

RELATIONSHIPS BETWEEN HIGH SCHOOL STUDENTS' HEALTH BEHAVIORS AND
PERCEPTIONS OF THEIR 9th GRADE HEALTH EDUCATION COURSE

by

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ABSTRACT

In the majority of U.S. schools, health education has been delivered in a fragmented and disorganized way resulting in poor quality. While studies have assessed the perceptions of health education from lead health education teachers and school administrators, a review of the literature revealed no studies of high school students' perceptions of school health education. The perceived experiences and perceptions of school health education among high school students have not been fully explored. The purpose of this study was to a) assess the perceptions of a 9th grade health education course from 10th and 11th graders attending a rural high school in West Central Alabama, b) identify students' self-reported current health behaviors and c) explore the relationship between the perceptions of their 9th grade health education course and reported health behaviors. Results showed that for each of the National Health Education Standards at least 60% of the students indicated that the course helped them to perform the standard. Results also showed that for each of the six CDC risk behaviors at least 50% of students indicated that the course helped them to make decisions about the risk behaviors. Additionally, at least 55% of high school students in grades 10-11 perceived their 9th grade health education course to be effective in helping them to make decisions about their general health and decisions related to the six types of health-risk behaviors that contribute to the leading causes of death and disability among youth and adults, a) behaviors that contribute to unintentional injuries and violence, b) sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases, including HIV infection, c) alcohol and other drug use, d) tobacco use, e) unhealthy dietary

behaviors, and f) inadequate physical activity. Over 60% of 10th grade students and 55.4% of 11th grade students perceived their 9th grade health education course to be effective in preparing them to use decision-making skills to enhance health. Similarly, 10th grade students (70.8%) and 11th grade students (59.5%) perceived their 9th grade health education course to be effective in preparing them to comprehend concepts related to health promotion and disease prevention.

DEDICATION

This dissertation is dedicated to all of my family and friends. Thank you for your kind words, patience, and motivation throughout my dissertation journey.

LIST OF ABBREVIATIONS

<i>ACS</i>	American Cancer Society
<i>ADA</i>	American Diabetes Association
<i>AHA</i>	American Heart Association
<i>ASCD</i>	Association for Supervision and Curriculum Development
<i>BMI</i>	Body Mass Index
<i>CDC</i>	Centers for Disease Control and Prevention
<i>HIV/AIDS</i>	Human Immunodeficiency Virus Infection/Acquired Immune Deficiency Syndrome
<i>HP 2020</i>	Healthy People 2020
<i>HP</i>	Healthy People
<i>IRB</i>	Institutional Review Board
<i>NHES</i>	National Health Education Standards
<i>SHPPS</i>	School Health Policies and Practices Study
<i>STEM</i>	Science, Technology, Engineering and Math
<i>U. S.</i>	United States
<i>USDHHS</i>	United States Department of Health and Human Services
<i>WHO</i>	World Health Organization
<i>YRBS</i>	Youth Risk Behavior Survey
<i>YRBSS</i>	Youth Risk Behavior Surveillance System

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CHAPTER 1 - INTRODUCTION

Research suggests that health education in schools positively impacts student academic and health outcomes (Allensworth, 2007; Basch, 2011; Mayer, Smith, & McDermott, 2011). Health educators have long advocated for quality health education (Allensworth, 2011; Cortese et al., 1994; Marx et al., 1998; Mayer et al., 2011a); however, the value of quality health education in schools has not been realized by many educational leaders, school administrators and students (Marx et al., 1998). While many schools require health education for high school graduation, the majority of programs and activities lack coordination and leadership (Freudenberg & Ruglis, 2007). Nationwide, in 2012, 41.2% of school districts had specific time requirements for health education at the elementary level, 58.7% at the middle school level, and 78.7% at the high school level (CDC, 2012). While many school districts have specified time requirements for health education, concerns about the quality and scope of these curricula were outlined in a joint statement published by the American Cancer Society, American Diabetes Association and the American Heart Association (American Cancer Society, American Diabetes Association, American Heart Association, n.d.). In practice, the quality and quantity of health education in most school districts throughout the United States vary greatly (Allensworth, 2011; Mayer et al., 2011; Taub et al., 2009).

Quality Health Education

Nearly two-thirds of premature deaths and approximately one-third of the total disease burden in adults are associated with conditions or behaviors that began in adolescence (World Health Organization [WHO], 2011). As shown in Table 1, the Centers for Disease Control and

Prevention (CDC) has identified six priority-risk behaviors that contribute to the leading causes of death, disability, and social problems among U.S. adolescents and adults (CDC, 2011). The CDC recommends that these topics be addressed with school health education (CDC, 2011).

Table 1

The CDC Risk Behaviors

CDC Risk Behaviors

Behaviors that contribute to unintentional injuries and violence

Sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases, including HIV infection

Alcohol and other drug use

Tobacco use

Unhealthy dietary behaviors

Inadequate physical activity

Source: Youth Risk Behavior Surveillance System, CDC, 2011.

The National Health Education Standards (NHES) present a possible framework for school health education (The Joint Committee on Health Education Standards, 2007). As shown in Table 2, the NHES are eight written expectations for students in all grade levels (The Joint Committee on Health Education Standards, 2007). The NHES are the same for students from pre-kindergarten through the twelfth grade. It is important to note that the priority risk areas identified by the CDC should be addressed through the standards. These standards provide a guide for teachers, administrators and other educational leaders to design and select curricula. The NHES have been effective in providing resources for both curriculum development and selection, instruction, and student assessment in health education (The Joint Committee on Health Education Standards, 2007).

Table 2

The National Health Education Standards

The National Health Education Standards

Students will be able to comprehend concepts related to health promotion and disease prevention to enhance health.

Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.

Students will demonstrate the ability to access valid health information, products and services to enhance health.

Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.

Students will demonstrate the ability to use decision-making skills to enhance health.

Students will demonstrate the ability to use goal-setting skills to enhance health.

Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.

Students will demonstrate the ability to advocate for personal, family and community health.

Source: The Joint Committee on National Health Education Standards, 2007.

Quality health instruction is based on the NHES and addresses the CDC's six priority health risk behaviors. Additionally, for health education to be effective, the delivery of health education should include lessons of the appropriate scope and sequence for all grades from kindergarten through the twelfth grade (ACS, ADA, AHA, nd; Kann et al., 2012; Marx, 1998).

Purpose of the Study

The CDC conducts assessments of school health education practices and policies. To date, these assessments of health education practices have reflected the perception of lead health education teachers and administrators. Research focusing on the determinants of students' satisfaction with school is limited (Care, 2009; Douglas et al., 2006; Epstein, 1981; Good &

Brophy, 1986; Sharp & Thompson, 1992; Voelkl, 1995). A review of the literature did not reveal any studies of the perceptions of high school students' perceptions of their health education experiences. The purpose of this study was to a) assess the perceptions of a 9th grade health education course from 10th and 11th graders attending a rural high school in West Central Alabama, b) identify students' current self-reported health behaviors, and c) explore the relationship between the perceptions of their 9th grade health education course and self-reported health behaviors.

Research Questions and Hypotheses

1. What is the perceived effectiveness, perceived helpfulness and perceived importance of health education among high school students in grades 10-11?
2. Are there significant differences in perceived effectiveness, perceived helpfulness and perceived importance of health education and sociodemographic factors?

- a. H₀1: There will be no significant differences between sociodemographic factors and perceived effectiveness of health education among high school students.

$$H_{01}: \mu_1 = \mu_2$$

H_A1: There will be significant differences between sociodemographic factors and perceived effectiveness of health education among high school students.

$$H_{A1}: \mu_1 \neq \mu_2$$

- b. H₀2: There will be no significant differences between sociodemographic factors and perceived helpfulness of health education among high school students.

$$H_{02}: \mu_1 = \mu_2$$

H_A2: There will be significant differences between sociodemographic factors and perceived helpfulness of health education among high school students.

$$H_{A1}: \mu_1 \neq \mu_2$$

- c. H₀3: There will be no significant differences between sociodemographic factors and perceived importance of health education among high school students.

$$H_{03}: \mu_1 = \mu_2$$

- H_A3: There will be significant differences between sociodemographic factors and perceived importance of health education among high school students.

$$H_{A3}: \mu_1 \neq \mu_2$$

3. What are the current health behaviors among these students?

4. Are there significant differences in the perceived effectiveness, perceived helpfulness and perceived importance of health education and high student health behaviors?

- a. H₀4: There will be no significant differences between perceived effectiveness of health education and current health behaviors among high school students.

$$H_{04}: \mu_1 = \mu_2$$

- H_A4: There will be significant differences between perceived effectiveness of health education and health behaviors among high school students.

$$H_{A4}: \mu_1 \neq \mu_2$$

- b. H₀5: There will be no significant differences between perceived helpfulness of health education and current health behaviors among high school students.

$$H_{05}: \mu_1 = \mu_2$$

- H_A5: There will be significant differences between perceived helpfulness of health education and current health behaviors among high school students.

$$H_{A5}: \mu_1 \neq \mu_2$$

- c. H₀6: There will be no significant differences between perceived importance of health education and current health behaviors among high school students.

$$H_{06}: \mu_1 = \mu_2$$

H_{A6}: There will be significant differences between perceived importance of health education and current health behaviors among high school students.

H_{A6}: $\mu_1 \neq \mu_2$

Assumptions

The assumptions related to this research include the following: a) the questionnaire was sufficient to capture the appropriate data from the sample population, b) the questionnaire was not burdensome to participants, c) the recall period did not significantly skew precision, and d) study participants responded to the study questions in an accurate and honest manner.

Limitations

The limitations related to this research include the following: a) the study utilized convenience sampling, b) the study was a cross-sectional study, c) the study relied on self-reported data, and d) the study sample was small.

Delimitations

The delimitations related to this research include the following: a) participants were high school students enrolled in grades 10-11 from one high school in West Central Alabama during the spring and summer of 2014 semester and b) the study only addressed the students' perceived experiences of the 9th grade health education course; perceptions related to any additional health education experiences were not addressed in this study.

Summary

Ensuring quality health education is critical to meeting the academic and health needs of children and adolescents in the United States. Research suggests that providing health education results in reduced health risk behaviors among adolescents. Policies and curricula may be required in schools but actual instructional practice may not be reflective of these requirements. The majority of U.S. schools provide health education; yet, there are concerns about the quality of

the curricula used in health education. While the perceptions of health education policies and practices are currently collected from health education teachers and education administrators, no studies of the perceptions of high school students' perceptions of their health education experiences were found in the literature. This study provides the perception of 9th grade health education courses from 10th and 11th graders in a rural district in Alabama. In addition, it provides direction for replication in future studies. Chapter 2 provides a review of relevant literature. Chapter 3 contains a detailed description of the methods and procedures used in this study. Chapters 4 and 5 are individual manuscripts that emanate from the study: Chapter 4 is titled High School Student Perceptions of the Impact of 9th Grade Health Education Course on their Ability to Perform the National Health Education Standards and Make Decisions about Health and Chapter 5 is titled, The Relationship Between High School Students' Perceptions of Health Education and Sexual Health Behaviors. Chapter 6 provides an overall summary of overall findings by research questions and implications of the study.

Definition of Terms

Adolescents: individuals aged 10-19 years old (U.S. Census Bureau, 2011).

CDC risk behaviors: six types of health-risk behaviors that contribute to the leading causes of death and disability among youth and adults (CDC, 2014).

Chronic disease: a long-lasting condition that can be controlled but not cured (Center for Managing Chronic Disease, 2011).

Comprehensive school health education: courses of study (curricula) for students in pre-K through grade 12 that adheres to the National Health Education Standards and addresses behaviors the CDC's six priority risk areas which include unintentional injuries and violence, sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases, including HIV

infection, alcohol and other drug abuse, tobacco use, unhealthy dietary behaviors, and inadequate physical activity (CDC, 2013).

Health behaviors: health-risk behaviors that contribute to the leading causes of death and disability among youth and adults (CDC, 2014).

Health education: instruction designed to provide students with the opportunity to acquire the knowledge, attitudes, and skills necessary for making health-promoting decisions, achieving health literacy, adopting health-enhancing behaviors and promoting the health of others (CDC, 2013).

National Health Education Standards: written expectations for what students should know and be able to do by grades 2, 5, 8, and 12 to promote personal, family, and community health. The standards provide a framework for curriculum development and selection, instruction, and student assessment in health education (CDC, 2013).

Perceived effectiveness: student perceptions' regarding the perceived effect of their 9th grade health education course on making decisions about the six CDC risk behaviors.

Perceived helpfulness: student perceptions' regarding the perceived helpfulness of their 9th grade health education course on their ability to perform the National Health Education Standards.

Perceived importance: student perceptions' regarding the perceived importance of learning about the CDC risk behaviors in their 9th grade health education course.

Perception: the way one thinks about or understands something (Miriam-Webster, 2014).

CHAPTER 2 - REVIEW OF THE LITERATURE

The purpose of this study was to a) assess the perceptions of a 9th grade health education course from 10th and 11th graders attending a rural high school in West Central Alabama, b) identify students' self-reported current health behaviors, and c) explore the relationship between the perceptions of their 9th grade health education course and reported health behaviors. This chapter provides a review of literature related to adolescent health, school health education, challenges and barriers to school health education, and past and current assessments of school health education.

Adolescent Health

Adolescents 10 to 19 years of age comprise 14.5% of the U.S. population (U.S. Census Bureau, 2011). Adolescence has been described as a critical transitional period that involves significant changes in growth and development, puberty, independence and normal experimentation (Halfon & Hochstein, 2002; McNeely & Blanchard, 2009; Mulye et al., 2009). According to Mulye et al. (2009) unintentional injury, rates of homicide, drinking and driving, sexually transmitted infections and substance abuse peak during adolescence. Furthermore, behavior patterns established during adolescence influence an individual's current health status and help determine the risk for developing chronic disease later in adulthood (National Research Council and Institute of Medicine, 2009).

Approximately 2.6 million young people die every year, tens of millions experience health problems, and hundreds of millions develop unhealthy behaviors that lead to premature death and disease in adulthood (WHO, 2011). Recent data indicate more than 40% of all new HIV

infections are young people aged 15-24 years old, approximately 150 million young people use tobacco, and nearly 700 adolescents die daily as a result of unintentional injuries (WHO, 2011). Overall, teenage mortality rates have declined from 76 per 100,000 in 1990 to 60 per 100,000 in 2005 (Mulye et al., 2009).

The three leading causes of death among U.S. teenagers are unintentional injuries, homicide, and suicide (U.S. Department of Health and Human Services [USDHHS], 2010). Since 1997, deaths as a result of unintentional injury, the leading cause of death among U.S. adolescents between the ages of 10 and 18, increased from 47% to 81% (Mulye et al., 2009). Motor vehicle injuries account for 48% of unintentional teenage deaths (Blum & Qureshi, 2011). Males are at a greater risk of mortality due to motor vehicle injuries when compared to females. The mortality rate, due to motor vehicle injuries for males are 39 deaths per 100, 000 and 14 deaths per 100, 000 for females (Centers for Disease Control and Prevention [CDC], 2011).

The second leading cause of death among US adolescents is homicide (USDHHS, 2010). Nearly 82% of adolescent homicides are fire-arm related (Mulye et al., 2009). The U.S., according to the World Development Report (2007) had a higher fire-arm mortality rate among adolescents than the next highest 25 industrialized nations of the world combined. In 2011, 5.1% of high school students had carried a gun on at least 1 day in the last 30 days (CDC, 2011). Further, approximately 430 young people aged 10 to 24 die every day through interpersonal violence (WHO, 2011).

Suicide is the third leading cause of death accounting for 156,950 US adolescent deaths a year (Blum & Qureshi, 2011). In 2011, 15.8% of U.S. youth contemplated suicide and 10.9% reported having made a plan about how they would attempt suicide (CDC, 2011). Research suggests as the number of suicide ideations increase, the likelihood of future suicide ideation increases (Hooper et al., 2014). Approximately, 7.8% of students had attempted suicide one or

more times during the past 12 months (CDC, 2011). Adolescent females were more likely to attempt suicide when compared to males, although males are more likely to die from suicide (YRBS, 2011). According to the CDC (2008) approximately 83% of suicide deaths were male.

Youth Risk Behavior Surveillance System (YRBSS)

Every two years, during the spring semester during February-May of each odd-numbered year, the CDC determines the prevalence of health-risk behaviors among high school students in the United States. The Youth Risk Behavior Survey (YRBS) is designed to assess a wide range of priority risk behaviors among representative samples of high school students at the national, state, and local levels (CDC, 2012). The YRBS is the largest public health surveillance system in the United States that monitors six priority-risk areas identified by the CDC that contribute to the leading causes of death, disability, and social problems among U.S. youth and adults (CDC, 2012; Table 1). These health risk behaviors are a) tobacco use, b) unhealthy eating, c) inadequate physical activity, d) alcohol and other drug use, e) sexual behaviors that result in HIV infection, and other sexually transmitted diseases (STDs), and unintended pregnancy, and f) behaviors that contribute to unintentional injury and violence (CDC, 2011). The YRBSS also monitors the prevalence of obesity and asthma (CDC, 2014).

Data collection protocols are the same for national, state, territorial and large urban district questionnaires. Some schools use active permission, requiring parents to review and sign a consent form indicating their approval before a child can participate; however, the majority of schools use passive permission, meaning that parents send back a signed form only if they do not want their child to participate in the questionnaire (CDC, 2012). For the national questionnaire and the majority of state, territorial, large urban school districts questionnaires, trained data collectors travel to each participating school to administer the YRBS. These data collectors use a standardized script prior to participating students. Procedures for the YRBS are designed to

ensure each student is protected by allowing for anonymous and voluntary participation. During YRBS administration, students complete a self-administered questionnaire and accompanying documentation forms. Students typically complete the YRBS in class period and record their responses directly on a computer-scannable booklet or on a computer-scannable answer form.

YRBS Findings Related to Priority Risk Areas

The Youth Risk Behavior Surveillance System monitors six types of health risk behaviors that research shows contribute to the leading causes of death, disability, and social problems among youth and adults (CDC, 2011). These priority health risk behaviors include the following behaviors: a) tobacco use, b) unhealthy eating, c) inadequate physical activity, d) alcohol and other drug use, e) sexual behaviors that result in HIV infection, and other sexually transmitted diseases (STDs), and unintended pregnancy, and f) behaviors that contribute to unintentional injury and violence (CDC, 2011). In addition to describing the prevalence of these health risk behaviors, the YRBS data are widely used to compare health-risk behavior prevalence among students overall and by sex, race/ethnicity, grade, and age (CDC, 2012). The YRBS has several purposes. Findings from the YRBS have been used to examine the co-occurrence of health risk behaviors, provide comparable national, state and territorial, tribal and local data, and monitor the progress toward achieving the Healthy People objectives and other program indicators (CDC, 2014).

Behaviors that contribute to unintentional injury and violence. Most deaths caused by unintentional injuries in adolescents are due to motor vehicle crashes (Mulye et al., 2009). Results from 2011 YRBS revealed noteworthy progress related to improving motor vehicle safety among US youth. Since 1991, the percentage of high school students who reported never or rarely wearing seat belts declined from 26% to 8% (CDC, 2012). Similarly, the percentage of high school students who rode with a driver who had been drinking declined from 40% in 1991 to 24%

in 2011. Since 1997, the percentage of high school students who had driven a car when they had been drinking alcohol during the past 30 days decreased from 17% to 8% (CDC, 2011). In 2011, nearly 38% of students had texted or emailed while driving a car or other vehicle at least 1 day during the last 30 days prior to the questionnaire (CDC, 2011).

