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Specific Factors Associated with African American High School Students' HIV-Related Risk Behaviors

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Specific Factors Associated with African-American

High School Students' HIV-Related Risk Behaviors

by

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Abstract

The present study examined specific factors associated with Black high school students' HIV-related risk behaviors. Two-thousand eight hundred and thirty two self-report questionnaire responses were selected from the Center for Disease Control and Prevention's 2009 Youth Risk Behavior Surveillance Survey outcomes to test the following research questions: RQ_1. Do grade status differences exist in self-reported HIV-related risk behaviors in Black high school students, and are these differences moderated by gender; RQ_2. Do significant linear relationships exist between HIV-related education and self-reported HIV-related risk behaviors in Black high school students, and, if so, are these relationships moderated by gender and/or age; and, RQ_3. Are self-rated HIV-related risk behaviors significantly correlated with other specific self-rated risk-taking behaviors including unintentional injury behaviors and alcohol and/or other drugs behaviors in Black high school students.

Results of these investigations suggested mixed findings. Regarding the first research question, MANOVA indicated clear differences were found. Specifically, significant grade status differences do exist in self-reported HIV-related risk behaviors, including the age at which participants first had sex, number of lifetime sexual partners and whether or not participants or their partner used a condom at last sex. However, no significant grade status differences were found in self-reported HIV-related risk behaviors pertinent to a participant ever having sex, endorsement of number of sexual partners in past 3 months, or participant acknowledgement of alcohol or drug use prior to last sexual intercourse. Further, outcomes of an additional MANOVA, examining gender as a moderator of significant grade status differences, indicated that the effects of grade

status differences on endorsement of HIV-related risk behaviors were still significant even after controlling for the effects of gender.

Several linear regression analyses were then used to examine the second research question. These analyses revealed mixed results, with only two of six HIV-related risk behavior questions showing evidence of significant outcomes. Specifically, significant linear relationships were seen between participant affirmation of previous HIV-related education and self-reported number of lifetime sexual partners and between participant assertion of HIV-related education and self-reported number of sexual partners in the past three months. Follow-up moderation outcomes of further regression analyses revealed that the interaction between HIV-related education and gender accounted for significantly more variance than HIV-education alone on number of sexual partners in the past three months. No other significant findings for gender or age as potentially moderating variables were discovered.

Finally, three Pearson Correlational Matrices were used to examine the third research question. Outcomes of the analyses demonstrated numerous significant correlations between self-rated HIV-related risk behaviors and other specific self-rated risk-taking behaviors, including unintentional injury behaviors and alcohol and/or other drugs behaviors. However, many of the significant outcomes demonstrated weak and very weak correlations as well as no correlations. Only a couple of HIV-related risk behaviors showed moderate correlations with other risk taking behaviors, and these correlations were always relevant to marijuana use. Taken together, the evidence yields mixed, but important results for all three of our research questions.

This study and others examining variables relevant to a minority group have benevolent intentions. At times, unfavorable outcomes can indirectly and unintentionally play a role in the further stigmatization of minority group(s) in study. Therefore, caution should be used in interpreting and relaying the outcomes of mixed or unexpected findings in our study.

Chapter I

Introduction

Urban minority teenagers are at greater risk for Human Immunodeficiency Virus (HIV; St. Lawrence, Brasfield, Jefferson, Alleyne, & O'Bannon III, 1995) than their non-minority peers. These at risk teens have previously been reported as largely either Hispanic or African-American (Schinke, Gordon, & Weston, 1990). The Centers for Disease Control and Prevention released data indicating that 55% of individuals between the ages of 13 and 24 with HIV disclosed their race as African American (Centers for Disease Control and Prevention, 2008). One half of these new HIV/AIDS infections were diagnosed among African Americans (Hall et al., 2004), and, according to the CDC, the chance of African Americans receiving an HIV diagnosis was 15 times greater than that of White individuals (Adefuye, Abiona, & Balogun, 2009). Similarly, Donenberg, Emerson and Mackesy-Amiti (2011) noted that females who identify as African American report greater rates of sexually transmitted infections than any other female demographic group.

Chabon and Futterman (1999) reported on the age-related HIV diagnosis phenomenon. They purported that the greatest rate of individuals with a new HIV diagnosis was among those ages 15-24, and, overall in the United States, one quarter of new HIV diagnoses are reported in individuals between the ages of 13 and 21. Thus, adolescents are disproportionately at risk for HIV, a clear and significant health disparity. The present study utilized a national data set to test specific factors associated with African-American high school students' HIV-related risk behaviors to address the following question.

RQ₁: **Do grade status differences exist in self-reported HIV-related risk behaviors of Black high school students and are these differences moderated by gender?**

Various risk behaviors displayed by Black adolescents have been studied thoroughly. It is not uncommon for adolescents to manifest impulsive behaviors, and the high prevalence of risk behaviors, including those related to HIV, seen during this time has warranted relevant scientific examination(s). The rationale for the current research question was four-fold. First, a review of relevant literature demonstrated a lack of previous interest in and investigation of Black high school age group differences in self-reported HIV-risk behaviors. Second, examining grade status differences is important to the multicultural competencies of professionals working with these students. For example, mental health professionals (e.g., school counselors, college counselors) can access our results to better understand self-rated risk behaviors among Black high school students. This will help mental health professionals make informed decisions about age appropriate psycho-education (e.g., content that is `not too late or too early to be teaching). According to Miller, Boyer, and Cotton (2004), early prevention techniques with Black individuals should be considered in health and mental health settings, because Black adolescents have a disproportionately higher number of sexually transmitted disease diagnoses than Black individuals in later age. Moreover, counselors can use our age-related outcome data to identify Black students who are self-reporting engagement in these behaviors at developmental times that are atypical compared to their peers of the same racial background (e.g., the outliers).

Next, examining grade status differences in Black high school students is important to the educator's overall understanding of risk behaviors among these students.

Identifying when specific risk behaviors occur can aid in the educator's awareness of the most appropriate times to incorporate certain risk behavior related prevention content into educational curricula for Black students. For example, according to one study, knowing little relevant information, individuals in their early adolescent years had a tougher time avoiding HIV transmission than individuals in their 20's (United Nations Children's Fund, Joint United Nations Programme on HIV/AIDS and World Health Organization, 2002, p. 11), suggesting a need to include relevant risk behavior education in the classroom in the early years of adolescence.

Finally, the investigation of grade status differences in Black high school students is important to the health professional's holistic understanding of HIV-related risk behaviors in these students. As with mental professionals' potential use of these outcome data, identifying general ages at which certain risk behaviors occur permits health professionals to easily identify patients who are engaging in these behaviors at times that are not typical for their cohort. It also helps them determine appropriate timeframe delivery of risk-related interventive and preventive brief health education and bio-education during regular office visits. In one study, to illustrate, it was more common for older adolescents than younger adolescents to have a history of pregnancy and STD(s) (Bachanas et al., 2001), suggesting that discussions about protection may not need to occur prior to early adolescence and probably should occur before mid to older adolescence. Health professionals may wish to consider early adolescent discussions about peer pressure and bio education in intervention design, however, as Bachanas et al., (2001) found, "younger teens whose peers were engaging in risky behaviors reported engaging in more risky sexual behaviors; however, these same relations were not found

for older teens," (p. 373) and biology leaves younger teen girls at greater risk for contracting HIV (United Nations Children's Fund).

Again, the high prevalence of HIV-related risk behaviors among Black adolescents was an important reason to consider Black students specifically in our investigation. Indeed, one study found that ethnicity better predicted HIV-related risk behaviors than did "gender, self-efficacy, and knowledge, attitudes, and beliefs" (Faryna & Morales, 2000, p. 42). Sixty six and one half percent of Black youth versus 43.7 percent of their White peers and 52 percent of their Hispanic/Latino peers reported having sex at least once (Centers for Disease Control and Prevention, 2008) and, of these same students, 16.3 percent of the Black participants versus 4.4% of White and 8.2 percent of Hispanic/Latino participants reported having sex prior to their 13th birthday (CDC). Other similar findings regarding early sexual behavior have been founded among minority youth.

Known gender differences in the HIV-related risk behaviors of Black adolescents was an important reason to consider "gender" as a moderator of grade status differences in HIV-related risk behaviors. For example, Black women accounted for the greatest rates of HIV diagnosis in a study of disadvantaged youth, and gender differences in HIV diagnosis rates in adolescents ages 16-18 were identified. Specifically, women in this age group were identified as having HIV at a rate 50% greater than that of male youth (Center for AIDS Prevention Studies at the University of California San Francisco, 1999). However, another study reporting on Black adolescent participants found that the male participants endorsed being younger than the female participants during their first sexual contact and endorsed having a greater number of partners for sexual purposes than

the female participants (Nebbitt, Lombe, Sanders-Phillips, & Stokes, 2010, p. 1263).

One consideration of the second research question and this study in general included issues inherent in the decrease in retention of students with HIV in high school. This emphasizes the need for outcomes of this study to be interpreted with respect to Black high school students only rather than Black adolescents in general. Many students with HIV, for a diversity of reasons, drop out of high school before receiving a diploma. This dropout rate presents a substantial need to generalize the outcomes of this hypothesis as well as the following two hypotheses only to Black adolescents enrolled in high school. Nevertheless, the benefits of considering an understudied population with regards to the foci of the current study are plentiful and outweigh the risks of readers potentially generalizing our study to all Black adolescents rather than Black high school students only. The present study, therefore addressed the following research question

RQ_2: Do significant linear relationships exist between HIV-related education and self-reported HIV-related risk behaviors in Black high school students, and, if so, are these relationships moderated by gender and/or age?

The potential relationships between endorsement of HIV-related education and self-reported HIV-related risk behaviors in youth have been studied at length for some time. A controversy in the 1990's surrounding a correlation between HIV-related education and HIV-related risk behaviors in youth (e.g., St. Lawrence et al., 1995) was a popular topic among adults. However, more recent research demonstrated a negative correlation between HIV-related education and HIV-related risk behaviors (e.g., Jemmott, Jemmott, & Fong, 1992; Kirby, Laris, & Rolleri, 2007). Further and more

detailed investigation of HIV-related education outcomes is clearly warranted and leads to the first important reason for examining this hypothesis - articulating a purpose for the YRBS to include more detailed HIV-related education questions.

One of the major limitations of the YRBS data set is the lack of control for several different types (e.g., which risk behaviors were discussed) and nature (e.g., community education, school education, etc.) of the education that participants received. The YRBS outcomes identify participant endorsement of HIV education in general. No explanation of type or nature of the education is provided. A future version of the YRBS that would gather more detailed data is needed, because individual and cultural differences exist in how much students already know about HIV and which risk-taking behaviors they are more susceptible to endorsing. For example, DiClemente, Boyer and Morales (1988) found that among high school students in San Francisco, White students had a better understanding than their Black peers of how AIDS is contracted. Additionally, Black youth seem to drink less than their peers (U.S. Department of Health and Human Services), and one study suggested that Black teen participants were less often "smokers, marijuana and other drug users, drinkers, injection-drug users, marijuana users, combination sex and drug users, and light substance dabblers" (Halpern, Hallfors, Bauer, Iritani, Waller, & Hyunsan, 2004, p. 244), all terms used in several of the HIV-risk taking behavior questions on the YRBS. Further, ongoing investigation of a relationship between HIV-related education and HIV-related risk behaviors will help solidify a major need for the YRBS to include supplemental HIV-related education questions.

A second key reason to examine a relationship between HIV education and HIV-related risk behaviors in Black high school students is to determine the value of HIV-

related education. Results of our analysis can help health and mental health professionals and educators identify the degree of relevance of HIV-related education to the reduction of HIV-related risk behaviors in Black high school students. For example, if a strong degree of relevance is determined, than it may be appropriate to offer more pertinent education.

There is a high risk of STDs among Black adolescents. The CDC (2008) reported that 55% of individuals between the ages of 13 and 24 with HIV disclosed their race as African American. Further, prevention programing is probably the most effective risk-reducing tool (Jemmott et al., 1992). Therefore, it is important to understand whether education is related, and in which direction, to similar risk taking behaviors in Black high school students.

Finally, gender and age are important to consider as a potential moderators of the relationship between assertion of HIV-related education and self-rated HIV-related risk behaviors.   These moderation outcomes will help to expand on and clarify relevant and inconsistent differences noted in previous research. For example, Calsyn, Saxon, Freeman, and Whittaker, (1992) found that for injection drug using participants receiving AIDS education, the number of males with multiple partners decreased from 65 at the initial assessment to 43 at the follow-up assessment and from 22 at the initial assessment to 6 at the follow-up assessment for females. Additionally, the number of males using condoms more than 50 percent of the time increased from zero at the initial assessment to ten at the follow-up assessment and actually decreased from four at the initial assessment to three at the follow-up assessment for females (Calsyn et al., 1992). However, African American participants who engaged in a culturally relevant HIV risk-related intervention

(Jemmott, Jemmott, Fong, & McCaffree, 1999) demonstrated outcomes inconsistent to those explained by the research completed by Calsyn et al. (1992). Further, Jemmott et al. did not identify significant facilitator or group member gender variations.

RQ₃: **Are self-rated HIV-related risk behaviors significantly correlated with other specific self-rated risk-taking behaviors including unintentional injury behaviors and alcohol and/or other drugs behaviors in Black high school students.**

The self-rated HIV-related risk behaviors, unintentional injury risk behaviors and alcohol and other drug-related risk behaviors of Black high school students have been studied previously using the YRBS and other data. These studies have been warranted due to the high prevalence of HIV-related risk behaviors in Black adolescents and adolescents in general. For example, between 2001 and 2004, approximately 61 percent of youth under the age of 25 with an HIV/AIDS diagnosis identified as Black (Centers for Disease Control and Prevention, 2010). Further, in 2008, approximately half of 14 to 19 year-old Black females had one or more typical sexually transmitted disease diagnosis (CDC). Additionally, unlike other death rates due to specific causes that tend to increase over time in one's life, death rates due to injury are greatest in the later teenage and earlier adult years (National Adolescent Health Information Center, 2000, p. 2). Finally, alcohol is the most common substance consumed by youth in America (U.S. Department of Health and Human Services). Moreover, few studies have examined possible correlations between these self-rated risk-taking behaviors across all adolescents or within a subsample of Black high school students only.

An important reason to examine whether significant correlations exist between self-rated HIV-related risk behaviors and self-rated unintentional injury risk behaviors

and/or self-rated alcohol and other drug risk behaviors in this population is three-fold. First, given the high prevalence of these risk behaviors in adolescents, identifying possible correlations can provide educators, health and mental health professionals with the opportunity to predict which students - for this study specifically Black high school students - are at greater risk for HIV based on their engagement in other correlated self-reported risk behaviors. Second, using these risk predictions, professionals can identify which students are in greatest need of related education and counseling. Finally, risk predictions can also be used to determine which risk behaviors should be discussed more often and with which students in educational and therapeutic settings. According to DiClemente et al. (2001), in order to create programs that are successful at preventing risky HIV transmission behaviors, it is important to understand which factors are linked to risky behaviors in the most vulnerable and at risk teens.

The unique incidence of some risk-taking behaviors in Black adolescents is another important reason to examine this hypothesis in Black high school students. For example, relative to White individuals, the chance of African Americans receiving an HIV diagnosis is 15 times greater (Adefuye et al., 2009). Whereas, regarding death due to unintentional injury, between 1992 and 2002, data trends in the unintentional injury category suggest an increase in this type of mortality among White individuals and a decrease in death rates due to unintentional injury among Black individuals. Moreover, the death rate for White individuals increased by 16.5 in recent years. (Paulozzi, Ballesteros, & Stevens, 2006). However, these results can be interpreted with caution, because trends previous to these did not consistently demonstrate higher death rates due to unintentional injury in White versus Black individuals (Paulozzi et al.). Finally, as

mentioned earlier, Black youth tend to drink less than their peers (US DHHS) and endorse less frequent use of marijuana and injection-drugs (Halpern et al, 2004).

The third research question demonstrates further importance because, as mentioned above, current literature suggests that Black adolescents are at high risk for contracting HIV. For example, DiClemente et al. (1988) found that White high school students in San Francisco demonstrated greater competence regarding the contraction of AIDS. Additionally, the authors explained greater competencies among White students versus their Black and Hispanic peers regarding myths around the transfer of AIDS from one individual to another.

Unique racial and ethnic cultural considerations should be addressed in studying risk-taking behaviors. This is another reason we chose to study Black high school students separate of their peers. For example, Strunin (1991) noted that because risky behaviors and attitudes around risk are impacted by one's own experiences, understanding adolescent perceptions of risky behavior requires knowledge of individual beliefs surrounding life options, future goals and concerns regarding how they will fit in. Additionally, Faryna et al. (2000) found ethnicity to be a better predictor of HIV-related risk behaviors than several other self-identity factors, concluding that behavioral interventions need to be culturally and ethnically pertinent. Further, Reitman, et al. (1996) noted the importance of risk-reducing interventions among Black adolescents supplementing conventional education with media and interventions in communities. These options would help to target cultural considerations, as they would occur within a more culturally relevant context to that of their participants.

In conclusion, successful design of prevention programs targeting risky HIV transmission behaviors requires consideration of factors linked to these risky behaviors in the most vulnerable and at risk teens (DiClemente et al., 2001). However, identifying these specific factors in minority high school students is tricky, because youth behaviors in general can be correlated with risky activities that might cause them to contract the HIV virus (Chabon et al., 1999). The YRBS data set provided a unique opportunity to study these potentially risky behaviors because, even when controlling for race and ethnicity, the sample size remains large and demographically diverse.

Data set description

The 2009 YRBS is a Youth Risk Behavior Survey assessing key risk-taking behaviors related to the health of youth (CDC, 2004). The data set includes a national sample of students in grades 9-12 (CDC, 2004) from 196 schools in 2009 (CDC, 2009). Although a number of articles have examined information from the 2009 Youth Risk Behavior Surveillance YRBS and some have discussed responses to HIV-related risk behavior questions, little research has specifically addressed Black high school students' responses to HIV-related risk behavior questions.

The purpose of the present study, therefore, was to gain an understanding of the specific factors that may be related to and/or influencing Black students' HIV-related risk behaviors. Specifically, the study examines whether grade status differences exist in the HIV-related risk behaviors of Black high school students. The current study also examined whether any differences are moderated by gender. Additionally, the study sought to determine whether relationships existed between assertion of HIV-related education and self-reported HIV-related risk behaviors in Black high school students and

whether any potential relationships are moderated by gender and age. Finally, the study

looked at whether any self-rated HIV-related risk behaviors were significantly correlated

with other specific self-rated risk-taking behaviors including unintentional injury

behaviors and alcohol and/or other drugs behaviors in Black high school students. In

examining these questions, it was important to consider specific factors related to and/or

influencing Black high school students' HIV-related risk behaviors and cultural

implications unique to this racial group.

Regarding gender as a moderating variable of the second research question,

Levinson, Jaccard, and Beamer noted a gender difference in casual sex attitudes and

behaviors (an HIV-related risk behavior). Specifically, they noted a stronger attitude and

behavior association among females =than males. Additionally, Reitman et al. (1996)

examined predictors of condom use and HIV-related risk taking among Black teens.

Results of their study demonstrated increased HIV-risk behaviors among participants

who identified as male. Further, St. Lawrence et al. (1995) examined an adolescent HIV

risk behavior prevention program. The authors reported that at the outset of the

prevention program, the rate of involvement in sexual activity was greater for males than

it was for females. Interestingly, Amaro (1995) explained that many of these gender

differences and others are both directly and indirectly related to societal gender power

differentials.   Taken together, specific needs differentials between men and women need

to be considered when creating and coordinating HIV prevention programs (Durantini &

Albarracin, 2009).

Taking this second research question into consideration again, the direction and

strength of the relationship between HIV-related education and HIV-related risk

behaviors may be influenced by age, as demonstrated by previous research. For example, according to Walcott, Meyers, and Landau (2007), developmental concerns should be assessed in the organization of adolescent HIV prevention programs. Additionally, age should be considered in relation to the frequency of HIV risk activities and the incidence of these activities. (Morrison-Beedy, Nelson, & Volpe, 2005).

Again, previous studies have examined the effects of HIV-related education on HIV-related risk behaviors. This research paradigm is due in part to a 1997 decision by the Consensus Development Conference on Interventions to Prevent HIV Risk Behaviors to make adolescents a major focus of relevant research (Mullen, Ramirez, Strouse, Hedges, & Sogolow, (2002). One of the key factors in making this decision included data from the CDC in 1993 partially documenting information regarding the AIDS diagnoses of individuals in their 20's. The data suggested a good possibility that many of these individuals originally contracted the virus as teenagers. (Mullen et al., 2002).

A second major factor in the decision to make teenagers a top focus of relevant research included the decrease in the average age in which individuals were contracting HIV. Mainly true throughout urban minority communities, the average age of residents dropped from 29 (prior to 1986) to 21 between 1986 and 1990 (Mullen et al., 2002). However, few studies have looked at differences between HIV-related risk behaviors in younger and older students (9th, 10th, 11th, and 12th graders). Additionally, although studies have looked at the effects of HIV-related education on HIV-related risk behaviors, it is crucial to replicate similar studies in order to examine trends over time to continue to understand the effects of HIV-related education on HIV-related risk behaviors in order to help prevent such risk behaviors. Therefore, the purpose of the

present study was to gain an understanding of the specific factors associated with Black students' HIV-related risk behaviors. The specific research questions investigated were:

RQ_1: Do grade status differences exist in the self-reported HIV-related risk behaviors of Black High School Students, and are these differences moderated by gender?

RQ_2: Do significant linear relationships exist between HIV-related education and self-reported HIV-related risk behaviors in Black high school students, and are any of these potential relationships moderated by gender and/or age?

RQ_3: Are self-rated HIV-related risk behaviors correlated with other specific self-rated risk-taking behaviors, including unintentional injury behaviors and alcohol and/or other drugs behaviors in Black high school students.

Addressing Stigma As a Result of Studying a Minority Group

This study and others examining variables relevant to a minority group have benevolent intentions. For example, this study intended to identify issues important to a minority group in order to address concerning outcomes in positive ways. Although this is the case here and across other similar studies, consumers of research do not always read the results in this way. Often times, unfavorable outcomes can inadvertently play a role in the further stigmatization of the minority group(s) in study. In order to ensure nonmaleficience, this issue is addressed throughout this dissertation.

Chapter II

Literature Review

Factors Related to HIV-Risk in Black High School Students

The reported numbers and percentages of Black youth with HIV and other

sexually transmitted disease diagnoses over the last decade are disturbing. Sixty one

percent of youth under the age of 25 with an HIV/AIDS diagnosis, from the years 2001-

2004, identified as Black (Centers for Disease Control and Prevention, 2009), and almost

half of all 14 to 19 year-old Black females in 2008 had one or more sexually transmitted

disease diagnoses (Centers for Disease Control and Prevention).

Black youth also engage more often in certain HIV-risk behaviors than their

peers. This was apparent in an analysis of the 2007 National Youth Risk Behavior

Survey (YRBS, 2007). The authors found that 66.5 percent of Black youth versus 43.7

percent of their White peers and 52 percent of their Hispanic/Latino peers reported

having sex at least once (Centers for Disease Control and Prevention, 2009) and, of these

same students, 16.3 percent of the Black participants versus 4.4% of White and 8.2

percent of Hispanic/Latino participants reported having sex prior to their 13th birthday

(Centers for Disease Control and Prevention). Other similar findings were also

discussed.

