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THE SEEDS OF MISTRUST: THE RELATIONSHIP BETWEEN PERCEIVED  
RACISM, HIV CONSPIRACY THEORIES, AND HIV TESTING ATTITUDES

A thesis submitted in partial fulfillment of the requirements for the degree of  
Master of Science at Virginia Commonwealth University

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May 2013

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## **Abstract**

### **THE SEEDS OF MISTRUST: THE RELATIONSHIP BETWEEN PERCEIVED RACISM, HIV CONSPIRACY THEORIES, AND HIV TESTING ATTITUDES**

By Joshua Kyle Brevard, B.S.

A thesis proposal submitted in partial fulfillment of the requirements for the degree of Master of Science at Virginia Commonwealth University.

Virginia Commonwealth University, 2013

Major Director: Faye Z. Belgrave  
Professor of Psychology  
Department of Psychology

Although the number of HIV infected peaked in the late 1980's, HIV remains a major concern within the African American community (CDC, 2008). African Americans are disproportionately affected, comprising 14% of the U.S. population but representing 44% of new HIV infections in 2009 (CDC, 2011). It is vital to identify barriers to positive health behaviors like consistent condom use and HIV testing. This study focus on factors impacting attitudes towards HIV testing, including mistrust of the healthcare system, measured by support for HIV conspiracy theories (Thomas & Quinn, 1991). It also examined the prevalence of HIV conspiracy beliefs among African American college students, along with their perceptions of racism. The first goal of this study was to determine if perceived racism and HIV conspiracy theories are predictors of HIV testing attitudes. The second goal was to examine if perceived racism moderates the relationship between conspiracy beliefs and HIV testing attitudes. The findings indicated that higher levels of HIV conspiracy beliefs were associated with more negative attitudes towards HIV testing. The association between perceived racism and testing attitudes was marginally significant, while the interaction between perceived racism and testing was not significant. Implications for research and HIV interventions are discussed.

## The Seeds of Mistrust: The Relationship between Perceived Racism, HIV Conspiracy Theories and HIV Testing Attitudes

Although the number of those infected with HIV peaked in the late 1980's, HIV remains a major concern within the African American community (CDC, 2008). Demographic trends from 1981-2004 indicate that HIV was more prevalent among men than women (71.3% vs. 28.7%). Also, HIV infection is most likely among those age 30-44 (50.8%). This is primarily due to male homosexual (43.5%) and heterosexual contact (34%) (CDC, 2006).

Among African Americans, it is currently estimated that one in sixteen men and one in thirty-two women will be diagnosed with HIV over the course of their lifetime (Hall, An, Hutchinson, & Sansom, 2008). African Americans are disproportionately affected by the virus, comprising roughly 14% of the U.S. population but representing 44% of all new HIV infections in 2009 (CDC, 2011a). This troubling trend is not an isolated phenomenon, as African Americans face similar disparities with other sexual transmitted diseases. For example, in 2009 African Americans accounted for 71% of all gonorrhea cases, 48% of chlamydia cases, and 52% of primary and secondary syphilis cases (CDC, 2010). Over the past three decades numerous researchers have examined many possible factors that contribute to these disparities. They are the result of a complicated convergence of factors including income, poverty, access to care, unstable housing situations, homelessness, drug use, stigma, high incarceration rates of African American males, and mistrust of the medical establishment (CDC, 2008; Fullilove, 2006; Moseley, Freed, Bullard, & Goold, 2007).

While HIV is a national issue, it is also taking a tremendous toll on African Americans within the Commonwealth of Virginia. The Virginia Department of Health (2009) reports that one in 380 Virginians is living with HIV. Again, African Americans are disproportionately



affected, being nine times more likely to be living with HIV/AIDS than Caucasians. Among Virginians living with HIV, 62% are African American. Across gender lines, African American women account for 77% of all women living with HIV/AIDS. Also, four out of every five male Virginians with HIV/AIDS is African American. The rates of HIV in Central Virginia are highest in Richmond and Petersburg; this may be partially attributed to the fact that there are low rates of HIV testing in these areas. Because many individuals do not get tested and learn their status, estimates suggest that about 4,500 Virginians do not know that they are infected with HIV.

Because of the disparities in sexually transmitted infections at a state and national level, it is vital to identify the potential barriers to proactive positive health behaviors such as consistent condom use, HIV testing, educational awareness, and participation in prevention programs. This study focused on factors which impact African American students' attitudes towards HIV testing. It also examined the prevalence of HIV conspiracy beliefs among African American college students, along with their perceptions of racism. The first goal of this study was to determine if perceived racism and HIV conspiracy theories are predictors of HIV testing attitudes. The second goal was to examine if perceived racism moderates the relationship between conspiracy beliefs and HIV testing attitudes. The independent variable was African American's mistrust of the healthcare system, measured by individuals' support for HIV conspiracy theories (Thomas & Quinn, 1991). The literature review which follows discusses HIV among young African Americans followed by HIV testing, conspiracy theories, the history of medical experimentation, African Americans attitudes towards the healthcare field, and perceptions of racism. The role of other variables such as neighborhoods, education, and SES are also briefly discussed.

## Literature Review

### HIV among Young African Americans

Young adults represent the fastest growing group of HIV infected individuals in the United States (Hightow et al., 2006). Young people aged 13–29 accounted for 39% of all new HIV infections in 2009, despite persons aged 15–29 comprising 21% of the US population in 2010 (CDC, 2011b). Young African Americans (ages 13-24) are affected in particular, comprising 65% of infections in this age demographic in 2009 (CDC, 2011b). According to 2009 HIV surveillance data, women represented 24% of all new HIV infections among adults and adolescents. In 2009, African American women accounted for 30% of the estimated new HIV infections among all African Americans, with most (85%) being infected through heterosexual sex. The estimated rate of new infections for African American women was more than 15 times as high as that of White women, and more than three times as high as that of Latina women (CDC, 2011a).

In 2009, African American males accounted for 70% of new HIV infections among all African Americans. The rate of HIV infection among African American men was more than six and a half times as high as that of white men, and two and a half times as high as that of Latino men or African American women. In 2009, African American men who have sex with men (MSM) represented an estimated 73% of new infections among African American men, and 37% of all MSM (CDC, 2011a). Young African American MSM (age 13-29) were infected with HIV at a higher rate than any other age and racial group of MSM. New HIV infections among this population increased by 48% from 2006–2009 (CDC, 2011b). There are several factors that contribute to HIV among this population. For example, in a study examining predictors of HIV risk among college students, ethnicity, gender, academic status and substance use were

significant factors (Dilorio, Dudley, & Soet, 1998). Mehrotra and colleagues (2009) found similar results when examining demographic and personality factors in HIV/STD partner specific risk perceptions among young adults.