Unintentional injuries due to bicycle accidents are prevalent in adolescents. In 2011, the prevalence of having rarely or never worn a bicycle helmet was higher among male (88.0%) than female (85.9%) students; higher among white male (87.1%) and black male (94.4%) than white female (83.9%) and black female (84.9%) students, respectively; and higher among twelfth grade male (92.0%) than twelfth grade female (87.3%) students. The prevalence of having rarely or never worn a bicycle helmet was higher among black (92.3%) and Hispanic (92.1%) than white (85.7%) students; higher among Hispanic female students (92.0%) than white female (83.9%) students; and higher among black male (94.4%) and Hispanic male students (92.2%) than white male (87.1%) students. The prevalence of having rarely or never worn a bicycle helmet was higher among twelfth grade (89.9%) than ninth grade (86.6%), tenth grade (86.7%), and eleventh grade (87.7%) students and higher among twelfth grade male students (92.0%) than ninth grade (87.2%), tenth grade (87.9%), and eleventh grade male (89.2%) students. Nationwide, students who had ridden a bicycle and rarely or never wore a bicycle helmet decreased during 1999-2001 (96.2%-84.7%) and did not change significantly during 2001-2011 (87.7%-87.5%). The prevalence of rarely or never wearing a bicycle helmet also did not change significantly from 2009 (84.7% to 87.5%) (CDC, 2011).

Homicide is the second leading cause of death in adolescents, with interpersonal violence being a major contributor (Mulye et al., 2009). In 2011, 16.6 % of students carried a weapon on at least 1 day during the last 30 days prior to the administration of the YRBS (CDC, 2011). Among U.S. students, nearly 33% had reported being in a physical fight during the 12 months before the

YRBS (CDC, 2011). In addition, the 2011 YRBS showed that 1 of every 6 high school students has been bullied through e-mail, instant messaging, chat rooms, websites or texting.

Approximately 20% of students had been bullied on school property during the 12 months before the questionnaire (CDC, 2011). In 2011, 70.2% of students nationwide had ridden a bicycle during the 12 months before the administration of the questionnaire, 87.5% had rarely or never worn a bicycle helmet.

Alcohol and other drug use. Alcohol is used more by teenagers than tobacco or any other drug (CDC, 2011). While progress related to alcohol and other drug use has been made among teens, underage drinking continues to be a major concern in the U.S. (CDC, 2011).

According to the CDC (2012) more than 1 in 3 high school students reported alcohol use and 1 in 5 high school students reported binge drinking. Marijuana use during the last 30 days decreased from 27% in 1999 to 23% in 2011; the use of marijuana was more prevalent than cigarette use among U.S. high school students (CDC, 2011). Nearly 7% of students had used some form of cocaine (e.g., powder, crack, or freebase) one or more times during their life (CDC, 2011).

Additionally, 11.4% of students had sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high one or more times during their life (CDC, 2011).

Approximately 21% of students had taken prescription drugs (e.g., OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription one or more times during their life (CDC, 2011).

Tobacco use. Cigarette smoking is the leading cause of preventable death in the U.S. (USDHHS, 2011). According to the CDC (2011) 1 in 5 high school students in the United States were current smokers. Nearly 45% of students had ever tried cigarette smoking (CDC, 2011). In 2011, 18.1% of students had smoked cigarettes on at least 1 day during the 30 days before the YRBS (CDC, 2011). Approximately 8% of students had used smokeless tobacco (e. g., chewing

tobacco, snuff, or dip) on at least 1 day during the last 30 days before the questionnaire (CDC, 2011). Overall, the prevalence of current cigarette use was higher among male (19.9%) than female (16.1%) students; higher among black male (13.7%) and Hispanic male students (19.5%) than black female students 15.2% and higher among 9th grade males (15.1%) and 12th-grade males (28.0%) than 9th grade females (10.9%) and 12th-grade female (22.2%) students. The prevalence of current cigarette Use was higher among white (20.3%) and Hispanic students (17.5%) than black (10.5%) students; higher among white female (18.9%) than black female students (7.4%) and Hispanic female (15.2%) than black female (7.4%) students; and higher among white male (21.5%) and Hispanic male (19.5%) than black male students.

Unhealthy eating. In 2009, 22% of high school students nationwide had eaten the recommended 5 servings of fruit and vegetables a day (CDC, 2009). According to the CDC (2012), 78% of high school students did not eat the recommended 5 servings of fruit and vegetables a day. Nearly 6% of students had not eaten vegetables (green salad, potatoes [excluding French fries, fried potatoes, or potato chips], carrots, or other vegetables) during the 7 days before completing the questionnaire (CDC, 2011). The prevalence of not having eaten vegetables, among high school students, increased from 1999-2005, from 4.2% to 6.0% respectively. In addition, the prevalence of not having eaten vegetables, among high school students from 2005-2009, did not change significantly from 2005 (6.0%) to (5.7%) in 2009 (CDC, 2011). Approximately 17% of students had not drunk milk 7 days prior to the questionnaire and 13.1% of students had not eaten breakfast on any days during the 7 days before the YRBS (CDC, 2011). Among high school students nationwide, the prevalence of not having drunk milk did not change significantly during 1999-2011, from 17.0% in 1999 and 17.3% in 2011. Overall, the prevalence of not eating vegetables was higher among male (6.9%) than female (4.5%) students; higher among white male (5.5%) than white female (2.4%) students; and higher among 9th grade

male (8.1%); 10th grade male (5.9%) and 11th grade male (8.2%) than 9th grade female (5.0%); 10th grade female (3.7%) and 11th grade female students (4.6%) respectively. Overall, the prevalence of not having eaten vegetables was higher among black (9.9%) and Hispanic (8.2 %) than white (4.0%) students; higher among black female (8.6%) and Hispanic female (8.1%) than white female (2.4%) students; and higher among black male (11.1%) and Hispanic male students (8.2%) than white male students (5.5 %).

Inadequate physical activity. In 2008, the U.S. Department of Health and Human Services recommended that young people ages 6-17 participate in at least 60 minutes of daily physical activity (CDC, 2009). The 2011 YRBS revealed that 28.7 % of high school students had been physically active for a total of at least 60 minutes per day on each of the 7 days before the questionnaire. In addition, 13.8% of high school students had not participated in at least 60 minutes of any kind of physical activity that increased their heart rate and made them breathe hard some of the time on at least one day during the 7 days prior to the questionnaire (CDC, 2011). Approximately 51.8% of students went to physical education classes on one or more days in an average week when they were in school, while 31.5% of students went to physical education classes 5 days in an average week when they were in school (CDC, 2011). The prevalence of not having participated in at least 60 minutes of physical activity on any day ranged from 9.0% to 20.6% across state questionnaires and from 15.5% to 27.1% across urban school district questionnaires (CDC, 2011). The prevalence of not having participated in physical activity at least 60 minutes on any day was higher among female (17.7%) than male (10.0%) students; higher among white female (13.7%), black female (26.7%) and Hispanic female students (1.3%) than white male (8.5%), black male (12.3%) and Hispanic male (10.7%) students, respectively; and higher among 9th grade female (13.9%), 10th grade female (17.9%), 11th grade female (19.0%) and

12th grade female students (20.6%) than 9th grade male (8.7%), 10th grade male (10.0%), 11th grade male (10.5%), and 12th grade male (10.8%) students, respectively.

Sexual behaviors that result in HIV infection, other sexual transmitted diseases and unintended pregnancy. Early initiation of sexual intercourse is associated with having a greater number of lifetime sexual partners (Sandfort et al., 2008). In 2011, 47.4% of high students reported having had sexual intercourse (CDC, 2011). The percentage of students who reported having sex differed by grade. In 2011, nearly 33 % of ninth grade students reported having sex, compared to 44% of tenth grade students, 53% of eleventh grade students and 63% of twelfth grade students (CDC, 2011). According the 2011 YRBS, males reported having sexual intercourse at a higher rate (49%) than female students (46%). Among students who had sexual intercourse, 33.7% of students had sexual intercourse with at least one person during the 3 months before completing the questionnaire (CDC, 2011). Approximately, 15.3% of students had sexual intercourse with four or more persons during their life (CDC, 2011).

The 2011 YRBS indicated that among the 33.7% of sexually active students, 60.2% reported that either they or their partner had used a condom during last intercourse, 23.3% reported that either they or their partner had used birth control pills, 12.9% had not used any method to prevent pregnancy during the last sexual intercourse, and 22.1% had drunk alcohol or used drugs before last intercourse. Condom use increased from 46% in 1991 to 63% in 2003 and remained reasonably stable through 2011 (CDC, 2011). From 1991-2011, among students nationwide, a decrease from 37.5% to 33.7% of high school students who reported being sexually active (CDC, 2011); however, the prevalence of being currently sexually active did not change significantly from 2009 to 2011 (CDC, 2011). Furthermore, 12.9% of students had been tested for HIV, not counting tests done when donating blood (CDC, 2011). The prevalence of having ever had sexual intercourse was higher among male (49.2%) than female (45.6%) students; higher

among black male (66.9%) and Hispanic male (53.0%) than black female (53.6%) and Hispanic female (43.9%); and higher among 9th grade male (37.8%) than 9th grade female (27.8%) students. The prevalence of having ever had sexual intercourse was higher among black (60.0%) and Hispanic (48.6%) than white (44.3%). The prevalence of having ever had sexual intercourse was higher among 10th grade (43.8%), 11th grade (53.2%) and 12th grade students (63.1%) than ninth grade students (32.9%).

In Alabama, 50% of high school students in 2013 had sexual intercourse and 49% did not Use a condom during last sexual intercourse (CDC, 2013). Approximately 17% of high school students had sexual intercourse with four or more persons during their life and 14% did not Use any method to prevent pregnancy during last sexual intercourse. Nearly 19% of high school students reported never taught in school about AIDS or HIV infection.

School Health Education

Schools are in a unique position to effectively address adolescent health (Allensworth, 1997). According to the CDC (2011) the health risk behaviors are often established during adolescence, carry on to adulthood, and are largely preventable. Schools provide the opportunity for over 55 million students to acquire health related knowledge and develop the skills to establish lifelong healthy behaviors (ACS, ADA, AHA, nd). Research has shown that school health programs can reduce the prevalence of health risk behaviors among youth and have a positive impact on academic achievement (Basch, 2011; CDC, 2010; Durlak et al., 2011; Hollar et al., 2010; Walker et al., 2009). Healthier students miss fewer classes, are less likely to engage in risky or antisocial behaviors, concentrate more and achieve higher test scores (ASCD, 2012; Basch, 2011;). Research suggests that healthier students are more likely to be successful academically (Basch, 2011). The potential of school health education in improving academic

performance has also been recognized as a critical public health intervention (Freudenberg & Ruglis, 2007; Muenning & Woolf, 2007).

Challenges and Barriers to School Health Education

State education departments have varied in their recommendations for health instruction, resulting in few mandates (Hamburg, 1994; National Association of State Boards [NASBE], 2008). Where mandates are present, schools more likely address single health topics such as drugs, alcohol, or smoking, HIV/AIDS (Cinelli et al., 1997). Dual certification in health and physical education has resulted in teachers who are primarily interested in physical education being required to teach health (Bennett & Peel, 1995; Goodwin, 1993; Nolte, 1994; Taub et al., 2009); however, these teachers are not always qualified or passionate about health (Nolte, 1994). Significant barriers to providing quality health education are well-documented in the literature (CDC, 2011; Gottlieb et al., 1999; Kane, 1994; Mayer et al., 2011). Significant barriers to providing health education are well-documented in the literature (Kane, 1994).

Recent barriers to providing instruction in health education include limited support from school administrators, no instructional time and a lack of qualified teachers (McKenzie et al., 2012). These barriers to quality health instruction were also identified as barriers to quality health education more than 50 years ago (Mayer et al., 2011). Recent legislation has placed tremendous pressure on school leaders, teachers and administrators to improve students' performance in subject areas other than health education (Mayer et al., 2011). Similarly, a declining tax base for the funding of educational programs in general and the deterioration of professional preparation programs for school health educators has also negatively impacted the delivery and quality of school health education in US schools today (McKenzie et al., 2013).

The *Alabama Course of Study: Health Education* provides the legal basis for the minimum content in health education. The Code of Alabama 16-35-4 (1974) granted authority to

the Alabama State Board of Education to prescribe courses of study, requiring health education to be taught in grades K-8; however, the amount of instruction in health education was not specified. The *Alabama Course of Study in Health Education* (2009) recommends that students in Alabama schools receive 60 minutes weekly in the first grade through the sixth grade. High school students are required to earn one-half credit of health education for high school graduation (Administration Code 290-3-1-02, 1998). Using the *Alabama Course to Study*, school superintendents advise and direct the selection or development and implementation of the curriculum for schools in their system.

Past Assessments of Status of School Health Education

The School Health Education (SHES) study conducted in 1961 is referred to as the most significant study responsible for establishing the value of school health education (Allensworth, 1995). Noted as the first significant study to investigate the need for information about school health instruction and health instruction practices in public schools, the SHES assessed the state of school health education in over 135 schools systems representing 38 U.S. states. Conducted from 1961-1963, the SHES assessed students' health knowledge, attitudes and behaviors.

Unfortunately, upon an analysis of the study results, the state of school health education was characterized as inadequate (Sliepcevich, 1964). Findings from the SHES suggested that students were knowledgeable about health and engaged in positive health practices; however, findings also demonstrated an inadequate amount of time allotted for health instruction and a severe need to improve teacher preparation programs (Sliepcevich, 1964).

In 1967, the United States Office of Education funded a research project to identify the health interests and areas of health concern among 5,000 children in Connecticut. This study, titled *Teach Us What We Want to Know*, was designed to provide an index of student perceptions of health education among students in kindergarten through twelfth grade (Byler et al., 1969). As

part of the study, students participated in class discussions, anonymous writing and completed questionnaires to assess their perceptions of areas of concerns for health, what they wanted to know about health, interests and concerns about the body and overall societal concerns. Findings from *Teach Us What We Want to Know* suggest that high school students valued being taught about health and believed that progressive health programs should be provided from early childhood throughout school years. Byler and colleagues (1969) and also found that changes in body, food and nutrition, mental health, and the dangers of drinking, smoking, and Using drugs should be taught in school (Byler et al., 1969).

Students Speak conducted in 1984 was designed to gather data related to the health interest and concerns of 5,000 Washington students in kindergartens through the twelfth grade (Trucano, 1984). Approximately 85% of students who participated in *Students Speak* responded “Yes” to “Do you think it is important to study about health?” High school students were asked to respond to questions regarding “What you would like to learn about?”, “Would you be interested in learning about health?”, “Would you like to know about health?”, and “Do you think it is important to know about health?” Findings from *Students Speak* were intended to be used as a planning source for designing and improving health education programs.

Current Assessments of Practice of Health Education in Schools

The CDC conducts the most comprehensive assessment of school health policies and practices in the United States (CDC, 2013). The School Health Profiles (SHP) and the School Health Policies and Practices Study (SHPPS) provide national, state, school district, school, and classroom level data on health education in U.S. schools. Both assessments are conducted at the elementary, middle and high school level and completed by lead health education teachers and school principals. The SHPPS is a national study, periodically conducted to assess the school health policies and practices at the elementary, middle and high school. The SHPPS is the largest

and most comprehensive assessment of school health policies and practices conducted at the state, district, school and classroom level (CDC, 2013). SHPPS was conducted at the state, district, school and classroom level in 1994, 2000, 2006 and 2012 (CDC, 2013). The most current SHPPS assessment was conducted in 2012 at both the state and district level. Findings from 2012 SHPPS reveal that 41.2% of school districts had specific requirements for health education at the elementary level, 58.7% at the middle school level and 78.7% at the high school level.

The School Health Profiles are conducted nationally, every two years among middle and high principals and lead health education teachers. The Profiles are designed to monitor the status of school health education requirements and content, trends in school health education and family and community involvement in school health programs (CDC, 2013). Results from the 2012 Alabama School Health Profiles indicated that among high school students, 10% of schools required students to take two or more health education courses (physical education accounts for one of those courses), 79% had a health education curriculum that addressed all eight National Health Education Standards for health education, 88% taught 14 key nutrition and dietary behaviors in a required course, and 78% taught 12 key physical activity topics in a required course (CDC, 2013).

School Health Education Evaluation Studies

Research has shown that school health education has been effective in reducing risk behaviors and promoting health-enhancing behaviors among adolescents in the United States (CDC, 2013). Recent scientific reviews have documented that school health education programs have had positive effects on educational outcomes, health-risk behaviors and health outcomes (Allensworth et al., 2007; Basch, 2010; CDC, 2010). Rigorous studies in the 1990s revealed that health education in schools can result in significant reductions in obesity prevalence and the use of tobacco, alcohol and marijuana among U.S. adolescents (Botvin, et al., 1995; Gortmaker et al.,

1999). School health education programs can reduce the prevalence of health risk behaviors among youth and have a positive impact on academic achievement (Basch, 2011; CDC, 2010; Durlak, et al., 2011; Hollar et al., 2010; Murray et al., 2007; Walker et al., 2009;).

A landmark study conducted by Abt Associates (1986) in Cambridge, Massachusetts examined how health education affected over 30,000 students in grades 4-7. From 1981-1985, students representing 73 school districts participated in this study aimed at addressing how four different health education curricula impacted students in different districts. The review of the four curricula, the School Health Curriculum Project, the Health Education Curriculum Guide, Project Prevention and Reading, and 'Riting, 'Rithmetic and High Blood Pressure resulted in a recommendation for health education to be offered for a longer time during school hours. The Abt Associates study found that health education was more effective when implemented on a broad scale, with administrative support and teacher preparation (Abt Associates, 1986). Additional findings from Abt Associates suggest that health instruction result in increased health knowledge, improvement in health attitudes and increased self-reported health enhancing practices. Abt Associates also found that health education was effective in shaping health attitudes and decreasing risky behaviors among children.

More recent reviews of health education indicate that students exposed to health education had improved social-emotional skills, attitudes about self and others, connection to school, positive social behavior, and academic performance (Payton et al., 2008). Similarly, the Collaborative for Academic, Social and Emotional Learning Project (2010) found that students who participated in school-based health education significantly improved conduct problems, emotional stress and depression, school attitudes and achievement scores.

Student Perceptions of Educational Experiences

Gaining an understanding of students' perceptions of their educational experiences is imperative to improving student learning (Ames, 1992). While many evaluation studies focus directly on student satisfaction or student expectations of the course (Marsh & Roche, 1997; Richardson, 2005; Voss & Gruber, 2006), several studies, in subject other than health education, examined the links between student perception and satisfaction of teaching and learning (Douglas et al., 2006). Furthermore, many studies have indicated that by formally asking students about their classroom experiences, students tend to take more ownership of their learning environment and increase their level of engagement (The Bill & Melinda Gates Foundation, 2013). Collecting student perceptions of their educational experiences can provide meaningful feedback related to student perception of teaching quality, relevance and overall satisfaction of a course (Griffin et al., 2003; Metropolitan Life, 1988). Student perceptions have been commonly addressed by capturing aspects of teaching and the learning environment (Ames, 1994). Traditional markers used to assess student perceptions about their educational experiences include questionnaires that address quality of teaching, acquisition of generic skills, clarity of goals and objectives, intellectual motivation, quality of learning community and resources and overall satisfaction (Care, 2009).

To date, several studies outside of health education have been carried out in the areas of science, allied health education courses, technology, physical education, social and emotional learning, and school climate (Anderson & Shelledy, 2013; Al Amari & Ziab, 2012; Alvermann et al., 1996; Luketic & Dolan, 2013; the Peyton et al., 2008; Stichter, 2010). Anderson & Shelledy (2013) assessed high school student predictors of satisfaction with allied health education courses. Students were asked to respond to a 20-item questionnaire designed to assess the teacher competencies, course satisfaction, and progress on objectives. Teacher competencies predicted

62% of variation in course satisfaction, 67% of the variation in teacher satisfaction and 58% of the variation in progress on learning objectives. Shelledy & Anderson also found that stimulating student interest was the strongest predictor of course satisfaction and progress on learning objectives. Luketic & Dolan (2013) assessed student perceptions of high school science environment laboratory environments. Over 900 students were asked to complete a 35-item Science Laboratory Environment Inventory designed to assess five dimensions of the science learning environment. Findings suggest that students in high-achieving courses had a more favorable perception of all aspects of their learning environment when compared with students in regular courses. Results also indicated that students' perceptions of their laboratory learning environment were influenced by their experience in biology and other sciences, and that teachers can utilize these perceptions to accentuate critical instructional approaches and make modifications that serve to enhance the science laboratory environment. Both Shelledy & Anderson and Luketic & Dolan indicated that students have a more positive perception of a course when they are stimulated and feel challenged.