Although the percentages reported above are high for Black students, they are not

necessarily equal for Black female and male youth. Analysis of the same Youth Risk

Behavior Survey (YRBS, 2007) named above identified gender differences in HIV-risk

behaviors for Black youth (Centers for Disease Control and Prevention, 2009).

Specifically, 72 percent of Black males verses 60.9 percent of Black females reported

having sex at least once (Centers for Disease Control and Prevention), 26.2 percent of Black males versus 6.9 percent of Black females reported having sex prior to their 13th birthday (Centers for Disease Control and Prevention), and 2.8 percent of Black males versus 0.8 percent of Black females identified as "lifetime illegal injection drug" (Centers for Disease Control and Prevention, 2009, p. 2) users (CDC). In a study of 37 states that looked at racial and ethnic disparities in HIV infections, the researchers found that of both genders and across all racial and ethnic groups (Centers for Disease Control and Prevention, 2011), "Black males had the highest HIV diagnosis rate" (p. 1193) in 2008, and although "trend analyses for 2005-2008 indicated that rates of HIV diagnoses increased among Black/African American males" (p. 1193), this was not the case for other genders and racial and ethnic groups in the study (other groups showed general stability) (2011); however, risky sexual encounters is how the majority of Black females become infected with HIV (Bartlett & Shelton, 2010).

Conversely, Locke and Newcomb (2008) reported that Black female youth in the United States are at "disproportionate risk" (p. 337) for HIV and AIDS. Approximately "two thirds (63%) of all women reporting AIDS diagnoses were African American" (Locke et al., p. 337); however, the Centers for Disease Control and Prevention (2010) reported that "1 in 16 Black men will be diagnosed with HIV infection, as will 1 in 32 Black women" (p. 1).

Historical importance. The prevalence of HIV and other sexually transmitted disease diagnoses in Black individuals dates back several years prior to the 2007 Youth Risk Behavior Survey (YRBS) noted earlier. Understanding and accounting for the history of HIV in Black adolescents is important because understanding trends in

research helps predict future behaviors and outcomes and compares the longitudinal data of Black adolescents with adolescents of other races. For example, between the years of 2006 and 2008 the estimated diagnosis of HIV for Blacks increased gradually from 20,696 in 2006 to 20,953 in 2007 to 21,730 in 2008 and then dropped slightly to 21,673 in 2009 (Centers for Disease Control and Prevention, 2009). Although Blacks show disproportionately higher numbers of estimated diagnoses of HIV between 2006 and 2009 (Centers for Disease Control and Prevention), compared to other racial and ethnic groups, the trend in number of cases was similar to that of American Indian/Alaskan Native (Centers for Disease Control and Prevention). Asian, Hispanic/Latino, White and Multiple Race individuals' numbers increased from 2006-2007, but then dropped slightly in 2008; whereas, Native Hawaiian/Other Pacific Islander individuals' number decreased slightly each year between 2006 and 2008 and then rose in 2009 (Centers for Disease Control and Prevention).

Clinical importance. Health and mental health professionals can provide youth the necessary preventative skills and self-care techniques to refrain from infecting and re-infecting themselves with HIV and other sexually transmitted diseases. Since the effects of some sexually transmitted diseases are chronic (Miller et al., 2004) (e.g., "Although bacterial STDs are cured with antibiotics, viral infections such as HIV can be treated but not cured") (Miller et al.,2004 p. 126), helping youth prevent sexually transmitted diseases all together or at the very least refrain from exacerbating the effects by re-infecting themselves is crucial. In order to aid in this prevention however, it is necessary for professionals to identify and understand what the risk factors are and how they interact with and affect Black youth.

Early prevention techniques with Black individuals should be taken into account in health and mental health settings, because Black adolescents have a disproportionately higher number of sexually transmitted disease diagnoses than Black individuals in later age (Miller et al,, 2004), and inner-city Black youth are at higher risk for HIV and sexually transmitted disease infections then their peers (National Institute of Mental Health, 2009); however, female Black teens have been known to avoid prevention programs and techniques (Melhado, 2010). Additionally, certain sexually transmitted diseases and HIV infection are correlated (Miller et al. 2004); therefore, early sexually transmitted disease prevention may aid in decreasing HIV in adolescence and in the years to follow (Miller et al., 2004). Relevant research suggests that the prevention of HIV should focus on both HIV and sexually transmitted disease prevention (Miller et al. 2004). Regardless, it is important that professionals understand what the specific risk factors of HIV and sexually transmitted diseases are and how they affect Black youths in order to design conversation and curriculum that aids in HIV and STD prevention,

Altering sexual behaviors that are considered at-risk for sexually transmitted diseases and HIV has been highlighted as a form of STD and HIV prevention for Black adolescents (Miller et al., 2004), and evidence-based prevention curriculums share this goal (Rotheram-Borus, Ingram, Swendeman, & Flannery, 2009). This is not surprising given that the CDC identifies sexual behaviors as an HIV-risk behavior on their bi-annual Youth Risk Behavior Survey (YRBS). Additionally, including sexual behavior education and modification in HIV prevention programs for Black youth is justified, as a study in Atlanta, which included mostly Black adolescent participants, found that only a few of

the HIV-positive individuals in the study understood that sexual activity was an HIV-risk (National Institute of Mental Health, 2009),

Cultural relevance can also be considered in programs aimed at reducing the risk of infection for Black adolescents (Melhado, 2010) by knowing what specific factors and issues should be incorporated into the programs. Age and race/ethnicity can also be taken into account in developing prevention programs in addition to gender differences discussed earlier. For example, Mandara, Murray and Bangi (2003) used an ecological framework to examine "personal, familial, and extrafamilial risk factors" (p. 337) in Black adolescents between the ages of six and fifteen. Results suggested that "being older, male, having low parental monitoring, using drugs, and having friends that used drugs decreased the probability" (p. 337) of not having sex prior to participation in this study (Mandara et al., 2003).

Scholarly importance. Literature reviews, meta-analyses and original research examining factors associated with Black adolescents' HIV-risk behaviors are important because they "enhance or deepen our understanding of what is already known" and can be used for clinical and educational purposes, individual and unique differences across and within participant pools that are relevant to the implementation of appropriate prevention and intervention programs, and where gaps exist in current and past research studies. For example, literature has discussed the possible effectiveness of incorporating unique gender and cultural factors in the design and implementation of interventions aimed at sexually transmitted disease reduction for female Black teens (Melhado, 2010); however, much is to still be learned about unique cultural and individual differences within this population (e.g., "Given that minority group members often report greater

experiences of discrimination than white, future research in this area should also include an examination of the role of other stressors such as racial disparities and their cumulative impact on minority youth…") (Bellamy et al., 2008, p. 914). As another example, research and literature have examined and discussed sex-risk behaviors that female Black teens engage in; however, little research has considered "the effects of parental, peer, and community relationships on risky sexual behaviors in this population" (Watson, 2008, p. 5221). Therefore, research that improves our understanding of these populations and how we can better serve them was necessary.

Research Questions

RQ$_1$: Do grade status differences exist in the self-reported HIV-risk behaviors of Black High School Students, and are these differences moderated by gender. Literature has suggested self-reported HIV-risk behavior differences between high school freshman and sophomores and high school juniors and seniors. In other words age differences seem to influence self-reported HIV-risk behaviors in high school students, a phenomenon that holds an important place in HIV-risk behavior research. For example, "Lacking the necessary knowledge and skills, younger adolescents are less likely to protect themselves from HIV than young people in their early 20's" (United Nations Children's Fund, Joint United Nations Programme on HIV/AIDS and World Health Organization, 2002, p. 11) (e.g., for males 45 percent of 15-19 year-olds wore condoms versus 64 percent of 20-20 year-olds in Burkina Faso) (United Nations Children's Fund). Additionally, as mentioned earlier, although "Black males had the highest HIV diagnosis rate" (Centers for Disease Control and Prevention, 2011, p. 1193) in 2008, and although "trend analyses for 2005-2008 indicated that rates of HIV diagnoses increased among

Black/African American males" (p. 1193), this is not necessarily the case within age groups. One study of disadvantaged youth found that "African-American women had the highest rate of HIV infection and that women 16-18 years old had 50% higher rates of infection than young men" (Center for AIDS Prevention Studies at the University of California San Francisco, 1999).

Literature suggests that some research has specifically examined differences in sexual risk-taking behaviors of older versus younger adolescents, although not many relevant studies exist. Bachanas et al. (2001) found that older adolescents "were more likely to have been pregnant and to have contracted a sexually transmitted disease (STD) than younger teens" (p. 373) and that "younger teens whose peers were engaging in risky behaviors reported engaging in more risky sexual behaviors; however, these same relations were not found for older teens" (Bachanas et al., p. 373). Developmental uniqueness was also identified for younger versus older adolescents (Bachanas et al.). Furthermore, Bachanas et al. suggested that prevention programs for high-risk teens begin as early as "late elementary school or early middle school" (p. 373).

Age of sexual partners may also have an indirect effect (partner effect) on adolescent risk for contracting HIV. Miller, K.S., Clark, L.F. and Moore, J.S. (1997) compared "HIV risk-related behavior of female adolescents who experienced their first voluntary sexual intercourse with an older partner with that of their counterparts who initiated sexual activity with a peer-age partner" (p. 212). They found that "compared with teenagers whose first partner had been roughly their age, the 35% of adolescents with an older partner had been younger at first intercourse (13.8 years vs. 14.6) and less

likely to use a condom at first intercourse (29% vs. 44%)" (Miller, Clark & Moore, p. 212).

Understanding age group differences and similarities in self-reported risk behaviors and knowledge about risk is necessary to consider in order for health, mental health, and educational professionals to have the ability to structure successful risk prevention programs and pertinent educational curricula. As mentioned earlier, understanding and incorporating cultural factors into prevention and intervention programs may also be important.

Age-related Survey Outcomes. Several organizations (e.g., Centers for Disease Control, the Keiser Family Foundation, etc.) have examined age-group differences and provided related survey data to the public.

Age-related adolescent survey outcomes. Previous analyses of age-group differences in HIV diagnoses have been documented in literature. The Centers for Disease Control and Prevention (2010) published tables displaying these age group and other differences between 2005 and 2008. According to Table 1a, which displayed outcomes for 37 states, youth between the ages of 13 and 14 saw only a slight increase in positive HIV testing before the numbers dropped. Specifically, an estimated 42 youth between the ages of 13 and 14 tested positive for HIV in 2005 (Centers for Disease Control and Prevention, 2010) compared to 47 in 2006, 34 in 2007, 31 in 2008 (Centers for Disease Control and Prevention) and 21 in 2009 (Centers for Disease Control and Prevention, 2009). Unfortunately this was not the case for youth between the ages of 15 and 19 who displayed an increase in HIV positive testing numbers between 2005 and 2009. An estimated 1,267 15 to 19 year-olds tested positive for HIV in 2005 compared to

1,440 in 2006, 1,712 in 2007, 1,870 in 2008 (Centers for Disease Control and Prevention, 2010) and 2,036 in 2009 (Centers for Disease Control and Prevention, 2009). Youth between the ages of 20 and 24 reported a similar increase in HIV positive testing numbers between 2005 and 2009 as those 15 to 19 years-old did. An estimated 4,059 in 2005, 4,301 in 2006, 4,778 in 2007, 5,427 in 2008 (Centers for Disease Control and Prevention, 2010), and 6,237 in 2009 (Centers for Disease Control and Prevention, 2009) tested positive for HIV.

The more common modes of HIV and other sexually transmitted disease transmission in varying adolescent age groups have been reported in studies. Halpern et al., 2004) found differences in risk behaviors in older versus younger teenagers. Specifically, they reported that older teen participants had a greater chance of identifying with all clusters except the one labeled "abstainers" than the younger teen participants did (Hapern et al., 2004). This is not surprising, as "early adolescence is…before most youth become sexually active" (United Nations Children's Fund, 2011, p. 9); however, sexual activity at all adolescent ages should be considered, as Faryna et al. (2000) reported that more than 50 percent of the participants in their study related to HIV-risk behaviors in multiethnic adolescents had engaged in sexual behaviors prior to the age of 14. This presents a major issue, as biology makes younger teen girls at greater risk for contracting HIV (United Nations Children's Fund). Given the higher risk of transmission of sexually transmitted infections in youth, the low numbers of youth who actually get tested for sexually transmitted infections (dosomething.org) is daunting. Of adolescents between the ages of 15 and 17, 1/3 reported being tested, and of those between the ages of 18 and 24, only ½ reported being tested (dosomething.org).

Age-related Black survey outcomes. Understanding specific age-related survey outcomes for Black individuals is especially important because of the very high prevalence of the HIV infection within this population. Between 2005 and 2008, Black individuals were reported as having the highest percentage of new HIV cases across all age groups (Centers for Disease Control and Prevention, 2011). The 2007 results of the National Youth Risk Behavior Survey suggest Black and African American age group differences. For example, high school students showed a gradual increase in the endorsement of "Ever Had Sexual Intercourse" with each year. The item was endorsed by 52.5 percent of ninth graders, 66.4 percent of tenth graders, 74.1 percent of eleventh graders, and 81.8 percent of twelfth graders. This was surprisingly not the case for endorsement of "Had Sexual Intercourse for The First Time before Age 13"; rather ninth graders endorsed this item more often than their elder peers. 19.6 percent of ninth graders endorsed the item compared to 15.5 percent of tenth graders, 15.1 percent of eleventh graders, and 13.1 percent of twelfth graders. The students also reported a gradual increase in the endorsement of "Had Sexual Intercourse with Four or More Persons (during their life)". 15.2 percent of ninth graders endorsed the item compared to 26.7 percent of tenth graders, 32.2 percent of eleventh graders, and 44.7 percent of twelfth graders. A larger number of students each year endorsed "Had Sexual Intercourse with At Least One Person (during the 3 months before the survey)". 26.1 percent of ninth graders endorsed the item compared to 45.3 percent of tenth graders, 54.4 percent of eleventh graders and 70.7 percent of twelfth graders. Another, more gradual increase was displayed each year by students for the endorsement of "Drank Alcohol or Used Drugs before Last Sexual Intercourse (among students who were currently sexually active)".

13.8 Percent of ninth graders endorsed the item compared to 15.9 percent of tenth grades, 16.1 percent of eleventh graders and 18.9 percent of twelfth graders. Finally, an increase in the endorsement of "Did Not Use a Condom during Last Sexual Intercourse (among students who were currently sexually active)" occurred with each grade. 23.8 percent of ninth graders endorsed the item compared to 30.1 percent of tenth graders, 36.1 percent of eleventh graders and 37.5 percent of twelfth graders.

Modes of transmission of HIV and other sexually transmitted diseases in Black adolescents have been reported in studies. Halpern et al., (2004) looked at racial and gender disparities in the risky HIV and other sexually transmitted disease behaviors of teenagers. Results indicated that Black adolescents engaged in sexual activity more frequently than their white counterparts (Halpern et al., 2004). Specifically, the Black participants were more likely than White participants to be "males who have sex with males" (p. 5) and "alcohol-and-sex dabblers" (p. 5), and Black participants were eight times more likely than White participants to identify with "the multiple partner cluster" as opposed to "the abstainer cluster" (Halpern et al., 2004 p. 5). Additionally, Black participants appeared in the "sex dabblers cluster" (p. 5) five times as often as White participants and in the "sex for drugs or money cluster" (p. 5) twice as much (Halpern et al., 2004). Results of the same study suggested that Black participants engaged in substance use activities significantly less than their White counterparts (Halpern et al., 2004) even though Black participants outnumbered White participants in the clusters mentioned above. This particular finding indicated that Black participants were less often "smokers, marijuana and other drug users, drinkers, injection-drug users, marijuana users, combination sex and drug users, and light substance dabblers" (Halpern et al., 2004

p. 5), as suggested by the researchers' definition of substance abuse activities. Similarly, findings from the 2009 Youth Risk Behavior Survey suggest that Black participants were more likely than their peers to have engaged in behaviors related to HIV risk such as "ever had sexual intercourse", "had sexual intercourse for the first time before age 13 years", "had sexual intercourse with four or more persons during their lifetime", "had sexual intercourse with at least one person during the 3 months before the survey" (Centers for Disease Control and Prevention, 2009).

Gender and age-related Black survey outcomes. Gender differences in age-related Black adolescent outcomes have also been discussed in literature. For example, Nebbitt et al. (2010) reported that their male participants endorsed being younger than their female participants during their first sexual contact and reported having more "sexual partners" (p. 1263) than their female participants. The 2007 results of the National Youth Risk Behavior Survey suggest Black and African American gender and age group differences for HIV risk behaviors. Gradual increases were seen for both males and females with each grade for "Ever Had Sexual Intercourse", and males more often endorsed this item each year than females. 45.8 percent of female and 59.4 percent of male ninth graders endorsed the item compared to 58.4 percent of female and 74.7 percent of male tenth graders, 68.6 percent of female and 79.9 percent of male eleventh graders, and 78.6 percent of female and 85.6 percent of male twelfth graders. Except for one small increase in males between tenth and eleventh grade, both males and females showed decreases each year for the endorsement of "Had Sexual Intercourse for The First Time before Age 13", and males endorsed this item more often each year than did females. 9.1 percent of female and 30.0 percent of male ninth graders endorsed the item

compared to 7.2 percent of female and 24.2 percent of male tenth graders, 5.8 percent of female and 24.9 percent of male eleventh graders, and 4.3 percent of female and 23.6 percent of male twelfth graders. Gradual increases were seen for both males and females with each grade for the endorsement of "Had Sexual Intercourse with Four or More Persons (during their life)", and males more often endorsed this item each year than did females. 8.8 percent of female and 21.5 percent of male ninth graders endorsed this item compared to 14.8 percent of female and 39.1 percent of male tenth graders, 20.3 percent of female and 44.8 percent of male eleventh graders, and 34.2 percent of female and 57.1 percent of male twelfth graders. Increases were again seen for both males and females with each grade for the endorsement of "Had Sexual Intercourse with At Least One Person (during the 3 months before the survey)", and males again more often endorsed this item each year than did females. 22.7 percent of female and 29.6 percent of male ninth graders endorsed this item compared to 40.1 percent of female and 50.7 percent of tenth graders, 52.6 percent of female and 56.2 percent of male eleventh graders, and 60.5 percent of female and 72.0 percent of male twelfth graders. Except for one small decrease in female endorsement of "Drank Alcohol or Used Drugs Before Last Sexual Intercourse (among students who were currently sexually)" between tenth and eleventh grade, both males and females showed increases each year for the endorsement of this item, and males more often endorsed this item each year than did females. 14.1 Percent of female and 17.3 percent of male tenth graders endorsed this item compared to 11.6 percent of female and 20.7 percent of male eleventh graders and 14.9 percent of female and 23.4 percent of male twelfth graders. Finally, except for one small decrease between eleventh and twelfth grade in female endorsement of "Did Not Use A Condom During

Last Sexual Intercourse (among students who were currently sexually active)", both males and females showed increases each years, and unlike many of the other items, females more often endorsed this item each year than did males. 37.3 percent of female and 24.2 percent of male tenth graders endorsed this item compared to 45.1 percent of female and 27.2 percent of male eleventh graders and 40.5 percent of female and 34.1 percent of male twelfth graders. **.**

      RQ$_2$: Does a significant linear relationship exist between HIV-related education and HIV-related risk behaviors in Black high school students, and is this relationship moderated by gender and age. It is important to understand the relationship between education about HIV and engagement in HIV-risk behaviors and which specific risk behaviors in order to implement and improve already designed prevention and intervention programs aimed at reducing HIV risk behaviors. To date, pervasive support exists for HIV education programs for school students (Regents of the University of California, 2011). Education about HIV-risk has been an important topic for some time. St. Lawrence (1993) found that the adolescent participants in his study displayed several very important misunderstandings about the risks associated with AIDS. The authors of a study that examined HIV prevention in Black youth noted that certain items and constructs identified in research as being associated with HIV risk in Black adolescents were found to be utilized as supplements to evidence based interventions in the form of program activities (Romero, Galbraith, Wilson, & Gloppen, 2011). Additionally, Jemmott et al. (1992) found that "interventions that increase knowledge about AIDS and change attitudes toward risky sexual behavior may have salutary effects on Black adolescents' risk of HIV infection" (p. 375). It is also important to provide education

relevant to HIV and sex and education that offers a "supportive" climate (United Nations, Children's, 2011, p. 10).

Several studies related to HIV prevention programs and their outcomes are discussed in pertinent literature. For example, Sales and DiClemente (2010) discussed strategies of risk-reduction programs that have positive outcomes. Specifically they noted the importance of focusing on risk behaviors that are easiest to change (e.g., "the risk behavior most susceptible to change was condom use during vaginal sex") (p. 3), highlighting specific subpopulations in creating and implementing unique programs relevant to that subgroup, utilizing "theory to guide program development" (p. 4) (e.g., "Social learning theory and social cognitive theory were the frameworks most consistently used in successful programs") (p. 4), and going beyond focusing only on sexuality-risk behaviors (e.g., "Interventions that went beyond STI/HIV prevention education to include an emphasis on psychological correlates of risk behaviors were most effective at decreasing STI/HIV risk behavior") (p. 5) (Sales et al.). Additionally, a study that examined the outcomes of adolescent HIV prevention in low-socioeconomic status communities found that programs for communities can yield long lasting decreases in "sexual risk behavior" (Sikkema et al., 2005, p. 1509) when the programs incorporate a skills component and offer "neighborhood-based HIV prevention activities" (p. 1509).

One of the biggest issues in addressing a relationship between HIV education and engagement in HIV-risk behaviors is the contextual factors at play such as hormones, socioeconomic status, family and community, etc. (Regents of the University of California, 2011). Therefore, concluding that short HIV programs can account for these contextual factors that may themselves play a large role in sex risk behaviors of such

adolescents (Regents of the University of California) may be convoluted. The

encouragement and availability of condoms to students during and following intervention

and prevention programs is another contextual factor that has been examined in previous

studies. This has been a controversial topic since the end of the last century, suggesting a

that prevention and intervention programs may increase sexual activity in adolescents;

however, more recent research suggests otherwise. For example, Kirby et al. (2007)

noted that "curriculum-based sex and HIV education programs" (p. 206) do not produce

more sexual activity among their participants.   Additionally, Sellers, McGraw, and

McKinlay (1994) found that advocating for the use of condoms and making condoms

available as part of a program aimed at preventing HIV did not yield more sexual

behaviors in the adolescent participants.

Type of education is important to the examination of a relationship between HIV-

related education and self-reported HIV-related risk taking behaviors. This was

demonstrated, for example, in the '90's by Sowell, Seals, and Phillips (1996). Their

research yielded mixed results in their examination of risky activities and knowledge of

individuals going to a community establishment for HIV testing. Specifically, they found

that type of knowledge gained was of significant importance. They stated that regardless

of the great amount of knowledge had by the participants in their study "69% of the

sample reported engaging in unsafe sex in the past six months" (Sowell et al., p. 38);

however, he also noted that knowledge and utilization of condoms/engagement in safe

sex activities were significantly related (Sowell et al.).

Studies have examined whether gender differences exist in HIV education and

subsequent HIV risk behaviors. For example, Calsyn et al., (1992) found that for

injection drug using participants receiving AIDS education the number of males with multiple partners decreased from 65 at the initial assessment to 43 at the follow-up assessment and from 22 at the initial assessment to 6 at the follow-up assessment for females. Additionally, the number of males using condoms more than 50 percent of the time increased from zero at the initial assessment to ten at the follow-up assessment and actually decreased from four at the initial assessment to three at the follow-up assessment for females (Calsyn et al. 1992).

