abuse. Just over half (50.4%) of students responding to the 2010 CCYHBS, reported that the SRO at their school was helpful or very helpful in reducing drug use at their school. An additional, 27.6% of students reported that the SRO was somewhat helpful.

Chatham Community for Alcohol and Drug Free Youth is a community organization that brings together school staff, community groups, and community members to collaborate on alcohol and drug use prevention initiatives. In the fall of 2010, this group was awarded a 5-year federal Drug Free Communities Support Program grant to continue their work doing outreach to the community about drug use and drug use prevention, working to reduce youth access to alcohol and prescription drugs, partnering with the Chatham County School, and working to increase youth development activities.

Sexual Behavior

Sexual behavior among youth is of concern for a variety of reasons, including associated health-related consequences such as unintended pregnancy and sexually transmitted infections (STI's). Adolescent females who become pregnant are more likely to experience certain negative short-term and long-term health and social impacts, as are their children.^{69,70,71} Additionally, young people as a whole have high rates of common STI's. It is estimated that about half of new STI cases are represented by young people aged 15-24 while this age-group only makes up 25% of the sexually active population.⁷²

Youth STI Prevalence

Chlamydia

In the United States, Chlamydia is the most prevalent STI, and is most common in young people.⁷³ Chlamydia infections are usually asymptomatic but can lead to pelvic inflammatory disease in women, can facilitate the transmission of HIV, and can pass from mother to infant during birth and potentially cause negative birth outcomes.⁷³ In North Carolina, 36% of all Chlamydia cases reported in 2009 were among 15-19 year olds.⁷⁴ Overall, the rate of Chlamydia among 15-19 year olds in North Carolina in 2009 was 2499.2 cases per 100,000 people.⁷⁴ Rates of Chlamydia have been on the rise overall in Chatham County since 2005.⁷⁴ Among 15-19 year olds, rates increased statewide from 2005-2009, and nationally from 2004-2008.^{72,74} These rising rates may be due in part to increased and improved screening activities catching more cases.⁷³

Gonorrhea

Gonorrhea is the second-most commonly reported STI in the United States, and like Chlamydia is most prevalent in young people.⁷³ Similar to Chlamydia, Gonorrhea infections are often asymptomatic, can cause pelvic inflammatory disease in women and may facilitate the transmission of HIV.⁷³ In North Carolina, 28% of all Gonorrhea cases in 2009 were among 15-19 year olds.⁷⁴ The rate of Gonorrhea among 15-19 year olds in North Carolina in 2009 was 664.1 cases per 100,000 people.⁷⁴ Gonorrhea rates decreased between 2007 and 2008 nationally, but had been level for the twelve years prior.⁷³ Overall, Gonorrhea rates are higher in the south than other regions of the country.⁷³

Adolescent Pregnancy

Adolescent pregnancy is of concern both due to higher risks of adverse birth outcomes, and because of the longer-term impacts for both the mother and her child. Young mothers, under age 19, are at a higher risk of experiencing low birth weight, preterm birth and death during infancy.⁶⁹ Additionally, young women who have children before age 18 are less likely to obtain a high school diploma and this can have employment and economic ramifications for them in the short and long term.⁷⁰ The children of young mother are at higher risk of certain health conditions, are more likely to struggle with academic achievement and are more likely to drop out of school.⁷¹

In 2008, the pregnancy rate for 15-19 year olds in Chatham County was 48 pregnancies per 1000 young women.⁷⁵ For a sense of how Chatham compares to the rest of North Carolina, when ranked in descending order (from highest adolescent pregnancy rate to lowest), Chatham ranked 75th out of North Carolina's 100 counties.⁷⁵ The lowest adolescent pregnancy rate reported by a county was 15.8, and the highest was 60.1.⁷⁵ The overall pregnancy rate for North Carolina adolescents during the same year, was 58.6 pregnancies per 1000 15-19 year old women.⁷⁶ The national adolescent pregnancy rate in 2006, the most recent year for which it is available, was 72 pregnancies per 1000 young women.⁷⁷ Overall, there has been a decreasing trend in North Carolina's teen pregnancy rate since 1990.⁷⁸ Recent years, 2004 and 2006, have seen slight increases, however.⁷⁸ Nationally, there seems to have been a slow-down and slight reversal of the trend toward lower adolescent pregnancy rates.^{69,77} In 2006, both the pregnancy rate and birth rate among 15-19 year olds increased nationally.^{69,77}