Care (2009) assessed student perception of teaching quality over time. In this study, 73 students were asked to complete the Quality of Teaching Student Feedback Questionnaire at three different time points. High school students reported stable levels of satisfaction throughout the semester. Furthermore, Care found that when high school students understand what is expected in a course, the subject is taught in an intellectually stimulating manner, and students receive helpful feedback, students were more likely to be engaged in learning. Results also suggest that student perceptions are a rich source of feedback for teachers about student learning.

Stichter (2010) investigated student perceptions of instructional climate in one Californian high school district and explored student satisfaction levels with instructional climate over time. Six comprehensive high schools located in a suburban high school district participated in this

study. Over 14,000 students from six high schools completed a questionnaire designed to capture student satisfaction with instructional climate through the lens of the student experience. Findings from this study indicate that high school students are willing to render opinions and are a valuable source of insight into the effectiveness of schools (Stichter, 2010).

Student Perceptions of Health Education

One study examining the perceptions of high school health education was found in the literature which explored the perceived effectiveness of high school health education among 410 Midwestern university students (King & Snyder, 2003). Using a cross-sectional design, participants in the study completed a 44-item questionnaire. The perceived effectiveness of high school health education was measured via two subscales: a) effectiveness in increasing students' knowledge of health issues and b) effectiveness in helping students to adopt healthy behaviors. Three additional subscales were utilized to measure 'increased knowledge', "helping to adopt health behaviors", and "health values." King & Snyder (2003) suggested that the majority of students felt that health education was important and that health behaviors were important to adopt. Additionally, freshman and sophomore college students were more likely than juniors and seniors to feel that their health education course was effective in increasing health behaviors and health knowledge. Results also indicated that students who had taken more than three or more health school health classes reported increased perceived effectiveness scores of high school health education.

Summary

Results from the 2011 YRBS reveal that many teenagers are engaging in risky health behaviors. These behaviors increase the risk of morbidity and mortality and comprise the health status of U.S. adolescents (CDC, 2013). Many adolescents engage in physical fights, consume alcohol, tobacco, and other drugs and lack the recommended amounts of fruit and vegetables and

physical activity (CDC, 2012). Quality health education provides the opportunity for students to become knowledgeable about making healthy decisions and the opportunity to practice and adopt a healthy lifestyle. The Centers for Disease Control and Prevention (CDC) currently assesses the perceptions of school health policies and practices from lead health education teachers and principals. However, CDC has not conducted an assessment of student perceptions of health education experiences. The literature suggests that student perceptions are important and critical to student learning. Findings from the aforementioned studies support the evaluation of student perceptions of education to serve as meaningful feedback that may be used to improve learning and shape behaviors among adolescents. Only one study has addressed perceptions of health education from students and this study was conducted among college students' rather than high school students (King & Snyder, 2003). Assessing the student perception of quality of health instruction is critical to addressing the needs of adolescents. Furthermore, current research designed to assess the perceptions of health education among high school students is limited. Therefore, this study investigated the relationship between perceptions of the 9th grade health education course and current self-reported health behaviors among high school students in West Central Alabama.

CHAPTER 3 - METHODOLOGY

The purpose of this study was to a) assess the perceptions of a 9th grade health education course from 10th and 11th graders attending a rural high school in West Central Alabama, b) identify students' current self-reported health behaviors and c) explore the relationship between the perceptions of their 9th grade health education course, and self-reported health behaviors. The study consisted of three basic phases. The first phase involved the selection of a school and recruitment of participants. The second phase was the development of the instrument including a review by an expert panel. The third phase was to gather data using the developed instrument and analyze and interpret the data that were collected. The procedures for conducting this study are included in this chapter. This chapter includes sections on the selection of school and recruitment of participants, instrument development, data collection and management, and data analysis.

Selection of School/Recruitment of Participants

Since the focus of this study was intended to be rural high school students, a rural county school district in Alabama was contacted. The race and ethnicity of students, percentage of students eligible for free or reduced lunch, and the number of students in each grade level in this school and district were similar to overall data for school districts in Alabama. The school district had two high schools. The lead researcher had served as a teacher in that particular school district. One high school principal elected for his school to participate in the study. The second principal opted not to participate in the study. After receiving approval from one principal, a meeting was held with the district superintendent in November 2013. The superintendent granted

district-level permission for the study and provided the lead researcher with a letter of support to proceed with the study.

Permission was granted by the school principal to recruit students in grades 10-11 during a general assembly to be held at a later date. In May of 2014, the purpose of the study and relevant study information was presented to students during a scholarship assembly. This school had 276 10th and 11th grade students were enrolled at this school. All 10th grade and 11th grade students present at the assembly received a parent consent form to take home and review with their parent or guardian. Recruitment of students continued for four weeks. After the assembly, teachers distributed parent consent forms during enrichment classes, football, band, cheerleading, volleyball, and softball camp. Additionally, support for recruitment was initiated by the school principal, who reminded students about the study over the school intercom and through the use of a voicemail call system. One hundred and seventy-two (62%) of the total number of 10th and 11th grade students returned their parent consent forms. Active consent was required to participate in this study; therefore, parental consent was received and documented prior to questionnaire administration. Students returned their signed parent consent forms in a basket located in the school's main office. Written student assent was also received from each student prior to questionnaire administration. There were no incentives provided to study participants.

Instrument Development

A questionnaire was developed to assess the perceptions of health education experiences based on a questionnaire developed for assessing the status of school health education in elementary schools in South Dakota. The questionnaire for this study was designed to assess the students' perception of their 9th grade course. Specifically, was the course effective in helping them perform the National Health Education Standards and was it helpful to them in making healthful decisions related to the six CDC risk behaviors. In addition, questions addressed their

perception of the importance of the course. Moreover, the researcher collected data related to sociodemographic characteristics and student health behaviors using the 2011 Youth Risk Behavior Survey (YRBS).

The questionnaire consisted of five sections. Section one addressed whether participants took a health education course in the ninth grade and whether the course was taken at their current high school or another high school. Because a course in life skills PE and nutrition was offered at the participating high school, a question was included to assess each student's participation in life skills PE or a nutrition course.

The second section of the questionnaire consisted of eight questions developed to assess student perceptions about the effect of their 9th grade health education course on making decisions about health. Perceived effectiveness was operationalized as the perceived effect of one's 9th grade health education on making decisions about the six CDC risk behaviors: a) tobacco use, b) unhealthy eating, c) inadequate physical activity, d) alcohol and other drug use, e) sexual behaviors that may result in HIV infection, other sexually transmitted disease (STDs) and unintended pregnancy, and f) behaviors that contribute to unintentional violence. Students responded to a scale of 1 (strongly disagree), 2 (disagree), 3 (agree) and 4 (strongly agree).

The third section of the questionnaire consisted of eight questions designed to assess students' perceived helpfulness in performing the NHES. Perceived helpfulness was operationally defined as the impact of the 9th grade health education course on the students' ability to perform the eight National Health Education Standards: a) comprehend concepts related to health promotion and disease prevention, b) analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors, c) demonstrate the ability to access valid information, products, and services to enhance health, d) demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks, e)

demonstrate the ability to use decision-making skills to enhance health, f) demonstrate the ability to use goal-setting skills to enhance health, g) demonstrate the ability to practice health-enhancing behaviors and avoid or reduced health risks, and h) demonstrate the ability to advocate for personal, family, and community health. Students responded to a scale of 1 (strongly disagree), 2 (disagree), 3 (agree) and 4 (strongly agree).

The fourth section of the questionnaire included seven questions to assess student perceptions about the importance of learning about the six CDC health risk behaviors. This section included seven questions because alcohol abuse was separated from drug abuse. Perceived importance was operationally defined as the importance in learning about the six CDC risk behaviors: a) tobacco use, b) unhealthy eating, c) inadequate physical activity, d) alcohol and other drug use, e) sexual behaviors that may result in HIV infection, other sexually transmitted disease (STDs) and unintended pregnancy, and f) behaviors that contribute to unintentional violence. Students responded to a scale of 1 (strongly disagree), 2 (disagree), 3 (agree) and 4 (strongly agree).

The fifth section of the questionnaire included 79 items designed to assess youth health behaviors. The Youth Risk Surveillance Survey (YRBS) was used to assess the current health behaviors of study sample. The YRBS is designed to assess the prevalence of priority health- risk areas that contribute to the leading causes of morbidity and mortality among children and adults. Risk behaviors assessed by the YRBS include sexual behaviors that contribute to unintended pregnancies, sexual transmitted infections and HIV, unintentional injury and violence, alcohol, tobacco, and other drug use, dietary practices, physical activity and asthma- related behaviors (CDC, 2011). Research indicates that questionnaire items used in the YRBS are a credible method for collecting data from adolescents (CDC, 2011). These items selected from the 2011 YRBS have been previously validated (CDC, 2013). According to the CDC (2013) the YRBS has

undergone several methodological studies to assess test and retest reliability. Students also completed a demographic information form. Ten questions were used to assess the age, gender, grade level, race/ethnicity, lunch status, other household characteristics, and height and weight of the study sample. All demographic questionnaire items were taken from the middle school and high school version of the YRBS (CDC, 2011).

Expert Panel Review. A review of the questionnaire intended to assess face and content validity was conducted by an expert panel consisting of three individuals with expertise in school health, health education, and youth risk behavior, respectively. Expert panel members were asked to review the portion of the survey related to student perceptions of their 9th grade school health experience (Appendix B). Members were asked specifically to review 44 questionnaire items related to demographics, the six CDC health risk behaviors, the National Health Education Standards, the importance of learning about the six CDC health risk behaviors, the perceived value of health education and grading of the health education course and teacher (Appendix B). At the suggestion of the expert panel members, one question regarding a teacher characteristic and an overall rating of their health education course was removed. Additionally, a section related to perceptions of the 9th grade health education compared to Science, Technology, Engineering and Math (STEM) was also removed; this section consisted of four items. The final version of the instrument is presented in Appendix B.

One additional panelist was a high school student who was not enrolled in the participating school. A cognitive interview was conducted with this high school student as a method for pre-testing the questionnaire and detecting survey items that might have been unclear or misunderstood by potential respondents. A cognitive interview is a common technique used to solicit participant feedback and to provide insight to the readers' perception for survey development (Willis, 1999). According to Willis, results of a cognitive interview can be used to

revise or develop new items or omit items identified as not appropriate for respondents. As a result of the cognitive interview no further revisions were made. Internal reliability for the perception measures was high; perceived effectiveness ($\alpha=.92$), perceived helpfulness ($\alpha=.94$) and perceived importance ($\alpha=.94$)

Data Collection and Management

Data collection took place over five weeks in May and June 2014. All students who returned their parental consent forms (N=172) were directed to selected classrooms predetermined by the school principal during regular class time to complete the study questionnaire. Students were taken out of class during their regular class schedule to participate in this study. After the purpose of the study was explained and assent forms were signed and collected, the study questionnaire was distributed to each student. Students were allowed 75 minutes to complete the study questionnaire. Students completed responses to the study questionnaire via a Scantron form. Students who finished the questionnaire prior to 75 minutes were allowed to return to their regular class. After 75 minutes, the researcher collected all questionnaires and all students returned to their regularly scheduled class. Completed Scantrons were submitted the University of Alabama's Testing Services, scanned and imported into an Excel file and returned to the researcher. For accuracy checks, 25% of the original questionnaires were checked against the scanned data file (Field, 2009). Data accuracy was determined; no translation errors were identified.

Data Analysis

The Statistical Package for Social Sciences (SPSS) 21.0 was used for all data analyses. Frequency distribution, means, standard deviations and ranges of scores were computed to describe the data. Data were analyzed for measures of central tendency, measures of variability and frequencies. Multivariate analysis of variance (MANOVA) was used to detect group

differences. One- way analyses of variance (ANOVA) and MANOVA were calculated to identify differences in demographic, behavior and perception variables. MANOVA allowed the researcher to examine several dependent variables simultaneously. Additionally, MANOVAs include all dependent variables in the same analysis and takes account of the relationship between these variables (Fields, 2009). If MANOVAs were found to be significant, then ANOVAs were performed to identify the significant items. The alpha level of significance was set at the .05 level. Prior to data analysis, nine cases were removed from the data set. Eight cases represented individuals from low represented racial groups (Asian, Pacific Islanders and Hispanic) and one case was eliminated as the only 19 year old in the study.

Summary

This chapter provides the methods and procedures related to this study. This study included three phases: instrument development, expert panel review, and the main study. The first phase involved the selection of a school and recruitment of participants. The second phase was to develop the instrument, including a review of an expert panel. The third phase was to gather data using the developed instrument and analyze and interpret data that were collected. Chapter 4 is an individual article titled, High School Student Perceptions of the Impact of a 9th Grade Health Education Course on their Ability to Perform the National Health Education Standards and Make Decisions about Health. Chapter 5 includes the individual article titled, The Relationships Between High School Students' Perceptions of Health Education and Sexual Health Behaviors.

CHAPTER 4 - HIGH SCHOOL STUDENT PERCEPTIONS OF THE IMPACT OF A 9TH GRADE HEALTH EDUCATION COURSE ON THEIR ABILITY TO PERFORM THE NATIONAL HEALTH EDUCATION STANDARDS AND MAKE DECISIONS ABOUT HEALTH

Schools are in a unique position to effectively address adolescent health (Allensworth, 1997; Allensworth & Kolbe, 1987; CDC, 2011; Fetro, 1998). They also have the potential to address the cognitive, physical, social, and emotional health of the 95% of American children who are enrolled in these institutions (Allensworth, 2011; Basch, 2011; Marx et al., 1998). Extensive public health data reveal that providing health education in schools has a positive impact on both academic and health outcomes (Allensworth, 2007; Basch, 2011). Research has shown that school health programs can reduce the prevalence of health risk behaviors among youth and have a positive impact on academic achievement (Basch, 2011; CDC, 2010; Durlak et al., 2011; Hollar et al., 2010; Walker et al., 2009). Healthier students miss fewer classes, are less likely to engage in risky or antisocial behaviors, concentrate better, and achieve higher test scores than students who are less healthy (ASCD, 2012; Basch, 2011).

Healthy People 2020 (US DHHS, 2020) includes a goal to “improve the healthy development, safety and well-being of adolescents (p. 9).” HP 2020 also contains the objective to “increase the proportion of elementary, middle, and senior high schools that provide comprehensive school health education to prevent health problems in the following areas: unintentional injury; violence; suicide; tobacco use and addiction; alcohol or other drug use; unintended pregnancy; HIV/AIDS, and STD infection; unhealthy eating patterns; and inadequate physical activity (p. 66).” Furthermore, HP 2020 includes an objective to “increase the proportion of elementary, middle, and senior high schools that have health education goals that address the

knowledge and skills articulated in the National Health Education Standards (p. 66).” Through these objectives, HP 2020 provides a critical framework to monitor and track goals related to school health education through these objectives.

The National Health Education Standards (NHES) were developed to provide direction for school health education programs (The Joint Committee on Health Education Standards, 2007). The NHES are written expectations for students in all grade levels (The Joint Committee on Health Education Standards, 2007) (Table 1). The NHES are the same for students from pre-kindergarten through the twelfth grade. The Standards provide a framework for teachers, administrators and other educational leaders to design and select curricula. The NHES have been effective in providing resources for both curriculum development and selection, instruction, and student assessment in health education (The Joint Committee on Health Education Standards, 2007).

Table 1

The National Health Education Standards

The National Health Education Standards

Students will be able to comprehend concepts related to health promotion and disease prevention to enhance health.

Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.

Students will demonstrate the ability to access valid health information, products and services to enhance health.

Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.

Students will demonstrate the ability to use decision-making skills to enhance health.

Students will demonstrate the ability to use goal-setting skills to enhance health.

Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.

Students will demonstrate the ability to advocate for personal, family and community health.

Source: The Joint Committee on National Health Education Standards, 2007.

The CDC (2013) conducts assessments of school health education practices and policies (CDC, 2013). To date, perceptions of health education practices have only been collected from lead health education teachers and administrators. A review of the literature did not reveal any studies that addressed high school student perceptions of their high school health education.

The purpose of this article is to present the perceived importance of 10th and 11th grade students' health education experiences related to the impact of the course on their ability to perform the National Health Education Standards and make decisions about the six priority risk areas identified by the CDC. The data presented in this article emanated from a study that was designed to a) assess the perceptions of a 9th grade health education course from 10th and 11th graders attending a rural high school in West Central Alabama, b) identify students' current self-reported health behaviors, and c) explore the relationship between the perceptions of their 9th grade health education course and self-reported health behaviors.

Methods

Since the focus of this study was intended to be rural high school students, a rural county district in Alabama was contacted. The race and ethnicity of students, percentage of students eligible for free or reduced lunch and the number of students in each grade level in this school and district were similar to overall data from rural districts in Alabama. The school district had two high schools. One principal elected for his school to participate in the study. The second principal opted not to participate in the study. After receiving approval from one principal a

meeting was held with the district superintendent in November 2014. The superintendent granted permission and provided the lead researcher with a letter of support to proceed with the study.

Permission was granted by the school principal to recruit students in grades 10-11 during a general assembly to be held at a later date. In May of 2014, the purpose of the study and relevant study information was presented to students during a scholarship assembly. This school had 276 10th and 11th grade students were enrolled at this school. All 10th grade and 11th grade students present at the assembly received a parent consent form to take home and review with their parent or guardian. Recruitment of students continued for four weeks. Teachers distributed parent consent forms during enrichment classes, football, band, cheerleading, volleyball, and softball camp. Additionally, support for recruitment was initiated by the school principal, who reminded students about the study over the school intercom and through the use of a voicemail call system. One hundred and seventy-two, 10th and 11th grade students returned their parent consent forms of the total 10th and 11th grade students (62%). Active consent was required to participate in this study; therefore, written parental consent was received and documented prior to questionnaire administration. Students returned their signed parent consent forms in a basket located in the school's main office. Written student assent was also received from each student prior to questionnaire administration. There were no incentives provided to study participants.

Instrument Development

The data presented in this article were collected as part of a larger study that a) assessed the perceptions of a 9th grade health education course from 10th and 11th graders attending a rural high school in West Central Alabama, b) identified students' current self-reported health behaviors, and c) explored the relationship between the perceptions of their 9th grade health education course and self-reported health behaviors. One section of the questionnaire for the study was developed to assess student perceptions about the effect of their 9th grade health education course on making

decisions about health about the six CDC health risk behaviors and performing the National Health Education Standards. Perceived effectiveness was operationally defined as the perceived effect on one's 9th grade health education course on making decisions about the six CDC risk behaviors: a) tobacco use, b) unhealthy eating c) inadequate physical activity, d) alcohol and other drug use, e) sexual behaviors that may result in HIV infection, other sexually transmitted disease (STDs) and unintended pregnancy, and f) behaviors that contribute to unintentional violence. Perceived helpfulness was operationally defined as the perceived helpfulness of participants' 9th grade health education course on the ability to perform the National Health Education Standards: a) comprehend concepts related to health promotion and disease prevention, b) analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors, c) demonstrate the ability to access valid information, products, and services to enhance health, d) demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks, e) demonstrate the ability to use decision-making skills to enhance health, f) demonstrate the ability to use goal-setting skills to enhance health, g) demonstrate the ability to practice health-enhancing behaviors and avoid or reduced health risks, and h) demonstrate the ability to advocate for personal, family, and community health. Perceived importance was operationalized as the perceived importance in learning about the six CDC risk behaviors.