DiClemente (2000) notes that college students across the nation are at risk for HIV when they engage in unsafe sex practices. These behaviors include sex with multiple sexual partners, sex with casual partners, and unprotected intercourse (Cooper, 2002). Chernoff and Davison (2005) found that college students have high rates of sexual experimentation. This along with a lack of condom use may contribute to the finding that nearly 50% of all new sexually transmitted infections occur among college age individuals (15–24-year-olds) (Weinstock et al., 2004). The National College Health Assessment found that among sexually active undergraduate students, 14% of females and 21% of males have had sexual intercourse with three or more partners within the past 12 months (ACHA, 2011). Scholly and colleagues (2005) note that consistent condom use is not a normative practice among college students. African American college students are also at an increased risk for HIV infection although they typically have high levels of HIV/AIDS knowledge (Hightow et al., 2006).

Prominent sexual risk factors to HIV infection include early age at sexual initiation; unprotected sex; and having older sex partners (CDC, 2011b). Another sexual risk factor is male-to- male sexual contact. Young and minority MSM are more likely to be unaware of their HIV infection, leaving them susceptible to infect others with the virus. This population is also at risk because they are not always reached by HIV interventions or prevention education, as some sex education and prevention programs exclude information about sexual orientation. Young MSM may also be at increased risk for HIV due to feelings of isolation and a lack of social support.

The CDC (2011b) also notes that sexual abuse is another major risk factor, among young adults, both male and female. Victims of sexual abuse are more likely to engage in sexual or drug-related risk behaviors. Having another sexual transmitted infection increases an individual's likelihood of acquiring or transmitting HIV and young minorities often have the highest rates of sexual transmitted infections (CDC, 2011b). Substance use and a lack of awareness are other major risk factors. The CDC (2011b) notes that young people use alcohol, tobacco, and other drugs at high rates and that casual and chronic drug users are more likely to engage in risky behaviors, such as unprotected sex. The CDC (2011b) also suggests that a large proportion of young people are not concerned about becoming infected with HIV. This lack of awareness often results in individuals not behaving in ways that could protect their health.

The Centers for Disease Control and Prevention (2012) note there are many ways individuals can protect themselves from contracting HIV. The first method is to abstain from sex or to engage only in a long-term mutually monogamous relationship with an uninfected partner. Two, risk can be decreased by limiting one's number of sexual partners. The fewer partners one has, the less likely to encounter someone infected with HIV. Correct and consistent condom use is another major protective factor. Latex condoms are highly effective at preventing transmission of HIV and some other sexually transmitted diseases. Lambskin condoms do not provide sufficient protection against HIV infection. Abstaining from injection drugs is another protective factor. Also, participation in educational or prevention programs can help people make healthy decisions, such as negotiating condom use or discussing HIV status. Another major protective factor that reduces risk is testing, which is the focus of this study. The act of HIV testing is very important as it can result in an early diagnosis of the virus, which can help reduce the spread of HIV and get HIV-positive individuals into the proper care (Frieden, Das-

Douglas, Kellerman, & Henning, 2005). Young people need accurate, age-appropriate information about HIV. These messages could come from parents, including how to reduce or eliminate risk factors, talk with potential partners about risks, and negotiate safer sex. They also need information about where to get tested for HIV, and how to use a condom correctly. (CDC, 2011b).

### **HIV Testing**

One of the most important factors driving the HIV epidemic among African Americans is undiagnosed infection. Because HIV often does not show any physical symptoms, individuals can be unaware of their infection until they are tested. During this time, they can continue to have sexual intercourse and infect others. Marks and colleagues (2006) note that undiagnosed infection is responsible for more than 50% of new infections each year. There are many individuals who do not have information about where or how to seek out an HIV test. This lack of knowledge is most prevalent among the lower income, the less educated, and those who have never been tested (Ebrahim, Andersen, Weidle, & Purcell, 2004).

Although many population-based surveys suggest that African Americans have the highest rates of HIV testing among all ethnic/racial groups, there are several other studies that suggest that this may not be the case. For example, one study found that self-reports may actually overestimate testing behavior (Ford et al., 2009). Another study found that 25% of African Americans that reported having a prior HIV test falsely assumed they were tested during a recent clinical visit (Aragon, Kates, & Greene, 2001). Also, among sexually transmitted infection clinic patients, African Americans may be less likely to get tested (Schwarcz et al., 1997).

African Americans are not only disproportionately infected with the HIV virus; they also suffer more once they have contracted it. For example, HIV-positive African Americans delay seeking care longer than their white counterparts. Among African Americans, HIV progresses to AIDS faster and they die from AIDS sooner than Caucasians (Turner et al., 2000). Because of the huge impact of testing in reducing the spread of and the treatment for HIV and AIDS, it is crucial to improve rates of HIV testing. This can be done by first understanding and then improving attitudes towards HIV testing. Under certain conditions, individual's attitudes can predict their future behavior (Kraus, 1995). When addressing HIV attitudes in the African American community, it is important to acknowledge that many conspiracy theories explain the virus.

### **Conspiracy Theories**

The official account of HIV, which is supported by most scientists, is that the virus evolved from the simian immunodeficiency virus (SIV). SIV or HIV (following its mutation) was then transferred from non-human primates to humans in Africa during the early 20<sup>th</sup> century (Keele et al., 2006). Although this explanation is widely supported, doubts remain within the African American community concerning its veracity. In the mainstream media, these doubts have been labeled "conspiracy theories" (Bogart & Thorburn, 2005; Thomas & Quinn, 1993). Turner (1993) theorizes that these conspiracy theories consist of two main categories: malicious-intent theories and benign-neglect theories. *Malicious intent theories* are those where the "system" is actively seeking to destroy or harm African Americans. This would suggest that HIV was secretly created by the United States government in a genocidal plot to exterminate the African American community. *Benign-neglect theories*, on the other hand, refer to conditions that are allowed to persist due to societal racism. Benign neglect conspiracy theories would

suggest that the U.S. government is not working hard enough to find a cure for AIDS or may even be hiding one. The belief in benign neglect theories seems to be more widespread than malicious-intent theories (Parsons et al., 1999).

According to Waters (1997) “Although conspiracy theories are not unique to African Americans, conspiracy theories held by African Americans that seek to explain ethnic inequality are intrinsically interesting as a subset of conspiracy theories because they may indicate areas of tremendous uncertainty in interethnic relations.” Numerous news accounts as well as a small but growing amount of public health literature have reported widespread belief in conspiracy theories about the US government and healthcare system among African Americans, such as beliefs related to HIV, birth control, and genocide. Research shows that African Americans are much more likely to endorse such beliefs than are Caucasians (Bogart & Thorburn, 2005).

Researchers have hypothesized that conspiracy beliefs are a prominent manifestation of African Americans’ mistrust of the medical establishment, which stems from decades of institutional and interpersonal discrimination in the US healthcare system. Moreover, considerable numbers of African Americans report experiencing interpersonal discrimination in healthcare in the recent past and in their lifetime. African American men are more likely to mistrust the healthcare system and medical research and to endorse conspiracies indicative of African American genocide (e.g., that HIV and/or birth control are part of a government plot to wipe out African Americans. Strong African American identity has also been associated with greater belief in conspiracies about HIV, possibly because stronger identification may be related to greater knowledge of African American culture and history with respect to racism in the US.