RQ_3: Are *certain self-rated HIV-related risk behaviors correlated with certain other self-rated risk-taking behaviors, including unintentional injury behaviors and alcohol and/or other drugs behaviors in Black high school students.*

According to the Centers for Disease Control and Prevention, the definition of injury is an "unintentional or intentional damage to the body resulting from acute exposure to thermal, mechanical, electrical, or chemical energy or from the absence of such essentials as heat or oxygen" (p. 1). Examining unintentional injury risk factors in Black adolescents is important, as it has received considerable attention overtime due to its pervasive appearance in adolescence. Additionally, learning more about which unintentional injury factors are endorsed by participants who also endorse specific HIV risk related factors and vice versa overtime can help health, mental health and educational professionals design appropriate prevention programs and curricula. Unlike other death rates due to specific causes that tend to increase over time in one's life, death rates due to injury are greatest in the later teenage and earlier adult years (National Adolescent Health Information Center, 2000, p. 2). Between 1992 and 2002, "mortality increased 11.0% (6.5% for males, 18.5% percent for females)" (Paulozzi et al., p. 277). The National

Adolescent Health Information Center (2000) reported that among individuals between the ages of 10 and 24, 43 percent of death related incidents were reported as being due to unintentional injury, and in their 2007 report the center reported that the majority of death related incidents in teens and younger adults were due to unintentional injuries (National Adolescent Health Information Center, 2007).

On a more positive note, trends in data suggest a decrease in death rates for Black individuals. Between 1992 and 2002 and across all age groups, although the death rate for White individuals showed a 16.5 percent increase, the death rate decreased for Black individuals (Paulozzi et al., 2006, p. 277). This period of time (1992-2002) was the first one since 1998 that the death rate for White individuals was higher than it was for Black individuals across all age groups (Paulozzi et al., p. 277). Understanding the correlation between certain self-reported unintentional injuries and certain self-reported HIV-related risk behaviors in Black adolescents is still important however, as the overwhelming percentages of risk-taking behaviors in general in this age group are astonishing.

The role of gender in unintentional injury risk behaviors. Literature suggests that gender differences overall in unintentional injury exist. For example, according to the National Adolescent Health Information Center (2002), regarding injury-related death, males in their teenage years have continuously displayed a greater rate, an average rate that is approximately three times that of females in their teenage years, and male adolescents in high school endorsed acting in ways that raised their risk of injury more often than did females. In fact, according to The National Adolescent Health Information Center's 2007 report, a mortality rate gap between males and females widened. Specifically, in 2004 for individuals between the ages of 10 and 14, males had a 1.7 times

greater chance of dying than did their female peers. This number increased to 3.2 times that of females in the 20-24 age group (The National Adolescent Health Information Center).

Certain self-rated HIV risk behaviors will be negatively, positively or not correlated at all with certain types of self-rated alcohol and other drugs use. Examining alcohol and other drug use risk factors in Black adolescents is important, as the cultural considerations in alcohol use for this population, as with any other population, are unique. For example, although Black youth seem to drink less than their peers (U.S. Department of Health and Human Services, p. 8), of all substances used in America, alcohol is the most common one consumed by it's youth (U.S. Department of Health and Human Services). In fact, of adolescents and young adults ages 12 to 20, a greater percentage of them use alcohol over tobacco and illicit drugs (U.S. Department of Health and Human Services, 2007). This may also be true with other drugs as well. According to the 2009 Youth Risk Behavior Survey, Black adolescents less frequently than Hispanic and White students endorsed the following items listed on the Youth Risk Behavior Survey as "alcohol and other drug use" behaviors: "Drove when drinking alcohol one or more times (in a car or other vehicle during the 30 days before the survey)", "Ever had at least one drink of alcohol on at least 1 day (during their life)", "Had at least one drink of alcohol on at least 1 day (during the 30 days before the survey)", "Had five or more drinks of alcohol in a row within a couple of hours on at least 1 day (during the 30 days before the survey)", "Ever used any form of cocaine one or more times (for example, powder, crack, or freebase, during their life)", "Ever sniffed glue, breathed the contents of aerosol spray cans, or in haled any paints or sprays to het high one or more times

(during their life)", "Ever used hallucinogenic drugs one or more times (such as LSD, acid, PCP, angel dust, mescaline, or mushrooms during their life)", "Ever took prescription drugs one or more times without a doctor's prescription (such as Oxycontin, Percocet, Vicodin, Adderall, Ritalin, or Xanax, during their life)". Black participants more often then White participants endorsed these items related to alcohol and other drugs: "Ever used marijuana one or more times (during their life)", "Drank alcohol for the first time before age 13 years (other than a few sips)", "Tried marijuana for the first time before age 13 years", "Had at least one drink of alcohol on school property on at least 1 day (during the 30 days before the survey)", "Used marijuana on school property one or more times (during the 30 days before the survey)". Black participants less often then Hispanic participants endorsed these items related to alcohol and other drugs: "Ever used any form of cocaine one or more times (for example, powder, crack, or freebase, during their life)", "Used any form of cocaine one or more times (for example, power, crack, or freebase, during the 30 days before the survey)", "Ever 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)", "Ever used ecstasy use one or more times (also called 'MDMA', during their life)", "Ever used methamphetamines one or more times (also called 'speed', 'crystal', 'crank', or 'ice', during their life), "Offered, sold, or given an illegal drug by someone on school property (during the 12 months before the survey). These racial differences alone in risk-taking behaviors warrant an examination of risk-taking behaviors in Black adolescents separate of their White and Hispanic peers.

The role of gender in alcohol and other drug use.

Literature suggests that gender differences in alcohol and other drug use between Black males and Black females exist. According to the 2007 Youth Risk Behavior Survey Black females more often than Black males endorsed the following alcohol-related behaviors: "Ever had at least one drink of alcohol on at least 1 day", "Had at least one drink of alcohol on at least 1 day" and "Usually obtained the alcohol they drank by someone giving it to them"; whereas, Black males more often than Black females endorsed these alcohol-related behaviors: "Drank alcohol for the first time before age 13 years", "Had five or more drinks of alcohol in a row within a couple of hours on at least 1 day" and "Had at least one drink of alcohol on school property on at least 1 day". Additionally, Black males more often than females endorsed all of the marijuana-related questions, including "Ever used marijuana one or more times", "Tried marijuana for the first time before age 13 years", "Used marijuana one or more times", "Used marijuana on school property one or more times". Finally, Black females more often than Black males endorsed this "other drug" related behavior: "Ever sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high one or more times"; whereas, Black males more often than Black females endorsed the rest of the "other drug" related behaviors, including "Ever used any form of cocaine one or more times", "Used any form of cocaine one or more times", "Ever used heroin one or more times", "Ever used methamphetamines one or more times", "Ever used ecstasy one or more times", "Ever took steroid pills or shots without a doctor's prescription one or more times", "Ever used a needle to inject any illegal drug into their body one or more times", and "Offered, sold, or given an illegal drug by someone on school property".

Chapter III

Method

Research Questions

The overarching question the current study asked was "What specific factors are related to Black students' HIV-related risk behaviors?" Specifically, the present study tested three research questions: RQ_1) Do grade status differences exist in the self-reported HIV-related risk behaviors of Black high school students, and are any significant differences moderated by gender; RQ_2) Do significant linear relationships exist between HIV-related education and self-reported HIV-related risk behaviors in Black high school students, and are any potential relationships moderated by gender and/or age; and, RQ_3) Are self-rated HIV-related risk behaviors significantly correlated with other specific self-rated risk-taking behaviors, including unintentional injury behaviors and alcohol and/or other drugs behaviors in Black high school students. Findings from the present study suggested that for the three research questions significant relationships that were meaningful and practical were indeed found.

Analytic Strategy of the YRBS

The present study used the 2009 YRBS data set to test the research questions of interest here. Specifically, a quantitative design was possible through use of "systematic equal probability sampling" (CDC, 2009, p. 2), a type of random sampling in which all participants have an equal opportunity to be included in the conclusive sample.

Given the sampling and the diversity of experiences of this population, quantitative design helps increase the power and external validity of the study. Multivariate analyses, including linear regression and multivariate analysis of variance

were used to analyze the first two hypotheses, 1) Do grade status differences exist in the self-reported HIV-related risk behaviors of Black high school students, and are these differences may be moderated by gender; 2) Do significant linear relationships exist between endorsement of HIV-related education and self-reported HIV-related risk behaviors in Black high school students, and are any potential relationships moderated by gender and/or age. Finally, Pearson correlational matrices were used to examine correlations among various types of risk-behaviors.

Data Set and Participants

The data for this study were drawn from the 2009 YRBS national data set, a Youth Risk Behavior Survey assessing key risk-taking behaviors related to the health of youth (CDC, 2004). The data set includes a national sample of 9th through 12th graders (CDC, 2004) from 196 schools in 2009 (CDC, 2009). Participants were sampled from public, private and Catholic schools in the United States and Washington, D.C. and included a total of 18,573 individuals (CDC, 2009). However, the present study included only 2,832 data points, and examined only African American students. To ensure random systematic sampling at the outset of survey administration (CDC), classes chosen for the sample were either every required subject course or every course taking place at a certain time during for the duration of the school day (CDC). The final sample used for analysis included 158 of 196 schools originally sampled and 16,410 students out of 18,573 originally sampled, as only 158 of the schools and 16,410 students fulfilled the requirements of necessary survey completion for analysis purposes (CDC). The overall rate of responses for all institutions included in the study (CDC) was 81%, 88% for students included in the study (CDC), and 71% for participant and school responses. A

sample based on a "three-stage cluster" (CDC, p. 49) technique, a technique requiring

several subsampling steps, was used, and to account for a lack of response to question(s)

and inclusion of too many Black and Hispanic participants (CDC), "a weighting factor

was applied to each student record" (CDC, p. 1). "The final, overall weights were scaled

so the weighed count of students was equal to the total sample size, and the weighted

proportions of students in each grade matched population projections for" (CDC, p. 1)

year 2009.

Questionnaire

Youth risk behavior surveillance system (YRBSS). The YRBSS was developed

by the Centers for Disease Control and Prevention as a way to objectively track key risk-

taking behaviors related to youth health (CDC, 2004). These identified risk-taking

behaviors have been grouped into six categories (CDC). They include 1) Unintentional

injury and violence risk behaviors, 2) the ingestion of drugs and alcohol, 3) as well as

tobacco, 4) sexual activity leading to pregnancy and STDs, 5) unhealthy dieting, and 6)

lack of physical fitness (including being overweight) (CDC). The decision to include

these categories was based on their considerable involvement, in both children and adults

living in the U.S., in the most common explanations of mortality, disability issues, and

interpersonal concerns (CDC).

YRBSS item development. In order to create appropriate items for the YRBSS,

the CDC examined, in both children and adults, the most common causes of

sickness/disease and death (CDC, 2004). The initial examination in 1988 and

comparable examinations in 2004 displayed, "virtually all behaviors contributing to the

leading causes of morbidity and mortality can be placed into six categories" (CDC, p. 3).

As mentioned above, these include: 1) Unintentional injury and violence risk behaviors, 2) the ingestion of drugs and alcohol, 3) as well as tobacco, 4) sexual activity leading to pregnancy and STDs, 5) unhealthy dieting, and 6) lack of physical fitness (including being overweight) (CDC). For each category a panel was established. Each panel combined scientists from federal and nonfederal organizations (CDC, 2004), including "survey research specialists from CDC's…(NCHS), and staff from CDC's National Center for Chronic Disease Prevention and Health Promotion, Division of Adolescent and School Health" (CDC, p. 3). Additionally, to stay consistent with the YRBSS goal of surveying sites involved and their students, the six panels each added a space for an individual from the "Society of State Directors of Health, Physical Education, and Recreation" (CDC, p. 3). Each of the six panels determined the survey items most relevant to their particular panel's focus and identified a condensed number of relevant prevalence items to alleviate the 45-minute survey time constraint (CDC). The entirety of the 2009 questionnaire included a total of 96 multiple-choice items and two fill-in-the-oval questions. The fill-in-the-oval questions inquired about demographic data related to participant height and weight. Refer to Appendix A for a full version of the 2009 National Youth Risk Behavior Survey questionnaire. To view the questionnaire, visit http://www.cdc.gov/healthyyouth/yrbs/pdf/questionnaire/2009_xxh_questionnaire.pdf, and to view the guidebook visit http://www.cdc.gov/HealthyYouth/yrbs/pdf/national_usersmanual_yrbs.pdf.

YRBSS versions and modifications. Several versions of the questionnaire and samples of YRBSS data have been developed and gathered since the first version in 1989, as in 1991 it was concluded by the CDC that the YRBSS would need to be taken

by additional samples of students every other year in order to stay current with the behavioral shifts in time (CDC, 2004). Prior to each round of survey administrations, in order to remain focused on the most current key issues on site, including state sites and district sites, and domestic levels, state and district schools involved and the CDC communicate necessary survey modifications (CDC, 2004).

    Validity and reliability of the YRBSS. Reliability of the YRBSS was examined via test-retest operations by the CDC on two separate occasions, 1992 (using the 1991 survey) and 2000 (using the 1999 survey), both times utilizing convenience sampling methods (CDC, 2004). Results from the former examination of test-retest reliability indicated that roughly seventy-five percent of the YRBSS survey showed "substantial or higher reliability (kappa = 61%-100%)" (CDC, pg. 5). Regarding estimates of prevalence of both executions of the survey, there were no significant differences found (CDC).

    Results from the latter examination of test-retest reliability, however, displayed less desirable findings, raising questions about the reliability of certain items.   Specifically, regarding estimates of prevalence of both executions of the survey, around twenty-two percent of the survey items showed significant differences, and fourteen percent of the survey items showed less than good reliability, (kappas were less than 61%) and significant differences again (CDC, 2004).

    According to the CDC (2004), there had been no research examining the validity of all YRBS item responses. However, since then Troped et al. (2007) in discussing results of their study titled *Reliability and validity of YRBS physical activity items among middle school students* suggested that items with greater validity are needed for future YRBSS surveys. This doesn't seem surprising however, as in an YRBS reliability study

conducted in 2000, researchers found that the survey seemed to be most appropriate for individuals in or beyond the 8th grade (CDC, 2004).

The CDC identified cognitive and environmental factors as important extraneous variables to examine in terms of their influence on validity of participant responses on the YRBS (Brener, Billy, & Grady, 2003). In 2003 they completed a meta-analysis of available and pertinent literature and, despite the typical influences of these factors on participant responses regarding their behaviors, they found that validity of every response was not threatened in the same way (CDC). Additionally, "Each type of behavior differs in the extent to which it can be validated by an objective measure" (CDC, p. 5).

The CDC in 2000 also examined the validity of the height and weight items using the 1999 YRBS survey (Brener, McManus, Galuska, Lowry, & Wechsler, 2003) (CDC). Validity of these items was displayed. Although good reliability of responses to these items was demonstrated, height was reported as too high (+2.7 in.) on average by participants, and weight was reported as too low (-3.5 lbs.) on average by participants (CDC).

Addressing Stigma As a Result of Studying a Minority Group

Earlier in this paper, the issue of inadvertent stigmatization of minority group(s) in study was addressed. The YRBS questionnaire item development section above emphasizes the CDC's use of categories that examine morbidity and mortality across individuals from various ethnic and racial groups. HIV-related risk behaviors affect individuals from all backgrounds and cultures. Further, it is important to note that, although our study examines African Americans only, this in no way means that they are the only ethnic group affected by HIV-related risk behaviors that lead to morbidity and

mortality. Rather, they are one of many ethnic groups affected by these risky behaviors.

Procedures

The 2009 YRBS was used to analyze specific items on the questionnaire related to this study's hypotheses. YRBS survey administration procedures are complex. Prior to test administration, if they agreed to participate in the YRBS, a site received "the questionnaire for that year as a computer-scannable booklet" (CDC, 2004, p. 4).

Based on the specific site conditions, specific changes could be made to the questionnaire within certain parameters. One parameter included utilizing 66.6% of the test items on the modified questionnaire, without making any changes to these. A second parameter required only eight response possibilities being permitted. A last requirement included not being able to use certain response formats (e.g., fill-in-the-blank) (CDC, 2004).

If a site did decide to alter the questionnaire, the site was still given a CDC questionnaire and response sheets that could be scanned. Sites using these sheets "must retain the height and weight questions as items six and seven and cannot use questionnaires that include >99 items" (CDC, 2004, p. 4), and the site will receive, and has received since 1999, optional items, that can be used at the site's discretion, from past YRBS questionnaires and priority topics the CDC and other sites involved have special interest in. Use of optional questions permitted comparison to other YRBS data from other sites involved (CDC).

National YRBS surveys contained five to eight more items than the state and local YRBS surveys, because the National surveys asked questions that go beyond the six categories the survey is based upon (unintentional injury and violence risk behaviors; the

ingestion of drugs and alcohol; use of tobacco; sexual activity; unhealthy dieting; and lack of physical fitness and being overweight, including other health focuses as well (CDC, 2004).

Passive or active permission was received from parents in order for the students to participate in the national survey. "Trained data collectors" (CDC, 2004, p. 8) were used for the national survey. A "standardized script" (CDC, p. 8) that included an introduction and the YRBSS is used by the data collectors (CDC).

The questionnaire's reliability and validity was assessed prior to choosing the particular data set for this study. Before choosing specific hypotheses, a review of research already conducted using the data set was completed. Then a review of literature relevant to this study's hypotheses was conducted. Specifically, the current studied analyzed items related to HIV-risk behaviors for all three hypotheses. These items include YRBSS questions about whether the individual "Ever had sexual intercourse", "Had sexual intercourse for the first time before age 13 years", "Had sexual intercourse with four or more persons", "Had sexual intercourse with at least one person", "Drank alcohol or used drugs before last sexual intercourse", "Did not use a condom during last sexual intercourse", "Were never taught in school about AIDS or HIV infection" (CDC, 2009, p. 12-14, 29-31). The question about AIDS/HIV education was chosen for use only for the second research question. This study analyzed items relevant to other risk-taking behaviors including unintentional injury risk behaviors and alcohol and other drugs use risk behaviors for the third research question.

The unintentional injury risk behavior items included YRBSS questions about whether the individual "Rarely or never wore a bicycle helmet", "Rarely or never wore a

seat belt", "Rode with a driver who had been drinking alcohol one or more times", "Drove when drinking alcohol one or more times" (CDC, 2009, p. 12-13). The alcohol and other drug use items include YRBSS questions about whether the individual "Ever had at least one drink of alcohol on at least 1 day", "Drank alcohol for the first time before age 13 years", "Had at least one drink of alcohol on at least 1 day", "Had five or more drinks of alcohol in a row within a couple of hours on at least 1 day", "Usually obtained the alcohol they drank by someone giving it to them", "Had at least one drink of alcohol on school property on at least 1 day", "Ever used marijuana one or more times", "Tried marijuana for the first time before age 13 years", "Used marijuana one or more times", "Used marijuana on school property one or more times", "Ever used any form of cocaine one or more times", "Used any form of cocaine one or more times", "Ever sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays one or more times", "Ever used methamphetamines one or more times", "Ever used ecstasy one or more times", "Ever took steroid pills or shots without a doctor's prescription one or more times", "Ever used a needle to inject any illegal drug into their body one or more times", "Offered, sold, or given an illegal drug by someone on school property" (CDC, 2009, 23-29).

Data Analyses

HIV-risk behavior clusters. In order to organize questionnaire responses for this study's analysis, questionnaire items identified by the CDC (2009) as "Sexual Behaviors That Contribute to Unintended Pregnancy and Sexual Transmitted Diseases, Including HIV Infection" (p. 16) were grouped into three behavior clusters for all the analyses of all three hypotheses. One item in this category was not included in the behavior clusters

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because it is related only to unintended pregnancy, not HIV-risk. The three behavior clusters included sexual intercourse only (Have you ever had sexual intercourse; How old were you when you had sexual intercourse for the first time; During your life, with how many people have you had sexual intercourse; During the past 3 months, with how many people did you have sexual intercourse), using drugs or alcohol prior to sexual intercourse (Did you drink alcohol or use drugs before you had sexual intercourse the last time) and protection and sexual intercourse (The last time you had sexual intercourse, did you or your partner use a condom) (CDC) .

Questionnaire items identified by the CDC (2009) as "Alcohol and Other Drug Use" were grouped into three behavior clusters for proper analysis of the third research question. The three behavior clusters will include alcohol (Ever had at least one drink of alcohol on at least 1 day; Drank alcohol for the first time before age 13 years; Had at least one drink of alcohol on at least 1 day; Had five or more drinks of alcohol in a row within a couple of hours on at least 1 day; Usually obtained the alcohol they drank by someone giving it to them; Had at least one drink of alcohol on school property on at least 1 day), Marijuana (Ever used marijuana one or more times; Tried marijuana for the first time before age 13 years; Used marijuana one or more times; Used marijuana on school property one or more times), and Other Drugs (Ever used any form of cocaine one or more times; Used any form of cocaine one or more times; Ever sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays one or more times; Ever used methamphetamines one or more times; Ever used ecstasy one or more times; Ever took steroid pills or shots without a doctor's prescription one or more times; Ever used a needle to inject any illegal drug into their body one or more times; Offered, sold, or given

an illegal drug by someone on school property) (CDC). All other items relevant to each

research question did not require behavior cluster organization because there was no

behavior cluster uniqueness for these items (e.g., unintentional injury risk behaviors fell

only under one heading titled "Injury" by the CDC).

Statistical analyses.

RQ₁. A Multivariate Analysis of Variance (MANOVA) was used to analyze the

research question regarding whether grade status differences exist in self-reported

responses to HIV-risk behavior questions on the YRBSS. Grade status constituted five

levels, including freshmen, sophomores, juniors, seniors and ungraded or other grade.

Post-hoc analyses were then used to determine where any significant difference(s) lied.

Gender was then investigated as a potential moderator variable. Power and sample-size

were not considered to be problematic given the very large size of the data set.

RQ2. Several linear regressions were used to test the research question concerning

whether relationships existed between self-reported HIV-related education and self-

reported engagement in HIV-related risk behaviors in Black high school students.

Regression analyses were to investigate gender and age as potential moderating variables.

RQ3. Pearson correlational matrices were used to test the research question

regarding whether participants' responses to certain HIV-related risk behavior questions

within all three behavior clusters (sexual intercourse only, using drugs or alcohol prior to

sexual intercourse, protection and sexual intercourse) were correlated at all with

participants' responses on certain other risk behavior questions on the 2009 Youth Risk

Behavior Survey, including questions related to unintentional injury and alcohol and

other drug use. Significant positive correlations were bolded, and significant negative

correlations were italicized for ready identification.

Limitations

Several limitations of the current study exist, some of which have been briefly discussed earlier. One limitation includes internal consistency due to permissible modifications. Specifically, since sites are allowed to modify questionnaire items it is not clear if the new items are as good of a measure of the construct they are intending to measure as the original items were. This may affect internal consistency of such particular constructs at certain sites.