Expert Panel Review. After the final draft version of the overall study questionnaire was developed, a review of the questionnaire with the intent to assess face and content validity was conducted by an expert panel consisting of three individuals with expertise in school health, health education, and youth risk behavior. Members were asked specifically to review questionnaire items related to demographics, the six CDC health risk behaviors, the National Health Education

Standards, the importance of learning about the six CDC health risk behaviors, the perceived value of health education and grading of the health education course and teacher.

Based on the review of the expert panel, five questions were eliminated from the final draft version. The final version of the survey was approved by the IRB of the University of Alabama. In addition to the review by the expert panel, a cognitive interview was conducted with a high school student as a method for pre-testing the questionnaire and detecting survey items that might have been unclear or misunderstood by potential respondents. As a result of the cognitive interview, no further revisions were made.

Data Collection and Management

Data collection took place over five weeks in May and June 2014. All students who returned their parental consent forms (N=172) (62%) were directed to selected classrooms predetermined by the school principal during regular class time to complete the study questionnaire. Students were taken out of class during their regular class schedule to participate in this study. After the purpose of the study was explained and assent forms were signed and collected, the study questionnaire was distributed to each student. Students were allowed 75 minutes to complete the study questionnaire. Students completed responses to the study questionnaire by using a Scantron form. Students who completed the study questionnaire prior to 75 minutes were allowed to return to their regularly scheduled class. After 75 minutes, the researcher collected all questionnaires and all students returned to their regularly scheduled class. Completed Scantrons forms were submitted the University of Alabama's Testing Services, scanned and imported into an Excel file and returned to the researcher. For accuracy checks, 25% of the original questionnaires were checked against the scanned data file (Field, 2009). Data accuracy was determined; no translation errors were identified.

Data Analysis

All data analyses were conducted using Statistical Package for the Social Sciences (SPSS) 21.0. Frequency distribution, means, standard deviations and ranges of scores were computed to describe the data. Multivariate analysis of variance (MANOVA) was used to detect group differences. A MANOVA allowed the researcher to examine several dependent variables simultaneously. MANOVAs include all dependent variables in the same analysis and takes account of the relationship between these variables (Fields, 2009). Fields explains that a MANOVA has four assumptions to be met:

- 1) Independence-residuals should be statistically independent.
- 2) Random sampling-data should be randomly sampled from the population of interest and measured at an interval level.
- 3) Multivariate normality. We are assuming true; but you cannot really test for this using SPSS. MANOVA is usually robust if you have at least 30 cases per cell.
- 4) Homogeneity of covariance of matrices. This assumption is tested for each MANOVA that is run using a Box's M test statistic. It is often violated, in which case you can use the Pillai's Trace test statistic as it is the most robust to violations of this assumption.

Two of the four assumptions for the MANOVA were met in this study. There were homogenous variance-covariance matrices within the sets of multivariate dependent variables across groups and the dependent variables had multivariate normal distributions. The residuals were not statistically independent and in this case, a Levene's test of homogeneity of variance was conducted; the data were not randomly sampled from the population of interest. The researcher assumed the study was underpowered that resulted in a violation of the assumptions. The conclusions and implications should be carefully weighed before decisions can be made about health education programs.

Results

A total of 276 high schools students in grades 10-11 were eligible to participate in this study. Of this total, 172 (62%) returned parental consent forms and completed the questionnaire. Most students were 16 years old (52.8%), 36.8% were 17 years old, 6.1% were 15 years old, and 4.3% were 18 years old. Additionally, 49% were female, 54% were in the 10th grade, and 42% identified as white and 58% as Black.

Results indicated that over 60% of the 10th and 11th grade students in the study agreed and strongly agreed that their 9th health education course was effective in preparing them to perform Standards 1, 6, and 7. Conversely, less than 53 % of high school students in the 10th and 11th grade agreed and strongly agreed that their 9th grade health education course was effective for preparing them to perform Standards 2, 3, 4, 5, and 8 (Table 2).

Table 2

Perception of the Impact of Health Education Course on Preparing Students to Demonstrate Standards

	Strongly Disagree %	Disagree %	Agree %	Strongly Agree %	Mean	SD
Standard 1	16.6	17.8	41.7	23.9	1.73	1.01
Standard 2	15.3	28.2	40.5	16.0	1.57	.94
Standard 3	16.0	30.7	38.0	15.3	1.53	.94
Standard 4	19.0	27.6	35.0	18.4	1.53	1.00
Standard 5	19.0	22.1	39.9	19.0	1.59	1.00
Standard 6	16.6	22.7	42.3	18.4	1.63	1.00
Standard 7	12.9	20.2	45.4	21.5	1.75	.94
Standard 8	19.0	27.0	36.8	17.2	1.52	1.00

Results indicated that 65.1% of 16 year olds agreed and strongly agreed that their 9th grade health education course was effective in preparing them to perform Standard 1. Nearly 70% of 10th graders agreed and strongly agreed that their 9th grade health education course was helpful in preparing them to comprehend concepts related to health promotion and disease prevention (Standard 1). The majority of male and female high school students (69.2% and 62.2% respectively) agreed and strongly agreed that their 9th grade health education was helpful in addressing Standard 1. Approximately 68.4% of white high school students agreed and strongly agreed that their health education course was effective in addressing Standard 1. Similarly 61 % of students who reported receiving free/reduced lunch agreed and strongly agreed that their 9th grade health education course was effective in preparing them to perform Standard 1 (Table 3).

Table 3

Perceived Effectiveness of Health Education Course in Performing NHES 1

Demographics	Strongly Disagree %	Disagree %	Agree %	Strongly Agree %
Age				
15 years of age	30.0	0.0	30.0	40.0
16 years of age	18.6	16.3	39.5	25.6
17 years of age	13.3	23.3	46.7	16.7
18 years of age	0.0	14.3	42.9	42.9
Grade				
10 th	14.6	14.6	39.3	31.5
11 th	18.9	21.6	44.6	14.9
Gender				
Female	14.8	16.0	45.7	23.5
Male	18.3	19.5	37.8	24.4
Race				
Black	17.6	20.6	44.1	17.6
White	15.8	15.8	40.0	28.4
Free/reduced lunch				

Yes	18.0	21.0	44.0	17.0
No	14.3	12.7	38.1	34.9

Results indicated that 57% of 16 year olds agreed and strongly agreed that their 9th grade health education was helpful in performing the standard related to analyzing the influence of family, peers, culture, media, technology, and other factors on health behaviors (Standard 2). Nearly 60% of 10th grade students reported that they agreed and strongly agreed that their 9th grade health education course was helpful in addressing Standard 2. Approximately, 50% of males disagreed and strongly disagreed that their 9th grade health education course preparing them to address Standard 2. Conversely, 58% of white high school students agreed that their 9th grade health education was helpful in preparing them to analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors. Nearly 60% of students who reported receiving free/reduced lunch strongly agreed and agreed that their health education course was helpful in addressing Standard 2 (Table 4).

Table 4

Perceived Effectiveness of Health Education Course in Performing NHES 2

Demographics	Strongly Disagree	Disagree	Agree	Strongly Agree
	%	%	%	%
Age				
15 years of age	20.0	30.0	30.0	20.0
16 years of age	14.0	29.1	41.9	15.1
17 years of age	18.3	28.3	38.3	15.0
18 years of age	0.0	14.3	57.1	28.6
Grade				
10 th	10.1	31.5	42.7	15.7
11 th	21.6	24.3	37.8	16.2

Gender				
Female	13.6	23.5	45.7	17.3
Male	17.1	32.9	35.4	14.6
Race				
Black	14.7	32.4	36.8	15.3
White	15.8	25.3	43.2	15.7
Free/reduced lunch				
Yes	18.0	27.0	40.0	15.0
No	11.1	30.2	41.3	17.5

Nearly 55% of 16 years olds indicated that their 9th grade health education course was helpful in preparing them to perform the standard related to the ability to access valid health information (Standard 3). Similarly, 53.9% of 10th grade students agreed and strongly agreed that their 9th grade health education course to be helpful in performing Standard 3. Approximately 52.6% of white students agreed and strongly agreed that their 9th grade health education course was helpful in preparing them to access valid health information. Over 60% of female students agreed and strongly agreed that their 9th grade course was helpful in addressing Standard 3. Nearly 50% of high school students who reported receiving free/reduced lunch disagreed and strongly disagreed that their health education course prepared them to address Standard 3 (Table 5).

Table 5

Perceived Effectiveness of Health Education Course in Performing NHES 3

Demographics	Strongly Disagree	Disagree	Agree	Strongly Agree
	%	%	%	%
Age				
15 years of age	10.0	40.0	20.0	30.0
16 years of age	18.6	26.7	37.2	17.4
17 years of age	15.0	33.3	41.7	10.0
18 years of age	0.0	42.9	42.9	14.3

Grade				
10 th	13.5	32.6	33.7	20.2
11 th	18.9	28.4	43.2	9.5
Gender				
Female	16.0	23.5	42.0	18.5
Male	15.9	37.8	34.1	12.2
Race				
Black	13.2	32.4	42.6	11.8
White	17.9	29.5	34.7	17.9
Free/reduced lunch				
Yes	12.7	38.1	27.0	22.2
No	18.0	26.0	45.0	11.0

Results indicated that over 70% of 16 year olds agreed and strongly disagreed that their 9th grade health education course was helpful in preparing them to perform the standard related to personal communication skills to enhance health and avoid or reduce health risk (Standard 4). Approximately, 46.1% of 10th grade students disagreed and strongly disagreed that their health education course prepared them to perform Standard 4. The majority of females (63.9%) agreed and strongly agreed that their 9th grade health education course was helpful in performing Standard 4. Over 50% of black and white students agreed and strongly agreed that their health education course helpful in preparing them to use interpersonal communication skills to enhance health and avoid or reduce health risk. Approximately, 44 % of students who reported not receiving free lunch disagreed and strongly disagreed that their 9th grade health education course prepared them to perform Standard 4 (Table 6).

Table 6

Perceived Effectiveness of Health Education Course in Performing NHES 4

Demographics	Strongly Disagree %	Disagree %	Agree %	Strongly Agree %
Age				
15 years of age	30.0	20.0	30.0	20.0
16 years of age	15.1	27.9	37.2	19.8
17 years of age	25.0	28.3	31.7	15.0
18 years of age	0.0	28.6	42.9	28.6
Grade				
10 th	15.7	28.1	37.1	19.1
11 th	23.0	27.0	32.4	17.6
Gender				
Female	19.8	17.3	44.4	18.5
Male	18.3	37.8	25.6	18.3
Race				
Black	16.2	32.4	33.8	17.6
White	21.1	24.2	35.8	18.9
Free/reduced lunch				
Yes	18.0	30.0	36.0	16.0
No	20.6	23.8	33.3	22.2

Nearly 60% of 16 year olds perceived their health education course to helpful in preparing them to perform the standard related to using decision-making skills to enhance health (Standard 5). Similarly, over 60% of 10th grade students agreed and strongly agreed that their 9th grade health education course was helpful in preparing them to perform Standard 5. Conversely, 52.5% of males disagreed and strongly disagreed that their 9th grade health education course prepared them to use decision-making skills to enhance health. Nearly 65% of white and black students agreed and strongly agreed that their 9th grade health education course was helpful in preparing

them to perform Standard 5. Approximately 60% of students who received free or reduced lunch disagreed and strongly disagreed that their 9th grade health education course was helpful in preparing them to perform Standard 5 (Table 7).

Table 7

Perceived Effectiveness of Health Education Course in Performing NHES 5

Demographics	Strongly Disagree	Disagree	Agree	Strongly Agree
	%	%	%	%
Age				
15 years of age	40.0	10.0	20.0	30.0
16 years of age	18.6	20.9	40.7	19.8
17 years of age	18.3	26.7	40.0	15.0
18 years of age	0.0	14.3	57.1	28.6
Grade				
10 th	16.9	21.3	41.6	20.2
11 th	21.6	23.0	37.8	17.6
Gender				
Female	16.0	13.6	48.1	22.2
Male	22.0	30.5	31.7	15.9
Race				
Black	19.1	22.1	42.6	16.2
White	18.9	22.1	37.9	21.1
Free/reduced lunch				
Yes	20.6	22.2	33.3	23.8
No	18.0	22.0	44.0	16.0

Over 66% of 16 year olds agreed and strongly agreed that their health education course prepared them perform the standard related to using goal-setting skills to enhance health (Standard 6). Approximately 62.4% of 10th graders agreed and strongly agreed that their 9th grade health

education course was helpful in preparing them to perform Standard 6. Nearly 60% of white students agreed and strongly agreed that their health education course prepared them to perform Standard 6. Nearly 76% of students who received free/reduced lunch disagreed and strongly disagreed that their 9th grade health education course prepared them to perform Standard 6 (Table 8).

Table 8

Perceived Effectiveness of Health Education Course in Addressing NHES 6

Demographics	Strongly Disagree %	Disagree %	Agree %	Strongly Agree %
Age				
15 years of age	20.0	30.0	30.0	20.0
16 years of age	18.6	15.1	45.3	20.9
17 years of age	15.0	31.7	38.3	15.0
18 years of age	0.0	28.6	57.1	14.3
Grade				
10 th	15.7	16.9	47.2	20.2
11 th	17.6	29.7	36.5	16.2
Gender				
Female	17.3	14.8	44.4	23.5
Male	15.9	30.5	40.2	13.4
Race				
Black	14.7	17.6	52.9	14.7
White	17.9	26.3	34.7	21.1
Free/reduced lunch				
Yes	16.0	21.0	52.0	11.0
No	17.5	25.4	27.0	30.2

Approximately 65.1% of 16 year olds agreed and strongly agreed that their 9th grade health education course was helpful in preparing them to practice health-enhancing behaviors and avoid or reduce health risks (Standard 7). Over 67% of 10th grade student agreed and strongly agreed

that their health education course prepared them to address Standard 7. Similarly, 67.2% of male students agreed and strongly agreed that their 9th grade health education course prepared them to address Standard 7. Nearly 70% of white students agreed that their health education course prepared them to address Standard 7. Approximately 65% of students who received free/reduced lunch agreed that their 9th grade health education course prepared them to address Standard 7 (Table 9).

Table 9

Perceived Effectiveness of Health Education Course in Addressing NHES 7

Demographics	Strongly Disagree %	Disagree %	Agree %	Strongly Agree %
Age				
15 years of age	20.0	20.0	20.0	40.0
16 years of age	16.3	18.6	43.0	22.1
17 years of age	8.3	23.3	51.7	16.7
18 years of age	0.0	14.3	57.1	28.6
Grade				
10 th	13.5	19.1	40.4	27.0
11 th	12.2	21.6	51.4	14.9
Gender				
Female	14.8	16.0	49.4	19.8
Male	11.0	24.4	41.5	23.2
Race				
Black	13.2	20.6	47.1	19.1
White	12.6	20.0	44.2	23.2
Free/reduced lunch				
Yes	15.0	20.0	49.0	16.0
No	9.5	20.6	39.7	30.2

Nearly 60% of 16 year olds agreed and strongly agreed that their 9th grade health education course was helpful in preparing them perform the standard related advocating for personal, family and community health (Standard 8). Approximately, 58.4% of 10th grade students agreed and strongly agreed that their health education course was helpful in preparing them to perform Standard 8. Over 65% of female students agreed and strongly agreed that their 9th grade health education course was effective in preparing them to advocate for personal, family and community health. Nearly 60% of White students agreed and strongly that their 9th grade health education course was helpful in preparing them to address Standard 8. Approximately, 60.3% of students

who did not receive free/reduced lunch agreed that their 9th grade health education course was effective in preparing them to address Standard 8 (Table 10).

Table 10

Perceived Effectiveness of Health Education Course in Addressing NHES 8

Demographics	Strongly Disagree	Disagree	Agree	Strongly Agree
	%	%	%	%
Age				
15 years of age	40.0	10.0	40.0	10.0
16 years of age	16.3	25.6	36.0	22.1
17 years of age	21.7	28.3	38.3	11.7
18 years of age	0.0	57.1	28.6	14.3
Grade				
10 th	18.0	23.6	37.1	21.3
11 th	20.3	31.1	36.5	12.2
Gender				
Female	14.8	19.8	40.7	24.7
Male	23.2	34.1	32.9	9.8
Race				
Black	20.6	26.5	36.8	16.2
White	17.9	27.4	36.8	17.9
Free/reduced lunch				
Yes	21.0	29.0	37.0	13.0
No	15.9	23.8	36.5	23.8

Mean scores were calculated for making decisions about the CDC risk behaviors based on item scores of 0 for = strongly agree, 1 for = disagree, 2 for = agree, and 3 for =strongly agree. The six CDC risk behaviors responses were added together to calculate the total score for each student ranging from 0-24. Means scores were calculated for perceived helpfulness in helping students perform the eight National Health Education Standards based on item scores of 0 for = strongly agree, 1 for = disagree, 2 for = agree, and 3 for =strongly agree. The eight National Health Education Standard responses were added together to calculate the total score for each

student ranging from 0-32. Means scores were calculated for perceived importance in addressing the six CDC risk behaviors based on item scores of 0 for = strongly agree, 1 for = disagree, 2 for = agree, and 3 for =strongly agree. The six CDC risk behavior responses were added together to calculate the total score for each student ranging from 0-24.

The mean score for students aged 16 and 18 year olds relative to preparing them to make decisions about the six CDC risk behaviors was 12.70 and 13.29 respectively (SD=6.85, SD=6.00). The mean scores for tenth and eleventh grade students relative to preparing them to make decisions about the six CDC risk areas was 12.96 and 11.24 respectively (SD=6.63, 6.20). In addition, the mean scores for tenth and eleventh grade students relative to preparing them to perform the National Health Education Standards was 11.84 and 13.48 respectively (SD=6.59, SD=6.60).

The mean scores for female and male students, relative to preparing them to make decisions about make decisions about the six CDC risk behaviors was 12.53 and 11.79, respectively (SD =7.03; SD=5.90). A MANOVA found that perceived effectiveness in making decisions about the six CDC risk factors differed by gender. A one-way ANOVA found that perceived effectiveness on practicing behaviors that keep me safe ($p=0.011$) and my sexual behavior ($p=0.018$) was significantly different for males and females Whether I used tobacco, what I ate, how often I did physical activity, whether I used alcohol, whether I used drugs other than alcohol, and whether I was violent were not found to be significant in a one-way ANOVA. The mean scores for female and male students relative to perceived helpfulness and perceived importance was 14.74 and 12.22 respectively (SD=6.81, 4.82). The mean scores for White and Black students relative to making decisions about the six CDC risk behaviors was 12.44 and 12.66 respectively (SD=6.17, 6.80). The mean scores for Black and White students relative to perceived importance of their 9th grade health education course was 14.32 and 14.90, respectively (SD=5.30,

5.91). The mean scores for students who reported free or reduced lunch relative to the perceived effectiveness of their 9th grade health education course preparing them to make decisions about the six CDC risk behaviors was 11.75 (SD=6.33). The mean scores for students who received free or reduced lunch and students who did not received free or reduced lunch relative to perceived helpfulness and perceived importance was 12.16 and 13.61 (SD=6.12, 6.60). A MANOVA found that perceived helpfulness in preparing students to perform the National Health Education Standards differed significantly by age, grade level and lunch status. A one-way ANOVA found that perceived helpfulness for addressing the National Health Education Standards differed by age in nutrition ($p=.042$) and unintentional violence ($p=.038$). The perceived helpfulness in learning about tobacco use, physical activity, and drug abuse were found not to be significant by age. A one-way ANOVA differed by grade level in avoiding health problems (.041) and nutrition (.010). The perceived helpfulness in learning about tobacco use, physical activity, alcohol abuse and sexual behavior were not found to be significant by grade level. A one-way ANOVA differed by lunch status in avoiding health problems ($p=0.039$). The perceived helpfulness in learning about tobacco use, nutrition, physical activity, alcohol abuse and sexual behavior were not found to be significant.