The emergence of conspiracy theories has been a source of surprise and dismay from some social commentators. Some common concerns are that African Americans endorsing conspiracy theories are consumed with paranoia and are unable to participate fully in mainstream American society. Another concern is that these beliefs promote “feelings of victimization, powerlessness, and pessimism” (Waters, 1997). Waters also suggests that these conspiracy theories are a form of ethnosociology that ordinary people use to explain social phenomena by attributing them to the deliberate and often secretly planned actions of a certain group of people. Gasch and colleagues (1991) suggest HIV conspiracy theories are the logical result of the process in which "urban African Americans are struggling to conceptualize the threatening ecological and social decay" around them. Conspiracy theories offer explanations which cannot be contradicted by the observations of the social world available to African Americans dealing with racial discrimination and other inequalities.

While conspiracy theories are considered common within the African American community, they seem to be widespread in other minority communities as well (Crocker et al., 1999). Abalakina-Paap and colleagues (1999) found that conspiracy beliefs were more common among ethnic minority college students than White students. The researchers note that many of the minority participants reported feeling disadvantaged in American society and that those with low levels of trust had higher belief in conspiracies. The findings from this study suggest that belief in conspiracy theories is related to feeling marginalized in American society. Crocker and colleagues (1999) suggest that the demographic factors often expected to be significantly related to conspiracy beliefs, such as education, income, and gender, are usually insignificant.

Several empirical studies have explored HIV conspiracy beliefs and their prevalence within the African American community. Herek and Glunt (1991) conducted a national



telephone survey and found that two-thirds of African Americans (67%) compared to one-third of Caucasians (34%) reported believing that the U.S. government was not telling the whole story about AIDS. In another national telephone survey, Herek and Capitanio (1994) found that 20% of African Americans, compared to 4% of Caucasians, believed that the U.S. government was intentionally using HIV as a method for killing African Americans and other minority groups. Also, 43% of African Americans and 37% of Caucasians agreed that a large amount of information about HIV is being held back from the public. Among African Americans in their sample, lower levels of education and income were associated with the belief that the government is using HIV as a way of exterminating minorities. The researchers also found that none of the conspiracy beliefs was significantly related to self-reported behavior changes such as reducing their number of sexual partners or increasing their condom use.

Thomas and Quinn (1993) reported findings regarding HIV conspiracy beliefs from a number of surveys with diverse African American samples. Over a number of samples, the researchers found that between 28% and 44% of respondents indicated that they did not trust government reports about AIDS. Also, between 17% and 38% of respondents believed that there was some truth to reports that HIV was developed in a germ-warfare laboratory. Lastly, between 15% and 35% of respondents across samples reported believing that AIDS is a form of genocide against the African American community.

Parsons and colleagues (1999) examined whether African Americans believed the government was providing the full truth about HIV. The researchers found that 70% of their respondents reported believing that the government was not providing the full truth about HIV/AIDS. Also, Ross, Essien, and Torres (2006) studied the prevalence of the belief that HIV was created by the U.S. government among four racial/ethnic groups: African Americans,

Latinos, non-Hispanic Caucasians, and Asians. Data for this study was gathered from a community based survey regarding knowledge of HIV transmission. They found that 27.3% of African American men reported believing that HIV was created by the U.S. government; another 16.6% reported that they did not know. The researchers found among African American women, that 31.2% believed HIV was created by the government, and 18.2% reported not knowing.

Bogart and Thorburn (2005) assessed the implications of these conspiracy theories by exploring their relationship with condom use and attitudes among 500 African Americans (age 15 - 44). They hypothesized that the conspiracy beliefs would be negatively related to condom use and attitudes and that those participants who mistrusted government information about HIV would also mistrust public health outreach messages concerning prevention. The researchers found that the most common conspiracy belief was that the government is withholding more information about HIV or even a cure for AIDS. They also found gender differences, as men displayed stronger conspiracy beliefs on some items. Also, the men reporting belief in conspiracies had more negative condom attitudes and were less likely to use condoms on a consistent basis.

In a more recent study, Bohnert and Latkin (2009) found that men, older individuals, and those with a lower educational attainment were more likely to endorse conspiracy beliefs. They also found that those individuals who believed in HIV conspiracies were more likely to have taken an HIV antibody test. These results are consistent with the findings of Clark and colleagues (2008) which suggest that individuals who hold HIV conspiracy beliefs have a shorter period between infection and diagnosis. Both of these recent studies are inconsistent with previous research, which suggests that HIV conspiracy theories are a barrier to treatment (Bogart & Thorburn, 2005). While holding these conspiracy beliefs suggests a distrust of governmental

institutions, these recent studies indicate that conspiracy beliefs may not be an impediment to HIV testing. Individuals who endorse HIV conspiracy theories were more likely to have gotten an HIV antibody test (Bohnert & Latkin, 2009). As a result, interventions to increase HIV testing in high risk communities may not require efforts to reduce conspiracy beliefs. However, these recent studies are not unequivocal and these results must be replicated in other studies. It is also important to examine if conspiracy beliefs contribute to more positive attitudes towards HIV testing. Because of the potential impact of HIV conspiracy theories on testing, it is important to understand the historical conditions which generated them so that they can be addressed.

### **Brief History of Unethical Medical Practices and Experimentation**

The emergence of conspiracy theories in the African American community is closely linked to the historical injustices African Americans have endured in the United States, such as enslavement and Jim Crow segregation. While many African Americans hold a deep sense of mistrust for American institutions as a whole, this is especially true for the medical field. This is in direct response to unethical medical practices and widespread experimentation performed on African Americans since enslavement (Washington, 2006). An example of these unethical practices is the work of Dr. J. Marion Sims, who attempted to repair vesicovaginal fistulas by conducting painful vaginal experiments on slave women without anesthesia. Sims' justified his actions with the belief that African Americans could not feel the sensation of pain as Caucasians could. It was not until he perfected the procedure on African American women that he performed it on Caucasians, whom were provided anesthesia. Despite his unethical behavior, Sims is widely lauded today as a medical hero and known as the father of American gynecology (McGregor, 1998; Washington, 2006).

Perhaps the most well-known case of unethical medical treatment of African Americans is the U.S. Public Health Service's (PHS) Study of Syphilis in the Untreated Negro Male. Widely known as the Tuskegee Syphilis Study, it began in 1932 and lasted until the early 1970's. In this experiment the PHS recruited African American men infected with syphilis by telling them they would receive treatment. However, the participants were not actually provided treatment and the researchers used them to observe the course of the disease and how it destroyed the men's bodies (Thomas & Quinn, 1991; Washington, 2006). The Tuskegee Study is commonly cited as the sole reason for many African Americans' mistrust. However, the notion that Tuskegee is the primary source of mistrust ignores the underlying historical context that unethical medical practices were not isolated events, they were the social norm.