An issue with internal validity is another limitation. This is mainly due to the diverse nature of the national samples used. Specifically, sample diversity adds several extra external factors (extraneous and confounding variables) that may not be able to be controlled for and therefore my indirectly impact the relationship between variables being studied. For example, as mentioned earlier, one of the biggest issues in addressing whether HIV education is related to engagement in HIV-risk behaviors is the contextual factors at play such as hormones, socioeconomic status, family and community, etc. (Regents of the University of California, 2011)

External validity concerns is another major study limitation. As mentioned earlier, the decrease in retention of students with HIV in high school affects external validity of this study's hypotheses. Many students with HIV, for a diversity of reasons, drop out of high school before receiving a diploma. This is a substantial limitation to the ability to generalize the outcomes of grade status differences in self-reported HIV-related risk behaviors

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Another limitation, as discussed earlier, includes the lack of control for several different types and nature of education participants received. The YRBS focuses only on whether participants received HIV education in general. A future version of the YRBS that would gather more detailed data is justified because individual and cultural differences exist in how much students already know and which risk-taking behaviors they are more susceptible to.

Anticipated Findings

RQ1. Trends in previous YRBS studies (2001, 2003, 2005 & 2007) in the last decade (Centers for Disease Control and Prevention) suggest that grade status differences in responses to HIV-related risk behavior questions are highly likely. For example, endorsement of some HIV-risk questions on previous YRBS surveys suggest riskier behaviors in older Black adolescents; whereas, endorsement of one other related question indicates riskier acts in younger adolescents. As mentioned earlier, the 2007 results of the YRBS demonstrated a gradual increase in the endorsement of "Ever Had Sexual Intercourse" with each year (52.5%, 66.4%, 74.1 percent, 81.8% respectively). Increases with each grade were identified in prior YRBS administrations as well, including the 2001 (55.7%, 57.7%, 65.8%, 68.5% respectively), 2003 (57.1%, 66.2%, 70.4%, 83.4% respectively) and 2005 (55.4%, 66.4%, 74.8%, 80% respectively) administrations. This was not the case for endorsement of "Had Sexual Intercourse for The First Time Before Age 13". As mentioned earlier, results of the 2007 YRBS indicate that ninth graders endorsed this item more often than their elder peers (19.6%, 15.5%, 15.1%, 13.1 respectively). These decreases with each year were identified in prior YRBS administrations as well (except for a small increase between grades 11 and 12 on the

2003 YRBS as noted below), including the 2001 (20.9%, 17.6%, 12.8%, 9.2%

respectively), 2003 (23.9%, 19.2%, 13.6%, 15.9% respectively) and 2005 (20.4%, 15.8%,

15.1%, 13.2% respectively) administrations. Endorsement of the item "Had Sex with

Four of More Persons (during their life)" increased with each grade on the 2001 (22.1%,

22.9%, 32.5%, 33.4% respectively), 2003 (21.8%, 25.9%, 31.4%, 42.5% respectively),

2005 (18.4%, 24.1%, 32.1%, 43.8% respectively) and 2007 (15.2%, 26.7%, 32.2%,

44.7% respectively) YRBS administrations. Endorsement of the item "Had Sexual

Intercourse With At Least One Person (during the three months before the survey)" also

increased with each grade on the 2001 (39%, 41.3%, 52.4%, 55.3% respectively), 2003

(36.3%, 45.5%, 54.8%, 70.4% respectively), 2005 (33.7%, 44.1%, 56.3%, 62.9%

respectively), and 2007 (26.1%, 45.3%, 54.4%, 70.7% respectively) YRBS

administrations. Endorsement of the item "Drank Alcohol or Used Drugs Before Last

Sexual Intercourse (among students who were currently sexually active)" increased with

each grade (except during 2005 as noted below) on the 2001 (13.7%, 16%, 18.2%, 23.3%

respectively) 2003 (14.4%, 19.6%, 19.1%, 24.6% respectively), 2005 (12.9%, 15.3%,

14.7%, 13.6% respectively) and 2007 (13.8%, 15.9%, 16.1%, 18.9% respectively) YRBS

administrations. Finally, endorsement of the item "Did Not Use a Condom During Last

Sexual Intercourse (among students who were currently sexually active)" increased with

each grade on the 2001 (25%, 28.8%, 37.6%, 41.7% respectively), 2003 (16.9% 26.1%,

27.5%, 36.9% respectively), 2005 (18.2%, 28.1%, 27.7%, 46.6% respectively) and 2007

(23.8%, 30.1%, 36.1%, 37.5% respectively) YRBS administrations.

Results of the 2007 YRBS also suggest that Black adolescent grade status

differences in responses to HIV-related risk behavior questions are likely to be moderated

by gender. Specifically, gradual increases were seen for both males and females with each grade for "Ever Had Sexual Intercourse", and males more often endorsed this item each year than females. Additionally, as mentioned earlier, Nebbitt et al. (2010) reported that their male participants endorsed being younger than their female participants during their first sexual contact and reported having more "sexual partners" (p. 1263) than their female participants.

RQ₂. Research, as mentioned in the introduction and literature review, suggests that a relationship is likely to exist between Black individuals' responses to HIV-related education questions and self-reported engagement in HIV-related risk behavior questions. Great improvements in HIV-education over the past few decades among youth that include program rubric "are a promising type of intervention to reduce adolescent sexual risk behaviors" (Kirby, Laris, & Rolleri, 2006, p. 4). These outcomes have come a long way, as a few decades ago few programs demonstrated much of an impact; whereas, approximately 66% of organized programs seem to be effective in decreasing risky sexual behaviors (Kirby et al.). For example, as mentioned earlier, controversy regarding HIV-education effectiveness was present in the 90's (e.g., increasing sexual activity rather than decreasing); however more recent research suggests otherwise. (e.g., Kirby et al., 2006; Kirby et al., 2007).

Research discussed earlier demonstrates the likelihood that a relationship between endorsement of HIV-related education and endorsement of HIV-related risk behaviors will be moderated by gender. For example, one study found that for injection drug using participants receiving AIDS education the number of males with multiple partners decreased from 65 at the initial assessment to 43 at the follow-up assessment and from 22

at the initial assessment to 6 at the follow-up assessment for females. Additionally, the number of males using condoms more than 50 percent of the time increased from zero at the initial assessment to ten at the follow-up assessment and actually decreased from four at the initial assessment to three at the follow-up assessment for females (Calsyn et al. 1992).

RQ3. This research question asks if self-rated HIV-related risk behaviors are negatively, positively or not correlated at all with other specific self-rated risk-taking behaviors including unintentional injury behaviors and alcohol and/or other drugs behaviors in Black high school students, and has received little direct attention. However, it seems likely that adolescents who engage in certain risky behaviors will be more likely to engage in other risky behaviors due to the general impulsive nature of risky behavior actions. According to Stanford, M.S., Greve, K.W., Boudreaux, J.K., Mathias, C.W. and Brumbelow, J.L. (1996), impulsiveness is positively related to risk-taking behaviors and that "high impulsive adolescents and young adults are at considerable risk of personal injury and present a potential source of injury to others" (p. 1073). Additionally, Horvath, P. and Zuckerman, M. (1993) identified "sensation seeking" (p. 41), as an individual characteristic, as a "strong predictor of risky behavior" (p. 41).

This research question was an important one to test because, as discussed earlier, unlike other death rates due to specific causes that tend to increase over time in one's life, death rates due to injury are greatest in the later teenage and earlier adult years (National Adolescent Health Information Center, 2000, p. 2). Additionally, The National Adolescent Health Information Center (2000) reported that among individuals between

the ages of 10 and 24, 43 percent of deaths related incidents were reported as being due to unintentional injury, and in their 2007 report the center reported that the majority of death related incidents in teens and younger adults were due to unintentional injuries (National Adolescent Health Information Center, 2007).

Chapter IV

Results

RQ₁. Do any grade status differences exist in the self-reported HIV-related risk behaviors

of Black high school students, and are these behaviors moderated by gender

A Multivariate Analysis of Variance (MANOVA) was used to analyze ho1.

Grade status included five levels, comprising freshmen, sophomores, juniors, seniors and

ungraded or other grade. HIV-risk behavior clusters consisted of sexual intercourse only,

using drugs or alcohol prior to sexual intercourse and protection and sexual intercourse.

Clear differences were found and do not support a null hypothesis.

There was a significant overall difference among grade groups, as expected, using

MANOVA, $F(24, 5164.313) = 14.35$, $p = .0001$; Wilk's $\Lambda = 0.798$, partial $n^2 = .055$ (see
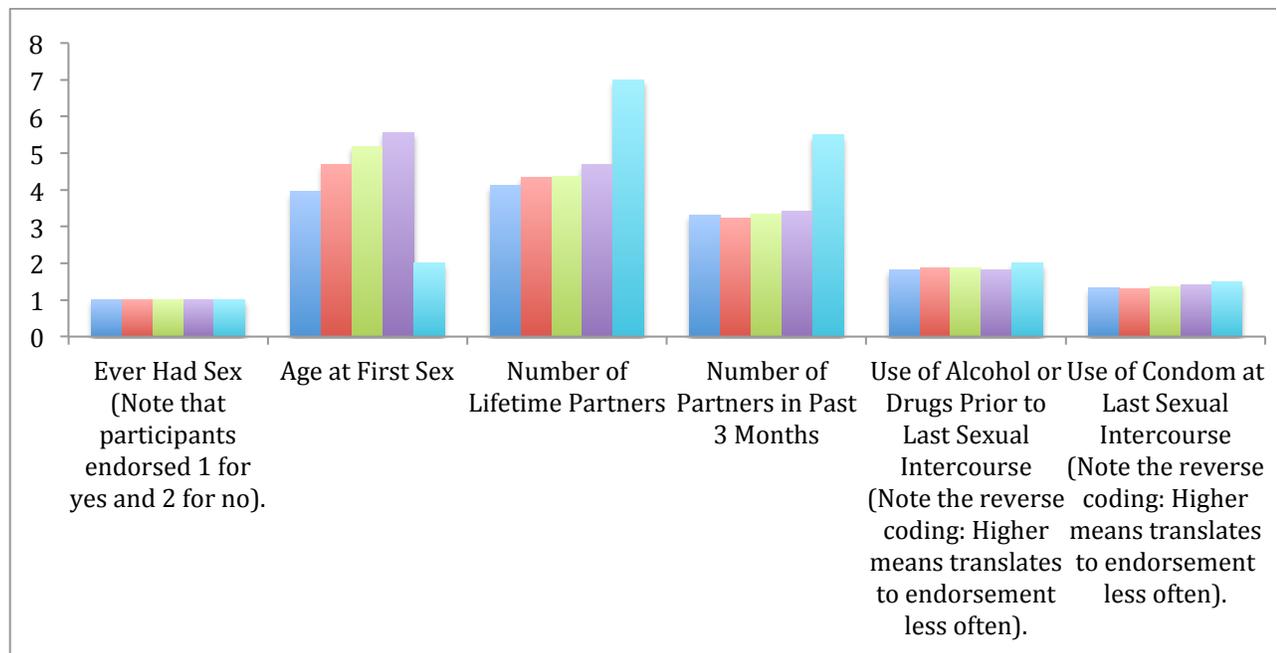
Figure 1).

Figure 1. Mean Endorsements HIV-related Risk Behaviors Among 9th, 10th, 11th and 12th Graders

and Those Who Responded 'Ungraded or Other Grade'.

Tests of Between subjects effects demonstrated that grade status in high school revealed a statistically significant effect on age at first sex ($F(4, 1485) = 45.85$; $p = .0001$; partial $n^2 = .11$), number of lifetime sexual partners ($F(4, 1485) = 5.091$; $p = .0001$; partial $n^2 = .01$), and whether or not a participant and/or their partner used a condom at last sex ($F(4, 1485) = 3.00$; $p = .018$; partial $n^2 = .01$). Statistically significant effects were not found for ever had sex ($F(4, 1485) = 2.376$; $p = .050$; partial $n^2 = .01$), number of sexual partners in past 3 months ($F(4, 1485) = 1.969$; $p = .097$; partial $n^2 = .01$) or did you use alcohol or drugs prior to last sex ($F(4, 1485) = .849$; $p = .494$; partial $n^2 = .002$).

Post hoc tests. A Bonferroni post hoc test was used to follow-up the significant findings discussed above.

Age at first sex (see Table 1). The multiple comparisons table demonstrated that the mean scores for Age at first sex were significantly different between 9th graders and 10th graders ($p = .0001$), 9th graders and 11th graders ($p = .0001$), 9th graders and 12th graders ($p = .0001$), 10th graders and 11th graders ($p = .0001$), 10th graders and 12th graders ($p = .0001$) and 11th graders and 12th graders ($p < .01$) and 12th graders and those who endorsed 'ungraded or other grade' ($p < .05$) but not between those who endorsed 'ungraded or other grade' and 9th graders ($p = .972$), those who endorsed 'ungraded or other grade' and 10th graders ($p = .225$) or those who endorsed 'ungraded or other grade' and 11th graders ($p = .067$).

Lifetime sexual partners (see Table 1). The multiple comparisons table demonstrated that the mean scores for Lifetime sexual partners were significantly different between 9th graders and 12th graders ($p < .01$) but not between 9th graders and 10th graders ($p = 1.000$), 9th and 11th graders ($p = .770$), 10th graders and 11th graders ($p = $

1.000), 10th graders and 12th graders ($p = .120$), 11th graders and 12th graders ($p = .135$), those who endorsed 'ungraded or other grade' and 9th graders ($p = .361$), those who endorsed 'ungraded or other grade' and 10th graders ($p = .536$), those who endorsed 'ungraded or other grade' and 11th graders ($p = .568$) or those who endorsed 'ungraded or other grade' and 12th graders ($p = .941$).

Did you use a condom at last sex (see Table 1). The multiple comparisons table demonstrated that the mean scores for condom use at last sex were significantly different between 10th graders and 12th graders ($p < .05$) but not between 9th graders and 10th graders ($p = 1.000$), 9th graders and 11th graders ($p = 1.000$), 9th graders and 12th graders ($p = .104$), 10th graders and 11th graders ($p = 1.000$), 11th graders and 12th graders ($p = .918$), those who endorsed 'ungraded or other grade' and 9th graders ($p = 1.000$), those who endorsed 'ungraded or other grade' and 10th graders ($p = 1.000$), those who endorsed 'ungraded or other grade' and 11th graders ($p = 1.000$) or those who endorsed 'ungraded or other grade' and 12th graders ($p = 1.000$).

Dependent Variable	Grade Status	Grade Status	Mean Difference	Std. Error	Sig.	95% Conf. Interval Lower Bound	95% Conf. Interval Upper Bound
Age at First Sex	9th	10th	-.73*	.139	.000	-1.12	-.34
		11th	-1.24*	.130	.000	-1.60	-.88
		12th	-1.62*	.128	.000	-1.98	-1.26
		Ungraded or other grade	1.95	1.177	.972	-1.36	5.26
	10th	9th	.73*	.139	.000	.34	1.12
		11th	-.51*	.122	.000	-.85	-.16
		12th	-.89*	.121	.000	-1.23	-.55
		Ungraded or other grade	2.69	1.177	.225	-.62	5.99
	11th	9th	1.24*	.130	.000	.88	1.60
		10th	.51*	.122	.000	.16	.85
		12th	-.38*	.110	.005	-.69	-.07
		Ungraded or	3.19	1.175	.067	-.11	6.50

		other grade					
	12th	**9th**	**1.62***	**.128**	**.000**	**1.26**	**1.98**
		10th	**.89***	**.121**	**.000**	**.55**	**1.23**
		11th	**.38***	**.110**	**.005**	**.07**	**.69**
		Ungraded or other grade	**3.57**	**1.175**	**.024**	**.27**	**6.88**
	Ungraded or other grade	9th	-1.95	1.177	.972	-5.26	1.36
		10th	-2.69	1.177	.225	-5.99	.62
		11th	-3.19	1.175	.067	-6.50	.11
		12th	**-.357**	**1.175**	**.024**	**-6.88**	**-.27**
Lifetime Sexual Partners	**9th**	10th	-.23	.163	1.000	-.69	.23
		11th	-.27	.152	.770	-.69	.16
		12th	**-.59***	**.150**	**.001**	**-1.01**	**-.16**
		Ungraded or other grade	-2.89	1.379	.361	-6.77	.98
	10th	9th	.23	.163	1.000	-.23	.69
		11th	-.04	.143	1.000	-.44	.36
		12th	-.36	.141	.120	-.75	.04
		Ungraded or other grade	-2.66	1.378	.536	-6.53	1.21
	11th	9th	.27	.152	.770	-.16	.69
		10th	.04	.143	1.000	-.36	.44
		12th	-.32	.129	.135	-.68	.04
		Ungraded or other grade	-2.62	1.377	.568	-6.49	1.25
	12th	**9th**	**.59***	**.150**	**.001**	**.16**	**1.01**
		10th	.36	.141	.120	-.04	.75
		11th	.32	.129	.135	-.04	.68
		Ungraded or other grade	-2.31	1.376	.941	-6.18	1.56
	Ungraded or other grade	9th	2.89	1.379	.361	-.98	6.77
		10th	2.66	1.378	.536	-1.21	6.53
		11th	2.62	1.377	.568	-1.25	6.49
		12th	2.31	1.376	.941	-1.56	6.18
Condom Use at Last Sex	9th	10th	.01	.040	1.000	-.10	.13
		11th	-.04	.038	1.000	-.15	.06
		12th	-.10	.037	.104	-.20	.01
		Ungraded or other grade	-.18	3.43	1.000	-1.14	.79
	10th	9th	-.01	.040	1.000	-.13	.10
		11th	-.05	.036	1.000	-.15	.05
		12th	**-.11***	**.035**	**.020**	**-.21**	**-.01**
		Ungraded or other grade	-.19	.342	1.000	-1.15	.77
	11th	9th	.04	.038	1.000	-.06	.15
		10th	.05	.036	1.000	-.05	.15
		12th	-.05	.032	.918	-.14	.04

		Ungraded or other grade	-.14	.342	1.000	-1.10	.83
	12th	9th	.10	.037	.104	-.01	.20
		10th	**.11***	**.035**	**.020**	**.01**	**.21**
		11th	.05	.032	.918	-.04	.14
		Ungraded or other grade	-.08	.342	1.000	-1.04	.88
Ungraded or other grade		9th	.18	.343	1.000	-.79	1.14
		10th	.19	.342	1.000	-.77	1.15
		11th	.14	.342	1.000	-.83	1.10
		12th	.08	.342	1.000	-.88	1.04

Table 1. Bonferroni Post-Hoc Analysis for HO_1.

Are any grade status differences moderated by gender. MANOVA was used to examine whether gender moderated grade status differences in endorsement of HIV-related risk behaviors. In other words, to examine whether the effect of grade status on the HIV-related risk behavior endorsement remained significant after controlling for gender. This analysis demonstrated that all multivariate tests were significant, *p* =.00011 respectively. Therefore, the effects of grade status differences on endorsement of HIV-related risk behaviors were still significant, even after controlling for the effects of gender.

RQ2. Do significant linear relationships exist between HIV-related education and self-reported HIV-related risk behaviors in Black high school students, and are these relationships moderated by gender and/or age?

Several linear regressions were used to determine if endorsement of HIV-related education significantly predicted endorsement of HIV-related risk behaviors. In contrast to the null hypothesis, 2/6 significant differences were found.

Sexual intercourse only.

Ever had sex. The regression analysis was non-significant ($R^2 = .000$, F(1, 2177) = 1.005, $p = .316$), suggesting that endorsement of previous HIV-related education did not significantly predict participant endorsement of ever having sex (see Figure 2).
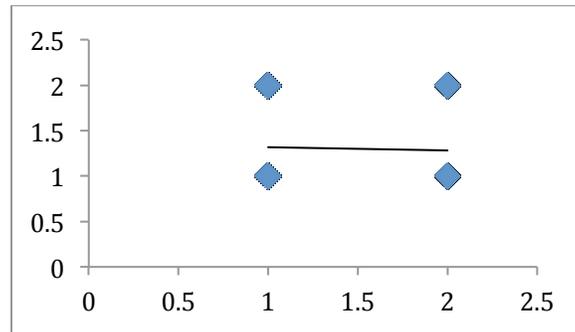
Figure 2. Ever Had Sex

Age at first sex. This regression was non-significant ($R^2 = .001$, F(1, 2176) = 1.334, $p = .248$). Further, endorsement of previous HIV-related education did not significantly predict endorsement of age at first sex (see Figure 3).
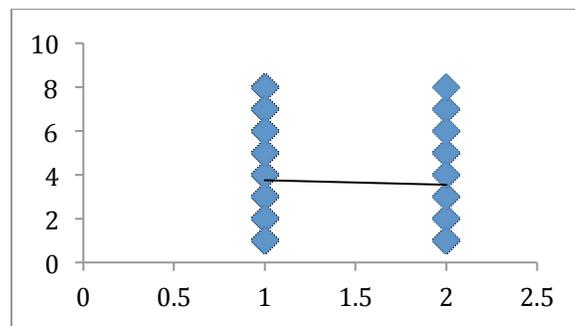
Figure 3. Age at First Sex

Lifetime sexual partners. Results of this regression analysis were significant, indicating that endorsement of HIV-related education explained .3% of the variance (R^2

=.003, F(1, 2158) = 6.085, p =.014) and predicted endorsement of number of sexual

partners over participant lifetime (see Figure 4).
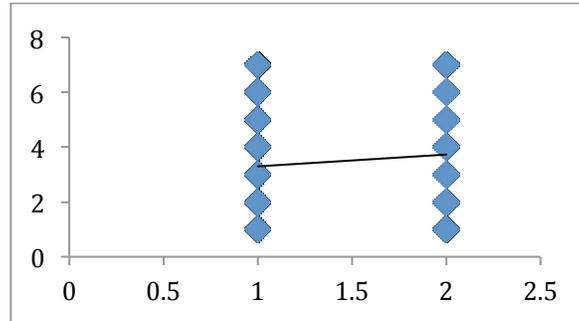
Figure 4. Number of Lifetime Sexual Partners

Number of sexual partners in past three months. Results of the analysis were

significant, implying that, similar to the relationship between HIV-related education and

lifetime sexual partners, endorsement of HIV-related education explained .8% of the

variance (R^2 =.008, F(1, 2164) = 16.369, p =.0001) (see Figure 5).
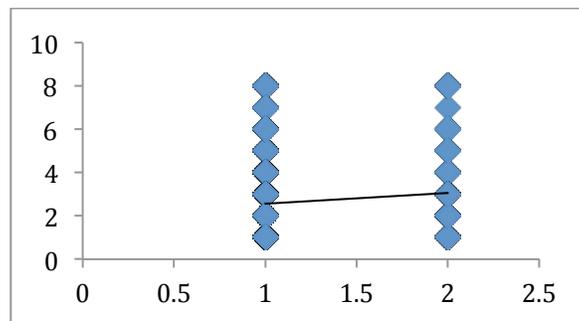
Figure 5. Number of Sexual Partners in Past 3 months

Using drugs or alcohol prior to sexual intercourse.

Did you drink alcohol or use drugs before you had sexual intercourse the last

time. Results of our analysis were non-significant (R^2 =.000, F(1, 2168) = .067, *p* =.795).

Moreover, endorsement of HIV-related education did not significantly predict

endorsement of drug or alcohol use before most recent sexual intercourse (see Figure 6).
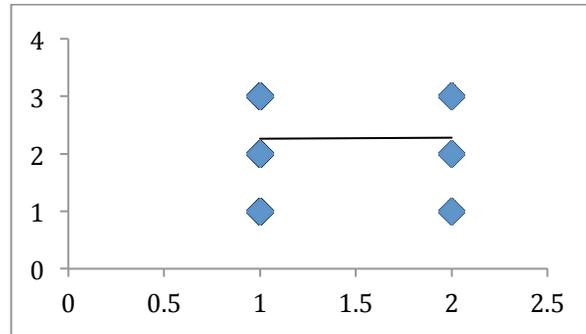
Figure 6. Did You Use Drugs/Alcohol at Last Sex

Protection and sexual intercourse.