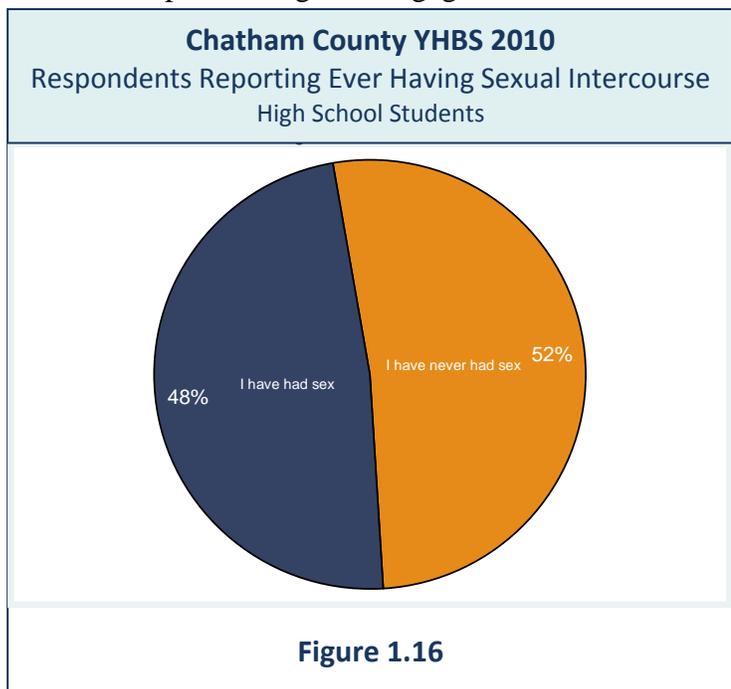
Adolescent Sexual Risk Behaviors

Several behaviors put adolescents at risk of an unwanted pregnancy or of contracting an STI, the most basic being whether or not they are sexually active. To get a full picture of teen sexual behavior in the county, the CCYHBS survey asked whether students were sexually active, the age at which students initiated sexual behavior, whether they have had multiple partners, their use condoms or other forms of contraception, and about use of alcohol or drugs before engaging sexual intercourse.

Sexual Activity

Of Chatham County students participating in the 2010YHBS, 11.6% of middle school students and 48% of Chatham County high school students report having ever engaged in sexual intercourse. Of North Carolina high school students, 51% have ever engaged in sexual intercourse.⁹ (See Figure 1.16) Nationally, 46% of students report sexual activity.⁸ (See Table 1.23) Along with the adolescent pregnancy rate, the percentage of students who report having ever engaged in sexual intercourse has been relatively stagnant in the recent past at the national state and local level.^{15,28,79}

It is important to note that the percentage above reflects any lifetime sexual intercourse, and that fewer students are considered sexually active. Just over 36% of North Carolina students and 34.2% of



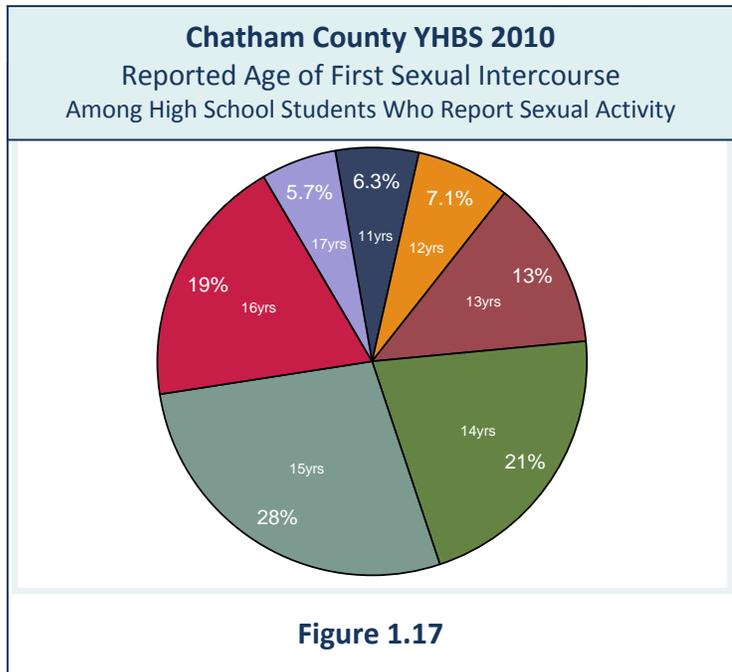
students nationwide, reported engaging in sexual intercourse in the 3 months prior to the 2009 YRBS survey.^{8,9}

| Table 1.23 - Percentage of students who report ever having sexual intercourse | | | |
|--|-------------------------------------|--|---------------------------------------|
| Chatham Co. Middle School 2010 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 11.6% | 48% | 51% | 46% |