There have been numerous instances of unethical medical treatment ranging from the forced sterilizations on African American women known as Mississippi appendectomies (Nelson, 2003) to the total body irradiation experiments performed in the Cincinnati Radiation Tests (Stephens, 2002). It is this pervasive mistreatment which helped generate many African Americans' widespread perception of racism which fuels the belief in many conspiracy theories within the African American community.

### **African Americans Attitudes towards the Healthcare Field**

Because of past practices, African Americans have a very complicated relationship with many institutions in American society. Those institutions dominated by White individuals may generate perceptions of racism and mistrust. Healthcare is one of the fields that has a legacy of poor treatment and abuse of African Americans (Benkert et al., 2006). Hammond and colleagues (2010) suggest that experiences and expectations of racially biased treatment can foster attitudes of medical mistrust among African Americans. This medical mistrust, highly influenced by

perceptions of racism, has numerous implications. For example, African American males generally attend fewer annual healthcare appointments than White men and are less likely than African American women to seek help from physicians (Barber et al, 1998). Neighbors and Howard (1987) found that African American men's help seeking tendencies in regard to the healthcare field were not influenced by problem severity. Hammond et al. (2010) suggest that these barriers may be the result of medical mistrust. Disparities in the prevalence of multiple diseases exist between African Americans and non-African American populations. These disparities for African Americans have been associated with unequal, discriminatory treatment and systematic racism.

What all of these studies have found is that feelings of racial discrimination in the healthcare system have generated a feeling of mistrust among many African American patients (Malat & van Ryn, 2005). The trust dilemmas are unfortunate because trust in one's provider has been shown to affect willingness to seek care and follow up on treatment recommendations. History-based models of trust provide a useful framework for exploring the role of social and healthcare interactions in African American men's medical mistrust. These models suggest cumulative, negative interactions disrupt an individual's sense of psychological safety (Edmondson, 2004). This disruption of psychological safety may lead African Americans to anticipate negative future interactions.

Consequently, African Americans men and women have been found to be less satisfied with their primary care (LaVeist, Nickerson, & Bowie, 2000). These findings change, however, when the patient has a choice in the selection of the primary care provider. In a group of low income African Americans in two primary care clinics, perceptions of racism and mistrust of Caucasians had a significant negative effect on the trust and satisfaction with care. Perhaps most

significant, perceived racism had a moderate, inverse significant direct influence on satisfaction with care, and perceived racism had a significant indirect effect on satisfaction with care-mediated by cultural mistrust and trust in provider. These findings also suggest that trust building skill development may need to be tailored to the African American population (Benkert et al., 2006).

### **Perceived Racism**

McNeilly et al. (1996) defines racism as a multi-dimensional construct influenced by macro level factors such as residential segregation and also consisting of prejudice towards minorities and acts of discrimination. When considering the struggle of African Americans, racism can be considered the underlying societal problem responsible for numerous historical injustices in the past including the widespread rape and sexual abuse of slave women (Davis, 1972), countless unjustified murders and lynchings (Beck & Tolnay, 1990; Perloff, 2000), and unethical medical experimentation (Washington, 2006). Perceived racism can be simply defined as the extent to which individuals are aware of prejudice and discrimination in the social environment. Depending on the context, one's perception of racism can be detrimental or self-protective (Mays et al., 2006).

While the United States has made tremendous progress in dealing with racial tensions, it should be noted that perceived racism remains an important issue for the African American community. Modern discrimination is not particularly salient as it was in the past, but has taken a more subtle and indirect form (Marable, 1996; Schiele 2002). There are numerous instances of continued racial discrimination in social and institutional settings such as higher education (Chesler, Lewis, & Crowfoot, 2005), residential housing (Rosigno, Karafin & Tester, 2009), hiring practices (Pager, 2003), employment termination (Elvira & Zatzick, 2002) and the

criminal justice system (Alexander, 2010). Collins and colleagues (2002) note that African Americans are more likely to anticipate being treated unfairly by healthcare professionals because of their race. Perceived racism in healthcare has been cited as an important determinant of African Americans' trust in medical organizations and willingness to utilize services (LaVeist et al. 2000, Smedley & Smedley, 2005).

Waters (1997) suggests that African Americans most likely to endorse conspiracy theories are those who are more aware of racism and the enduring racial disparities between African Americans and Caucasians. Klonoff and Landrine (1999) found that experiences with racism predicted belief in HIV conspiracy theories. Higher perceptions of racism lead to greater system blame, which is the tendency to blame problems on prejudice or discrimination. System blame has been found to predict conspiracy beliefs about HIV/AIDS (Crocker et al., 1999). Interestingly, it has been found that the higher one's perception of racism, the more likely that an individual has been tested for HIV (Ford et al., 2009). If this is the case, then perceiving racism may not be detrimental. African Americans who notice racism may have healthier outcomes than those who ignore it or blame themselves for the observed racial disparities (Ford et al., 2009). This research suggests that African Americans with higher levels of racial perceptions are likely more aware of the enduring racial divisions within the United States and are more likely to feel disconnected from the rest of society. This may manifest itself in belief in HIV conspiracy theories. For this reason, perceived racism served as the moderator in this study.

### **Socioeconomic Status**

In better understanding racial perceptions such as belief in HIV conspiracy theories and perceived racism, it is also important to understand factors that contribute to them. One such factor is socioeconomic status (SES). Decades ago, Clark (1965) asserted that socioeconomic

status was related to African American identity and attitudes. Other indicators of socioeconomic status, such as education level, have also been found to be associated with racial attitudes (Dawson, 1994). A common misconception of the African American community is that it is a monolithic group where everyone holds the same attitudes. The work of Weitzer and Tuch (2002) demonstrates that this is clearly not the case and that there is a growing polarization between the African American middle class and more disadvantaged African Americans. The African American middle class has grown since the 1960's and this status protects many African Americans from the drugs, crime, and violence that many inner city African Americans often experience (Simpson, 1998). This has led many middle class African Americans to feel disconnected from their disadvantaged counterparts and to identify more strongly with middle class Caucasians (Parent & Stekler, 1985; Sowell, 1984). It is likely that these changes in racial identification result in some changes in attitudes.

There are few studies which have found a direct relationship between socioeconomic status and conspiracy beliefs. For example, Klonoff and Landrine (1999) examined the prevalence of conspiracy theories among African American adults. A sample of 520 participants completed a written survey in which they answered questions regarding their belief in conspiracy theories. They found that 27% of the respondents reported conspiracy beliefs while 23% were undecided. They also found that the endorsement of conspiracy theories was related to education level rather than age or income.