The last time you had sexual intercourse, did you or your partner use a

condom. Results of this analysis were non-significant (R^2 =.002, F(1,2137) = 3.792,

p=.052). Therefore, endorsement of HIV-related education did not significantly predict

endorsement of condom use at last sexual intercourse (see Figure 7).
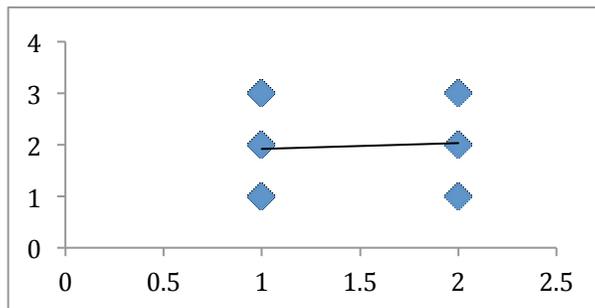
Figure 7. Did You or Your Partner Use a Condom at Last Sex

Gender and age moderation. Regression analysis was used to look at gender as a possible moderator for our two significant findings above.

During your life, with how many people have you had sexual intercourse. The analysis demonstrated that the interaction between HIV-related education and gender did not account for significantly more variance than just HIV-related education alone, R^2 change = .001, p=.214, demonstrating that there is no significant moderation between endorsement of HIV-related education and gender on endorsement of number of lifetime sexual partners.

During the past 3 months, with how many people did you have sexual intercourse. This analysis found that the interaction between HIV-related education and gender accounted for significantly more variance than just HIV-related education alone, R^2 change = .002, p =.032, suggesting that there is potentially significant moderation between endorsement of HIV-related education and gender on endorsement of number of sexual partners over the last three months.

Age. Regression analysis was also used to look at age as a possible moderator of our two significant findings discussed above.

During your life, with how many people have you had sexual intercourse. The analysis provided evidence that the interaction between HIV-related education and age did not account for significantly more variance than just HIV-related education alone, R^2 change = .001, p=.231, implying that there is no significant moderation between endorsement of HIV-related education and age on endorsement of number of lifetime sexual partners.

During the past three months, with how many people did you have sexual intercourse. The regression analysis indicated that the interaction between HIV-related education and age did not account for significantly more variance than just HIV-related education alone, R^2 change = .001, p =.215, demonstrating that there is no significant moderation between endorsement of HIV-related education and age on endorsement of number of sexual partners over the last three months.

RQ3. Are self-rated HIV-related risk behaviors correlated with other specific self-rated risk-taking behaviors, including unintentional injury behaviors and alcohol and/or other drugs behaviors in Black high school students. Three Pearson correlational matrices were used to test this research question.

Possible correlations between sexual intercourse only and behaviors leading to unintentional injuries (see Table 2).

Ever had sex. Multiple small but significant correlations among variables were found, likely attributable to the large n in the data set. These significant correlations must be considered in light of their practical as well as statistical significance. There was a small, but significant positive correlation between whether participants endorsed "ever had sex" and "how often wore a seat belt", which was significant ($r_x(2277)$ = .131, p = .00011). A small, but significant positive correlation was also found between whether participants endorsed "ever had sex" and "how often wear bicycle helmet", which was also significant ($r_s(2244)$ = .047, p = .025). Small, significant negative correlations were found between endorsement of "ever had sex" and "how often ride with drinking driver in past 30 days," ($r_s(2273)$ = -.101, p = .00011), and between "ever had sex" and "how often drive while drinking in past 30 days," ($r_x(2234)$ = -.152, p = .00011).

Age at first sex. There was a small but significant negative correlation between participant endorsement of "how old at first sex" and "how often wear bicycle helmet", which was statistically significant ($r_s(2241) = -.127, p = .0001$). There was also a small but significant, positive correlation between "how old at first sex" and "how often drive while drinking during past 30 days", which was significant ($r_s(2233) = .066, p = .002$). However, no significant correlations were identified between "how old at first sex" and "how often wore a seat belt", ($r_s(2275) = -.029, p = .171$), or between "how old at first sex" and "how often ride with drinking driver over past 30 days," ($r_s(2271) = .032, p = .123$).

Number of lifetime sexual partners. A small but significant, positive correlation was found between participant endorsement of "lifetime sexual partners" and "How often ride with drinking driver in past 30 days," ($r_s(2252) = .164, p = .0001$), and a small but significant positive correlation was found between reporting of "lifetime sexual partners" and "How often drive while drinking over last 30 days," ($r_s(2214) = .221, p = .00011$), both of which were statistically significant. Additionally, a small but significant, negative correlation was found between disclosure of "lifetime sexual partners" and "How often wore a seat belt", which was significant ($r_s(2255) = -.193, p = .00011$). Nevertheless, no significant correlation was found between endorsement of "lifetime sexual partners" and "How often wear bicycle helmet", ($r_s(2221) = -.012, p = .571$).

Number of sexual partners in past three months. Small but significant, negative correlations were noted between "how many sexual partners in past 3 months" and "how often worse a bicycle helmet," ($r_x(2225) = -.045, p = .034$) and between "how many sexual partners in past 3 months" and "how often wore a seat belt", ($r_x(2259) = -.191, p =$

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.00011), both of which were small but significant. Further, a small but significant, positive correlation was identified between "how many sexual partners in past 3 months" and "how often ride with drinking diver in past 30 days" (r_s(2255) = .168, p =.00011) and a small but significant positive correlation was seen between "how many sexual partners in past 3 months" and "how often drive while drinking over last 30 days" (r_s(2218) = .226, p = .00011).

Correlations between sexual intercourse only and behaviors leading to violence (see Table 2).

Ever had sex. Small but significant, negative correlations were found between "ever had sex" and "how often carried weapon in past 30 days," (r_s(2217) = -.175, p = .00011), "ever had sex" and "how often carried gun in past 30 days," (r_s(2209) = -.167, p = . 0001), "ever had sex" and "how many times carried weapon at school over past 30 days," (r_s(2254) = -.098, p = 000), "ever had sex" and "How many times injured in fight over past 12 months," (r_s(2224) = -.086, p = .00011) and "ever had sex" and "how many times in fight at school over past 12 months," (r_s(2240) = -.138, p = .00011)..   There was also a small but significant, negative correlation between "ever had sex" and "how many time in fight over past 12 months," (r_s(2234) = -.219, p = .00011). Finally, a small but significant, positive correlation was identified between "ever had sex" and "did boyfriend/girlfriend hit/slap you over past 12 months," (r_s(2267) = .190, p = .00011, which was significant.

Age at first sex. A small but significant positive correlation was noted between "how old at first sex" and "how many times in fight over past 12 months," (r_s(2233) = .056, p = .008). A, small but significant negative correlation was also identified between

"how old at first sex" and "did boyfriend/girlfriend hit/slap you over past 12 months,"

($r_s(2264) = -.134$, $p = .00011$). However, no significant correlations were identified

between "how old at first sex" and "how many times carried weapon in past 30 days,"

($r_s(2214) = .029$, $p = .173$), "how old at first sex" and "how many times carried gun in

past 30 days," ($r_s(2207) = .007$, $p = .733$), "how old at first sex" and "how many times

carried weapon at school in past 30 days," ($r_s(2252) = .004$, $p = .845$), "how old at first

sex" and "how many times injured in fight in past 12 months," ($r_s(2222) = .002$, $p = .923$)

and "how old at first sex" and "how many times in fight at school in past 12 months,"

($r_s(2238) = .011$, $p = .619$.

   Number of lifetime sexual partners. Small but significant, positive correlations

were found between "how many lifetime sexual partners" and "how many times carried

weapon at school in past 30 days," ($r_s(2233) = .164$, $p = .00011$), "how many lifetime

sexual partners" and "how many times injured in fight in past 12 months", ($r_s(2203) =$

.120, $p = .00011$) and "how many lifetime sexual partners" and "how many times in fight

at school in past 12 months," ($r_s(2221) = .190$, $p = .00011$). Small but significant,

positive correlations were seen between "how many lifetime sexual partners" and "how

many times carried a weapon in past 30 days," ($r_s(2197) = .257$, $p = .00011$), "how many

lifetime sexual partners" and "how many times carried a gun in past 30 days," ($r_s(2190) =$

.267, $p = .00011$) and "how many lifetime sexual partners" and "how many times in fight

in past 12 months," ($r_s(2233) = .291$, $p = .00011$). Finally, a small but significant,

negative correlation was noted between "how many lifetime sexual partners" and "did

boyfriend/girlfriend hit/slap you over past 12 months," ($r_s(2244) = -.208$, $p = .00011$).

Number of sexual partners in past three months. Small but significant, positive correlations were identified between "how many sexual partners in past 3 months" and "how many times carried weapon in past 30 days," ($r_s(2200) = .243$, $p = .00011$), "how many sexual partners in past 3 months" and "how many times carried gun in past 30 days," ($r_s(2193) = .265$, $p = .00011$) and "how many sexual partners in past 3 months" and "how many times in fight in past 12 months," ($r_s(2220) = .291$, $p = .0001$). Additionally, small but significant, positive correlations were noted between "how many sexual partners in past 3 months" and "how many times carried a weapon at school in past 30 days," ($r_s(2237) = .139$, $p = .00011$), "how many sexual partners in past 3 months" and "how many times injured in fight in past 12 months," ($r_s(2207) = .136$, $p = .00011$) and "how many sexual partners in past 3 months" and "how many times in fight at school in past 12 months," ($r_s(2224) = .185$, $p = .00011$). Finally, a small but significant negative correlation was found between "how many sexual partners in past 3 months" and "did boyfriend/girlfriend hit/slap you in past 12 months," ($r_s(2248) = -.216$, $p = .00011$).

Correlations between sexual intercourse only and alcohol and other drug use (see Table 2).

Ever had sex. Small but significant, negative correlations were noted between "ever had sex" and "how many times smoked marijuana," ($r_s(2219) = -.366$, $p = .0001$), "ever had sex" and "how old when first tried marijuana," ($r_s(2230) = -.328$, $p = .0001$), "ever had sex" and "how many times use marijuana in past 30 days," ($r_s(2235) = -.257$, $p = .0001$), all of which were significant findings. Moreover, small but significant, negative correlations were found between "ever had sex" and "how many time use

marijuana at school in past 30 days," (r_s(2247) = -.130, p = .0001), "ever had sex" and

"how many times use cocaine," (r_s(2262) = -.075, p = .0001), "ever had sex" and "how

many times use cocaine in past 30 days," (r_s(2232) = -.061, p = .004), "ever had sex" and

"how many times sniffed glue," (r_s(2275) = -.037, p = .080), "ever had sex" and "how

many times used heroin," (r_s(2222) = -.075, p = .0001), "ever had sex" and "how many

times used methamphetamines," (r_s(2273) = -.077 p = .0001), "ever had sex" and

"ecstasy use one or more times," (r_s(2245) = -.106, p = .0001), "ever had sex" and "how

many times used steroids," (r_s(2276) = -.075, p = .0001), and "ever had sex" and "how

many times injected drugs" (r_s(2282) = =.066, p = .002), all of which were significant

findings.

Age at first sex. Small but significant, positive correlations were identified

between "how old at first sex" and "how many times used marijuana in past 30 days,"

(r_s(2233) = .121, p = .0001) and "how old at first sex" and "how many times smoked

marijuana," (r_s(2217) = .191, p =.0001). Additionally, a small but significant, positive

correlation was seen between "how old at first sex" and "how old when first tried

marijuana," (r_s(2228) = .244, p = .0001). No correlations were noted between "how old

at first sex" and "how many times used marijuana at school in past 30 days," (r_s(2244) =

.009, p = .685), "how old at first sex" and "how many times used cocaine," (r_s(2261) =

.023, p = .266), "how old at first sex" and "how many times used cocaine in past 30

days," (r_s(2230) = .011, p = .614), "how old at first sex" and "how many times sniffed

glue," (r_s(2272) = -.021, p = .320), "how old at first sex" and "how many times used

heroin," (r_s(2240) = .006, p = .761), "how old at first sex" and "how many times used

methamphetamines," (r_s(2271) = -.001, p = .973), "how old at first sex" and "ecstasy use

one or more times," (r_s(2243) = .026, p = .226), "how old at first sex" and "how many time used steroids," (r_s(2274) = .001, p = .963) and "how old at first sex" and "how many times injected drugs," (r_s(2280) = .011, p = .613).

   Number of lifetime sexual partners. A moderate, positive correlation was found between "how many lifetime sexual partners" and "how many times smoked marijuana," (r_s(2201) = .471, p = .0001). Additionally, small but significant, positive correlations were identified between "how many lifetime sexual partners" and "how old when first tried marijuana," (r_s(2209) = .380, p = .0001), "how many lifetime sexual partners" and "how many times smoked marijuana at school in past 30 days," (r_s(2227) = .201, p = .0001) and "how many lifetime sexual partners" and "how many times used marijuana in past 30 days," (r_s(2217) = .344, p = .0001). Finally, small but significant, positive correlations were seen between "how many lifetime sexual partners" and "how many times injected drugs," (r_s(2260) = .108, p = .0001) "how many lifetime sexual partners" and "how many times used steroids," (r_s(2254) = .109, p = .0001), "how many lifetime sexual partners" and "ecstasy use one or more times," (r_s(2223) = .168, p = .0001), "how many lifetime sexual partners" and "how many times used methamphetamines," (r_s(2251) = .134, p = .0001), "how many lifetime sexual partners" and "how many times used heroin," (r_s(2220) = .120, p = .0001), "how many lifetime sexual partners" and "how many times sniffed glue," (r_s(2252) = .048, p = .024), "how many lifetime sexual partners" and "how many times used cocaine in past 30 days," (r_s(2209) = .1000, p = .0001) and "how many lifetime sexual partners" and "how many times used cocaine," (r_s(2240) = .115, p = .0001).

Number of sexual partners in past three months. A moderate, positive correlation was noted between "how many sexual partners in past 3 months" and "how many times smoked marijuana," ($r_s(2202) = .428$, $p = .0001$). Small but significant, positive correlations were also identified between "how many sexual partners in past 3 months" and "how old when first tried marijuana," ($r_s(2211) = .358$, $p = .0001$) and "how many sexual partners in past 3 months" and "how many times used marijuana in past 30 days," ($r_s(2219) = .344$, $p = .0001$). Finally, small but significant, positive correlations were seen between "how many sexual partners in past 3 months" and "how many times smoked marijuana at school in past 30 days," ($r_s(2229) = .187$, $p = .0001$), "how many sexual partners in past 3 months" and "how many times used cocaine," ($r_s(2244) = .109$, $p = .0001$), "how many sexual partners in past 3 months" and "how many times used cocaine in past 30 days," ($r_s(2213) = .106$, $p = .0001$), "how many sexual partners in past 3 months" and "how many times sniffed glue," ($r_s(2256) = .051$, $p = .015$), "how many sexual partners in past 3 months" and "how many times used heroin," ($r_s(2224) = .121$, $p = .0001$), "how many sexual partners in past 3 months" and "how many times used methamphetamines," ($r_s(2255) = .134$, $p = .0001$), "how many sexual partners in past 3 months" and "ecstasy use one or more times," ($r_s(2227) = .156$, $p = .0001$), "how many sexual partners in past 3 months" and "how many times used steroids," ($r_s(2258) = .131$, $p = .0001$) and "how many sexual partners in past 3 months" and "how many times injected drugs," ($r_s(2264) = .121$, $p = .0001$).

VWP	WP	MP	SP	VSP	NC	VWN	WN	MN	SN	VSN
Q58xQ9	Q60xQ11	Q60xQ45	---	---	Q59xQ9	Q58xQ10	Q58xQ17	---	---	---
Q58xQ8	Q61xQ11	Q61xQ45	---	---	Q59xQ10	Q58xQ11	Q60xQ20	---	---	---
Q60xQ10	Q60xQ12	---	---	---	Q60xQ8	Q59xQ8	Q61xQ20	---	---	---
Q61xQ10	Q60xQ13	---	---	---	Q59xQ12	Q59xQ11	Q58xQ45	---	---	---

Q58xQ20	Q60xQ17	---	---	---	Q59xQ13	Q60xQ9	Q58xQ46	---	---	---
Q59xQ17	Q61xQ12	---	---	---	Q59xQ14	Q61xQ8	Q58xQ47	---	---	---
Q60xQ14	Q61xQ13	---	---	---	Q59xQ18	Q61xQ9	---	---	---	---
Q60xQ18	Q61xQ17	---	---	---	Q59xQ19	Q58xQ12	---	---	---	---
Q60xQ19	Q59xQ46	---	---	---	Q59xQ48	Q58xQ13	---	---	---	---
Q61xQ14	Q60xQ46	---	---	---	Q59xQ49	Q58xQ14	---	---	---	---
Q61xQ18	Q60xQ47	---	---	---	Q59xQ50	Q58xQ18	---	---	---	---
Q61xQ19	Q60xQ48	---	---	---	Q59xQ51	Q58xQ19	---	---	---	---
Q59xQ45	Q61xQ46	---	---	---	Q59xQ52	Q59xQ20	---	---	---	---
Q59xQ47	Q61xQ47	---	---	---	Q59xQ53	Q58xQ48	---	---	---	---
Q60xQ49	---	---	---	---	Q59xQ54	Q58xQ49	---	---	---	---
Q60xQ50	---	---	---	---	Q59xQ55	Q58xQ50	---	---	---	---
Q60xQ51	---	---	---	---	Q59xQ56	Q58xQ51	---	---	---	---
Q60xQ52	---	---	---	---	---	Q58xQ52	---	---	---	---
Q60xQ53	---	---	---	---	---	Q58xQ53	---	---	---	---
Q60xQ54	---	---	---	---	---	Q58xQ54	---	---	---	---
Q60xQ55	---	---	---	---	---	Q58xQ55	---	---	---	---
Q60xQ56	---	---	---	---	---	Q58xQ56	---	---	---	---
Q61xQ48	---	---	---	---	---	---	---	---	---	---
Q61xQ49	---	---	---	---	---	---	---	---	---	---
Q61xQ50	---	---	---	---	---	---	---	---	---	---
Q61xQ51	---	---	---	---	---	---	---	---	---	---
Q61xQ52	---	---	---	---	---	---	---	---	---	---
Q61xQ53	---	---	---	---	---	---	---	---	---	---
Q61xQ54	---	---	---	---	---	---	---	---	---	---
Q61xQ55	---	---	---	---	---	---	---	---	---	---
Q61xQ56	---	---	---	---	---	---	---	---	---	---

Table 2. Correlations between Sexual Intercourse Only Questions (Ever Had Sex, Age at First Sex, Number of Lifetime Sexual Partners, Number of Sexual Partners in Last Three Months) and Behaviors Leading to Unintentional Injury, Behaviors Leading to Violence, and Alcohol and Other Drugs Use Questions (Refer to Appendix B and C for correlation strength labels and description of questions).

Correlations between using drugs or alcohol prior to sexual intercourse and behaviors leading to unintentional injuries (Table 3).

Did you use alcohol/drugs at last sex. A small but significant, negative correlation was identified between "did you use alcohol/drugs at last sex" and "how often wear bicycle helmet," (r_s(1547) = -.055, p = .029), which was significant. Additionally, small but significant, negative correlations were seen between "did you use alcohol/drugs at last sex" and "how often ride with drinking drive in past 30 days," (r_s(1563) = -.229, p

= .0001) and between "did you use alcohol/drugs at last sex" and "how often drive while drinking during past 30 days," $r_s(1532) = -.283, p = .0001$). Finally, a small but significant, positive correlation was found between "did you use alcohol/drugs at last sex" and "dhow often wore a seat belt," ($r_s(1566) = .082, p = .001$).

Correlations between using drugs or alcohol prior to sexual intercourse and behaviors leading to violence (see Table 3).

Did you use alcohol/drugs at last sex. A small but significant, positive correlation was found between "did you use alcohol/drugs at last sex" and "did boyfriend/girlfriend hit/slap you in past 12 months," ($r_s(1557) = .069, p = .006$). Small but significant, negative correlations were also located between "did you use alcohol/drugs at last sex" and "how many times injured in fight in past 12 months," ($r_s(1529) = -.144, p = .0001$) and between "did you use alcohol/drugs at last sex" and "how many times in fight at school in last 12 months," ($r_s(1535) = -.117, p = .0001$). Finally, small but significant, negative correlations were identified between "did you use alcohol/drugs at last sex" and "how many times carried a weapon in past 30 days," ($r_s(1511) = -.259, p = .0001$), "did you use alcohol/drugs at last sex" and "how many times carried a gun in past 30 days," ($r_s(1518) = -.260, p = .0001$), "did you use alcohol/drugs at last sex" and "how many times carried weapon at school in past 30 days," ($r_s(1543) = -.226, p = .0001$) and "did you use alcohol/drugs at last sex" and "how many times injured in fight in past 12 months," ($r_s(1530) = -.193, p = .0001$).

Correlations between using drugs or alcohol prior to sexual intercourse and alcohol and other drug use (see Table 3).

Did you use alcohol/drugs at last sex. A moderate, negative correlation was located between "did you use alcohol/drugs at last sex" and "how many times used marijuana in past 30 days," ($r_s(1534) = -.455$, $p = .0001$), which was significant. Small but significant, negative correlations were also noted between "did you use alcohol/drugs at last sex" and "how many times smoked marijuana," ($r_s(1522) = -.390$, $p = .0001$), "did you use alcohol/drugs at last sex" and "how many times smoked marijuana at school in past 30 days," ($r_s(1540) = -.331$, $p = .0001$), "did you use alcohol/drugs at last sex" and "how many times used heroin," ($r_s(1549) = -.204$, $p = .0001$), "did you use alcohol/drugs at last sex" and "how many times used methamphetamines," ($r_s(1564) = -.250$, $p = .0001$) and "did you use alcohol/drugs at last sex" and " ecstasy use one or more times," ($r_s(1551) = -.255$, $p = .0001$). Finally, small but significant, negative correlations were seen between "did you use alcohol/drugs at last sex" and "how old when you first tried marijuana," ($r_s(1526) = -.186$, $p = .0001$), "did you use alcohol/drugs at last sex" and "how many times used cocaine," ($r_s(1555) = -.172$, $p = .0001$), "did you use alcohol/drugs at last sex" and "how many times used cocaine in past 30 days," ($r_s(1537) = -.171$, $p = .0001$), "did you use alcohol/drugs at last sex" and "how many times sniffed glue," ($r_s(1566) = -.174$, $p = .0001$), "did you use alcohol/drugs at last sex" and "how many times used steroids," ($r_s(1564) = -.162$, $p = .0001$) and "did you use alcohol/drugs at last sex" and "how many times injected drugs," ($r_s(1569) = -.188$, $p = .0001$).

VWP	WP	MP	SP	VSP	NC	VWN	WN	MN	SN	VSN
Q62xQ9	---	---	---	---	---	Q62xQ8	Q62xQ10	Q62xQ47	---	---
Q62xQ20	---	---	---	---	---	Q62xQ18	Q62xQ11	---	---	---
---	---	---	---	---	---	Q62xQ19	Q62xQ12	---	---	---
---	---	---	---	---	---	Q62xQ46	Q62xQ13	---	---	---
---	---	---	---	---	---	Q62xQ49	Q62xQ14	---	---	---
---	---	---	---	---	---	Q62xQ50	Q62xQ17	---	---	---

						Q62xQ51	Q62xQ45			
---	---	---	---	---	---	Q62xQ51	Q62xQ45	---	---	---
---	---	---	---	---	---	Q62xQ55	Q62xQ48	---	---	---
---	---	---	---	---	---	Q62xQ56	Q62xQ52	---	---	---
---	---	---	---	---	---	---	Q62xQ53	---	---	---
---	---	---	---	---	---	---	Q62xQ54	---	---	---

Table 3. Correlations between Using Drugs or Alcohol Prior to Sexual Intercourse Question (Did You Use Drugs/Alcohol at Last Sex) and Behaviors Leading to Unintentional Injury, Behaviors Leading to Violence, and Alcohol and Other Drugs Use Questions (Refer to Appendix B for Description of Questions).