Table 11

MANOVA Results for Perceived Effectiveness, Perceived Helpfulness, and Perceived Importance of Health Education

	n	%	Mean Perceived Effectiveness Score (SD) ^a	Mean Perceived Helpfulness Score (SD) ^a	Mean Perceived Importance Score (SD) ^a
Age (N=163)					
15 years of age	10	6.1	11.80 (6.86)	12.30 (7.91)	11.30 (7.40)
16 years of age	86	52.8	12.70 (6.85)	13.08 (7.03)	15.28 (6.03)
17 years of age	60	36.8	11.34 (6.01)	12.00 (6.02)	13.95 (5.38)
18 years of age	7	4.3	13.29 (6.00)	15.86 (4.85)	14.71 (4.68)
Grade (N=163)					
10th	89	53.5	12.96 (6.63)	13.48 (6.60)	15.32 (5.81)
11th	74	46.5	11.24 (6.20)	11.84 (6.59)	13.51 (5.85)
Gender (N=163)					
Female	81	49.4	12.53 (7.03)	13.27 (7.40)	14.74 (6.81)
Male	82	50.6	11.79 (5.90)	12.17 (5.77)	14.22 (4.82)
Race (N=163)					
Black or African American	68	41.7	11.88 (6.67)	12.66 (6.17)	14.32 (5.30)
White	95	58.3	12.44 (6.18)	12.66 (6.80)	14.90 (5.91)
Free/reduced lunch (N=163)					
Yes	100	61.3	11.75 (6.33)	12.16 (6.12)	13.96 (6.04)
No	63	38.7	12.80 (6.70)	13.61 (6.60)	15.30 (5.56)

Both 10th and 11th graders reported perceived importance in learning about the six CDC risk behaviors (M=15.32, SD=5.81, M=13.51, SD=5.85; Table 12). Furthermore, a MANOVA

showed that perceived importance of learning about the six CDC risk areas was significantly different for 10th graders and 11th graders ($F = 4.09, p < .05$); (Table 11). A MANOVA showed that perceived importance differed significantly by grade level. A one-way ANOVA found that perceived importance in addressing the six CDC risk behaviors differed by grade level in nutrition ($p=0.010$). The perceived importance in learning about tobacco use, physical activity, alcohol abuse, sexual behavior and unintentional injury and violence were not found to be significant.

Table 12

Manova Results for Perceived Effectiveness, Perceived Helpfulness, and Perceived Importance Based on Sociodemographic Characteristics

Construct	Demographics	F	p	df
				3
<i>Perceived effectiveness</i>	Age	0.47	.76	
	Grade	3.05	.08	1
	Gender	0.56	.46	1
	Race	0.25	.78	1
	Lunch status	1.07	.30	1
<i>Perceived helpfulness</i>	Age	0.73	.57	3
	Grade	2.65	.11	1
	Gender	1.18	.28	1
	Race	0.55	.61	1
	Lunch status	1.95	.17	1
<i>Perceived importance</i>	Age	1.71	.15	3
	Grade	4.09	<0.019	1
	Gender	0.34	0.57	1
	Race	1.89	0.15	1
	Lunch Status	2.13	0.15	1

Discussion

Findings from this study suggest that most 10th and 11th graders (70.8% and 59.5%) perceived their 9th grade health education course to be effective in helping them prepare to make decisions about understanding and avoiding health risk behaviors. This study also found that most 10th grade students (67.4%) perceived their 9th grade health education course to be helpful to prepare them to practice health-adopting skills. Findings indicated that over 60% of 10th and 11th

graders agreed and strongly agreed that their 9th grade health education course was helpful in addressing five of the National Health Education Standards. The study results suggested that 10th and 11th graders that the perceived importance of learning about tobacco use, nutrition, physical activity, alcohol abuse, drug abuse and sexual behavior was important (Table 12).

Researchers found that the perceived effectiveness of the 9th grade health education course to preparing students to make decisions about the six CDC risk behaviors, based on grade was higher among 10th grade students than 11th grade students. Overall, based on gender, females reported that their 9th grade health education course was more helpful in making decisions about health when compared to males. Exploring sociodemographic factors such as gender, socioeconomic and grade level may be a critical component to ensuring quality health education is available to all students.

Conclusion

Based on findings reported in this study, schools districts should provide more opportunities for health education beyond the 9th grade level, especially to sufficiently address all eight of the National Health Education Standards. Schools should also assess student perceptions of their health education experience as a fundamental component of evaluating the effectiveness and impact of health education on the National Health Education Standards, making decisions about health and the importance of learning about health. Future studies should evaluate how high school students' make decisions about the impact of their 9th grade health education course. Determining what characteristics beyond those identified by the CDC and the Joint Committee on the National Health Education Standards may be useful. Quality health education is critical to addressing the academic, social, and health needs of U. S. adolescents.

CHAPTER 5 - THE RELATIONSHIP BETWEEN HIGH SCHOOL STUDENTS' PERCEPTIONS OF HEALTH EDUCATION AND SEXUAL HEALTH BEHAVIORS

Behavior patterns established during adolescence influence an individual's current health status and help determine the risk for developing chronic disease later in adulthood (National Research Council and Institute of Medicine, 2009). Nearly two-thirds of premature deaths and approximately one-third of the total disease burden in adults are associated with conditions or behaviors that began in adolescence (World Health Organization [WHO] 2011). According to the CDC (2011), health risk behaviors, including sexual behaviors, established during adolescence carry on to adulthood and are largely preventable. For example, recent data indicated that 47% of U.S. high school students had sex in 2013 and 41% of these students did not use a condom during last sexual intercourse (CDC, 2013). Further, 40% of all new HIV infections are young people aged 15-24 years old. According to Mulye and colleagues (2009), sexually transmitted infections and substance abuse peak during adolescence.

The CDC determines the prevalence of health-risk behaviors among high school students in the United States Using the Youth Risk Behavior Surveillance System (YRBSS). The YRBSS is the largest public health surveillance system in the United States that monitors a broad range of adolescent health-risk behaviors among high school students (CDC, 2012). The YRBSS monitors the six priority-risk areas identified by the CDC that contribute to the leading causes of death, disability, and social problems among U.S. youth and adults. These health risk behaviors are a) tobacco use, b) unhealthy eating, c) inadequate physical activity, d) alcohol and other drug use, e) sexual behaviors that result in HIV infection, and other sexually transmitted diseases (STDs) and unintended pregnancy and f) behaviors that contribute to unintentional injury and violence (CDC,

2011). In addition to describing the prevalence of health risk behaviors, the YRBS data are widely used to compare health-risk behavior prevalence among students overall and by sex, race/ethnicity, grade, and age (CDC, 2012).

Research has shown that school health education has been effective in reducing risk behaviors and promoting health-enhancing behaviors among adolescents in the United States (CDC, 2013; Murray et al., 2007; Marx et al., 1998; Mayer et al., 2011). Recent scientific reviews have documented that health education programs have resulted in positive effects on sexual risk behaviors among U.S. adolescents (CDC, 2013). Rigorous studies in the 1990s revealed that health education in schools can result in significant reductions in sexual risk behaviors among U.S. teens (CDC, 2011). More recent reviews of health education programs indicate that students exposed to health education have been able to adopt lifelong attitudes and behaviors that support overall health and well-being that include behaviors that can reduce their risk of HIV and other sexually transmitted diseases (CDC, 2012).

The Alabama State Board of Education's "Resolution to Provide Information to Students to Prevent the Spread of Acquired Immune Deficiency Syndrome Disease in Public Schools in Alabama" specified that students in the 5th through 12th grade must receive instruction about AIDS through the health education program (Alabama State Board of Education, 1987). Code 16-40A-2 prescribed that "any program or curriculum in the public schools in Alabama that includes sex education or the human reproductive process shall, at a minimum, include and emphasize abstinence from sexual intercourse as the only completely effective protection against unwanted pregnancy, sexually transmitted diseases and AIDS when transmitted sexually" and that "abstinence from sexual intercourse outside of lawful marriage is the expected standard for unmarried school-age persons (p-32)." The Code of Alabama states further that materials and instruction for sex education shall be age-appropriate; shall emphasize abstinence, refusal skills,

ethical conduct, and applicable laws (child support, sexual abuse, and homosexual conduct); and shall include information indicating the reliability and unreliability of contraceptives (Code of Alabama, 1975, §16-40A-2). The purpose of this manuscript was to present the relationship between the perceived impact of 9th grade health education courses and sexual health behaviors. The analysis of this relationship was part of a study that examined a) the perceptions of a 9th grade health education course from 10th and 11th graders attending a rural high school in West Central Alabama, b) identified students' current self-reported health behaviors, and c) explored the relationship between the perceptions of their 9th grade health education course and self-reported health behaviors.

Methods

Since the focus of this study was intended to be rural high school students, a rural county school district in Alabama was contacted. The race and ethnicity of students, percentage of students eligible for free or reduced lunch and the number of students in each grade level in this school and district were similar to rural school districts in Alabama. The school district had two high schools. One principal elected for his school to participate in the study. After receiving permission from the one principal, a meeting was held with the district superintendent in November 2013. The superintendent granted permission and provided the lead researcher with a letter of support to proceed with the study.

Permission was granted by the school principal to recruit students in grades 10-11 during a general assembly to be held at a later date. In May of 2014, the purpose of the study and relevant study information was presented to students during a scholarship assembly. This school had 276 10th and 11th grade students were enrolled at this school. All 10th grade and 11th grade students present at the assembly received a parent consent form to take home and review with their parent or guardian. Recruitment of students continued for four weeks. Teachers distributed parent

consent forms during enrichment classes, football, band, cheerleading, volleyball, and softball camp. Additionally, support for recruitment was initiated by the school principal, who reminded students about the study over the school intercom and through the use of a voicemail call system. One hundred and seventy-two, 10th and 11th grade students returned their parent consent forms (62%) of the total 10th and 11th graders. Active consent was required to participate in this study; therefore, parental consent was received and documented prior to questionnaire administration. Students returned their signed parent consent forms in a basket located in the school's main office. Written student assent was also received from each student prior to questionnaire administration. There were no incentives provided to study participants.

Instrument Development

As indicated, the data presented in this article were collected as part of a larger study that a) assessed the perceptions of a 9th grade health education course from 10th and 11th graders attending a rural high school in West Central Alabama, b) identified students' current self-reported health behaviors, including sexual behaviors, and c) explored the relationship between the perceptions of their 9th grade health education course and self-reported health behaviors. A questionnaire was developed for the overall study. The study instrument included all questions for the 2011 Youth Risk Behavior Survey which assessed all risk behaviors including sexual behaviors. Sexual behaviors were measured using the 7 items from the 2011 Youth Risk Behavior Survey; Appendix D.

Perceived effectiveness was operationally defined as the perceived effect on one's 9th grade health education course on making decisions about the six CDC risk behaviors: a) tobacco use, b) unhealthy eating c) inadequate physical activity, d) alcohol and other drug use, e) sexual behaviors that may result in HIV infection, other sexually transmitted disease (STDs) and unintended pregnancy, and f) behaviors that contribute to unintentional violence. Perceived

helpfulness was operationally defined as the perceived helpfulness of participants' 9th grade health education course on the ability to perform the National Health Education Standards: a) comprehend concepts related to health promotion and disease prevention, b) analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors, c) demonstrate the ability to access valid information, products, and services to enhance health, d) demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks, e) demonstrate the ability to use decision-making skills to enhance health, f) demonstrate the ability to use goal-setting skills to enhance health, g) demonstrate the ability to practice health-enhancing behaviors and avoid or reduced health risks, and h) demonstrate the ability to advocate for personal, family, and community health. Perceived importance was operationalized as the perceived importance in learning about the six CDC risk behaviors.

Perceived effectiveness, perceived helpfulness, and perceived importance of health education were operationalized as continuous variables. Perceived effectiveness refers to student perceptions' regarding the perceived effect of their 9th grade health education course on making decisions about the six CDC risk behaviors. Perceived helpfulness refers to student perceptions' regarding the perceived helpfulness of their 9th grade health education course on their ability to perform the National Health Education Standards. Perceived importance refers to student perceptions' regarding the perceived importance of learning about the six CDC risk behaviors in their 9th grade health education course. Sociodemographic variables were operationalized as both categorical and continuous variables. Student sexual behaviors were operationalized as categorical variables.

Data Analysis

All data analyses were conducted using Statistical Package for the Social Sciences (SPSS) 21.0. Frequency distribution, means, standard deviations and ranges of scores were computed to

describe the data. Multivariate analysis of variance (MANOVA) was used to detect group differences. A MANOVA allowed the researcher to examine several dependent variables simultaneously. MANOVAs include all dependent variables in the same analysis and takes account of the relationship between these variables (Fields, 2009). Fields explains that a MANOVA has four assumptions to be met:

- 1) Independence-residuals should be statistically independent.
- 2) Random sampling-data should be randomly sampled from the population of interest and measured at an interval level.
- 3) Multivariate normality. We are assuming true; but you cannot really test for this using SPSS. MANOVA is usually robust if you have at least 30 cases per cell.
- 4) Homogeneity of covariance of matrices. This assumption is tested for each MANOVA that is run using a Box's M test statistic. It is often violated, in which case you can use the Pillai's Trace test statistic as it is the most robust to violations of this assumption.

Two of the four assumptions for the MANOVA were met in this study. There were homogenous variance-covariance matrices within the sets of multivariate dependent variables across groups and the dependent variables had multivariate normal distributions. The residuals were not statistically independent and the data was not randomly sampled from the population of interest. The researcher assumed the study was underpowered that resulted in a violation of the assumptions. The implications and conclusions of this study should be carefully weighed before decisions can be made about health education programs.

Results

A total of 276 high schools students in grades 10-11 were eligible to participate in this study. Of this total, 172 (62%) of these students returned parental consent forms and completed the study's questionnaire. Most students were 16 years old (51.7%). Additionally, 49% were

female, 54% were in the 10th grade, and 56% were white, 40% black, 2% Hispanic; 1% students Asian and 1% were American Indian and Alaska Native students. Overall, 53.4% of students in the 10th and 11th grade reported having sexually intercourse. Nearly 13% of high school students in the 10th and 11th grade reported alcohol and drug use before sexual intercourse and approximately, 86.1% reported using a condom when having sexual intercourse.

Mean scores were calculated for making decisions about the CDC risk behaviors based on item scores of 0 for = strongly agree, 1 for = disagree, 2 for = agree, and 3 for =strongly agree. The six CDC risk behaviors responses were added together to calculate the total score for each student ranging from 0-24. Means scores were calculated for perceived helpful in addressing the eight National Health Education Standards based on item scores of 0 for = strongly agree, 1 for = disagree, 2 for = agree, and 3 for =strongly agree. The eight National Health Education Standard responses were added together to calculate the total score for each student ranging from 0-32. Means scores were calculated for perceived importance in addressing the six CDC risk behaviors based on item scores of 0 for = strongly agree, 1 for = disagree, 2 for = agree, and 3 for =strongly agree. The six CDC risk behavior responses were added together to calculate the total score for each student ranging from 0-24.

Students who reported not having sexual intercourse perceived their 9th grade health education course to be effective in making decision about the six CDC risk behaviors (M=13.25, SD=7.33) (Table 13). Furthermore, students who reported ever had sexual intercourse had a moderately low level of perceived helpfulness of their 9th grade health education course in preparing them to address the National Health Education Standards and a moderately low level of perceived importance of learning about the six CDC risk behaviors in their 9th grade health education course (M=10.99, SD=5.74). Results showed that students who used condoms when having sex reported a moderately higher perceived effectiveness, perceived importance, and

perceived helpfulness (M=12.45, SD=6.63; M=12.59, SD=6.67; M=14.39, SD=6.15); (Table 14).

A MANOVA showed that perceived effectiveness of 9th grade health education differed significantly by sexual intercourse (F=5.01, SD=0.03; Table 14). A one-way ANOVA did not show significance.

Table 13

Sexual Risk Behavior and Mean Differences in Perceived Effectiveness, Perceived Helpfulness, and Perceived Importance of Health Education

	n	%	Mean Perceived Effectiveness Score	SD	Mean Perceived Helpfulness Score	SD	Mean Perceived Importance Score	SD
Sexual behaviors								
Sexual Intercourse								
Yes	86	53.42	10.99	5.74	12.28	5.82	13.90	5.48
No	75	46.58	13.25	7.33	12.96	7.39	15.13	6.20
Alcohol or drugs before sex								
Yes	20	12.12	13.00	4.14	12.70	4.94	13.65	4.26
No	145	87.88	12.15	6.77	12.75	6.90	14.62	6.15
Condom Use								
Yes	137	86.16	12.45	6.63	12.59	6.67	14.39	6.15
No	22	13.84	10.23	6.20	12.73	7.16	14.41	4.92

Table 14

MANOVA Results for Perceived Effectiveness, Perceived Helpfulness, and Perceived Importance Based on Sexual Behaviors

Construct	Sexual behaviors	F	p
Perceived effectiveness	Sexual Intercourse	5.01	.03

	Alcohol or drugs before sex	0.30	.97
	Condom Use	2.17	.93
Perceived helpfulness	Sexual Intercourse	0.43	.52
	Alcohol or drugs before sex	0.001	.15
	Condom Use	0.01	.41
Perceived importance	Sexual Intercourse	1.81	.18
	Alcohol or drugs before sex	0.47	.59
	Condom Use	0.000	.14

Discussion

Researchers found that perceived helpfulness of the 9th grade health education course, based on sexual intercourse was higher among students who were not sexually active. Overall, high school students who were not sexually active were more likely to perceive their 9th grade health education course to be effective in addressing the National Health Education Standards, than compared to students who were sexually active. Students who were not sexually active were also more likely to perceive that their 9th grade health education course to be helpful in addressing all 8 of the National Health Education Standards. Study results suggested that the high school students who use condoms when having sex had a reported a moderately high level of perceived importance in learning sexual behavior in their 9th grade health education course. Students who

reported using alcohol or drugs before sex reported a moderately low perceived helpfulness to practicing the National Health Standards when compared to students who did not use alcohol or drugs before having sex. Findings suggested that while students perceived it to be important to be taught about health about sexual health, many students reported that their 9th grade health education course was ineffective in having an impact on sexual behavior.

Significant scientific evidence supports that providing quality health education is critical to addressing sexual risk behaviors with U.S. adolescents (CDC, 2012; USDHHS, 2010). Findings suggest that students perceived it to be important to learn about sexual health during their 9th grade health education course yet; this perceived value decreased with grade level. Findings also suggest that it would be beneficial to examine student perceptions of health education as a viable means to better understand adolescent risk behaviors related to HIV infection, sexually transmitted diseases and unintended pregnancy.

Conclusion

Findings from this study suggest that for students not having sexual intercourse, their 9th grade health education course was effective in preparing them to address the National Health Education Standards and the six CDC risk factors. Data also showed that students who reported not having sexual intercourse reported a higher perceived importance when compared to students who reported having sexual intercourse. Students who had sexual intercourse, perceived their 9th grade health education course to have a lower level of perceived effectiveness, helpfulness and importance when compared to students who have not had sexual intercourse. Future studies should explore the quality of current health education instruction in a more comprehensive approach, as perceived by students. A deeper understanding of how high school students perceive the impact of their educational experience on making decisions about sexual intercourse is warranted.

CHAPTER 6 - SUMMARY

The purpose of this study was to a) assess the perceptions of 9th grade health education courses from 10th and 11th graders attending a rural high school in West Central Alabama, b) identify these students' current health behaviors, and c) explore the relationship between the perceptions of their 9th grade health education course and current self-reported health behaviors. This chapter provides implications for health education and direction for future research.

Overall Findings by Research Questions

Research Question 1: What is the perceived effectiveness, perceived helpfulness and perceived importance of health education among high school students in grades 10-11?