While Klonoff and Landrine (1999) did not find a link between conspiracy beliefs and SES, it is possible that socioeconomic status plays a role in African American's perceptions of racism. This is because African Americans living in areas of higher SES may be more likely to believe race is not a defining feature of their lives. Their attitudes may be more similar to those



of White America, and they may have lower beliefs in HIV conspiracy theories. Gay (2004) conducted a study examining the impact of socioeconomic status on African American's views on race. The results found African Americans living in neighborhoods with higher SES levels, had lower belief that their fate was connected to the rest of their race. Also, pessimism about the severity of racial discrimination declined. It is noted that this is evidence of the "material roots" of African American racial identity: "It is because African-American beliefs about race are strongly informed by a legacy of economic oppression, and as such have a distinct economic component (as opposed to being strictly an expression of cultural solidarity), that actual exposure to material deprivation affects the salience of race. To wit, neighborhood quality affects the salience of race by providing African Americans with an objective basis on which to either accept or reject the standing belief that their lives remain overtly determined by their racial group membership." (p. 559).

### **Neighborhoods**

Another important factor in the development of perceptions of racism and HIV conspiracy beliefs is neighborhoods and residential context. Many middle class African Americans live in predominately White neighborhoods and this may impact their racial attitudes. However, this was not always the case. Before the 1960's the residential patterns of middle class African Americans were restricted due to the system of racial segregation. Middle class African Americans were forced to live within the confines of the "urban ghetto" despite having varying professions and income levels (Drake & Cayton, 1945). In the aftermath of the Civil Rights Movement and the implementation of fair housing legislation, middle class African Americans were able to flee the inner city ghettos for the newly integrated suburbs (Banks, 1984).

This development has had a major impact on the racial attitudes within the African American community. Research has shown that one's surrounding social environment can affect the salience of racial identity (Lau, 1989; Welch, Sigelman, Bledsoe, & Combs, 2001). Banks (1984) conducted a study of the racial attitudes of African American adolescents living in predominantly white neighborhoods. This study found that as the attitudinal assimilation of these children increased so did their positive attitudes towards Caucasians. However, they also found that their attitudes towards other African Americans became more negative. Research also suggests that perceived racism is influenced by interracial interactions. The African Americans living in more integrated settings have a higher perception of racism than those living in more homogenous settings, presumably due to the increased interracial contact (Jackson, 2005).

### **African Americans on College Campuses**

Research on conspiracy beliefs and level of education is equivocal. Klonoff and Landrine (1999) found that African American males with a college degree were more likely to hold conspiracy beliefs than those with only a high school education. This suggests that African Americans with higher education levels may be more exposed to the history of injustices towards African Americans and are more receptive to conspiracy beliefs. However, Bohnert and Latkin (2009) found that individuals with a lower education attainment were more likely to endorse conspiracy beliefs.

Waters (1997) found that believers in conspiracy theories had higher level of education than those who did not. Because the participants of this study were primarily college aged individuals, it is also important to understand racial attitudes within this population. Ancis, Sedlacek, and Mohr (2000) examined the views of African American, Latino, Asian, and White undergraduate students concerning the racial climate of their college campus. They found that

African American students reported far more racial conflict and separation and they also perceived more interracial tension in the residence halls than White students. African Americans, along with Asians and Latinos, were significantly more likely to report feeling pressure to conform to racial and ethnic stereotypes.

Schwitzer et al. (1999) conducted a qualitative study focusing on the adjustment experiences of African Americans on a university campus that had only 126 African American senior students. Twenty two African American seniors were selected to participate in focus groups regarding their views of the campus social climate, from the classroom environment to interaction with faculty. The results found that participants reported loneliness, isolation, and a sense of being underrepresented among the university community. Many students mentioned instances of direct racism, which often occurred in cross cultural roommate pairings, friendships, and dating experiences. In regards to their interaction with faculty, many participants reported feeling that most faculty did not seem to understand African Americans students. The conditions on university campuses described in the preceding studies suggest there are often deep racial divisions on university campuses that may foster perceptions of racism.

### **Theoretical Framework**

The theoretical framework for this study was provided by the Phenomenological Variant of Ecological Systems Theory (PVEST). This theory combines a phenomenological framework with Bronfenbrenner's (1977) ecological systems theory. The PVEST links both culture and context to individuals' meaning making processes and their resulting identity formation. While Bronfenbrenner's theory noted that there were multiple levels of social context, the PVEST is important in noting how individuals are influenced by these contextual levels (Spencer, Fegley, Harpalani, & Seaton, 2004). This theory also notes an individual's cultural environment is

influential in the formation of one's identity. Also, culture is experienced by individuals on a daily basis, regardless of whether they are aware of it. These processes are relevant in understanding many aspects of the African American experience, including perceptions of racism. It is also integral to understanding feelings of mistrust, which can manifest through belief in HIV conspiracy theories.

The PVEST consists of five primary components: 1) risk, 2) stress, 3) coping, 4) identity, and 5) life outcomes (Spencer et al., 2004). Risk refers to the potential challenges of a youth's development, while stress refers to the actual experiences that challenge someone. In response to these stressors, a variety of coping methods are used. This leads to the formation of identity, as the coping strategies produce desirable results which are replicated. They then become emergent identities which define how individuals see themselves in their respective social contexts. Lastly, life outcomes are affected by the behaviors produced by one's identity (Spencer et al., 2004). These components of the PVEST theory are relevant for this study. For example, young African Americans are at risk for experiencing prejudice or discrimination. Once experienced, this may become a source of stress. A heightened perception of racism often becomes a coping response to these experiences (Essed, 1991). This may lead to a change in identity as individuals experience an increase in Black identity and even an endorsement of conspiracy beliefs, which can impact life outcomes. As noted previously, research is mixed concerning the impact of conspiracy beliefs on health behaviors (Bogart & Thorburn, 2005; Bohnert & Latkin, 2009).

I believe that the PVEST is an appropriate theory for the study of African Americans because it addresses many of the flaws found in mainstream theories for researching African Americans (Spencer, 1995). One flaw of mainstream research is the unaddressed contextual and psychological factors such as racism and class inequalities which can impact perceptions of self

and others. Also, ecology and context have sometimes been ignored in the consideration of human development and research has often localized problems within individuals. Although SES and neighborhood context are expected to be associated with the variables of interest in this study, college students live and work in a fairly homogeneous environment. Most have high educational expectations, relatively low income and there is limited variability in their community as most live at or close to the university. Therefore, while SES and neighborhood context are important variables to consider in this type of research, they will be included in future studies with community samples.