Correlations between protection and sexual intercourse and behaviors leading to unintentional injuries (see Table 4).

Did you use a condom at last sex. A small but significant, negative correlation was identified between "did you use a condom at last sex" and "how often wore a seat belt," ($r_s(1533) = -.088$, $p = .001$). No correlations were noted between "did you use a condom at last sex" and "how often wore a bicycle helmet" ($r_s(1514) = .004$, $p = .869$), "did you use a condom at last sex" and "how often rode with drinking driver in past 30 days," ($r_s(1530) = .041$, $p = .108$) and "did you use a condom at last sex" and "how often drove while drinking in past 30 days," ($r_s(1504) = .035$, $p = .176$).

Correlations between protection and sexual intercourse and behaviors leading to violence (see Table 4).

Did you use a condom at last sex. A small but significant, negative correlation was noted between "did you use a condom at last sex" and "did boyfriend/girlfriend hit/slap you in past 12 months," ($r_s(1524) = -.114$, $p = .0001$). No correlations were seen between "did you use a condom at last sex" and "how often carried a weapon in past 30 days," ($r_s(1481) = .010$, $p = .711$), "did you use a condom at last sex" and "how often carried a gun in past 30 days," ($r_s(1488) = .024$, $p = .351$), "did you use a condom at last sex" and "how many times carried a weapon at school in past 30 days," ($r_s(1512) = .035$,

p = .168), "did you use a condom at last sex" and "how many times in fight in past 12 months," (r_s(1496) = .018, p = .480), "did you use a condom at last sex" and "how many times injured in fight in past 12 months," (r_s(1495) = .046, p = .074) and "did you use a condom at last sex" and "how many times in fight at school in past 12 months," (r_s(1501) = .008, p = .770).

Correlations between protection and sexual intercourse and alcohol and other drug use (see Table 4).

Did you use a condom at last sex. Small but significant, positive correlations were seen between "did you use a condom at last sex" and "how many times smoked marijuana," (r_s(1491) = .066, p = .010), "did you use a condom at last sex" and "how old when first tried marijuana," (r_s(1497) = .075, p = .003), "did you use a condom at last sex" and "how many times used cocaine," (r_s(1521) = .066, p = .010), "did you use a condom at last sex" and "how many times sniffed glue," (r_s(1531) = .088, p = .001) "did you use a condom at last sex" and "ecstasy use one or more times," (r_s(1516) = .077, p = .003) and "did you use a condom at last sex" and "how many times used steroids," (r_s(1532) = .072, p = .005). No correlations were found between "did you use a condom at last sex" and "how many times used marijuana in past 30 days," (r_s(1503) = .028, p = .278), "did you use a condom at last sex" and "how many times used marijuana at school in past 30 days," (r_s(1508) = .029, p = .259), "did you use a condom at last sex" and "how many times used cocaine in past 30 days," (r_s(1505) = .045, p = .079), "did you use a condom at last sex" and "how many times used heroin," (r_s(1514) = .027, p = .298), "did you use a condom at last sex" and "how many times used methamphetamines," (r_s(1529)

= .046 p = .069) and "did you use a condom at last sex" and "how many times injected drugs," (r_s(1536) = .039, p = .123).

VWP	WP	MP	SP	VSP	NC	VWN	WN	MN	SN	VSN
Q63xQ45	---	---	---	---	Q63xQ8	Q63xQ9	---	---	---	---
Q63xQ46	---	---	---	---	Q63xQ10	Q63xQ20	---	---	---	---
Q63xQ49	---	---	---	---	Q63xQ11	---	---	---	---	---
Q63xQ51	---	---	---	---	Q63xQ12	---	---	---	---	---
Q63xQ54	---	---	---	---	Q63xQ13	---	---	---	---	---
Q63xQ55	---	---	---	---	Q63xQ14	---	---	---	---	---
---	---	---	---	---	Q63xQ17	---	---	---	---	---
---	---	---	---	---	Q63xQ18	---	---	---	---	---
---	---	---	---	---	Q63xQ19	---	---	---	---	---
---	---	---	---	---	Q63xQ47	---	---	---	---	---
---	---	---	---	---	Q63xQ48	---	---	---	---	---
---	---	---	---	---	Q63xQ50	---	---	---	---	---
---	---	---	---	---	Q63xQ52	---	---	---	---	---
---	---	---	---	---	Q63xQ53	---	---	---	---	---
---	---	---	---	---	Q63xQ56	---	---	---	---	---

Table 4. Protection and Sexual Intercourse Question (Did You Use A Condom At Last Sex) and Behaviors Leading to Unintentional Injury, Behaviors Leading to Violence, and Alcohol and Other Drugs Use Questions (Refer to Appendix B for Description of Questions).

Summary of Results

In summary, the evidence yields mixed results for all three of our research question. Our first research question revealed that grade status differences do exist in self-reported HIV-related risk behaviors, including the age at which participants first had sex, number of lifetime sexual partners and whether or not participants used a condom at last sex. However, we were unable to find any significant grade status differences in self-reported HIV-related risk behaviors pertinent to whether or not a participant ever had sex, number of sexual partners in past 3 months, or whether or not a participant used alcohol or drugs prior to last sexual intercourse. Additionally, we did not find any significant gender moderation effects for this hypothesis.

Our second research question examined potential relationships between HIV-related education and self-reported HIV-related risk behaviors among Black high school students. Our research demonstrated mixed results among the different clusters of HIV-related risk behaviors (sexual intercourse only, using drugs or alcohol prior to sexual intercourse, protection and sexual intercourse), with two of the six risk behavior questions within the three clusters providing evidence of meaningful outcomes. These questions were within the sexual intercourse only cluster and included the relationship between lifetime sexual partners and HIV-related education and number of sexual partners in past three months and HIV-related education. Moreover, our follow-up moderation analyses revealed that the interactions between HIV-related education and gender and HIV-related education and age did not account for significantly more variance than just HIV-related education on lifetime sexual partners. However, the interaction between HIV-related education and gender accounted for significantly more variance than just HIV-related education on number of partners in past three months. Nevertheless, the interaction between HIV-related education and age did not account for significantly more variance than just HIV-related education on number of partners in past three months.

Our third research question considered whether self-rated HIV-related risk behaviors are correlated with other specific self-rated risk taking behaviors, including unintentional injury behaviors and alcohol and/or other drug behaviors in our participant pool of Black high school students. Results of this question were mixed, with many of our significant outcomes revealing weak and very weak correlations as well as no correlations. Only a couple of HIV-related risk behaviors showed moderate correlations

with other risk taking behaviors and these correlations were always related to marijuana

use.

Chapter V

Discussion

The current study demonstrated mixed outcomes among the three hypotheses of interest. Regarding the first research question, the research showed that grade status differences do exist in self-reported HIV-related risk behaviors, including the age at which participants first had sex, number of lifetime sexual partners and whether or not participants used a condom at last sex. These findings are especially meaningful because of the study's very large sample size and variation in participant demographics. Of these significant findings, age at first sex was the only one for which there was evidence of differences between all grade dyad possibilities (9th, 10th, 11th 12th) as well as between 12th graders and those who endorsed 'ungraded or other grade'. The differences demonstrated younger endorsement of age at first sex the younger the participant grade at time of study completion. Further, this may be one of the most interesting findings, as it suggests that with each year individuals in the study are having sex at a younger age than in prior years. Numerous scholarly works suggest that the percentage of sexually active teenagers increases throughout the adolescent years (Finer & Philbin, 2013) and thus this finding is difficult to explain. However, these studies are suggestive of adolescent sexual behavior regardless of race; whereas, our study focuses only on Black adolescents. Further, it is unclear whether prior studies would have found different results if only Black adolescents had been included. Upchurch, D.M., Levy-Storms, L., Sucoff, C.A. and Aneshensel C.S. (1998), for example, highlighted ethnic differences in risk behaviors by age. The researchers examined the uniqueness of age at first sex based on gender and ethnicity. Participants in Upchurch et al., 1998) included a large sample of ethnically

diverse teens from Los Angeles. Results of their study suggested that Black males

endorsed the lowest median age at which they first engaged in sexual intercourse, 15

years of age. However, even this study does not fully explain the endorsement of

younger age at first sex by students in 9th grade than participants in grade 10 in our study,

since many students in 9th grade are still 14 for much of the year. Additionally, the

Upchurch et al., 1998) study of gender emphasized the reporting of younger age at first

sex only by Black males. In fact, these researchers relayed that for Black females,

median endorsement of age at first sex was around 16.5 years and that these girls reported

a similar age at first sex to males of White and Hispanic origin and females who identify

as White. Day (1992) also provides support for our Black male participant endorsement

of age at first sex at a young age. Day used data from the National Longitudinal Survey

of Labor Market Experience of Youth (NLSY) to examine the transitions to first sexual

engagements among individuals aged 14 to 21 who identified with diverse Cultures and

Races in a sample of 12,686 men and women. Partial results of Day (1992) study

suggested that his Black male participants endorsed the earliest age at first sex compared

to all other groups under investigation. Again though, similar to the previously discussed

study, Day suggested that this was really only true among Black males. Black females in

his study did continue to demonstrate an earlier age at first sex than females of other

backgrounds, but the age difference was not nearly as large as it was for Black males.

Taken together, however, these studies do not provide sufficient explanation for the

finding in the present study that participants had sex at a younger age with each year.

Actually, literature supporting a decline in Black sex-related incidences such as

pregnancy and birthrate (e.g., Donovan, 1998) may indirectly suggest an opposite trend than our study has demonstrated.

As previously mentioned, the present study also showed meaningful grade status differences in number of lifetime sexual partners, but significance was only identified between 9th and 12th graders. Specifically, 9th graders reported significantly less lifetime partners than 12th graders. Several studies support this finding. Santelli, Brener, Lowry, Bhatt, and Zabin (1998) examined factors correlated with endorsement of having multiple sexual partners. Santelli et al. included 8,450 male and female adolescents and young adults between the ages of 14 and 22. Results of their study demonstrated an increase in number of lifetime sexual partners with age. The Centers for Disease Control and Prevention (2000) identified a similar trend. Using their 1999 Youth Risk Surveillance, they were able to identify patterns suggesting that sexual intercourse events increase with age across adolescents. However, the two studies mentioned here investigated adolescents with variable demographics rather than Black adolescents only. Alternatively, Bakken and Winter (2002) studied family characteristics associated with risky sexual acts engaged in by Black males, and partial results of their study demonstrated that endorsement of fewer lifetime sexual partners can be predicted by higher participant age, but only if the sexual act completed at the older age was a participant's first time having sexual intercourse.

Similar to the meaningful result discussed immediately above, grade status differences in whether or not participants or their partners used a condom was only proven significant between one grade dyad, 10th and 12th graders. 12th graders endorsed using condoms significantly less often than did 10th graders. There are likely numerous

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explanations for this, including a few notable ones in research. For example, young individuals use of condoms decreases overtime (Graunbaum, et al., 2002). Interestingly, Matson, et al. (2011) interviewed 298 Black female adolescents regarding their possible and developmental shifts in use of condoms based on their partner statuses. Participants were between the ages of 14 and 19. Results of their study suggested that participants who shifted from having multiple sexual partnerships to monogamous relationships demonstrated a decline in the use of condoms. The researchers found the opposite trend to be true for individuals who migrated from monogamous relationships to multiple sexual partnerships. Further, these developmental shifts may have played a role, whether in support of or in contrast to our findings, in participant endorsement of condom use. A recent book suggests that these findings are in support of our study. Specifically, according to Connolly, J. and McIsaac, C. (2011), for adolescents, romantic relationships last for a longer period of time with age, with 16 year olds reporting 6 month relationships and 18 year olds suggesting that their relationships last for at least a year. Again, in light of Matson et al.'s study mentioned above, this could explain a decrease in condom use of our participants over time. A final noteworthy article advises it is not surprising that younger participants reported condom use at first sex since this is the most popular form of contraception at first sex and using protection at first sex has become a more common phenomenon (Martinez, Copen & Abma, 2011). However, and in contrast to our findings, Sprecher, S. (2013) explained being older at first sex as factor leading to a greater chance of condom use at the time of first sex. Sprecher examined predictors of participant use of condoms at first sex. Her study included a large sample of students enrolled in university settings.

Despite the meaningful finding discussed above, we were unable to find any significant grade status differences in self-reported HIV-related risk behaviors pertinent to whether or not a participant ever had sex, number of sexual partners in past 3 months, or whether or not a participant used alcohol or drugs prior to last sexual intercourse. It is not entirely surprising that little variability in scores related to whether a participant ever had sex were demonstrated between grade status dyads. Several studies have implied that most teens in the United States will have sex by age 18 and that the numbers of teens having sex increases rapidly from younger to older adolescence. Additionally, Black adolescents begin having sex at a younger age, even before the youngest adolescents used in our study, than adolescents from other Racial and ethnic backgrounds (CDC, 2004). Regardless, the increases in first sex that do occur over time in adolescence (Finer & Philbin, 2013) should demonstrate at least some, likely more, variation in scores between grade status dyads related to whether a participant every had sex. Additionally, results from the Youth Risk Behavior Surveillance from 2003, for example, demonstrated a notable increase with grade status in endorsement of whether participants had sexual intercourse (CDC).

The fact that we were unable to identify meaningful grade status differences in participant endorsement of number of sexual partners over the past 3 months is not unforeseen either. Tolman, D.L. and McClelland, S.I (2011) reviewed literature on over 10 years of "Normative sexuality development in the Adolescence" (p. 242). Following their review, the authors noted a scholarly finding suggesting that Black adolescents and young adults between the ages of 12 and 21 engage in lower rates of sexual encounters than their Asian and Hispanic peers. Alternatively, Hayden, A.A., Herring, A.H., Halper,

C.T. (2012) studied emerging sexual trends of teens and young adults and found that Black adolescents less often initiated two or more sexual behaviors within the same year than their White peers did. Their study included 12, 194 participants from "Waves I and IV of the National Longitudinal Study of Adolescent Health" (p. 456). This finding suggests there may actually be only few sexual events each year among black adolescents, which would account for the small amount of variability in scores between grade status dyads.

It was very difficult to locate previous studies examining the adolescent use of alcohol or drugs prior to last sexual intercourse, particularly in terms of age group differences and studies that focused on this specifically with Black adolescents. However, some research does allude to the subject matter in indirect ways. For example, it is known that using substances and being young are correlated with sexual risk taking behaviors (Celentano, et al., 2006) and that consumption of alcohol causes youth to engage in riskier sexual behaviors (Carpenter, 2005), but these explanations do not account for any possible differences between younger and older teens. Previous CDC reports of the Youth Risk Behavior Surveillance used in the current study suggest mixed outcomes regarding grade status differences in use of alcohol or drugs prior to last sex for Black adolescents. For example, the 2003 YRBS outcomes explained the following percentage differences per grade: 9th, 14.4%; 10th, 19.6%; 11th, 19.1%; 12th, 24.6% (CDC, 2003). Moreover, the 2005 YRBS explained the following: 9th, 12.9%; 10th, 15.3%; 11th, 14.7%; 12th, 13.6% (CDC, 2005). Further, the 2007 YRBS outcomes explained these percentage differences per grade: 9th, 13.8%; 10th, 15.9%; 11th, 16.1%; 12th, 18.9% (CDC, 2007). Finally, the 2009 YRBS outcomes explained the following differences per grade:

9th, 20.6%; 10th, 16.4%; 11th, 18.7%; 12th, 17.5% (CDC, 2009). These changes in grade status differences per year make it difficult to determine if any notable distinctions actually exist, which may explain our lack of meaningful results for this portion of our first research question.

As a follow-up to our first research question, we considered whether any significant grade status differences were moderated by gender. In other words, we wanted to consider whether the effect of grade status on the HIV-related risk behavior endorsement remained significant after controlling for gender. The outcomes were significant, suggesting that there was no meaningful moderation effect. These moderation results are most surprising in relation to our first research question, primarily because of the numerous articles citing gender differences in various areas of sexual risk taking behaviors among Black adolescents as well as adolescents from other Racial and Ethnic backgrounds. For example, Halpern et al. (2004) investigated race and gender contrasts in adolescent risk taking behavior trends. Participants in their study included results from 13,998 Black and White adolescents' responses taken from the National Longitudinal Study of Adolescent Health, Wave 1. Results of their study suggested that Black males, more often than their White male peers, fit into three high-risk categories related to sexual risk taking behaviors. Conversely, "Black females were least likely to be in high-risk behavior clusters" (p. 239). Additionally, Fleming-Moran, M. and Perera, B. (2003) examined distinctions in multiple partner sexual risk taking behaviors between male and female adolescents. Their participant pool included approximately 6000 individuals between the ages of 11 and 18 whose responses were taken from the Centers for Disease Control and Prevention's 2001 Youth Risk Behavior Survey. Analysis

results indicated that Black male adolescents are more sexually active and report greater than four sexual partners more often than their Hispanic and White peers and that this latter difference is twice as high for Black male adolescents (38.7%) than for Black female adolescents (15.6%). However, the authors found that for adolescents in general, males in their study reported only slightly greater rates of previous sexual intercourse behaviors than females did (males: 48.5%; females: 42.9%).

Early in this paper, it was suggested that the study rationale include the applicability of the outcomes of this study to the multicultural competencies of professionals working with Black high school students. Further, the significant results discussed for our first research question above, as well as the rest of the study outcomes can serve professionals well. Mental health professionals (e.g., school counselors) and educators may consider the commencement of in-school psycho-education at an early age due to our findings demonstrating younger endorsement of age at first sex the younger the participant grade. Whereas, health professionals might include similar early education and remind older adolescents of the importance of condom-related sexual health at regular office visits, because our results suggested that our older participants endorsed using condoms significantly than our younger participants (note that this was only true in examining differences between 10th and 12th graders).

Our second research question examined possible relationships between HIV-related education and self-reported HIV-related risk behaviors among Black high school students. Our research demonstrated mixed results among the different clusters of HIV-related risk behaviors (sexual intercourse only, using drugs or alcohol prior to sexual intercourse, protection and sexual intercourse), with two of the six risk behavior

questions within the three clusters providing evidence of meaningful outcomes. These questions were within the sexual intercourse only cluster and included the relationship between lifetime sexual partners and HIV-related education and number of sexual partners in past three months and HIV-related education. These, too, may be some of our most interesting results, as they suggest education impacts sexual partner numbers only for Black high school students, excluding any influences on protection use, using alcohol or drugs prior to sex, age at first sex, and first sexual debut. However, for both questions, HIV-related education explained only a small amount of variance (.3% for lifetime sexual partners; .6% for number of sexual partners in past three months) while predicting endorsement of number of sexual partners over participant lifetime and number of sexual partners in past three months.

Several studies discuss the relationship between HIV-related education and number of lifetime sexual partners, and the results are generally varied. Kirby et al. (2007) reviewed the influence of educational programs focusing on sex and HIV-related education on youth sexual behaviors. The authors used 83 previous studies for their research. Partial results of their review indicated that many education programs demonstrate an effected decrease in sexual experiences. However, in an earlier study completed by the same authors (Kirby, Laris & Rolleri, 2005), their findings suggested that of 34 studies looking at the impact of HIV and sex education programs on number of sexual partners, only 35% demonstrated a decline in endorsement of number of sexual partners; whereas, 62% showed no meaningful effects. Additionally, Kirby, D., Obasi, A. and Laris, B.A. (2006) explained that most sex and HIV education programs in schools decrease sexual risk taking actions and, of 22 of these types of programs the

authors reviewed, 16 of the 22 programs demonstrated declines in endorsement of "number of sexual partners" (p. 103). Kirby (2008) also looked at the influences of two types of HIV/STD education interventions, including comprehensive ones and ones focusing only on abstinence, on the sexual risk taking behaviors of adolescents. Results of his study indicated that 2/3 of the programs focusing on a comprehensive education demonstrated positive influences on adolescent sexual actions. Results were not nearly as positive for programs focusing only on abstinence. However, the studies discussed here focus on adolescents of diverse Racial and Ethnic backgrounds, because few studies are available that focus specifically on HIV education and Black adolescents. Further, they should be interpreted with caution.

The potential relationship between HIV-related education and number of sexual partners in the past 3 months is also well documented in studies similar to those discussing lifetime sexual partners, as seen above. Kirby D. and Laris B.A. (2009) examined reviews of adolescent education programs that focus on sex and HIV/STD information and are curriculum based in nature. There was little evidence of these programs negatively influencing behaviors, and decreasing how often adolescents had sex as well as their reported "number of sexual partners" (p. 21), were among some of the positive program influences. These positive results have been seen for over 20 years now. For example, Baldo, M., Aggleton, P. and Slutkin G. (1993) considered whether education around sexual behaviors caused adolescents to engage in sex at a younger age and more often. Their research included a review of 19 related studies. Their review outcomes explained that none of the programs caused earlier or more frequent sex and that six of them decreased sexual behaviors. Interestingly, programs demonstrated the

most positive results when they were implemented prior to participants' first sexual engagement. A more recent study reviewed the outcomes of peer-based instructive programs on the prevention of HIV and documented moderate results related to risk-behavior changes (Medley, Kennedy, O'Reilly & Sweat, 2009). Again, these studies should be interpreted with caution given the nature of diversity in the Ethnic and Racial backgrounds of their participants. Our participants identify as Black adolescents.

Despite our two meaningful regression results, discussed above, and the large number of respondents used for analysis in our study we were unable to ascertain any significant relationships between HIV-related education and any of the other four questions within our three clusters of HIV-related risk behaviors, including whether or not a participant ever had sex, age at first sex, whether participants used drugs or alcohol prior to last sexual intercourse and whether participants or their partners used a condom at last sex. These results are very surprising based on previous literature and further research would do well to understand what aspects of the specific sample used in our study that would have lead to these results as well as whether results of previous YRBS studies would indicate similar outcomes. Regarding research relevant to our regression questions, Alford S. Science and Success (2008) completed a review of 26 sex-related and other pertinent published educational interventions with the goal of preventing pregnancy in adolescent years as well as HIV and other STIs. The interventions all included a control or comparison group and an experimental or quasi-experimental research design. Several meaningful results from their study are important to our research. For example, 14 of the interventions they reviewed showed evidence of participants choosing to wait longer before sexual intercourse. This also supports the

Baldo, M., Aggleton, P. and Slutkin G. (1993) study suggesting that programs would

have better outcomes with onset prior to first sexual intercourse. Moreover, Alford S.

Science and Success found that of their reviewed interventions, 14 demonstrated a rise in

adolescent condom use and 10 showed evidence of teens engaging in less unprotected

sexual encounters. Further, 13 programs explained outcomes suggesting significant

decreases in adolescent HIV. Jemmott, J.B., Jemmott, L.S., Braverman, P.K. and Fong,

G.T. (2005) examined programs designed to target the reduction of HIV/STD risk

behaviors. Their study included a sample of 682 Black and Latino adolescents.