The perceived effectiveness for each of the six CDC risk behaviors among all of the 10th and 11th grade students is listed below:

Perceived effectiveness by Risk Behavior

- Over 60% of the total respondents perceived their 9th grade health education was effective for preparing them to make decisions about whether they used tobacco or alcohol.
- Over 50% of the total respondents perceived their 9th grade health education course was effective in preparing them to make decisions about physical activity, whether they used drugs other than alcohol, whether they practiced behaviors to keep them safe, and whether they were violent such as took part in physical violence.
- Over 40% of the total respondents perceived their 9th grade health education course to be effective to preparing them make decisions about what they ate and their sexual behavior.

Research Question 2: Are there significant differences in perceived effectiveness, perceived helpfulness and perceived importance of health education and sociodemographic factors?

The present study did not find any significant differences in the perceived impact of 9th grade health education among race, age or gender; however, there was a significant difference in grade level. Data revealed that as students' grade level increased, the perceived effectiveness of their 9th grade health education course decreased.

Research Question 3: What are the current health behaviors among these students?

Findings revealed that more than 60% of the respondents had participated in the following activities:

- Ride in a car or other vehicle driven by someone who had been drinking alcohol during the 30 days prior to taking the survey
- Driven a car when they had been drinking alcohol
- Had not texted or emailed while driving a car or other vehicle 30 days prior to completed the survey.
- Approximately, 17% of high school students had texted or emailed while driving a car.
- Nearly 40% of 10th and 11th grade students reported being in a physical fight during the past 12 months and 78% reported carrying a weapon such as a gun, knife, or club 30 days prior to taking the survey.
- Over 10% of 10th and 11th grade students had been bullied on school property during the past 12 months and 11% of high school students reported seriously considering suicide.
- Over 70% of 10th and 11th grade students reported attempting suicide one time during the past 12 months.
- Nearly 60% of 10th and 11th grade students reported not smoking cigarettes 30 days prior to taking the survey.

- Over 90% of 10th and 11th grade students had not drunk alcohol 30 days prior to survey administration.

Research Question 4: Are there significant differences in the perceived effectiveness, perceived helpfulness and perceived importance of health education and high student health behaviors?

Only one significant difference related to perceived effectiveness, helpfulness, and importance was found in the study. This finding indicated that there was a significant difference between students who had sexual intercourse and those students who did not related to their perception of effectiveness to address the six CDC risk behaviors.

Implications

To enhance findings from this study, a qualitative approach using interviews or focus groups could be helpful in capturing student perceptions as it relates to learning about health behaviors. Findings from the two manuscripts suggest that exposure to health education is needed beyond the 9th grade since students reported decreased ability to make decisions related to make decisions related to the six CDC risk behaviors from ninth to tenth grade. Overall, students perceived their 9th grade health education course to be helpful in preparing them to perform the National Health Education Standards suggesting that students perceive health instruction to be helpful in performing the standards. The findings can be used as a resource in health education curriculum development at the high school that participated in the study.

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APPENDIX A: IRB APPROVAL LETTER

Office for Research
Institutional Review Board for the
Protection of Human Subjects

THE UNIVERSITY OF
ALABAMA
R E S E A R C H

May 16, 2014

Qshequilla Mitchell
Dept of Health Science
College of Human Environmental Sciences
Box 870311

Re: IRB#: 14-OR-178 "The Relationship between High School Students' Health Behaviors and their Perceptions of School Health Education Experiences"

Dear Ms. Mitchell:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies

Your application will expire on May 14, 2015. If your research will continue beyond this date, complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, complete the appropriate portions of the IRB Request for Study Closure Form.

Please use reproductions of the IRB approved stamped consent forms to obtain consent from your participants.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,

Carpantato T. Myles, MSM, CIM, CIP
Director & Research Compliance Officer
Office of Research Compliance
The University of Alabama



358 Rose Administration Building

APPENDIX B: EXPERT PANEL REVIEW

Dear Expert Panel Member,

Because of your expertise and leadership in school health education, I would appreciate your involvement as an expert reviewer of a questionnaire that I will be using for data collection in my dissertation research. The chair of my dissertation committee is Dr. David A. Birch.

If you agree to serve as an expert reviewer, your task would be to review a questionnaire designed to assess high school student perceptions of their 9th grade school health experience. This survey is based on the following research questions: 1) What is the perception of 9th grade health education experiences among high school students? 2) What are the current health behaviors of this group? 3) Is there a relationship between the perception of 9th grade health education experiences and self-reported behaviors? and 4) Is there a relationship among socio-demographic factors and the perception of 9th grade health education experiences among high school students.

If you agree to assist, your responsibility will be to review the portion of the survey related to student perceptions of their 9th grade health education experiences (Questions 1-44). You will review sections 1-6 of the questionnaire that includes 44 questionnaire items related to 1) demographics, 2) the 6 CDC health risk behaviors, 3) the National Health Education Standards, 4) the importance of learning about the 6 CDC health risk behaviors, 5) the perceived value of health education and 6) grading of the health education course and teacher. The entire questionnaire also includes the 2013 Youth Risk Behavior Surveillance questions provided by the CDC.

Nearly 300 students enrolled in grades 10-12 at 2 high schools in a county-wide school district in central Alabama will be invited to participate in this study. The survey is formatted as it will appear to students who may participate in the study.

When reviewing the survey, please keep in mind that the researchers are attempting to develop a culturally appropriate instrument to assess high school students' opinions on their 9th grade health education experience; therefore, feedback and comments on the format, wording and survey content are integral to this study.

Thank you for your consideration in serving as a reviewer. If you cannot review the instrument, please let me know as soon as possible. If you are willing to serve as a reviewer, please return your review of the survey by noon, **May 23, 2014**.

You can **e-mail** your review to qpmitchell@crimson.ua.edu or you may fax your review to 205-348-7568. Please feel free to contact me if you have any questions or concerns.

Qshequilla Parham Mitchell, MA, MPH, PhD Candidate
Department of Health Science
The University of Alabama

Ranking Sheet for Expert Panel Members

Directions for Expert Panel

The following survey items are organized into categories, based on the *four overarching questions* outlined in the email.

Please review and rank each item on a scale from 1 to 4; whereas, **1 = not important to include in survey, 2 = somewhat important to include in survey, 3 = important to include in survey, and 4 = extremely important to include in survey.**

We would also like you to indicate which items, under each category you think should be eliminated from the survey. You may do this by selecting the word “eliminate” by those items. If you suggest eliminating an item, please provide a rationale under “additional comments”.

Place the ranking of each item under the item in the blue shaded space provided. Also, please feel free to write any additional comments you may have about the items (i.e. formatting, wording, content, etc.) in the space provided.



The Relationship between High School Students’ Health Behaviors and Perceptions of their School Health Experience

Thank you for your participation in this study. The purpose of this study is to determine your thoughts about your high school **health education** course and assess your participation in certain health-related behaviors. For this survey, when we refer to **health education**, we are referring to health class that you took during the 9th grade. A course in health education generally covers topics such as nutrition and dietary behavior, emotional and mental health, injury prevention and safety, alcohol and other drug abuse, sexual and reproductive health. We are not referring to the course that you may have had in life skills PE or nutrition and wellness. This survey is completely voluntary; you may choose not to participate or not to answer any question that may be uncomfortable to you. The information that you provide will be kept private and this survey is completely confidential. Your responses can not be matched or linked back to you.

- 1) Did you take health education in the 9th grade?
A. Yes
B. No—I **did not take a course in health education—Please fill in answer B on your Scantron and turn in your documents. This is the end of your survey. Thank you for your time.**

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

- 2) Did you take a course in health education at School A?
A. Yes
B. No—If answered NO, where did you take a course in health education?
(Please list the name of the school and state.)

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

- 3) Have you had a course in life skills PE?
A. Yes
B. No

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

- 4) Have you had a course in nutrition and wellness?

- A. Yes
- B. No

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

Section 1: Demographics

- 5) How old are you?
- A. 16 years old
 - B. 17 years old
 - C. 18 years old
 - D. 19 years old or older

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

- 6) What is your sex?
- A. Female
 - B. Male

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

- 7) What grade are you in?
- A. 9th
 - B. 10th

- C. 11th
- D. 12th

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

- 8) Are you Hispanic or Latino?
- A. Yes
 - B. No

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

- 9) What is your race? (You may select one or more responses.)
- A. American Indian or Alaska Native
 - B. Asian
 - C. Black or African American
 - D. Native Hawaiian or Other Pacific Islander
 - E. White
 - F. Other

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

- 10) Do you qualify for free or reduced lunch?
- A. Yes

B. No

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

11) Which of the following do you live with?

- A. Mother only
- B. Father only
- C. Mother and Father
- D. Other (Grandparents, Aunt/Uncle, legal Guardian, Foster Parent)

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

12) Which of the following relatives do you live with?

- A. Older brother and/or sister
- B. Older step/half-brother and/or sister
- C. Older cousin
- D. None of the above

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

13) How many people do you live with?

- A. 1-2 people
- B. 3-4 people
- C. 5-6 people

D. 7 or more people

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

14) How tall are you without your shoes on?

_____ Feet _____ Inches

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

15) How much do you weigh without your shoes on?

_____ Pounds

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

Section 2: Making Decisions about Health

How much do you agree with the following statements?

- 16) My health education course had an **effect** on:
Whether I Used tobacco.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

- 17) What I ate.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

18) How often I did physical activity.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

19) Whether I Used alcohol.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

20) Whether I Used drugs other than alcohol.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

21) My sexual behavior.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

22) Whether I practiced safety such as wearing a helmet or texting while driving.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

23) Whether I was violent such as took part in physical violence or fighting.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

Section 3: (Influence of my Health Education Course)

How much do you agree with the following statements?

24) My health education course was helpful in preparing me to:

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

25) Understand how avoid health problems.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

26) Understand the benefits of healthy behaviors.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

27) Understand how to locate credible health information.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

28) Understand how media, culture and technology influence health.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

29) Tell someone about my needs, wants and feelings.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

30) Set goals for improving health.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

31) Make decisions about health.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

32) Promote health and wellness for myself and others.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

Section 4: Importance of learning about health

How much do you agree with the following statements?

- 33) It is **important** for high school students to learn about:

Tobacco Use.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

- 34) Unhealthy eating.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

35) Physical activity.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

36) Alcohol abuse.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

37) Drug abuse.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

38) Sexual behavior.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

39) Unintentional injury and violence.

Strongly Disagree	Disagree	Agree	Strongly Agree
A	B	C	D

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item_____

Additional comments:

Section 5: Value of health education

40) When compared to your **Math** course how **important** was your health education course to you?

Less Important **Equally Important** **More Important**
A **B** **C**

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

41) When compared to your **Science** course how **important** was your health education course to you?

Less Important **Equally Important** **More Important**
A **B** **C**

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

42) When compared to your **Computer /Technology** course how **important** was your health education course to you?

Less Important **Equally Important** **More Important**
A **B** **C**

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

Section 6: Your Grade for Course and Teacher

43) How would you grade your 9th grade health education course?

A B C D F
A B C D E (Answer Choices)

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

44) How would you grade your health education teacher?

A B C D F
A B C D E (Answer Choices)

On a scale of 1 to 4 (1= not important, 2 = somewhat important, 3 = important, and 4 = extremely important to include in survey), rank this item _____

Eliminate this item _____

Additional comments:

Additional comments about the questionnaire:

APPENDIX C: STUDY QUESTIONNAIRE



The Relationship between High School Students' Health Behaviors and Perceptions of their School Health Experiences

Thank you for your participation in this study. The purpose of this study is to determine your thoughts about your high school **health education** course and assess your participation in certain health-related behaviors. For this survey, when we refer to **health education**, we are referring to health class that you took during the 9th grade. A course in health education generally covers topics such as nutrition and dietary behavior, emotional and mental health, injury prevention and safety, alcohol and other drug abuse, sexual and reproductive health. We are not referring to your course in life skills PE or nutrition and wellness. This survey is completely voluntary; you may choose not to participate or not to answer any question that may be uncomfortable to you. The information that you provide will be kept private and this survey is completely confidential. Your responses can not be matched or linked back to you.

- 45) Did you take health education in the 9th grade?
- A. Yes
 - B. No—I **did not take a course in health education—Please fill in answer B on your scantron and turn in your documents. This is the end of your survey. Thank you for your time.**
- 46) Did you take a course in health education at Bibb County High School or West Blocton High School?
- A. Yes
 - B. No—If answered NO, where did you take a course in health education?
(Please list the name of the school and state.)
-
- 47) Have you had a course in life skills PE?
- A. Yes
 - B. No
- 48) Have you had a course in nutrition and wellness?
- A. Yes
 - B. No

Section 1: Demographics

- 49) How old are you?
- A. 16 years old
 - B. 17 years old
 - C. 18 years old
 - D. 19 years old or older
- 50) What is your sex?
- A. Female
 - B. Male
- 51) What grade are you in?
- A. 9th
 - B. 10th
 - C. 11th
 - D. 12th
- 52) Are you Hispanic or Latino?
- A. Yes
 - B. No
- 53) What is your race? (You may select one or more responses.)
- G. American Indian or Alaska Native
 - H. Asian
 - I. Black or African American
 - J. Native Hawaiian or Other Pacific Islander
 - K. White
 - L. Other
- 54) Do you qualify for free or reduced lunch?
- C. Yes
 - D. No
- 55) Which of the following do you live with?
- A. Mother only
 - B. Father only
 - C. Mother and Father
 - D. Other (Grandparents, Aunt/Uncle, legal Guardian, Foster Parent)

- 56) Which of the following relatives do you live with?
 E. Older brother and/or sister
 F. Older step/half brother and/or sister
 G. Older cousin
 H. None of the above
- 57) How many people do you live with?
 A. 1-2 people
 B. 3-4 people
 C. 5-6 people
 D. 7 or more people
- 58) How tall are you without your shoes on?
 _____Feet _____Inches
- 59) How much do you weigh without your shoes on?
 _____Pounds

Section 2: Making Decisions about Health

How much do you agree with the following statements?

- 60) My health education course had an **effect** on:
 Whether I used tobacco.
- | | | | |
|------------------------------|-----------------|--------------|---------------------------|
| Strongly
Disagree | Disagree | Agree | Strongly
Agree |
| A | B | C | D |
- 61) What I ate.
- | | | | |
|------------------------------|-----------------|--------------|---------------------------|
| Strongly
Disagree | Disagree | Agree | Strongly
Agree |
| A | B | C | D |
- 62) How often I did physical activity.
- | | | | |
|------------------------------|-----------------|--------------|---------------------------|
| Strongly
Disagree | Disagree | Agree | Strongly
Agree |
| A | B | C | D |
- 63) Whether I used alcohol.
- | | | | |
|------------------------------|-----------------|--------------|---------------------------|
| Strongly
Disagree | Disagree | Agree | Strongly
Agree |
| A | B | C | D |

- 64) Whether I used drugs other than alcohol.
Strongly Disagree **Disagree** **Agree** **Strongly Agree**
A **B** **C** **D**
- 65) My sexual behavior.
Strongly Disagree **Disagree** **Agree** **Strongly Agree**
A **B** **C** **D**
- 66) Whether I practiced safety such as wearing a helmet or texting while driving.
Strongly Disagree **Disagree** **Agree** **Strongly Agree**
A **B** **C** **D**
- 67) Whether I was violent such as took part in physical violence or fighting.
Strongly Disagree **Disagree** **Agree** **Strongly Agree**
A **B** **C** **D**

Section 3: (National Health Education Standards)

How much do you agree with the following statements?

- 68) My health education course was helpful in preparing me to:
Strongly Disagree **Disagree** **Agree** **Strongly Agree**
A **B** **C** **D**
- 69) Understand how avoid health problems.
Strongly Disagree **Disagree** **Agree** **Strongly Agree**
A **B** **C** **D**
- 70) Understand the benefits of healthy behaviors.
Strongly Disagree **Disagree** **Agree** **Strongly Agree**
A **B** **C** **D**
- 71) Understand how to locate credible health information.
Strongly Disagree **Disagree** **Agree** **Strongly Agree**
A **B** **C** **D**
- 72) Understand how media, culture and technology influence health.

- | | Strongly Disagree
A | Disagree
B | Agree
C | Strongly Agree
D |
|------------------------------------------------------------------------|--------------------------------------|-----------------------------|--------------------------|-----------------------------------|
| 73) Preparing me to tell someone about my needs, wants and feelings. | Strongly Disagree
A | Disagree
B | Agree
C | Strongly Agree
D |
| 74) Preparing me to set goals for improving health. | Strongly Disagree
A | Disagree
B | Agree
C | Strongly Agree
D |
| 75) Preparing me to make decisions about health. | Strongly Disagree
A | Disagree
B | Agree
C | Strongly Agree
D |
| 76) Preparing me to promote health and wellness for myself and others. | Strongly Disagree
A | Disagree
B | Agree
C | Strongly Agree
D |

Section 4: Importance of learning about health

How much do you agree with the following statements?

- | | | | | |
|----------------------------------------------------------------------------|--------------------------------------|-----------------------------|--------------------------|-----------------------------------|
| 77) It is <u>important</u> for high school students to learn about: | | | | |
| | Tobacco use. | | | |
| | Strongly Disagree
A | Disagree
B | Agree
C | Strongly Agree
D |
| 78) Unhealthy eating. | Strongly Disagree
A | Disagree
B | Agree
C | Strongly Agree
D |
| 79) Physical activity. | Strongly Disagree
A | Disagree
B | Agree
C | Strongly Agree
D |
| 80) Alcohol abuse. | Strongly Disagree
A | Disagree
B | Agree
C | Strongly Agree
D |

- | | | | | |
|--|-----------------|----------|----------|--------------|
| | Disagree | | | Agree |
| | A | B | C | D |
- 81) Drug abuse.
- | | | | |
|--------------------------|-----------------|--------------|-----------------------|
| Strongly Disagree | Disagree | Agree | Strongly Agree |
| A | B | C | D |
- 82) Sexual behavior.
- | | | | |
|--------------------------|-----------------|--------------|-----------------------|
| Strongly Disagree | Disagree | Agree | Strongly Agree |
| A | B | C | D |
- 83) Unintentional injury and violence.
- | | | | |
|--------------------------|-----------------|--------------|-----------------------|
| Strongly Disagree | Disagree | Agree | Strongly Agree |
| A | B | C | D |

Section 4: Value on health education

- 84) When compared to your **Math** course how **important** was your health education course to you?
- | | | |
|-----------------------|--------------------------|-----------------------|
| Less Important | Equally Important | More Important |
| A | B | C |
- 85) When compared to your **Science** course how **important** was your health education course to you?
- | | | |
|-----------------------|--------------------------|-----------------------|
| Less Important | Equally Important | More Important |
| A | B | C |
- 86) When compared to your **Computer /Technology** course how **important** was your health education course to you?
- | | | |
|-----------------------|--------------------------|-----------------------|
| Less Important | Equally Important | More Important |
| A | B | C |

Section 5: Overall experience in your health education course

87) How would you grade your 9th grade health education course?

- A B C D F**
A B C D E (Answer Choices)

88) How would you grade your health education teacher?

- A B C D F**
A B C D E (Answer Choices)

Section 6: Health Behavior Questions

The next 5 questions ask about safety.

- 89) When you rode a bicycle during the past 12 months, how often did you wear a helmet?
- A. I did not ride a bicycle during the past 12 months
 - B. Never wore a helmet
 - C. Rarely wore a helmet
 - D. Sometimes wore a helmet
 - E. Most of the time wore a helmet
 - F. Always wore a helmet
- 90) How often do you wear a seat belt when riding in a car driven by someone else?
- A. Never
 - B. Rarely
 - C. Sometimes
 - D. Most of the time
 - E. Always
- 91) During the past 30 days, how many times did you ride in a car or other vehicle driven by someone who had been drinking alcohol?
- A. 0 times
 - B. 1 time
 - C. 2 or 3 times
 - D. 4 or 5 times
 - E. 6 or more times
- 92) During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking alcohol?
- A. I did not drive a car or other vehicle during the past 30 days

- B. 0 times
- C. 1 time
- D. 2 or 3 times
- E. 4 or 5 times
- F. 6 or more times

- 93) During the past 30 days, on how many days did you text or e-mail while driving a car or other vehicle?
- A. I did not drive a car or other vehicle during the past 30 days
 - B. 0 days
 - C. 1 or 2 days
 - D. 3 to 5 days
 - E. 6 to 9 days
 - F. 10 to 19 days
 - G. 20 to 29 day
 - H. All 30 days

The next 11 questions ask about violence-related behaviors.