The PVEST is particularly important because it acknowledges the historical and contemporary impact of social policy on the social, cultural, and political context of diverse ethnicities within the United States (Spencer, 1995). This theory's emphasis on historical context is important to this study, especially when trying to understand the historical events which created these issues of mistrust and perceived racism. For example, the institution of slavery is a hugely important historical factor which continues to influence the experiences of African Americans despite the advances some experienced after the Civil Rights Movement. Also, there are lingering effects of racism and oppression which continue to exert negative influences on the lives of many African Americans. This has resulted in more economic disadvantage, less educational attainment, fewer career opportunities, and poorer health outcomes than Caucasians (Caldwell, Guthrie & Jackson, 2006). These circumstances have a great impact on the cultural environment which is so influential, according to the PVEST theory (Spencer et al., 2004). A possible example of this cultural impact is indicated through this nation's legacy of medical experimentation and how it has severely weakened African Americans' trust in the healthcare system.

## Statement of the Problem

In the United States, medical and public health institutions are the major sources of prevention information regarding HIV. Individuals who endorse HIV conspiracy theories may hold suspicions of the information provided by the U.S. government and public health organizations. Consequently, people may be less likely to follow prevention recommendations regarding safer sexual behavior and suggestions to get tested. Thus, conspiracy theories are not focused solely on HIV and those who endorse conspiracy beliefs likely have suspicions about prevention messages regarding other public health problems as well (Bogart & Thorburn, 2005). After decades of research into health disparities, there is increasing awareness of the importance of designing interventions to reduce or eliminate them (Cooper, 2002).

Airhihenbuwa and colleagues (2002) note that in order to have effective interventions; a high level of cultural expertise is needed. Beyond this, there is a need to match cultural expertise with the cultural reality of the African American community, given the history of institutional racism and structural discrimination in the United States (Airhihenbuwa et al., 2002). Privilege has been reflected in cultural ways of knowing which credit one group with production of knowledge while the others are virtually unacknowledged in society. It is this form of cultural marginalization which has given rise to interventions that have little impact on improving the health of African Americans. Airhihenbuwa and colleagues (2002) also question the effectiveness of many prevention and interventions programs, since most funds do not target efforts that adequately address the African American cultural context.

Part of this cultural context includes an open discussion of HIV conspiracy theories. Based on the large number of individuals who endorsed conspiracy beliefs in prior research, it is important for researchers and public health organizations to consider these beliefs when thinking

of safer sex education messages targeting African Americans, especially African American men (Bogart & Thorburn, 2005). Bogart and Thorburn (2005) also notes that there are some culturally sensitive interventions for African Americans, using African American health educators to disseminate prevention messages, but many lack an open discussion of conspiracy beliefs. These interventions could be improved by discussing these beliefs. By incorporating a discussion of conspiracy beliefs, trust could be built between health educators and members of the African American community. Benkert and colleagues (2006) found that trust building is a major issue that needs to be addressed in order to better serve African Americans.

Acknowledging issues of concern within the African American community, such as race and HIV conspiracy theories can help increase trust between community members and facilitators of HIV interventions, by making them more effective. Bogart and Thorburn (2005) support this by noting that a discussion of conspiracy beliefs should be integrated into existing interventions, due to their widespread presence in the African American community.

While several past studies have examined African Americans belief in HIV conspiracy theories, few have studied the combined impact of conspiracy theories and perceived racism on attitudes towards HIV testing. By understanding the role of these factors, new interventions can be developed or existing ones can be improved to help improve attitudes toward HIV testing.

### **Purpose of the Study**

The primary goal of this study was to examine African American college students' attitudes about HIV/AIDS conspiracy theories, perceptions of racism, and attitudes towards HIV testing. This study also sought to determine if perceived racism would moderate the relationship between HIV conspiracy theories and attitudes towards HIV testing. This study controlled for participants year in college.

## Hypotheses

**Hypothesis 1:** HIV conspiracy beliefs will predict attitudes towards HIV testing, with higher levels of conspiracy beliefs being associated with more positive attitudes towards HIV testing.

**Hypothesis 2:** Perceived racism will predict attitudes towards HIV testing, with higher levels of perceived racism being associated with more positive attitudes towards HIV testing.

**Hypothesis 3:** Perceived racism will moderate the relationship between conspiracy beliefs regarding HIV and attitudes of HIV testing such that this relationship will be stronger among individuals with higher perceptions of racism.

**Hypothesis 4:** Males will have higher HIV conspiracy belief scores, and higher perceived racism scores than females.

## Methods

### *Design*

This study utilized a cross sectional design to collect self-report data examining African American college students' levels of perceived racism, HIV conspiracy beliefs, and attitudes towards HIV testing.

### *Participants*

Data were collected from 113 African American college students from a university in the southeastern region of the United States. Five participants were excluded from data analysis because they were outside the targeted age range of 18 and 24. The decision to include this age range was because it is the age group most at risk for contracting HIV. It is also the age group of most college students. According to Cohen (1992) in order to conduct a hierarchical regression with a medium effect size, with power = .80, and a .05 level of significance, the study required a minimum sample size of 91 participants. The study required at least 26 members of



each gender to test for gender differences with large effect sizes. While the original plan was to recruit a comparable number of male and female participants, the final sample of 108 consisted of 79 (73.1%) females and 29 (26.9 %) males. The mean age of the sample was 19.74 years. 37% (n = 40) were freshmen, 29.6% (n = 32) were sophomores, 23.1% (n = 25) were juniors and 10.2% (n = 11) were seniors. 29.6% (n =32) reported having had a prior HIV test.

### *Measures*

**Perceived Racism** was measured with the Perceived Racism Scale (PRS) developed by McNeilly and colleagues (1996). The PRS assesses individuals' perceptions of racism in a variety of contexts including: racism on the job, racism in academic settings, racism in public settings, and exposure to racist statements. It is a 51 item measure that assesses experiences with racism in three specific categories: frequency of exposure, emotional responses, and coping responses. Respondents rate the frequency of exposure for each of these areas in the past year as well as over the course of their lifetime. They also rate their emotional and coping responses and higher scores reflect higher instances of racist experiences. The scale includes items such as "I am followed, stopped, and arrested by White police more than others because of my race." The scale's items are on a six point Likert scale, ranging from 1 for "not applicable" to 6 for "several times a day". Higher scores indicate a higher frequency of racist perceptions. McNeilly et al. (1996) established strong validity and reliability of this scale, with a Cronbach's alpha of 0.96. The Cronbach's alpha for this sample was 0.95.

**HIV Conspiracy Theories** was measured with the HIV Conspiracy Theory scale developed by Bogart and Thorburn (2005). The scale includes items that capture malign intent and benign neglect conspiracy theories. An example of a malign intent item is "AIDS was created by the government to control the African American population." An example of a

benign neglect item would be “Medical and public health institutions are trying to stop the spread of HIV in African American communities.” Responses were on a seven point scale ranging from 1 for “strongly disagree” to 7 for “strongly agree.” Higher scores indicate stronger belief in HIV conspiracy theories. This scale has also demonstrated strong validity and reliability; Bogart and Thorburn (2005) reported a Cronbach’s alpha of 0.85. In this sample the scale had a Cronbach’s alpha of 0.79.