Participants were assigned to one of three 250-minute intervention groups, including a

skills based group (taught skills related to engaging in safer sexual encounters), an

information based group (given information important to engaging in safer sexual

encounters) and control intervention that focused on health promotion irrelevant to sex.

Results of their study suggested that their participants endorsed engaging in less

unprotected sex at 12-month follow-up than individuals in the other two groups did and

endorsed having fewer sexual partners at 12-month follow-up than did participants in the

control group. Interestingly, at 3 and 6-month follow-up, no contrasts were seen between

groups in regard to endorsement of how often participants engaged in unprotected sex or

endorsement of number of sexual partners. This study has important implications to ours

for two reasons. First, the study included a sample of Racial and Ethnic minority

adolescents and, as previously mentioned, many related studies focus on adolescents

regardless of Race and Ethnicity. Second, the study included more than one type of

intervention, and we do not have information regarding the variety of interventions our

participants engaged in. Further, studies providing information comparing several

interventions increase their generalizability to our study. The latter important implication

is true of Alford S. Science and Success's (2008) review as well as other studies

discussed above. Regarding further research related to our regression questions that did

not demonstrate significance, Jemmott, J.B., Jemmott, L.S., Fong, G.T. and Morales,

K.H. (2010) examined the outcomes of a program focused on the reduction of HIV/STD

risk behaviors in adolescents that was administered by organizations in the community.

Participants included 1707 individuals with approximately half being assigned to a

control intervention. Results of their study indicated that participants in the intervention

group more often endorsed consistent use of condoms following intervention than their

peers in the control group did. The successes of the programs discussed here are

supported by Schalet, et al. (2014) in their explanation for the need to expand on "the

evidence for adolescent sexual and reproductive health and education in the United

States" (p. 1595). Specifically, the authors suggest that important gains have been made

in the last 60 years in terms of age at first sex, for example. Nevertheless, I was unable to

locate HIV-related education research that focused on outcomes related to the use of

alcohol or drugs prior to adolescents' most recent sexual encounters.

Similar to our first research question, as a follow-up to our second research

question, we considered whether any significant relationship findings were moderated by

gender or age. Only one of four follow-up regressions was significant. Regarding

lifetime sexual partners, the interactions between HIV-related education and gender and

HIV-related education and age did not account for significantly more variance than just

HIV-related education alone. However, concerning number of sexual partners in past

three months, the interaction between HIV-related education and gender accounted for

significantly more variance than just HIV-related education alone. Conversely, the interaction between HIV-related education and age did not account for significantly more variance than just HIV-related education alone. The mixed gender results are somewhat surprising because, as mentioned earlier, a number of articles related to adolescent sexual behavior demonstrate gender differences in study outcomes. The United Nations Children's Fund Programme Division (2002) explained that focusing on gender specific HIV/AIDS-related education is an essential role of program educators, including comprehending and addressing disparities and discrimination in gender roles and "social relations" (p. 5). Additionally, Lammers, J., Wijnbergen, S. and Willenbrands, D. (2011) looked at gender discrepancies in perception of HIV risk and use of condoms. Their study included 1979 households in Lagos and participants were asked to complete a survey. Partial results of their research suggest that males are significantly more knowledgeable about HIV and score lower on questions of HIV misperceptions. Regardless, their findings also show that men still score much higher on questions of multiple partners. Moreover, I was unable to find any studies related to HIV-education that suggested a lack of gender differences. To our knowledge, no studies have considered age as a moderating variable in the relationship between HIV-related education and number of sexual partners, both lifetime partners and partners in the past 3 months.

Important implications are present for the applicability of the second research question outcomes to the multicultural competencies of professionals working with Black high school students. Regarding our significant findings, mental health and health professionals and educators may continue to include aspects of their education already in

place that focus on reducing partner numbers. However, they may reconsider the relevance of HIV-related educational programming to the initial onset of sex, increased condom use and reduced use of alcohol and/or drugs prior to sexual encounters. Nevertheless, use of these outcomes should be done with some caution, because our significant findings demonstrated that HIV-related education accounted for only a small amount of variance in number of lifetime sexual partners and number of sexual partners in the past 3 months. Further, it is likely that various other factors are also associated with sexual partner numbers within this population.

Our third research question considered whether self-rated HIV-related risk behaviors were correlated with other specific self-rated risk taking behaviors, including unintentional injury behaviors and alcohol and/or other drug behaviors in our participant pool of Black high school students. Results of this research question were somewhat unfavorable, mixed and probably comprised the most surprising results in our study, because many of them were inconsistent with previous research examining similar questions. Regarding correlations between sexual intercourse only questions and behaviors leading to unintentional injury, behaviors leading to violence and alcohol and other drug use questions, several results revealed no correlations at all. Most of the results yielding no correlation included the sexual intercourse question "how old at first sex." Only one result demonstrating no correlation included the sexual intercourse question "how many sexual partners." This result suggested that a correlation did not exist between "how many sexual partners" and a behavior leading to unintentional injury question, "how often wear a bicycle." Further "how old at first sex" was not correlated with two out of four of the behaviors leading to unintentional injury questions, including

"how often wore a seat belt," "how often ride with drinking driver in past 30 days," and "how often wear bicycle helmet." "How old at first sex" was also not correlated with five out of seven of the behaviors leading to violence questions, including "carried weapon in past 30 days," "carried gun in past 30 days," "carried weapon at school in past 30 days," "how many times injured in fight in past 12 months," and "how many times in fight at school in past 12 months." Finally, "how old at first sex" was not correlated with nine out of 12 of the alcohol and other drug use questions, including "how many times smoked marijuana at school in past 30 days," "how many times used cocaine," "how many times used cocaine in past 30 days," "how many times sniffed glue," "how many times used heroin," "how many times used methamphetamines," "ecstasy use one or more times," "how many times used steroids," and "how many times injected drugs." These results fail to fall in line with previous research that may suggest that general and earlier engagement in sexual behaviors may be correlated with earlier immersion and overall engagement other risky behaviors, including alcohol and drug use, violence and behaviors leading to unintentional injury. Doljanac, R. F. and Zimmerman M. A. (1998) studied racial diversity in psychosocial ingredients and risky sexual acts among primarily African American teenagers in urban settings. Their research included 824 individuals in their first year of public high school. The students were interviewed by a dozen trained interviewers of both African American and White backgrounds and of both genders. Partial results of their study demonstrated a relationship between endorsement of engaging in sexual acts, identified by the researchers as high-risk acts, and self-reported anti-social behaviors and alcohol and substance use. Additionally, Zimmer-Gembeck, M. J and Helfand, M. (2007) completed an analysis of 35 longitudinal studies examining

correlations between sexual behavior and age, gender and ethnicity during the adolescent years. The review focused entirely on heterosexual sex. Fractional outcomes of their analysis indicated a stronger correlation between the onset of sex and other co-occurring risky behaviors, including, but not limited to, alcohol use and aggressive behaviors in male participant and substance use and factors associated with depression in female participants, when the studies being analyzed focused primarily on early engagement in sex (sexually active by age 15). Similarly, Lohman B. J. and Billings, A. (2008) found that drug an alcohol use and academic concerns were positively associated with early onset of sex and overall involvement in sexual encounters categorized as risky. Their research investigated the relationship between acts of sexual risk and early onset of sex in and both "protective and risk factors" (p. 732) in males during their teenage years. Self-reported participant data was pulled from the survey portion of waves I and II of Welfare, Children, and Families: A Three-City Study. This data includes outcomes from more than 2,000 children and mothers living in low socioeconomic areas of three major cities in the U.S.

Other correlational outcomes in our study between sexual intercourse only questions and behaviors leading to unintentional injury, behaviors leading to violence and alcohol and other drug use questions, revealed both weak and very weak negative and positive correlations. For example, the sexual intercourse question "ever had sex" demonstrated very weak positive correlations with two out of four behaviors leading to unintentional injury questions, including "how often wear bicycle helmet" and "how often wore a seat belt" and one out of seven behaviors leading to violence question, "did boyfriend/girlfriend hit/slap you in past 12 months." "Ever had sex" also resulted in very

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weak negative correlations with two out of four behaviors leading to unintentional injury questions, including "how often ride with drinking driver over past 30 days" and "how often drive while drinking in past 30 days," five out of seven behaviors leading to violence questions, including "carried weapon in past 30 days," "carried gun in past 30 days," "carried weapon at school in past 30 days," "how many times injuring in fight in past 12 months," and "how many times in fight at school in past 12 months," and nine out of 12 alcohol and other drug use questions, including "how many times smoked marijuana at school in past 30 days," "how many times used cocaine," "how many times used cocaine in past 30 days," "how many times ssniffed glue," "how many times used heroin," "how many times used methamphetamines," "ecstasy use one or more times," "how many times used steroids" and "how many times injected drugs." Finally, "ever had sex" revealed weak negative correlations with one behavior leading to violence question, "how many times in fight in past 12 months" and two alcohol and other drug use questions, including "how many times smoked marijuana" and "how old when first tried marijuana." Some outcomes do suggest consistency with our findings here. For example, Stanton, B., Li, X., Cottrell, L. and Kaljee, L. (2001) looked at early sex, drug use and sensation seeking onset in African American teenagers from low socioeconomic, urban backgrounds. Participants in the study included 383 individuals between the ages of 9 and 15. The study design was longitudinal and data were derived from self-reported risk assessments. Partial results of their study suggested that participants who endorsed ever having sex at an early age were not at risk for drug use. These results were seen at study baseline. However, our weak and very weak findings were also largely inconsistent with previous research findings investigating similar constructs. Research

completed by Stanton B., Li, X., Cottrell L. and Kaljee L. also found that the same individuals who endorsed ever having sex at an early age, as mentioned above, later in the study endorsed substance and drug use and sales more often than their peers who reported a later sex onset. Smith, C. A. (1997) noted similar results from her study looking at associations between early sex onset and other factors in teens living in city setting, suggesting that endorsing ever having sex at a young age was associated with substance use in her participants. Smith's study included 803 adolescents who identified as African American and Hispanic. Participants were questioned by trained interviewers and some of the data were derived from both parent and adolescent interviews while most of the findings came from adolescent interviews only. Additionally, Raffaelli, M. and Crockett, L. J. (2003) used longitudinal data from 443 young adolescents between the ages of 12 and 13 and then again used data from the same participants four years later when the adolescents reached ages 16 to 17 to examine sexual risk behaviors in these individuals. Fractional results from their study demonstrate that self-regulation of behaviors in general (as well as emotions and attention) predicted whether participants would endorse ever being a part of risky sexual behaviors during adolescence. This result is meaningful to all three of our categories in question when we analyzed the possible correlation(s) between "ever had sex" and behaviors leading to unintentional injury, behaviors leading to violence and alcohol and other drug use behaviors.

Another example of correlational outcomes in our study between sexual intercourse only questions and behaviors leading to unintentional injury, behaviors leading to violence and alcohol and other drug use questions that revealed mostly weak and very weak negative and positive correlations included the sexual intercourse only

questions "how many sex partners." For example, "how many sex partners" revealed very weak positive correlations with one of four behaviors leading to unintentional injury questions, "how often ride with drinking driver over past 30 days," three of seven behaviors leading to violence questions, including "carried weapon at school in past 30 days," "how many times injured in fight in past 12 months" and "how many times in fight at school in past 12 months" and eight of 12 alcohol and other drug use questions, including "how many times used cocaine," "how many times used cocaine in past 30 days," "how many times sniffed glue," "how many times used heroin," "how many times used methamphetamines," "ecstasy use one or more times," "how many times used steroids" and "how many times injected drugs." "How many sex partners" also resulted in weak positive correlations with one behavior leading to unintentional injury question, "how often drive while drinking in past 30 days," three behaviors leading to violence questions, including "carried weapon in past 30 days," "carried gun in past 30 days" and "how many times in fight in past 12 months" and three alcohol and other drug use questions, including "how old when first tried marijuana," "how many times used marijuana in past 30 days" and "how many times used marijuana at school in past 30 days." Finally, "how many sex partners" demonstrated a very weak negative correlation with one behavior leading to unintentional injury question, "how often wore a seat belt" and a weak negative correlation with one behavior leading to violence, "did your boyfriend/girlfriend hit/slap you in past 12 months." Nevertheless, one correlational finding demonstrated a moderate positive correlation between "how many sex partners" and one alcohol and other drug use question, "how many times smoked marijuana."

Similar to previous correlational outcomes discussed earlier, our findings here are mainly in conflict with previous research studies investigating similar questions. For example, Santelli, J. S. et al. (2004) looked at the effects of psychosocial factors on sex initiation in very young adolescents. Their study consisted of 3163 individuals in seventh and eighth grades. Slight more than half of the participants identified as Black (51%). An 89-item self-report questionnaire developed by the CDC was used to collect study data. Partial results of the study revealed that endorsement of alcohol and other drug use reliably raised the risk of initiating sexual behavior. This would mean that greater use of alcohol and other drugs would be strongly correlated with a greater number of sex partners, a finding our study did not identify. Additionally, Lansford, J. et al. (2010) examined development factors leading to number of sex partners in adolescents and young adults between 16 and 22 years of age. Participants included 527 individuals and only 17% of these individuals were African American. Regardless, the researchers, through data collection from adolescents and young adults themselves, their mothers and teachers and academic files, found that relationships with deviant friends were "associated with number of sexual partners over time" (p. 659). This would indirectly suggest that a correlation in our study could exist between "how many sexual partners" and engagement in deviant activities such as violence and alcohol and other drug use, findings we did not achieve. Finally, Valois, R. F., Oeltmann, J. E., Waller, J. and Hussey, J.R. (1999) examined the possibility of relationships between number of sexual partners and specific risk taking behaviors. Their sample included 3805 adolescent public school participants who had taken the CDC's self-report Youth Risk Behavior Survey. Results of their study demonstrated relationships between number of sex

partners and endorsement of several risky behaviors for Black males and females. Specifically, a strong relationship was seen between greater number of sex partners consumption of alcohol, use of marijuana and dating violence (this is not a complete list) in Black females; whereas, a strong relationship was identified between greater number of sex partners and consumption of alcohol, binge drinking, use of marijuana, "physical fighting, carrying weapons, and dating violence" (this is not a complete list) in Black males. Again, our research failed to demonstrate these strong associations between number of sexual partners and other risk behaviors, including behaviors leading to unintentional injury, behaviors leading to violence and alcohol and other drug use behaviors. Nevertheless, our moderate correlation between "how many sexual partners" and "how many times smoke marijuana" is somewhat in agreement with both all three previous studies discussed immediately above.

The last example of correlational outcomes in our study between sexual intercourse only questions and behaviors leading to unintentional injury, behaviors leading to violence and alcohol and other drug use questions that revealed mostly weak and very weak negative and positive correlations included the sexual intercourse only questions "how many sex partners in past three months." "How many sex partners in past three months" resulted in a very weak negative correlation with one out of four behaviors leading to unintentional injury questions, "how often ride with drinking driver in past 30 days", three out of seven behaviors leading to violence questions, including "carried weapon at school in past 30 days," "how many time injured in fight in past 12 months" and "how many times in fight at school in past 12 months," and nine out of 12 alcohol and other drug use questions, including "how many times used marijuana in at

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school in past 30 days," "how many times used cocaine," "how many times used cocaine in past 30 days," "how many times sniffed glue," "how many times used heroin," "how many times used methamphetamines," "ecstasy use one or more times," "how many times used steroids" and how many times injected drugs." "How many sex partners in past three months" also revealed weak positive correlations with one behavior leading to unintentional injury question, "how often drive while drinking in past 30 days," three behaviors leading to violence questions, including "carried weapon in past 30 days," "carried gun in past 30 days" and "how many times in fight in past 12 months," and two alcohol and other drug use questions, including "how old when first tried marijuana" and "how many times used marijuana in past 30 days." Additionally, "how many sex partners in past three months" demonstrated very weak negative correlations with two behaviors leading to unintentional injury questions, including "how often wear bicycle helmet" and "how often wore a seat belt" and a weak negative correlation with one behavior leading to violence question, "did your boyfriend/girlfriend hit/slap you in past 12 months." Even still, one correlational finding demonstrated a moderate positive correlation between "how many sex partners in past three months" and "how many times smoked marijuana."

Not surprisingly, most of the findings above are largely at odds with previous research studies examining similar questions. For example, Cavazos-Rehg, P.A. et al. (2011) found that for their adolescent participants who used substances, the risk of being experienced sexually was increased. The researchers investigated substance use and risk of engagement in sex among female teens, with pregnancy history also being examined. Participants included 3,451 females who completed the CDC's 1999-2003 Youth Risk

Behavior Survey. These results are in contrast with our outcomes, because the results imply that increased substance use should be correlated with increased sex experience (possibly including number of more recent partners), findings our study was unable to prove. Regarding number of sexual partners and endorsement of behaviors leading to violence, Hanson, M. J. (2010) learned that participants in her study that endorsed sexual partner violence or rape were at increased risk for taking part in risky behaviors. Hanson had set out to study health-related engagements in teenage girls with or without a history of sexual partner violence. Participants included high school student who completed the CDC's Youth Risk Behavior Survey in 2001. Despite our surprising results, we were able to find a moderate correlation between "how many sexual partners in past 3 months" and "how many times smoked marijuana", an outcomes that is somewhat in agreement with the former study summarized immediately above. However, the participant samples for both studies discussed above included individuals from diverse racial and ethnic backgrounds; whereas, our study included Black adolescents only.

Our third research question also examined correlations between using drugs or alcohol prior to sexual intercourse and behaviors leading to unintentional injury, behaviors leading to violence and alcohol and other drug use questions. Moreover, most of these results revealed very weak and weak negative correlations; whereas a couple revealed very weak positive correlations and only one result suggested a moderate negative correlation. Specifically, "did you use alcohol/drugs at last sex" resulted in very weak negative correlations with one out of four behaviors leading to unintentional injury questions, "how often wear bicycle helmet," two out of seven behaviors leading to violence questions, including "how many times injured in fight in past 12 months" and

"how many times in fight at school in past 12 months" and six out of 12 alcohol and other drug use questions, including "how old when first tried marijuana," "how many times used cocaine," "how many times used cocaine in past 30 days," "how many times sniffed glue," "how many times used steroids" and "how many times injected drugs." Weak negative correlations were also noted between "did you use alcohol/drugs at last sex" and two behaviors leading to unintentional injury questions, including "how often ride with drinking driver in past 30 days" and "how often drive while drinking in past 30 days", "did you use alcohol/drugs at last sex" and three behaviors leading to violence questions, including "carried gun in past 30 days," "carried weapon at school in past 30 days" and "how many times in fight in past 12 months" and "did you use alcohol/drugs at last sex" and five alcohol and other drug use questions, including "how many times smoked marijuana," "how many times smoked marijuana at school in past 30 days," "how many times used heroin," "how many times used methamphetamines" and "ecstasy use one or more times." Further, "did you use alcohol/drugs at last sex" showed a very weak positive correlations with one behavior leading to unintentional injury question, "how often wore a seat belt" and one behavior leading to violence question, "did boyfriend/girlfriend hit/slap you in past 12 months." Finally "did you use alcohol/drugs at last sex" demonstrated a moderate negative correlation with one alcohol and other drug use question, "how many times used marijuana in past 30 days." These findings are interesting, because they are both fail to agree with some previous literature; however, there seems to be a dearth of previous research relevant to this specific correlational research question. For example, Zablotska, I. B. (2007) looked at alcohol consumption, partner violence and forceful sexual acts in adolescent and young adult females in

Uganda. The study included 3,422 individuals from one area in Uganda, Rakai. Participants were interviewed about their demographics, sexual experiences and individual health. Results of the study revealed that alcohol use prior to last sex was related to partner physical violence as well as forceful sexual acts. Our study was unable to show a strong, even moderate correlation, between alcohol use prior to last sex and any one of several types of violence, including partner violence. Additionally, unrelated to adolescents specifically, Strathdee, S. A. et al. (2008) found that recent drug injection drug users demonstrated a significantly higher possibility of exposure to sexual risk behaviors in general. The research investigated factors associated with injection drug using behaviors. Their sample included female sex workers "in two Mexico-U.S. border cities" (p. 132). Again, we had a very difficult time locating other research related to the current research question.

Finally, our third research question also examined correlations between protection and sexual intercourse and behaviors leading to unintentional injury, behaviors leading to violence and alcohol and other drug use questions. Similar to our earlier findings for our third research question, most of the results here revealed no correlations at all, with some very weak positive correlations and a couple of very weak negative correlations. Specifically, "did you use a condom at last sex" revealed no correlation with three out of four behaviors leading to unintentional injury questions, including "how often wear bicycle helmet," "how often ride with drinking driver in past 30 days" and "how often drive while drinking in past 30 days", six out of seven behaviors leading to violence questions, including "carried weapon in past 30 days," "carried gun in past 30 days," "carried weapon at school in past 30 days," "how many times in fight in past 12 months,"

"how many times injured in fight in past 12 months" and "how many times in fight at school in past 12 months" and six out of 12 alcohol and other drug use questions, including "how many times used marijuana in past 30 days," "how many times used marijuana at school in past 30 days," "how many times used cocaine in past 30 days," "how many times used heroin," "how many times used methamphetamines" and "how many times injected drugs." "Did you use a condom at last sex" also demonstrated very weak positive correlations with six out of 12 alcohol and other drug use questions, including "how many times smoked marijuana," "how old when first tried marijuana," "how many times used cocaine," "how many times sniffed glue," "ecstasy use one or more times" and "how many times used steroids." Finally "did you use a condom at last sex" resulted in a very weak negative correlation with one behavior leading to unintentional injury question, "how often wore a seat belt" and one behavior leading to violence question, "did your boyfriend/girlfriend hit/slap you in past 12 months." Given our previously discussed correlational findings above, it is not surprising that our correlational results between protection and sexual intercourse and behaviors leading to unintentional injury, behaviors leading to violence and alcohol and other drug use questions largely contradict previous research findings, demonstrating stronger associations between these risky behaviors. For example, Yan, A. F., Chiu, Y., Stoesen, C. A. and Wang, M. Q. (2007) examined relationships between use of substances and STD-/HIV-related risk behaviors that involve sexual intimacy. Their participant sample included 5,745 adolescents living in rural areas throughout the United States. Data were derived from the CDC's 2003 Youth Risk Behavior Survey. Results of their study revealed that participants were less likely to endorse use of condoms prior to their most

recent sexual encounter if they also endorsed trying marijuana and/or cocaine. Their research also demonstrated associations between lack of condom use and endorsement of other risky behaviors. However, these additional findings are not relevant to our current research question. Similarly, Springer, A. E., Peters, R. J., Shegog, R., White, D. L. and Kelder, S. H. (2007) noted their results suggesting that using methamphetamines may put adolescents at increased risk endorsing several behaviors apropos to risky sexual encounters. Their study included data from 15,240 teenagers who completed the CDC's 2003 Youth Risk Behavior Survey. It should be noted that the populations in study for both articles discussed immediately above included adolescents from diverse racial and ethnic backgrounds; whereas, our study examined the behaviors of Black adolescents only. Moreover, Teitelman, A. M., Radcliffe, S. J., Morales-Aleman, M. M. and Sullivan C. (2008) found that partner violence was also related to condom use. Participants in their study who had experienced physical or emotional or threats of such abuse were at increased risk for using condoms irregularly. The study looked at relationship power, partner violence and consistency of condom use. Participants in their study included 56 African American and Hispanic between the ages of 15 and 19 years old. Participants had a history of being sexually active and lived in urban Michigan.