- 94) During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club?
- A. 0 days
 - B. 1 day
 - C. 2 or 3 days
 - D. 4 or 5 days
 - E. 6 or more days
- 95) During the past 30 days, on how many days did you carry a gun?
- A. 0 days
 - B. 1 day
 - C. 2 or 3 days
 - D. 4 or 5 days
 - E. 6 or more days
- 96) During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club on school property?
- A. 0 days
 - B. 1 day
 - C. 2 or 3 days
 - D. 4 or 5 days
 - E. 6 or more days
- 97) During the past 30 days, on how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?
- A. 0 days

- B. 1 day
 - C. 2 or 3 days
 - D. 4 or 5 days
 - E. 6 or more days
- 98) During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club on school property?
- A. 0 times
 - B. 1 time
 - C. 2 or 3 times
 - D. 4 or 5 times
 - E. 6 or 7 times
 - F. 8 or 9 times
 - G. 10 or 11 times
 - H. 12 or more times
- 99) During the past 12 months, how many times were you in a physical fight?
- A. 0 times
 - B. 1 time
 - C. 2 or 3 times
 - D. 4 or 5 times
 - E. 6 or 7 times
 - F. 8 or 9 times
 - G. 10 or 11 times
 - H. 12 or more times
- 100) During the past 12 months, how many times were you in a physical fight in which you were injured and had to be treated by a doctor or nurse?
- A. 0 times
 - B. 1 time
 - C. 2 or 3 times
 - D. 4 or 5 times
 - E. 6 or more times
- 101) During the past 12 months, how many times were you in a physical fight on school property?
- A. 0 times
 - B. 1 time
 - C. 2 or 3 times
 - D. 4 or 5 times
 - E. 6 or 7 times
 - F. 8 or 9 times
 - G. 10 or 11 times
 - H. 12 or more times

- 102) Have you ever been physically forced to have sexual intercourse when you did not want to?
- A. Yes
 - B. No
- 103) During the past 12 months, how many times did someone you were dating or going out with physically hurt you on purpose? (Count such things as being hit, slammed into something, or injured with an object or weapon.)
- A. I did not date or go out with anyone during the past 12 months
 - B. 0 times
 - C. 1 time
 - D. 2 or 3 times
 - E. 4 or 5 times
 - F. 6 or more times
- 104) During the past 12 months, how many times did someone you were dating or going out with force you to do sexual things that you did not want to do? (Count such things as kissing, touching, or being physically forced to have sexual intercourse.)
- A. I did not date or go out with anyone during the past 12 months
 - B. 0 times
 - C. 1 time
 - D. 2 or 3 times
 - E. 4 or 5 times
 - F. 6 or more times

The next 2 questions ask about bullying. Bullying is when one or more students tease, threaten, spread rumors about, hit, shove, or hurt another student over and over again. It is not bullying when 2 students of about the same strength or power argue or fight or tease each other in a friendly way.

- 105) During the past 12 months, have you ever been bullied on school property?
- A. Yes
 - B. No
- 106) During the past 12 months, have you ever been electronically bullied? (Count being bullied through e-mail, chat rooms, instant messaging, websites, or texting.)
- A. Yes
 - B. No

The next 5 questions ask about sad feelings and attempted suicide. Sometimes people feel so depressed about the future that they may consider attempting suicide that is, taking some action to end their own life.

- 107) During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?
A. Yes
B. No
- 108) During the past 12 months, did you ever seriously consider attempting suicide?
A. Yes
B. No
- 109) During the past 12 months, did you make a plan about how you would attempt suicide?
A. Yes
B. No
- 110) During the past 12 months, how many times did you actually attempt suicide?
A. 0 times
B. 1 time
C. 2 or 3 times
D. 4 or 5 times
E. 6 or more times
- 111) If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?
A. I did not attempt suicide during the past 12 months
B. Yes
C. No

The next 10 questions ask about tobacco use.

- 112) Have you ever tried cigarette smoking, even one or two puffs?
A. Yes
B. No
- 113) How old were you when you smoked a whole cigarette for the first time?
A. I have never smoked a whole cigarette
B. 8 years old or younger
C. 9 or 10 years old
D. 11 or 12 years old
E. 13 or 14 years old
F. 15 or 16 years old
G. 17 years old or older
- 114) During the past 30 days, on how many days did you smoke cigarettes?
A. 0 days
B. 1 or 2 days

- C. 3 to 5 days
 - D. 6 to 9 days
 - E. 10 to 19 days
 - F. 20 to 29 days
 - G. All 30 days
- 115) During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?
- A. I did not smoke cigarettes during the past 30 days
 - B. Less than 1 cigarette per day
 - C. 1 cigarette per day
 - D. 2 to 5 cigarettes per day
 - E. 6 to 10 cigarettes per day
 - F. 11 to 20 cigarettes per day
 - G. More than 20 cigarettes per day
- 116) During the past 30 days, how did you usually get your own cigarettes? (Select only one response.)
- A. I did not smoke cigarettes during the past 30 days
 - B. I bought them in a store such as a convenience store, supermarket, discount store, or gas station
 - C. I bought them from a vending machine
 - D. I gave someone else money to buy them for me
 - E. I borrowed (or bummed) them from someone else
 - F. A person 18 years old or older gave them to me
 - G. I took them from a store or family member
 - H. I got them some other way
- 117) During the past 30 days, on how many days did you smoke cigarettes on school property?
- A. 0 days
 - B. 1 or 2 days
 - C. 3 to 5 days
 - D. 6 to 9 days
 - E. 10 to 19 days
 - F. 20 to 29 days
 - G. All 30 days
- 118) Have you ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days?
- A. Yes
 - B. No
- 119) During the past 12 months, did you ever try to quit smoking cigarettes?
- A. I did not smoke during the past 12 months

- B. Yes
- C. No

120) During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?

- A. 0 days
- B. 1 or 2 days
- C. 3 to 5 days
- D. 6 to 9 days
- E. 10 to 19 days
- F. 20 to 29 days
- G. All 30 days

121) During the past 30 days, on how many days did you smoke cigars, cigarillos, or little cigars?

- A. 0 days
- B. 1 or 2 days
- C. 3 to 5 days
- D. 6 to 9 days
- E. 10 to 19 days
- F. 20 to 29 days
- G. All 30 days

The next 6 questions ask about drinking alcohol. This includes drinking beer, wine, wine coolers, and liquor such as rum, gin, vodka, or whiskey. For these questions, drinking alcohol does not include drinking a few sips of wine for religious purposes.

122) During your life, on how many days have you had at least one drink of alcohol?

- A. 0 days
- B. 1 or 2 days
- C. 3 to 9 days
- D. 10 to 19 days
- E. 20 to 39 days
- F. 40 to 99 days
- G. 100 or more days

123) How old were you when you had your first drink of alcohol other than a few sips?

- A. I have never had a drink of alcohol other than a few sips
- B. 8 years old or younger
- C. 9 or 10 years old
- D. 11 or 12 years old
- E. 13 or 14 years old
- F. 15 or 16 years old

- G. 17 years old or older
- 124) During the past 30 days, on how many days did you have at least one drink of alcohol?
- A. 0 days
 - B. 1 or 2 days
 - C. 3 to 5 days
 - D. 6 to 9 days
 - E. 10 to 19 days
 - F. 20 to 29 days
 - G. All 30 days
- 125) During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?
- A. 0 days
 - B. 1 day
 - C. 2 days
 - D. 3 to 5 days
 - E. 6 to 9 days
 - F. 10 to 19 days
 - G. 20 or more days
- 126) During the past 30 days, what is the largest number of alcoholic drinks you had in a row, that is, within a couple of hours?
- A. I did not drink alcohol during the past 30 days
 - B. 1 or 2 drinks
 - C. 3 drinks
 - D. 4 drinks
 - E. 5 drinks
 - F. 6 or 7 drinks
 - G. 8 or 9 drinks
 - H. 10 or more drinks
- 127) During the past 30 days, how did you usually get the alcohol you drank?
- A. I did not drink alcohol during the past 30 days
 - B. I bought it in a store such as a liquor store, convenience store, supermarket, discount store, or gas station
 - C. I bought it at a restaurant, bar, or club
 - D. I bought it at a public event such as a concert or sporting event
 - E. I gave someone else money to buy it for me
 - F. Someone gave it to me
 - G. I took it from a store or family member
 - H. I got it some other way

The next 3 questions ask about marijuana use. Marijuana also is called grass or pot.

- 128) During your life, how many times have you used marijuana?
A. 0 times
B. 1 or 2 times
C. 3 to 9 times
D. 10 to 19 times
E. 20 to 39 times
F. 40 to 99 times
G. 100 or more times
- 129) How old were you when you tried marijuana for the first time?
A. I have never tried marijuana
B. 8 years old or younger
C. 9 or 10 years old
D. 11 or 12 years old
E. 13 or 14 years old
F. 15 or 16 years old
G. 17 years old or older
- 130) During the past 30 days, how many times did you use marijuana?
A. 0 times
B. 1 or 2 times
C. 3 to 9 times
D. 10 to 19 times
E. 20 to 39 times
F. 40 or more times

The next 9 questions ask about other drugs.

- 131) During your life, how many times have you used any form of cocaine, including powder, crack, or freebase?
A. 0 times
B. 1 or 2 times
C. 3 to 9 times
D. 10 to 19 times
E. 20 to 39 times
F. 40 or more times
- 132) During your life, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?
A. 0 times
B. 1 or 2 times

- C. 3 to 9 times
 - D. 10 to 19 times
 - E. 20 to 39 times
 - F. 40 or more times
- 133) During your life, how many times have you used heroin (also called smack, junk, or China White)?
- A. 0 times
 - B. 1 or 2 times
 - C. 3 to 9 times
 - D. 10 to 19 times
 - E. 20 to 39 times
 - F. 40 or more times
- 134) During your life, how many times have you used methamphetamines (also called speed, crystal, crank, or ice)?
- A. 0 times
 - B. 1 or 2 times
 - C. 3 to 9 times
 - D. 10 to 19 times
 - E. 20 to 39 times
 - F. 40 or more times
- 135) During your life, how many times have you used ecstasy (also called MDMA)?
- A. 0 times
 - B. 1 or 2 times
 - C. 3 to 9 times
 - D. 10 to 19 times
 - E. 20 to 39 times
 - F. 40 or more times
- 136) During your life, how many times have you taken steroid pills or shots without a doctor's prescription?
- A. 0 times
 - B. 1 or 2 times
 - C. 3 to 9 times
 - D. 10 to 19 times
 - E. 20 to 39 times
 - F. 40 or more times
- 137) During your life, how many times have you taken a prescription drug (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription?
- A. 0 times
 - B. 1 or 2 times

- C. 3 to 9 times
- D. 10 to 19 times
- E. 20 to 39 times
- F. 40 or more times

- 138) During your life, how many times have you used a needle to inject any illegal drug into your body?
- A. 0 times
 - B. 1 time
 - C. 2 or more times
- 139) During the past 12 months, has anyone offered, sold, or given you an illegal drug on school property?
- A. Yes
 - B. No

The next 7 questions ask about sexual behavior.

- 140) Have you ever had sexual intercourse?
- A. Yes
 - B. No
- 141) How old were you when you had sexual intercourse for the first time?
- A. I have never had sexual intercourse
 - B. 11 years old or younger
 - C. 12 years old
 - D. 13 years old
 - E. 14 years old
 - F. 15 years old
 - G. 16 years old
 - H. 17 years old or older
- 142) During your life, with how many people have you had sexual intercourse?
- A. I have never had sexual intercourse
 - B. 1 person
 - C. 2 people
 - D. 3 people
 - E. 4 people
 - F. 5 people
 - G. 6 or more people
- 143) During the past 3 months, with how many people did you have sexual intercourse?
- A. I have never had sexual intercourse
 - B. I have had sexual intercourse, but not during the past 3 months
 - C. 1 person

- D. 2 people
- E. 3 people
- F. 4 people
- G. 5 people
- H. 6 or more people

- 144) Did you drink alcohol or use drugs before you had sexual intercourse the last time?
- A. I have never had sexual intercourse
 - B. Yes
 - C. No
- 145) The last time you had sexual intercourse, did you or your partner use a condom?
- A. I have never had sexual intercourse
 - B. Yes
 - C. No
- 146) The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy? (Select only one response.)
- A. I have never had sexual intercourse
 - B. No method was used to prevent pregnancy
 - C. Birth control pills
 - D. Condoms
 - E. An IUD (such as Mirena or ParaGard) or implant (such as Implanon or Nexplanon)
 - F. A shot (such as Depo-Provera), patch (such as Ortho Evra), or birth control ring (such as NuvaRing)
 - G. Withdrawal or some other method
 - H. Not sure

The next 5 questions ask about body weight.

- 147) How do you describe your weight?
- A. Very underweight
 - B. Slightly underweight
 - C. About the right weight
 - D. Slightly overweight
 - E. Very overweight
- 148) Which of the following are you trying to do about your weight?
- A. Lose weight
 - B. Gain weight
 - C. Stay the same weight
 - D. I am not trying to do anything about my weight
- 149) During the past 30 days, did you go without eating for 24 hours or more (also called fasting) to lose weight or to keep from gaining weight?

- A. Yes
- B. No

150) During the past 30 days, did you take any diet pills, powders, or liquids without a doctor's advice to lose weight or to keep from gaining weight? (Do not count meal replacement products such as Slim Fast.)

- A. Yes
- B. No

151) During the past 30 days, did you vomit or take laxatives to lose weight or to keep from gaining weight?

- A. Yes
- B. No

The next 9 questions ask about food you ate or drank during the past 7 days. Think about all the meals and snacks you had from the time you got up until you went to bed. Be sure to include food you ate at home, at school, at restaurants, or anywhere else.

152) During the past 7 days, how many times did you drink 100% fruit juices such as orange juice, apple juice, or grape juice? (Do not count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)

- A. I did not drink 100% fruit juice during the past 7 days
- B. 1 to 3 times during the past 7 days
- C. 4 to 6 times during the past 7 days
- D. 1 time per day
- E. 2 times per day
- F. 3 times per day
- G. 4 or more times per day

153) During the past 7 days, how many times did you eat fruit? (Do not count fruit juice.)

- A. I did not eat fruit during the past 7 days
- B. 1 to 3 times during the past 7 days
- C. 4 to 6 times during the past 7 days
- D. 1 time per day
- E. 2 times per day
- F. 3 times per day
- G. 4 or more times per day

154) During the past 7 days, how many times did you eat green salad?

- A. I did not eat green salad during the past 7 days
- B. 1 to 3 times during the past 7 days
- C. 4 to 6 times during the past 7 days
- D. 1 time per day
- E. 2 times per day
- F. 3 times per day

- G. 4 or more times per day
- 155) During the past 7 days, how many times did you eat potatoes? (Do not count french fries, fried potatoes, or potato chips.)
- A. I did not eat potatoes during the past 7 days
 - B. 1 to 3 times during the past 7 days
 - C. 4 to 6 times during the past 7 days
 - D. 1 time per day
 - E. 2 times per day
 - F. 3 times per day
 - G. 4 or more times per day
- 156) During the past 7 days, how many times did you eat carrots?
- A. I did not eat carrots during the past 7 days
 - B. 1 to 3 times during the past 7 days
 - C. 4 to 6 times during the past 7 days
 - D. 1 time per day
 - E. 2 times per day
 - F. 3 times per day
 - G. 4 or more times per day
- 157) During the past 7 days, how many times did you eat other vegetables? (Do not count green salad, potatoes, or carrots.)
- A. I did not eat other vegetables during the past 7 days
 - B. 1 to 3 times during the past 7 days
 - C. 4 to 6 times during the past 7 days
 - D. 1 time per day
 - E. 2 times per day
 - F. 3 times per day
 - G. 4 or more times per day
- 158) During the past 7 days, how many times did you drink a can, bottle, or glass of soda or pop, such as Coke, Pepsi, or Sprite? (Do not count diet soda or diet pop.)
- A. I did not drink soda or pop during the past 7 days
 - B. 1 to 3 times during the past 7 days
 - C. 4 to 6 times during the past 7 days
 - D. 1 time per day
 - E. 2 times per day
 - F. 3 times per day
 - G. 4 or more times per day

- 159) During the past 7 days, how many glasses of milk did you drink? (Count the milk you drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.)
- A. I did not drink milk during the past 7 days
 - B. 1 to 3 glasses during the past 7 days
 - C. 4 to 6 glasses during the past 7 days
 - D. 1 glass per day
 - E. 2 glasses per day
 - F. 3 glasses per day
 - G. 4 or more glasses per day
- 160) During the past 7 days, on how many days did you eat breakfast?
- A. 0 days
 - B. 1 day
 - C. 2 days
 - D. 3 days
 - E. 4 days
 - F. 5 days
 - G. 6 days
 - H. 7 days

The next 5 questions ask about physical activity.

- 161) During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)
- A. 0 days
 - B. 1 day
 - C. 2 days
 - D. 3 days
 - E. 4 days
 - F. 5 days
 - G. 6 days
 - H. 7 days
- 162) On an average school day, how many hours do you watch TV?
- A. I do not watch TV on an average school day
 - B. Less than 1 hour per day
 - C. 1 hour per day
 - D. 2 hours per day
 - E. 3 hours per day
 - F. 4 hours per day
 - G. 5 or more hours per day

- 163) On an average school day, how many hours do you play video or computer games or use a computer for something that is not school work? (Count time spent on things such as Xbox, PlayStation, an iPod, an iPad or other tablet, a smartphone, YouTube, Facebook or other social networking tools, and the Internet.)
- A. I do not play video or computer games or use a computer for something that is not school work
 - B. Less than 1 hour per day
 - C. 1 hour per day
 - D. 2 hours per day
 - E. 3 hours per day
 - F. 4 hours per day
 - G. 5 or more hours per day
- 164) In an average week when you are in school, on how many days do you go to physical education (PE) classes?
- A. 0 days
 - B. 1 day
 - C. 2 days
 - D. 3 days
 - E. 4 days
 - F. 5 days
- 165) During the past 12 months, on how many sports teams did you play? (Count any teams run by your school or community groups.)
- A. 0 teams
 - B. 1 team
 - C. 2 teams
 - D. 3 or more teams

The next 2 questions ask about other health-related topics.

- 166) Have you ever been taught about AIDS or HIV infection in school?
- A. Yes
 - B. No
 - C. Not sure
- 167) Has a doctor or nurse ever told you that you have asthma?
- A. Yes
 - B. No
 - C. Not sure



The Relationship between High School Students' Health Behaviors and Perceptions of their School Health Experiences

Demographics Sheet

1) How old are you?

- A. 15 years old
- B. 16 years old
- C. 17 years old
- D. 18 years old
- E. 19 years old or older

2) What is your sex?

- A. Female
- B. Male

3) What grade are you in?

- A. 9th
- B. 10th
- C. 11th
- D. 12th

4) Are you Hispanic or Latino?

- A. Yes
- B. No

5) What is your race? (You may select one or more responses.)

American Indian or Alaska Native

Asian

Black or African American

Native Hawaiian or Other Pacific Islander

White

Other

6) Do you qualify for free or reduced lunch?

Yes

No

7) Which of the following do you live with? (You may select one or more responses.)

A. Mother only

B. Father only

C. Mother and Father

D. Other (Grandparents, Aunt/Uncle, legal Guardian, Foster Parent)

8) How many people do you live with?

A. 1-2 people

B. 3-4 people

C. 5-6 people

D. 7 or more people

9) How tall are you without your shoes on?

_____Feet _____Inches

10) How much do you weigh without your shoes on?