**HIV Testing Attitudes** was measured with the HIV-Antibody Testing Attitude Scale (HTAS) developed by Boshamer and Bruce (1999). This scale assesses general attitudes towards HIV testing. The scale includes items such as “My friends would look down on me if I were tested for HIV.” The items were on a 7 point Likert scale with responses ranging from 1 for “strongly disagree” and 7 for “strongly agree”. Higher scores indicate more negative attitudes towards HIV testing. This scale has been found to have good validity and reliability with a Cronbach's alpha of 0.88 (Boshamer & Bruce, 1999). This measure’s Cronbach alpha for the sample was 0.75.

#### *Control Variables*

Year in college and previous HIV testing were identified as potential control variables. Participants were asked to indicate by checking the appropriate box if they are a “freshman,” sophomore,” junior,” “senior,” or “other”. Also since a previous HIV test may impact testing attitudes, this variable was considered a control variable. Participants were asked to respond “yes” or “no” to the question “Have you received an HIV test within the past year.” This variable was not correlated with testing attitudes and was not included as a covariate in subsequent analyses.

#### *Procedure*

This study was approved by the University's Institutional Review Board. African American students signed up to participate in the online study through SONA, a web-based program the psychology department uses to manage recruitment, credit management, and on-line surveys. Students received course credit for participating.

### *Data Analysis Plan*

Data was analyzed using SPSS 19. Preliminary analyses were conducted to screen data for outliers and violations of the assumptions of multiple regression including linearity, normality, and homogeneity of variance. No outliers were found during preliminary analyses. A hierarchical multiple regression analysis was computed to test the primary hypotheses. Predictor variables were centered to reduce non-essential multicollinearity. Year in college was controlled for in the analysis and included in the first step. The independent variable, conspiracy beliefs, was also entered in the first step of the analyses. The moderating variable, perceived racism, was entered into the second step. Lastly, the interaction term was entered into the third step. In order to test the study's final hypothesis, a series of one way ANOVAs were computed.

### Results

Refer to Tables 1 and 2 for descriptive information on the primary measures. The HIV Antibody Testing Scale scores ranges from scores of "1" to "7", with higher values indicating more negative attitudes towards testing. The sample generally reported positive attitudes towards HIV testing ( $M = 2.43$ ,  $SD = .88$ ). The independent variable, conspiracy beliefs, was also measured on a seven point Likert scale with higher scores denoting higher perception of conspiracy beliefs. The sample had moderate attitudes towards conspiracy theories, with scores generally falling near the midpoint of the scale ( $M = 3.23$ ,  $SD = .82$ ). Lastly, perceptions of racism tended to be generally low within this sample ( $M = 1.96$ ,  $SD = .58$ ).

Descriptive statistics were also computed for males and females separately. Men ( $M = 2.50$ ,  $SD = 1.05$ ) had slightly more negative testing attitudes than women ( $M = 2.28$ ,  $SD = .81$ ) as higher scores indicate more negative testing attitudes. The results also indicated that men ( $3.39$ ,  $SD = .79$ ) had slightly stronger beliefs in conspiracy beliefs than females ( $M = 3.17$ ,  $SD = .82$ ). Lastly, men ( $M = 2.03$ ,  $SD = .57$ ) reported a higher perception of racism than women ( $M = 1.94$ ,  $SD = .59$ ). However, none of these gender differences were statistically significant.

Table 1.

*Descriptives*

Variable	Mean	SD
Testing Attitudes	2.34	0.88
Conspiracy Beliefs	3.23	0.82
Perceived Racism	1.96	0.58

Table 2.

*Means and SDs for Study Variables for Males and Females*

Variable	Male		Female	
	Mean	SD	Mean	SD
Testing Attitudes	2.50	1.05	2.28	0.81
Conspiracy Beliefs	3.39	0.79	3.17	0.82
Perceived Racism	2.03	0.57	1.94	0.59

A correlational matrix of study variables is in Table 3. A significant correlation was found between conspiracy beliefs and HIV testing attitudes,  $r(106) = .243, p = .011$ . There was a significant correlation between perceptions of racism and HIV testing attitudes,  $r(106) = .218, p = .023$ . Perceived racism was not significantly correlated with conspiracy beliefs,  $r(106) = .153, p = .114$ . A significant correlation was also found between year in college and testing attitudes,  $r(106) = -.190, p = .049$  with higher years of college associated with more favorable testing attitudes. Thus, years in college remained a control variable in subsequent analysis. There was a borderline, but not significant correlation between testing attitudes and whether one had previously received an HIV test,  $r(106) = -.188, p = .052$ .

Table 3.  
*Correlation Matrix for Study Variables*

Variable	1	2	3	4	5
1. Testing Attitudes	---				
2. Conspiracy Beliefs	.243*	---			
3. Perceived Racism	.218*	.153	---		
4. Classification	-.190*	-.074	-.062	---	
5. Previous HIV Test	-.188	-.047	.038	.201*	---

Note. \* is significant at 0.05 level.

A hierarchical multiple regression analysis was conducted to test the first three hypotheses of this study. Hypothesis one was that conspiracy beliefs would predict HIV testing attitudes. Hypothesis two was that perceived racism would predict HIV testing attitudes.

Hypothesis three was that perceived racism would moderate the relationship between HIV conspiracy beliefs and HIV testing attitudes. The control variable, year in college, was entered into the first step along with the independent variable, conspiracy beliefs. The moderating variable, perceived racism, was entered into the second step. The interaction between conspiracy beliefs and perceived racism was entered into the third step of our model.

The first step of the model accounted for a significant amount of variance in HIV testing attitudes,  $F(2, 105) = 5.109, p = .008, R^2 = .089$ . Year in college was not associated with HIV testing attitudes,  $t(105) = -1.848, p = .067, \beta = -.173$ . Conspiracy beliefs were significantly associated with testing attitudes, such that more conspiracy beliefs were associated with more negative attitudes towards testing,  $t(105) = 2.464, p = .015; \beta = .230$ .

The second step was also significant,  $F(3, 104) = 4.6876, p = .004, R^2 = .119$ . Once again, year in college was not associated with testing attitudes,  $t(104) = -1.770, p = .080; \beta = -.164$ . Conspiracy beliefs were associated with testing attitudes,  $t(104) = 2.184, p = .031, \beta = .204$ . Perceived racism was marginally associated with testing attitudes,  $t(104) = 1.895, p = .061; \beta = .177$ . The change in R-squared from block 1 to block 2 was .030 and marginally significant

The third step of the model indicated that the interaction between conspiracy beliefs and perceived racism was not significant,  $t(103) = -1.337, p = .184, \beta = -.682$ . The change in R-squared from block 2 to block 3 was .015 and not significant. These results failed to confirm the hypothesis that the moderating effects of perceived racism on the relationship between conspiracy beliefs and HIV testing attitudes provided unique variance above and beyond the lower order effects.