Previous literature discussed above in relation to our third research question primarily included studies demonstrating correlations between risky sexual behaviors and both alcohol and other drug use and behaviors leading to violence. We had a very difficult time unearthing studies that examined behaviors leading to unintentional injury behaviors (e.g., how often wore a seat belt) as correlate(s) of risky sexual behaviors.

Despite the surprising nature of this conclusion, the lack of literature in this area does add to the importance of our study, as it helps to fill this scientific gap in pertinent research.

Mental health and health professionals and educators can access our third research question findings as supplemental information to identify possible individual student risk and to help develop educational programming. However, these findings should be interpreted with caution for a few reasons. First, the correlational nature of the results for this research question does not indicate causal outcomes. Second, many of the results, although significant, demonstrated weak or very weak correlations. The stronger the correlation between two variables, the greater the ability to make predictions of one variable based on the other variable.

Many favorable outcomes of our third research question should be interpreted with caution. As mentioned immediately above, although significant, many of the favorable results indicated weak or very weak correlations. The larger a sample size is, the greater the likelihood that even weak or very weak significant correlations will be identified. "When a statistic is significant, it simply means that you are very sure that the statistic is reliable. It doesn't mean the finding is important or that I has any decision-making utility" (Statpac, 2014, p.1). Though, larger sample sizes do lend a hand to good generalizability our very weak and weak findings do not necessarily mean that our findings are meaningful.

Several considerations for the interpretation of our results should be noted. One consideration is the possibility that utilization of the CDC's Youth Risk Behavior Survey (YRBS) is representative only of youth enrolled in high school. This poses an inherent limitation to our third research question, for example, because general deviant behavior

affects high school dropout (Battin-Pearson, et al., 2000). Violence was a major potential HIV-related risk behavior correlate under consideration for our third research question. Ethnic minorities are also at much greater risk for dropping out of school than their peers (National Center for Education Statistics, 2002), and many students with HIV, for a diversity of reasons, drop out of high school before receiving a diploma, limiting the external validity of our study. However, this limitation may be outweighed by large sample size, homogeneity of school types, diversity of socioeconomic and subculture statuses, and random sampling of participants in the study.

Another important interpretive consideration is that there may prove to be variations in HIV-related risk behaviors between at least some groups of adolescents (e.g., injection drug users) who engage in heterosexual and homosexual sex (Celentano, Latimore & Mehta, 2008). Additionally, Garofalo, R., Wolf, R. C., Kessel, S., Palfrey, J. and DuRant, R. H. (1998) found that high school students who identify as Gay, Lesbian or Bisexual are at considerably higher risk for engaging in risky sexual behaviors. Their study looked at the relationship between sexual orientation and health risk behaviors in high school students. Further, the YRBS does not ask respondents about their sexual orientation. This major limitation also affects the generalizability of our study.

Respondent inquiry on the YRBS regarding whether or not they had received HIV-related education was expressed as a yes/no question. This also poses a threat to our study, specifically to our second research question. There are several different types of sex and HIV-related education programs (Fisher & Fisher, 2000; Kirby et al., 2006), both school-based and community-driven, some manualized and others informal. The lack of

knowledge regarding respondents' types of HIV-related education makes it impossible to control for this variability concern.

Limitations of internal consistency due to permissible modifications should also be of interpretive consideration. Specifically, since sites are allowed to modify questionnaire items it is not clear if the new items are as good of a measure of the construct they are intending to measure as the original items were. This may affect internal consistency of such particular constructs at certain sites.

A final consideration for the interpretation of our results concerns internal validity. This is mainly due to the diverse nature of the national samples used. Specifically, sample diversity adds several extra external factors (extraneous and confounding variables, including psychosocial variables) that may not be able to be controlled for and therefore my indirectly impact the relationship between variables being studied. For example, as mentioned earlier, one of the biggest issues in addressing whether HIV education is related to engagement in HIV-risk behaviors is the contextual factors at play such as hormones, socioeconomic status, family and community, etc. (Regents of the University of California, 2011)

Taken together, the evidence yields mixed results for all three of our hypotheses. Although our third research question demonstrated consistent findings throughout, these outcomes need to be interpreted with care, because they failed to demonstrate congruence with previous, relevant research, as discussed throughout. Our first research question revealed that grade status differences do exist in self-reported HIV-related risk behaviors, including the age at which participants first had sex, number of lifetime sexual partners and whether or not participants used a condom at last sex. However, we were unable to

find any significant grade status differences in self-reported HIV-related risk behaviors pertinent to whether or not a participant ever had sex, number of sexual partners in past 3 months, or whether or not a participant used alcohol or drugs prior to last sexual intercourse. Additionally, we were unable to find any significant gender moderation effects for this research question. These results were especially meaningful because of our very large participant sample size and variation in participant demographics. However, these outcomes varied in their ability to duplicate previous, pertinent findings. The lack of gender moderation in our study proved most surprising, because previous research was continuously in disagreement with this outcome.

Our second research question examined possible relationships between HIV-related education and self-reported HIV-related risk behaviors among Black high school students. Our research demonstrated mixed results among the different clusters of HIV-related risk behaviors (sexual intercourse only, using drugs or alcohol prior to sexual intercourse, protection and sexual intercourse), with only two of the six risk behavior questions within the three clusters providing evidence of meaningful outcomes. These questions were within the sexual intercourse only cluster and included the relationship between lifetime sexual partners and HIV-related education and number of sexual partners in past three months and HIV-related education. These findings should also be interpreted with caution, because HIV-related education explained only a small amount of variance (.3% for lifetime sexual partners; .6% for number of sexual partners in past three months) while predicting endorsement of number of sexual partners over participant lifetime and number of sexual partners in past three months. Additionally, findings for our second research question are not in agreement with previous research, as evidenced

by our review of literature in this area. Rather, many previous studies demonstrate strong relationships between HIV-related education and changes in HIV-related risk behaviors. However, this is not necessarily true of use of alcohol prior to adolescents' last sexual intercourse, as we were unable to locate previous, pertinent research. Moreover, our follow-up moderation analyses revealed gender and age as significant moderators of our meaningful findings for this research question. Evidence demonstrates that the gender findings are in agreement with relevant literature. The lack of research related to age as a moderating variable of these relationships makes it difficult to consider evidence supporting our significant age modifier outcome.

Our third research question considered whether self-rated HIV-related risk behaviors are correlated negatively, positively or not at all with other specific self-rated risk taking behaviors, including unintentional injury behaviors and alcohol and/or other drug behaviors in our participant pool of Black high school students. Results of this research question were primarily unfavorable, with many of our significant outcomes revealing weak and very weak correlations as well as no correlations. Only a couple of HIV-related risk behaviors showed moderate correlations with other risk taking behaviors and these correlations were always related to marijuana use. Again, these results should be carefully considered, because many of them failed to align with previous research examining similar research questions. The outcomes are however useful for a couple of reasons. First, this study utilized a very large dataset. Larger datasets increase the likelihood of finding significant results even when the outcomes are not very meaningful (e.g., weak or very weak relationships). Many of our significant results for our third research question revealed just this, weak and very weak correlations between risk taking

behaviors across the different behavior clusters despite N being very large. Second, the moderate correlations were always related to marijuana use --correlations were seen between number of sexual partners and marijuana use and drug and alcohol use prior to sex and marijuana use. This may inform future research as to whether causal relationships exist between risky marijuana behaviors and other risk taking behaviors.

As discussed many times early, our mixed results are important in informing the multicultural competencies of health and mental health professional and educators. Understanding the outcomes provides necessary and relevant information that can inform culture specific prevention and intervention techniques and programming for African American high school students. The outcomes can also help professionals better understand the culture specific needs of this group. Regardless of the favorable or undesirable nature of certain outcomes, the results should be interpreted only for useful and educational purposes. At times, when studying a minority group, undesirable results can indirectly lead to further stigmatization of the minority group in study. Again, all results should be used only for the further understanding of culture specific needs in prevention and intervention strategies and basic cultural specific professional education.

Despite the many limitations posed by the CDC's Youth Risk Behavior Survey, alternative administrations of the instrument may possess promising ideas capable of taking our research in excellent future directions. Survey administration procedures allow for sites to make changes to the instrument as long as 66.6% of the original test items remain on the modified questionnaire, without making any changes to these (CDC, 2004). This permission allows us to consider offering sites test administrations that include questions about participant sexual orientation, type(s) of HIV-related education

received and additional respondent psychosocial demographics.

This study was inspired by the clinical work I did with African Americans in Philadelphia as a graduate student. I worked with African American students in a college counseling center and with African American adolescents with HIV who presented with the intersection of multiple minority statuses, including health and mental health concerns. A portion of the individuals diagnosed with HIV with whom I worked included local college students. During my college counseling center clinical work, it became apparent to me that many of the professionals at the college counseling center lacked skills relevant to HIV-related risk and HIV-related risk taking behaviors. Many of them further lacked competence in the intersection of being African American and engaging in HIV-related risk taking behaviors. Moreover, I felt that it would behoove this population to ask research questions around issues pertinent to HIV-risk and HIV-related risk taking behaviors and inform counselors and other health professionals of our outcomes. No such comprehensive HIV-related dataset was available at the college level, and the CDC Youth Risk Behavior Survey offers an excellent and impressive compilation of data. The YRBS further proved to be an excellent choice for this study.

Interestingly, my perspective on HIV has changed since the outset of this study. This is true primarily in regards to my original preconceived notions of HIV-related risk behaviors and other risky behaviors. I once assumed that engagement in general risk taking behaviors was related to taking more HIV-related risks. The correlational outcomes of our third research question negates my previous assumption.

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Zimmer-Gembeck, M. J. & Helfand, M. (In press) Ten years of longitudinal research on U.S. adolescent sexual behavior: Developmental correlates of sexual intercourse, and the importance of age, gender and ethnic background. *Developmental Review* (2007), doi; 10.1016/j.dr.2007.06.001.

Appendix A

1. How old are you?
A. 12 years old or younger
B. 13 years old
C. 14 years old
D. 15 years old
E. 16 years old
F. 17 years old
G. 18 years old or older

2. What is your sex?
A. Female
B. Male

3. In what grade are you?
A. 9th grade
B. 10th grade
C. 11th grade
D. 12th grade
E. Ungraded or other grade

4. Are you Hispanic or Latino?
A. Yes
B. No

5. What is your race? (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

6. 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

7. 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
Pounds
1 5 2

The next 5 questions ask about safety.

8. When you rode a motorcycle during the past 12 months, how often did you wear a helmet?
A. I did not ride a motorcycle 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

9. 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

10. 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

11. 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

12. During the past 30 days, how many times did you drive a car or other vehicle when you 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

The next 10 questions ask about violence-related behaviors.

13. 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

14. 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

15. 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

16. 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

17. 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

18. 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

19. 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

20. 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

21. During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?
A. Yes
B. No

22. Have you ever been physically forced to have sexual intercourse when you did not want to?
A. Yes
B. No

The next question asks 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.

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

24. 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

25. During the past 12 months, did you ever seriously consider attempting suicide?
A. Yes
B. No

26. During the past 12 months, did you make a plan about how you would attempt suicide?
A. Yes
B. No

27. 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

28. 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 11 questions ask about tobacco use.

29. Have you ever tried cigarette smoking, even one or two puffs?
A. Yes
B. No

30. 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

31. 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

32. 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

33. 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

34. 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

35. Have you ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days?
A. Yes
B. No

36. 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

37. 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

38. During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip 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

39. 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.

40. 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

41. 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

42. 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
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43. 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

44. 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

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

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

46. 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

47. 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

48. 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

49. During the past 30 days, how many times did you use marijuana on school property?
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 11 questions ask about other drugs.

50. 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

51. During the past 30 days, how many times did you use 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

52. 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

53. 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

54. 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

55. 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

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

57. 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

58. During your life, how many times have you taken a prescription drug (such as OxyContin, Percocet, Vicodin, 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

59. 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

60. 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.

61. Have you ever had sexual intercourse?
A. Yes
B. No

62. 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

63. 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

64. 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

65. 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

66. 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

67. 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. Depo-Provera (injectable birth control)
F. Withdrawal
G. Some other method
H. Not sure

The next 7 questions ask about body weight.

68. How do you describe your weight?
A. Very underweight
B. Slightly underweight
C. About the right weight
D. Slightly overweight
E. Very overweight

69. 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

70. During the past 30 days, did you exercise to lose weight or to keep from gaining weight?
A. Yes
B. No

71. During the past 30 days, did you eat less food, fewer calories, or foods low in fat to lose weight or to keep from gaining weight?
A. Yes
B. No

72. 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

73. 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.)
A. Yes
B. No

74. 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 8 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.

75. 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

76. 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

77. 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

78. 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

79. 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

80. 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

81. 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 include 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

82. During the past 7 days, how many glasses of milk did you drink? (Include 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

The next 8 questions ask about physical activity.

83. On how many of the past 7 days did you exercise or participate in physical activity for at least 20 minutes that made you sweat and breathe hard, such as basketball, soccer, running, swimming laps, fast bicycling, fast dancing, or similar aerobic activities?
A. 0 days
B. 1 day
C. 2 days
D. 3 days
E. 4 days
F. 5 days
G. 6 days
H. 7 days

84. On how many of the past 7 days did you participate in physical activity for at least 30 minutes that did not make you sweat or breathe hard, such as fast walking, slow bicycling, skating, pushing a lawn mower, or mopping floors?
A. 0 days
B. 1 day
C. 2 days
D. 3 days
E. 4 days
F. 5 days
G. 6 days
H. 7 days

85. 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

86. 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

87. 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 Nintendo, Game Boy, PlayStation, Xbox, computer games, 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

88. 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

89. During an average physical education (PE) class, how many minutes do you spend actually exercising or playing sports?
A. I do not take PE
B. Less than 10 minutes
C. 10 to 20 minutes
D. 21 to 30 minutes
E. 31 to 40 minutes
F. 41 to 50 minutes
G. 51 to 60 minutes
H. More than 60 minutes

90. During the past 12 months, on how many sports teams did you play? (Include 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 8 questions ask about other health-related topics.

91. Have you ever been taught about AIDS or HIV infection in school?
A. Yes
B. No
C. Not sure

92. Have you ever been tested for HIV, the virus that causes AIDS? (Do not count tests done if you donated blood.)
A. Yes
B. No
C. Not sure

93. 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?
A. Never
B. Rarely
C. Sometimes
D. Most of the time
E. Always

94. 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.)
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

95. Has a doctor or nurse ever told you that you have asthma?
A. Yes
B. No
C. Not sure

96. Do you still have asthma?
A. I have never had asthma
B. Yes
C. No
D. Not sure

97. On an average school night, how many hours of sleep do you get?
A. 4 or less hours
B. 5 hours
C. 6 hours
D. 7 hours
E. 8 hours
F. 9 hours
G. 10 or more hours

98. During the past 12 months, how would you describe your grades in school?
A. Mostly A's
B. Mostly B's

C. Mostly C's
D. Mostly D's
E. Mostly F's
F. None of these grades
G. Not sure

Appendix B

Correlation Labels Corresponding with Tables 2, 3 and 4

Label Abbreviation	Label Description
VWP	Very Weak Positive
WP	Weak Positive
MP	Moderate Positive
SP	Strong Positive
VSP	Very Strong Positive
NC	No Correlation
VWN	Very Weak Negative
WN	Weak Negative
MN	Moderate Negative
SN	Strong Negative
VSN	Very Strong Negative

Appendix C

Questions Corresponding with Tables 2, 3 and 4

Question Category	Question #	Question Description
HIV-Related Risk Behaviors	58	Ever had sex
	59	How old at first sex
	60	How many sex partners (lifetime)
	61	How many sex partners in (past) 3 months
	62	Did you use alcohol/drugs at last sex
	63	Did you use a condom at last sex
Behaviors Leading to Unintentional Injury	8	How often wear bicycle helmet
	9	How often wear seat belt
	10	How often ride w/drinking driver (in past) 30 days
	11	How often drive while drinking (in past) 30 days
Behaviors Leading to Violence	12	Carried weapon (in past) 30 days
	13	Carried gun (in past) 30 days
	14	Carried weapon at school (in past) 30 days
	17	How many times in fight (in past) 12 months
	18	How many times injured in fight (in past) 12 months
	19	How many times in fight at school (in past) 12 months
	20	Did boyfriend/girlfriend hit/slap (you in past) 12 months
Alcohol and Other Drug Use	45	How many times smoke marijuana
	46	How old when first tried marijuana
	47	How many times used marijuana (in past) 30 days
	48	How many times (used) marijuana at school (in past) 30 days
	49	How many times used cocaine

50	How many times used cocaine (in past) 30 days
51	How many times sniffed glue
52	How many times used heroin
53	How many times used methamphetamines
54	Ecstasy (use) one or more times
55	How many times used steroids
56	How many times injected drugs

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BA (with honors), Psychology, May 2005
Wilkes University, Wilkes-Barre, PA

Honors & Awards:

Undergraduate Dean's List
Cum Laude Graduate
PSI CHI National Psychology Honor Society, March 2004-Current
Lehigh University Scholarship, 2007-2009, Spring 2010
American Psychological Association Convention, SAG/CCPTP Student Poster Session Award, Division 17,
    August, 2009

Board/Committee Memberships &Positions:

Travel Grants Officer, Executive Board, Lehigh Graduate Student Senate, 2006-2007, 2008-2009
Member, Committee on Racial/Ethnic Diversity, Soc. for Psychological Study of LGBT Issues, 2010-2011
Board Member, Community Advisory Board, Northeastern, PA Rainbow Alliance, Dec 2010 – Dec 2011
Member, PrideFest 2011 Advisory Committee, Northeastern Pennsylvania Rainbow Alliance, Summer 2011
Member, APA Division 29 Student Development Committee, Division of Psychotherapy, 2013-2015
Fellows Advisory Committee, Yale University School of Medicine Psychology Internship, 2014-Current

Clinical Experiences:

7/14-Current **Doctoral Psychology Fellow**
            Yale University School of Medicine
            Department of Psychiatry/Psychology Section
            Yale Stress Center (Primary Placement from 7/1/14-11/30/14)
            Behavioral Medicine Service, YNHH (Primary Placement from 12/1/14-Current)
            APA-Accredited Internship
            New Haven, CT

4/13-7/14	**Pre-doctoral Psychology Extern** **Yale Stress Center** New Haven, CT

2009-2010	**Psychology Practicum Student, Behavioral Medicine Practicum** **The Children's Hospital of Philadelphia (CHOP)** **Adolescent HIV Initiative Program, Adolescent Medicine Division** Philadelphia, PA

2008-2009	**Psychology Practicum Trainee** **University of Pennsylvania** **Counseling & Psychological Services (CAPS)** Philadelphia, PA

2006-2007	**Practicum Trainee** **Muhlenberg College Counseling Center** Allentown, PA

6/04-8/04	**Autism Department Intern** **The Children's Service Center, Wilkes-Barre, PA** Wilkes-Barre, PA

1/04-4/04	**Protection from Abuse Department Intern** **The Luzerne County Sheriff's Department** Wilkes-Barre, PA

Supervision Experiences:

1/10-5/10	**Doctoral Supervision Apprenticeship** **Lehigh University** Bethlehem, PA

1/10-4/10	**Supervision Group Co-leader** **Lehigh University** Bethlehem, PA

8/09-12/09	**Doctoral Supervisor** **Lehigh University** Bethlehem, PA

Assessment Experiences:

2013-2014	**Rorschach, MCMI-III, SCID, CANTAB, MMSE, Mini International Psychiatric**

Interview MINI (5.0.0), Perceived Stress Scale (PSS), BDI-II, Eating Disorder Examination Questionnaire (EDE-Q 6.0), Center for Epidemiological Studies-Depression Scale (CEDS-D), WAIS-IV

Spring, 2010   **WAIS–III**

2009-2010   **WISC-III and BDI**

Spring, 2009   **MMPI-II, NEO-PI-R, MCMI-III**

2008-2009   **Myers-Briggs Type Indicator, Strong Interest Inventory**

Research Experiences:

Publications
- Stults-Kolehmainen, M., Malcolm, L., DiLoreto, J., Gunnet-Shoval, K., Rathbun, E. (Submitted for Publication, Fall 2014). Psychological Interventions for Weight Management: A Primer for the Allied Health Professional.

Completed Research
- Gunnet-Shoval, K., Kulp, L., Ladany, N. (2009, November). Therapist Wisdom: Informing Future Generations. Panel Discussion at the 2009 Mid-Atlantic Society for Psychotherapy Research Conference sponsored by the University of Pennsylvania and The Children's Hospital of Philadelphia, Philadelphia, PA.
- Sutton, M., Caskie, G., Gunnet-Shoval, K. (2010, November). Stability in self-ratings of health: Differences in health outcomes for older Mexican Americans. Paper presented at the 2010 Gerontological Society of America Conference, New Orleans, LA.
- Gunnet-Shoval, K. Examining factors influencing African-American high school students' HIV-related risk behaviors. Dissertation. Division 53 (Society of Clinical Child and Adolescent Psychology) Poster Session at the 2012 Conference of the American Psychological Association, Orlando, FL.

Research In-Progress
- Gunnet-Shoval, K. (In-progress). Understanding the college experiences of HIV-infected African American Men Who Have Sex With Men. Completed proposal. Division 44 (Society for the Psychological Study of Lesbian, Gay, Bisexual & Transgender Issues) Poster Session at the 2012 Conference of the American Psychological Association, Orlando, FL.
- Tuit, K., Gunnet-Shoval, K., Sinja, R. (Submitted for Publication). Outcomes of an 8-week MBSR group on adults with a BMI > 30.
- Gunnet-Shoval, K (In-progress). *Benchmarking Psychology's Role in Behavioral Medicine within Hospital Systems.*

Other Research Experiences

- *Fall 2008,* I worked on the participant recruitment and analysis portions of a classmate's doctoral qualifying project about embarrassing events in supervision. (Grade Received: 4.0)

- *Summer 2006,* I worked on the transcriptions of a classmate's doctoral qualifying project. (Experience Only: No grade offered).
- *Spring 2005,* I worked in conjunction with a Wilkes University Professor of Psychology on a Psychophysiology study. We investigated the relationship between habituation and sensory gating. (Grade Received: 4.0)

Other Conference Presentations

- Gunnet-Shoval, K., Kulp, L., Ladany, N. (2009, August). Therapist Wisdom: Informing Future Generations..
    -Poster presentation at the Division 17 SAG/CCPTP Student Poster Session at the 2009 Conference of the American Psychological Association, Toronto.
    -Poster presentation at the 2006 Society for Psychotherapy Research conference, Edinburgh, Scotland
- *June, 2008,* I co-lead a roundtable discussion of a classmate's doctoral qualifying research project concerning embarrassing events in supervision.

Teaching Experiences:

Teaching Positions
Undergraduate Courses

1/10-1/12   **Lafayette College**
        Part-time Visiting Instructor**,** Department of Psychology
        Introduction to Psychological Science Lab (6Sections)

Spring 2011 **University of Pennsylvania**
        Lecturer B, College of Liberal and Professional Studies
        Developmental Psychology

Fall 2010   **Marywood University**
        Adjunct Instructor, Department of Psychology and Counseling
        Abnormal Behavior in Childhood & Adolescence

Graduate Courses
Fall 2010   **Marywood University**
        Adjunct Instructor, Department of Psychology and Counseling
        Human Development

Teaching Apprenticeships

        Lehigh University, Teaching Apprentice, Counseling Psychology Program, College of
Education
- School Counseling Fieldwork, Spring 2010
- Introduction to Family Counseling, Spring 2009
- Counseling & Human Services Practicum, Fall 2008