_____Pounds

APPENDIX D: 2011 YOUTH RISK SURVEILLANCE SURVEY

2011 National Youth Risk Behavior Survey

This survey is about health behavior. It has been developed so you can tell US what you do that may affect your health. The information you give will be Used to improve health education for young people like yourself.

DO NOT write your name on this survey. The answers you give will be kept private. No one will know what you write. Answer the questions based on what you really do.

Completing the survey is voluntary. Whether or not you answer the questions will not affect your grade in this class. If you are not comfortable answering a question, just leave it blank.

The questions that ask about your background will be Used only to describe the types of students completing this survey. The information will not be Used to find out your name. No names will ever be reported.

Make sure to read every question. Fill in the ovals completely. When you are finished, follow the instructions of the person giving you the survey.

Public reporting burden for this collection of information is estimated to average 45 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: CDC Reports Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN:PRA (0920-0493)

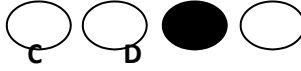
Thank you very much for your help.

DIRECTIONS

Use a #2 pencil only.

Make dark marks.

Fill in a response like this: A B



If you change your answer, erase your old answer completely.

How old are you?

12 years old or younger

13 years old

14 years old

15 years old

16 years old

17 years old

18 years old or older

What is your sex?

Female

Male

In what grade are you?

9th grade

10th grade

11th grade

12th grade

Ungraded or other grade

Are you Hispanic or Latino?

Yes

No

What is your race? **(Select one or more responses.)**

American Indian or Alaska Native

Asian

Black or African American

Native Hawaiian or Other Pacific Islander

White

How tall are you without your shoes on?

Directions: Write your height in the shaded blank boxes. Fill in the matching oval below each number.

Example

Height	
Feet	Inches
5	7
3	0
4	1
5	2
6	3
7	4
	5
	6
	7
	8
	9
	10
	11

Height	
Feet	Inches
3	0
4	1
5	2
6	3
7	4
	5
	6
	7
	8
	9
	10
	11



How much do you weigh without your shoes on?

Directions: Write your weight in the shaded blank boxes. Fill in the matching oval below each number.

Example

Weight			Weight		
Pounds			Pounds		
1	5	2			
0	<input checked="" type="radio"/>	<input type="radio"/>	0	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	1	<input type="radio"/>	<input checked="" type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	2	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	3	<input type="radio"/>	<input type="radio"/>
	4	<input checked="" type="radio"/>	4	<input type="radio"/>	<input type="radio"/>
	5	<input type="radio"/>	5	<input type="radio"/>	<input type="radio"/>
	6	<input type="radio"/>	6	<input type="radio"/>	<input type="radio"/>
	7	<input type="radio"/>	7	<input type="radio"/>	<input type="radio"/>
	8	<input type="radio"/>	8	<input type="radio"/>	<input type="radio"/>
	9	<input type="radio"/>	9	<input type="radio"/>	<input type="radio"/>

The next 5 questions ask about safety.

When you rode a bicycle during the past 12 months, how often did you wear a helmet?

I did not ride a bicycle during the past 12 months

Never wore a helmet

Rarely wore a helmet

Sometimes wore a helmet

Most of the time wore a helmet

Always wore a helmet

How often do you wear a seat belt when **riding** in a car driven by someone else?

Never

Rarely

Sometimes

Most of the time

Always

During the past 30 days, how many times did you **ride** in a car or other vehicle **driven by someone who had been drinking alcohol**?

0 times

1 time

2 or 3 times

4 or 5 times

6 or more times

During the past 30 days, how many times did you **drive** a car or other vehicle **when you had been drinking alcohol**?

0 times

1 time

2 or 3 times

4 or 5 times

6 or more times

During the past 30 days, on how many days did you **text or e-mail** while **driving** a car or other vehicle?

0 days

1 or 2 days

3 to 5 days

6 to 9 days

10 to 19 days

20 to 29 days

All 30 days

The next 11 questions ask about violence-related behaviors.

During the past 30 days, on how many days did you carry **a weapon** such as a gun, knife, or club?

0 days

1 day

2 or 3 days

4 or 5 days

6 or more days

During the past 30 days, on how many days did you carry **a gun**?

0 days

1 day

2 or 3 days

4 or 5 days

6 or more days

During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club **on school property**?

0 days

1 day

2 or 3 days

4 or 5 days

6 or more days

During the past 30 days, on how many days did you **not** go to school because you felt you would be unsafe at school or on your way to or from school?

0 days

1 day

2 or 3 days

4 or 5 days

6 or more days

During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club **on school property**?

0 times

1 time

2 or 3 times

4 or 5 times

6 or 7 times

8 or 9 times

10 or 11 times

12 or more times

During the past 12 months, how many times has someone stolen or deliberately damaged your property such as your car, clothing, or books **on school property**?

0 times

1 time

2 or 3 times

4 or 5 times

6 or 7 times

8 or 9 times

10 or 11 times

12 or more times

During the past 12 months, how many times were you in a physical fight?

0 times

1 time

2 or 3 times

4 or 5 times

6 or 7 times

8 or 9 times

10 or 11 times

12 or more times

During the past 12 months, how many times were you in a physical fight in which you were injured and had to be treated by a doctor or nurse?

0 times

1 time

2 or 3 times

4 or 5 times

6 or more times

During the past 12 months, how many times were you in a physical fight **on school property**?

0 times

1 time

2 or 3 times

4 or 5 times

6 or 7 times

8 or 9 times

10 or 11 times

12 or more times

During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?

Yes

No

Have you ever been physically forced to have sexual intercourse when you did not want to?

Yes

No

The next 2 questions ask about bullying. Bullying is when 1 or more students tease, threaten, spread rumors about, hit, shove, or hurt another student over and over again. It is not bullying when 2 students of about the same strength or power argue or fight or tease each other in a friendly way.

During the past 12 months, have you ever been bullied **on school property**?

Yes

No

During the past 12 months, have you ever been **electronically** bullied? (Include being bullied through e-mail, chat rooms, instant messaging, Web sites, or texting.)

Yes

No

The next 5 questions ask about sad feelings and attempted suicide. Sometimes people feel so depressed about the future that they may consider attempting suicide, that is, taking some action to end their own life.

During the past 12 months, did you ever feel so sad or hopeless almost every day for **two weeks or more in a row** that you stopped doing some Usual activities?

Yes

No

During the past 12 months, did you ever **seriously** consider attempting suicide?

Yes

No

During the past 12 months, did you make a plan about how you would attempt suicide?

Yes

No

During the past 12 months, how many times did you actually attempt suicide?

0 times

1 time

2 or 3 times

4 or 5 times

6 or more times

If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?

I did not attempt suicide during the past 12 months

Yes

No

The next 11 questions ask about tobacco Use.

Have you ever tried cigarette smoking, even one or two puffs?

Yes

No

How old were you when you smoked a whole cigarette for the first time?

I have never smoked a whole cigarette

8 years old or younger

9 or 10 years old

11 or 12 years old

13 or 14 years old

15 or 16 years old

17 years old or older

During the past 30 days, on how many days did you smoke cigarettes?

0 days

1 or 2 days

3 to 5 days

6 to 9 days

10 to 19 days

20 to 29 days

All 30 days

During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?

I did not smoke cigarettes during the past 30 days

Less than 1 cigarette per day

1 cigarette per day

2 to 5 cigarettes per day

6 to 10 cigarettes per day

11 to 20 cigarettes per day

More than 20 cigarettes per day

During the past 30 days, how did you **Usually** get your own cigarettes? (Select only **one** response.)

I did not smoke cigarettes during the past 30 days

I bought them in a store such as a convenience store, supermarket, discount store, or gas station

I bought them from a vending machine

I gave someone else money to buy them for me

I borrowed (or bummed) them from someone else

A person 18 years old or older gave them to me

I took them from a store or family member

I got them some other way

During the past 30 days, on how many days did you smoke cigarettes **on school property**?

0 days

1 or 2 days

3 to 5 days

6 to 9 days

10 to 19 days

20 to 29 days

All 30 days

Have you ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days?

Yes

No

During the past 12 months, did you ever try **to quit** smoking cigarettes?

I did not smoke during the past 12 months

Yes

No

During the past 30 days, on how many days did you Use **chewing tobacco, snuff, or dip**, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?

0 days

1 or 2 days

3 to 5 days

6 to 9 days

10 to 19 days

20 to 29 days

All 30 days

During the past 30 days, on how many days did you Use **chewing tobacco, snuff, or dip on school property?**

0 days

- 1 or 2 days
- 3 to 5 days
- 6 to 9 days
- 10 to 19 days
- 20 to 29 days
- All 30 days

During the past 30 days, on how many days did you smoke **cigars, cigarillos, or little cigars?**

- 0 days
- 1 or 2 days
- 3 to 5 days
- 6 to 9 days
- 10 to 19 days
- 20 to 29 days
- All 30 days

The next 6 questions ask about drinking alcohol. This includes drinking beer, wine, wine coolers, and liquor such as rum, gin, vodka, or whiskey. For these questions, drinking alcohol does not include drinking a few sips of wine for religious purposes.

During your life, on how many days have you had at least one drink of alcohol?

- 0 days
- 1 or 2 days
- 3 to 9 days
- 10 to 19 days
- 20 to 39 days
- 40 to 99 days

100 or more days

How old were you when you had your first drink of alcohol other than a few sips?

I have never had a drink of alcohol other than a few sips

8 years old or younger

9 or 10 years old

11 or 12 years old

13 or 14 years old

15 or 16 years old

17 years old or older

During the past 30 days, on how many days did you have at least one drink of alcohol?

0 days

1 or 2 days

3 to 5 days

6 to 9 days

10 to 19 days

20 to 29 days

All 30 days

During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?

0 days

1 day

2 days

3 to 5 days

6 to 9 days

10 to 19 days

20 or more days

During the past 30 days, how did you **Usually** get the alcohol you drank?

I did not drink alcohol during the past 30 days

I bought it in a store such as a liquor store, convenience store, supermarket, discount store, or gas station

I bought it at a restaurant, bar, or club

I bought it at a public event such as a concert or sporting event

I gave someone else money to buy it for me

Someone gave it to me

I took it from a store or family member

I got it some other way

During the past 30 days, on how many days did you have at least one drink of alcohol **on school property**?

0 days

1 or 2 days

3 to 5 days

6 to 9 days

10 to 19 days

20 to 29 days

All 30 days

The next 4 questions ask about marijuana Use. Marijuana also is called grass or pot.

During your life, how many times have you Used marijuana?

0 times

- 1 or 2 times
- 3 to 9 times
- 10 to 19 times
- 20 to 39 times
- 40 to 99 times
- 100 or more times

How old were you when you tried marijuana for the first time?

I have never tried marijuana

8 years old or younger

9 or 10 years old

11 or 12 years old

13 or 14 years old

15 or 16 years old

17 years old or older

During the past 30 days, how many times did you Use marijuana?

0 times

1 or 2 times

3 to 9 times

10 to 19 times

20 to 39 times

40 or more times

During the past 30 days, how many times did you Use marijuana **on school property**?

0 times

- 1 or 2 times
- 3 to 9 times
- 10 to 19 times
- 20 to 39 times
- 40 or more times

The next 11 questions ask about other drugs.

During your life, how many times have you Used **any** form of cocaine, including powder, crack, or freebase?

- 0 times
- 1 or 2 times
- 3 to 9 times
- 10 to 19 times
- 20 to 39 times
- 40 or more times

During the past 30 days, how many times did you Use **any** form of cocaine, including powder, crack, or freebase?

- 0 times
- 1 or 2 times
- 3 to 9 times
- 10 to 19 times
- 20 to 39 times
- 40 or more times

During your life, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?

0 times

1 or 2 times

3 to 9 times

10 to 19 times

20 to 39 times

40 or more times

During your life, how many times have you Used **heroin** (also called smack, junk, or China White)?

0 times

1 or 2 times

3 to 9 times

10 to 19 times

20 to 39 times

40 or more times

During your life, how many times have you Used **methamphetamines** (also called speed, crystal, crank, or ice)?

0 times

1 or 2 times

3 to 9 times

10 to 19 times

20 to 39 times

40 or more times

During your life, how many times have you Used **ecstasy** (also called MDMA)?

0 times

1 or 2 times

3 to 9 times

10 to 19 times

20 to 39 times

40 or more times

During your life, how many times have you Used **hallucinogenic drugs**, such as LSD, acid, PCP, angel dust, mescaline, or mushrooms?

0 times

1 or 2 times

3 to 9 times

10 to 19 times

20 to 39 times

40 or more times

During your life, how many times have you taken **steroid pills or shots** without a doctor's prescription?

0 times

1 or 2 times

3 to 9 times

10 to 19 times

20 to 39 times

40 or more times

During your life, how many times have you taken a **prescription drug** (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription?

0 times

1 or 2 times

3 to 9 times

10 to 19 times

20 to 39 times

40 or more times

During your life, how many times have you Used a needle to inject any **illegal** drug into your body?

0 times

1 time

2 or more times

During the past 12 months, has anyone offered, sold, or given you an illegal drug **on school property**?

Yes

No

The next 7 questions ask about sexual behavior.

Have you ever had sexual intercourse?

Yes

No

How old were you when you had sexual intercourse for the first time?

I have never had sexual intercourse

11 years old or younger

12 years old

13 years old

14 years old

15 years old

16 years old

17 years old or older

During your life, with how many people have you had sexual intercourse?

I have never had sexual intercourse

1 person

2 people

3 people

4 people

5 people

6 or more people

During the past 3 months, with how many people did you have sexual intercourse?

I have never had sexual intercourse

I have had sexual intercourse, but not during the past 3 months

1 person

2 people

3 people

4 people

5 people

6 or more people

Did you drink alcohol or Use drugs before you had sexual intercourse the **last time**?

I have never had sexual intercourse

Yes

No

The **last time** you had sexual intercourse, did you or your partner Use a condom?

I have never had sexual intercourse

Yes

No

The **last time** you had sexual intercourse, what **one** method did you or your partner Use to **prevent pregnancy**? (Select only **one** response.)

I have never had sexual intercourse

No method was Used to prevent pregnancy

Birth control pills

Condoms

Depo-Provera (or any injectable birth control), Nuva Ring (or any birth control ring), Implanon (or any implant), or any IUD

Withdrawal

Some other method

Not sure

The next 5 questions ask about body weight.

How do **you** describe your weight?

Very underweight

Slightly underweight

About the right weight

Slightly overweight

Very overweight

Which of the following are you trying to do about your weight?

Lose weight

Gain weight

Stay the same weight

I am **not trying to do anything** about my weight

During the past 30 days, did you **go without eating for 24 hours or more** (also called fasting) to lose weight or to keep from gaining weight?

Yes

No

During the past 30 days, did you **take any diet pills, powders, or liquids** without a doctor's advice to lose weight or to keep from gaining weight? (Do **not** include meal replacement products such as Slim Fast.)

Yes

No

During the past 30 days, did you **vomit or take laxatives** to lose weight or to keep from gaining weight?

Yes

No

The next 9 questions ask about food you ate or drank during the past 7 days. Think about all the meals and snacks you had from the time you got up until you went to bed. Be sure to include food you ate at home, at school, at restaurants, or anywhere else.

During the past 7 days, how many times did you drink **100% fruit juices** such as orange juice, apple juice, or grape juice? (Do **not** count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)

I did not drink 100% fruit juice during the past 7 days

1 to 3 times during the past 7 days

4 to 6 times during the past 7 days

1 time per day

2 times per day

3 times per day

4 or more times per day

During the past 7 days, how many times did you eat **fruit**? (Do **not** count fruit juice.)

I did not eat fruit during the past 7 days

1 to 3 times during the past 7 days

4 to 6 times during the past 7 days

1 time per day

2 times per day

3 times per day

4 or more times per day

During the past 7 days, how many times did you eat **green salad**?

I did not eat green salad during the past 7 days

1 to 3 times during the past 7 days

4 to 6 times during the past 7 days

1 time per day

2 times per day

3 times per day

4 or more times per day

During the past 7 days, how many times did you eat **potatoes**? (Do **not** count french fries, fried potatoes, or potato chips.)

I did not eat potatoes during the past 7 days

1 to 3 times during the past 7 days

4 to 6 times during the past 7 days

1 time per day

2 times per day

3 times per day

4 or more times per day

During the past 7 days, how many times did you eat **carrots**?

I did not eat carrots during the past 7 days

1 to 3 times during the past 7 days

4 to 6 times during the past 7 days

1 time per day

2 times per day

3 times per day

4 or more times per day

During the past 7 days, how many times did you eat **other vegetables**? (Do **not** count green salad, potatoes, or carrots.)

I did not eat other vegetables during the past 7 days

1 to 3 times during the past 7 days

4 to 6 times during the past 7 days

1 time per day

2 times per day

3 times per day

4 or more times per day

During the past 7 days, how many times did you drink a **can, bottle, or glass of soda or pop**, such as Coke, Pepsi, or Sprite? (Do **not** count diet soda or diet pop.)

I did not drink soda or pop during the past 7 days

1 to 3 times during the past 7 days

4 to 6 times during the past 7 days

1 time per day

2 times per day

3 times per day

4 or more times per day

During the past 7 days, how many **glasses of milk** did you drink? (Count the milk you drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.)

I did not drink milk during the past 7 days

1 to 3 glasses during the past 7 days

4 to 6 glasses during the past 7 days

1 glass per day

2 glasses per day

3 glasses per day

4 or more glasses per day

During the past 7 days, on how many days did you eat **breakfast**?

0 days

1 day

2 days

3 days

4 days

5 days

6 days

7 days

The next 6 questions ask about physical activity.

During the past 7 days, on how many days were you physically active for a total of **at least 60 minutes per day**? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)

0 days

1 day

2 days

3 days

4 days

5 days

6 days

7 days

On how many of the past 7 days did you do exercises to **strengthen or tone your muscles**, such as push-ups, sit-ups, or weight lifting?

0 days

1 day

2 days

3 days

4 days

5 days

6 days

7 days

On an average school day, how many hours do you watch TV?

I do not watch TV on an average school day

Less than 1 hour per day

1 hour per day

2 hours per day

3 hours per day

4 hours per day

5 or more hours per day

On an average school day, how many hours do you play video or computer games or Use a computer for something that is not school work? (Include activities such as Xbox, PlayStation, Nintendo DS, iPod touch, Facebook, and the Internet.)

I do not play video or computer games or Use a computer for something that is not school work

Less than 1 hour per day

1 hour per day

2 hours per day

3 hours per day

4 hours per day

5 or more hours per day

In an average week when you are in school, on how many days do you go to physical education (PE) classes?

0 days

1 day

2 days

3 days

4 days

5 days

During the past 12 months, on how many sports teams did you play? (Count any teams run by your school or community groups.)

0 teams

1 team

2 teams

3 or more teams

The next 8 questions ask about other health-related topics.

Have you ever been taught about AIDS or HIV infection in school?

Yes

No

Not sure

Have you ever been tested for HIV, the virus that causes AIDS? (Do **not** count tests done if you donated blood.)

Yes

No

Not sure

When you are outside for more than one hour on a sunny day, how often do you wear sunscreen with an SPF of 15 or higher?

Never

Rarely

Sometimes

Most of the time

Always

During the past 12 months, how many times did you Use an indoor tanning device such as a sunlamp, sunbed, or tanning booth? (Do **not** include getting a spray-on tan.)

0 times

1 or 2 times

3 to 9 times

10 to 19 times

20 to 39 times

40 or more times

Has a doctor or nurse ever told you that you have asthma?

Yes

No

Not sure

Do you still have asthma?

I have never had asthma

Yes

No

Not sure

On an average school night, how many hours of sleep do you get?

4 or less hours

5 hours

6 hours

7 hours

8 hours

9 hours

10 or more hours

During the past 12 months, did you talk to a teacher or other adult in your school about a personal problem you had?

Yes

No

This is the end of the survey.

Thank you very much for your help.