Although Chatham County did not collect this data, because of the similarity of Chatham County’s data on teen sexual behavior to that of the state and the nation, it is likely that fewer than 48% of Chatham County students are currently sexually active. An interesting counterpoint to these data comes from a recent survey of North Carolina parents of teen age children which found that a relatively small percentage of these parents believed their child might be sexually active. According to this survey, only 1% of parents thought that their 12-13 year old child might be sexually active.⁸⁰ This percentage rose with the age of the child; 6% of parents of 14-15 year olds and 20% of parents of 16-17 year olds also held this belief, but it seems that parents on the whole, may underestimate youth sexual activity.⁸⁰

In terms of when students first initiated sexual intercourse, 6.4% of Chatham County’s high school students participating in the 2010 CCYHBS reported initiating sexual intercourse before age 13. In North Carolina, 7.5% of high school students reported having sex for the first time before age 13.⁹ (See Table 1.24) Nationally, 5.9% of high school students report having sex for the first time before age 13.⁸ (See Table 1.24)

The majority of students who report that they have ever engaged in sexual intercourse report that had sex for the first time after age 13. In fact, over one half report having sexual intercourse for the first time after age 14. Figure 1.17 shows the breakdown of the ages at which Chatham adolescents who have had sex, started this behavior.



In 2005, 10% of Chatham County’s high school students reporting on the 2005 CCYRBS responded to having their first sexual encounter before age 13. This could indicate that since

then, more students may be delaying this behavior. Statewide, since 2003, there's seems to have been a decline in the number of students engaging in sexual intercourse before age 13.¹⁵

| Table 1.24- Percentage of high school students who report initiating sexual intercourse before age 13 | | |
|--|--|---------------------------------------|
| Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 6.4% | 7.5% | 5.9% |

Multiple Sexual Partners

The 2010 CCYHBS asked students for a count of their sexual partners because having multiple sexual partners leads to more opportunities for individuals to contract and/or transmit STI's. Among Chatham County high school students participating in the 2010 YHBS, 15.4% report having had four or more sexual partners during their lifetime. For middle school students this percentage is 3.4%. In North Carolina, 15.7% of high school students report having four or more sexual partners during their lifetime.⁹ (See Table 1.25) This is slightly above the national percentage of high school students reporting multiple sexual partners of 13.8%.⁸ (See Table 1.25)

| Table 1.25 - Percentage of students who report 4+ sexual partners over lifetime | | | |
|--|-------------------------------------|--|---------------------------------------|
| Chatham Co. Middle School 2010 | Chatham Co. High School 2010 | North Carolina High School 2009 | United States High School 2009 |
| 3.4% | 15.4% | 15.7% | 13.8% |

The percentage of Chatham County students reporting multiple partners has shown no change since 2005, and there has been no significant change on this measure statewide since 2003.¹⁵ Nationally however, the number of students reporting four or more sexual partners has been declining since 1991.⁷⁹

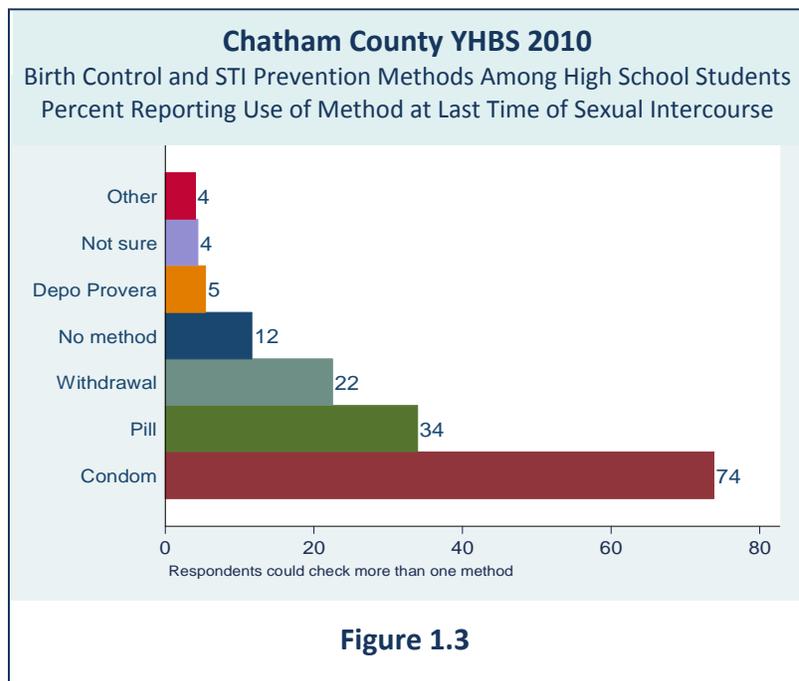
Alcohol Use and Sexual Intercourse

Drug and alcohol use impedes decision-making and can lead individuals to engage in sex and to neglect risk reduction behaviors such as condom use.⁸¹ In Chatham County, 22.9% of high school students surveyed through the 2010 CCYHBS, who had reported ever engaging in sexual intercourse, reported that they had used drugs or alcohol prior to their last sexual encounter. Among students who were sexually active nationally (reported sexual intercourse during the 3 months before taking the survey), 21.6% of students reported using alcohol or drugs beforehand.⁸ In North Carolina, 19.3% of sexually active high school students also reported this behavior.⁹ There has been no significant change in the percentage of students that report this behavior statewide, and likely little locally, however the percentage increased nationally between 2001 and 2009.^{15,28,79}

STI and Pregnancy Risk Reduction

Condom use and the use of birth control are both important in reducing the risks associated with sexual activity. Figure 1.18 shows the percentage of Chatham County adolescents choosing different contraception and STI prevention methods. In Chatham County, 73.9% of high school students participating in the 2010 CCYHBS who reported ever having sex, reported using a condom during their last sexual encounter. Although it is a slightly different measure, 60.7% of North Carolina high school students and 61.1% of students nationally, who reported sexual activity in the 3 months prior to the survey, reported condom use during their last sexual encounter.^{8,9} While these data cannot accurately be compared, it is encouraging in terms of STI and pregnancy risk reduction that almost three quarters of Chatham County students report condom use. Survey data indicate that the percentage of Chatham County youth who use condoms may have increased since 2005.²⁸ Similar increases have not been seen in the state or nation, however. Nationally, condom use among adolescents rose between 1991 and 2003 but has been level since then.⁷⁹ In North Carolina, adolescent condom use prevalence has not changed since 2003.¹⁵

Of high school students responding on the 2010 CCYHBS, who had ever had sex, 33.9% reported that they were using birth control pills at the time of their last sexual encounter, and 5.5% of students reported using Depo Provera, injected birth control. Nationally, of students considered sexually active, 19.8% were using birth control pills and 3.1% were using Depo Provera at the time of their last sexual encounter.⁸ Again, because of the slight difference in the measure, these percentages are not accurately comparable. The percentage of students using birth control pills or Depo Provera nationally showed no change between 1999 and 2009.⁷⁹



While some students are using condoms and hormonal birth control, and sometimes using these methods in combination, 11.7% of Chatham County high school students participating in the 2010 CCYHBS, who have ever had sexual intercourse, reported using no method of contraception or STI protection during their last sexual encounter. Additionally, 22.5% of participating Chatham County high school students reported using withdrawal as a contraception method during their last sexual encounter. In 2001, 12.7% of 15-17 year olds reported using this

method nationally and this was a decrease from 1991.⁸² Withdrawal, while generally considered better than using no method of contraception, has a failure rate of around 25% for adolescents, and provides no protection against STI's.⁸²

Parent Expectations

Peer attitudes and behaviors and parent-child communication about sex can both influence an adolescent's sexual behaviors.⁸³ The 2010 YHBS surveyed whether participating students had discussed with their parents or other trusted adults, expectations about sexual behavior. On this survey, 76.9% of high school students and 60.8% of middle school students reported having these conversations. There has been little change on these measures locally since 2005.²⁸ As an interesting counterpoint to this data, in a 2007 North Carolina survey, 96% of parents reported that they felt "well prepared" to talk with their 12-17 year old children about reducing their chances HIV and STI's.⁸⁴ As a part of the same survey, 86% of parents reported that they had talked with their 12-17 year old children about HIV and STI's.⁸⁵ It is unclear from this survey, the depth, quality or frequency of these conversations.

Preventing Youth Sexual Risk Behaviors: Best Practices and Local Initiatives

Educational and youth development approaches can both effectively impact the sexual health of youth. Accurate and appropriate education about STI's and pregnancy, and how to prevent both, are important parts of promoting youth sexual health.⁸⁶ Initiatives that focus on youth development and/or service learning and that increase students' feelings of connectedness to peers and adults in their schools have also been shown effective.⁸⁷ Increasing communication and the quality of communication between parents or trusted adults and youth about sex has also shown protective effects.⁸⁷

The passage in 2009 of Healthy Youth Act (S.L. 2009-213), changed the standard for accepted sexual health educational content in North Carolina.⁸⁸ Whereas the state only condoned an Abstinence Until Marriage approach in the past, beginning in the 2010-2011 school year, schools are expected to teach 7th-9th grade students about:

- the importance of abstinence from sexual activity and skills for staying abstinent
- appropriate and accurate information about the reproductive system
- STI's, STI transmission and risk reduction
- the effectiveness of FDA approved forms of birth control
- Sexual assault, sexual abuse and risk reduction⁸⁸

Parents/guardians will be notified of the reproductive health and safety curriculum being used at the school and will have the opportunity to grant or deny permission for their student(s)' participation.⁸⁸

Along with implementing this new law within middle and high school healthful living classes, Chatham County boasts various existing pregnancy prevention and STI risk reduction programs. The Chatham County Public Health Department's Adolescent Pregnancy Prevention Health

Educator regularly presents in classrooms on sexual health issues, and runs a peer education program for middle school and high school students. This program trains students to be informed peer educators on sexual health issues. The Chatham County Public Health Department's Adolescent Parenting Program provides support to teen mothers to help them finish high school, prevent another pregnancy and improve outcomes for their children. Within the community, Chatham County Together!'s Hablando Claro/Plain Talk program works with the Siler City community and Latino families to increase and improve communication between adults and young people regarding sexual health issues.⁸⁹

Conclusion

The Chatham County Public Health Department and Chatham County Schools partnered in the Spring of 2010 to survey 6th-12th grade students about their health behaviors and attitudes. Because of the data collection process, the data included in this report truly reflect only those students who participated in the survey. However, these data can give us a glimpse into what the county's youth as a whole may be doing and thinking about their health. Overall, the data collected would suggest that the percentage of youth engaging in health and risk behaviors in Chatham County is similar to the prevalence of these behaviors among students statewide and nationwide. Some areas show possible differences, but there is no one area in which a far greater number of Chatham County students report health risk behaviors as compared to parallel data for the state or nation.

In terms of obesity and obesity related behaviors, the county may be lagging a bit behind the state and the nation. A slightly higher percentage of students in Chatham County may be overweight as compared to state and national data. More of Chatham County's students report higher levels of physical activity as compared to the state and nation, however less students report eating the recommended amount of fruits and vegetables.

In terms of injury prevention and violence related behaviors, the county seems well situated. The percentage of Chatham County middle school students who report riding with a driver who had been drinking is less than the state prevalence of this behavior. The percentage of Chatham County high school students who report considering and attempting suicide lies below state and national prevalence.

Overall, less Chatham County students seem to be engaging in substance abuse than in the state and the US. Most notably, the percentage of students who reported abusing prescription drugs in the county is less than in the state. The percentage of students who report alcohol use in the past month also falls well below the state and national level. In the area of substance abuse, one area in which Chatham County could improve is the number of students who habitually use tobacco products.

In terms of sexual behaviors, the prevalence of sexual risk factors among Chatham County students seems to be about average in comparison to the state and nation. However, on a positive note in terms of sexual risk reduction, a great majority of Chatham County high school students reported using a condom during their last sexual encounter.

In regards to health-related behaviors of youth, Chatham County seems to rank slightly better than average when compared to North Carolina and the United States. There are still plenty of students engaging in risky behaviors however, and it would be to the community's benefit to continue working to reduce these numbers. The Chatham County Public Health Department, Chatham County Schools, and community based organizations will use the data in this report to guide their work and continued collaboration in the coming years. Hopefully this work will improve the lives of all of Chatham County's young people, and keep Chatham County a safe and healthy place to grow up.

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