Two one-way analysis of variance (ANOVAs) were performed to test the fourth hypothesis, that men would report significantly higher conspiracy belief and perceived racism

scores. The first ANOVA tested for differences in conspiracy beliefs between men and women. The overall model was not significant  $F(1, 106) = 1.470, p = .228$ . The second one way ANOVA tested for gender differences in regard to perceptions of racism. This model was also not significant,  $F(1, 106) = .576, p = .450$ . These results fail to support the final hypothesis of this study.

**Table 4.**

*Hierarchical Regression Results for HIV Testing Attitudes*

Step and Variable	B	SE	$\beta$	$R^2$	$\Delta R^2$	F change
Step 1				0.089	0.089	5.109*
Classification	-0.152	0.082	-0.173			
Conspiracy Beliefs	0.248	0.101	0.23			
Step 2				0.119	0.03	3.591
Classification	-0.144	0.081	-0.164			
Conspiracy Beliefs	0.219	0.1	0.204			
Perceived Racism	0.267	0.141	0.177			
Step 3				0.134	0.015	1.788
Classification	-0.147	0.081	-0.167			
Conspiracy Beliefs	0.658	0.343	0.611			
Perceived Racism	0.983	0.553	0.65			
Interaction	-0.224	0.167	-0.682			

Note. \* is significant at 0.05 level.

### Discussion

The African American community remains disproportionately affected by HIV, making up 14% of the U.S. population but comprising 44% of all new infections in 2010 (CDC, 2013).

An important reason for this disparity is undiagnosed infection. Since HIV often does not show physical symptoms, infected individuals will be unaware of their status and able to possibly to infect others. This demonstrates the importance of HIV testing and knowing one's status.

Testing can result in an earlier diagnosis, which can help reduce the spread of HIV and help HIV-positive individuals receive medical care (Frieden et al., 2005). The purpose of this study was to better understand attitudes toward HIV testing within a sample of African American college students. More specifically, the study was designed to assess the relationship between testing attitudes and two other constructs; HIV conspiracy theories and perceptions of racism. The widespread prevalence of HIV conspiracy beliefs within the African American community has been long established (Herek & Glunt, 1991; Thomas & Quinn, 1993). These beliefs have been associated with negative health outcomes, such as negative condom attitudes, reduced condom use, and having multiple sexual partners (Bogart & Bird, 2003; Bogart & Thorburn, 2005). In recent years, researchers have begun to assess the impact of these beliefs on HIV testing. However, more recent research suggests that conspiracy beliefs are associated with a greater likelihood of having had an HIV test (Bohnert & Latkin, 2009). Researchers have also examined the relationship between perceived racism and HIV testing. Ford et al. (2009) found that individuals with higher perceptions of racism (rather than lower), are more likely to have been tested for HIV.

While previous studies have assessed the impact of conspiracy beliefs and perceived racism on the likelihood of having had an HIV test, this study contributes to the literature by being the first to link these two constructs specifically to HIV testing attitudes. While actual testing behavior was examined in this study, it was also important to understand testing attitudes for two reasons. The first is because attitudes can predict future behaviors under certain



conditions (Kraus, 1995). Second, testing is not universal among African Americans as the CDC (2007) noted that 52% of African Americans adults reported having had an HIV test. However, only 29.6% (n=32) of participants in this study reported having received an HIV test. The relatively low percentage of testing among students in this study is lower than that found among students in other studies on college campuses. Payne and colleagues (2006) conducted a study of HIV testing on a HBCU campus. They found that 50% of the sample consented to HIV testing offered at the university-counseling center. Their findings also showed that providing more accessible testing sites significantly increased the percentages of students who sought testing. Testing services are provided at the university in which this research was conducted, suggesting that there may be other factors in the low testing rates. Payne and colleagues (2006) also found that the African-American college students who engaged in risky sexual behaviors often perceived themselves as not being at risk. This finding is particularly relevant for this research and may explain the low rates of testing within this sample of young African Americans.

Although testing was relatively low, participants in this sample generally had very positive testing attitudes. They also reported a moderate level of support for conspiracy beliefs and low perceptions of racism. Most reported that racist experiences never occurred or did so rarely. There are a number of potential reasons for the low levels of perceived racism among this sample. One, younger African Americans have been raised in an era of greater progress in interracial relations. Racial prejudice is far less overt than it was in the past, becoming so subtle that many African Americans may not even notice it (Fiske, 2010). This group also may be less knowledgeable about the past mistreatments of African Americans, such as the Tuskegee study. Due to a lack of knowledge of these events, these events do not influence current views about

racism or plausible perceptions of interracial interactions.

Another reason for the low perception of racism is that this study was conducted on a diverse urban campus; about 20% of the student population is African American. This type of environment may promote higher levels of interracial interaction and less tension. It is also possible that perceptions of racism are low because students self-segregate themselves. This is a process children learn at a very young age and may continue into adulthood (Tatum, 1997). Thus lack of perceived racism may be a consequence of little to no interracial interactions.

The results showed an inverse correlation between year in college and testing attitudes. This suggests that as students get older, their testing attitudes become more positive (as lower scores indicate less negative attitudes). It was also found that year in college was positively correlated with having had an HIV test. These results indicate that older students were more likely to have had an HIV test. This finding is consistent with prior research of HIV testing among African American college students at several southern HBCUs. Thomas et al. (2008) found that the likelihood of having had a previous HIV test increased as the number of academic years completed increased. The study by Thomas and colleagues also found that respondents who believed they were at high risk for infection, had previously visited a healthcare facility, and reported engaging in risky behaviors were more likely to have been tested. It is possible that these same factors may explain why this sample's older individuals were more likely to have been tested. This may also explain why participants in this study had more positive attitudes towards testing.

The first hypothesis was that HIV conspiracy beliefs would predict attitudes towards HIV testing, with conspiracy beliefs predicting more positive testing attitudes. This hypothesis was generated to replicate previous research which has suggested that conspiracy beliefs have

positive effects on HIV preventive behaviors, including an increased likelihood of having had an HIV test (Bohnert & Latkin, 2009). This hypothesis was unsupported. Although conspiracy beliefs were found to predict testing attitudes, they did not predict more positive attitudes. Individuals with higher conspiracy beliefs tended to have more negative attitudes towards HIV testing. This finding is consistent with older research, which suggests that conspiracy beliefs are linked to negative health outcomes, like negative condom attitudes and reduced condom use among African American men (Bogart & Thorburn, 2005). An earlier study conducted by Bogart and Bird (2003) found that malign intent HIV conspiracy beliefs (those which suggest the U.S. government created the HIV virus) were associated with negative attitudes toward condoms and having multiple sexual partners. As discussed previously, individuals with conspiracy beliefs may be suspicious of the information provided by the U.S. government and public health organizations. Consequently, they may be less likely to follow prevention recommendations regarding safer sexual behavior including refusal to be tested.

The second hypothesis of this study was that perceived racism would predict attitudes towards HIV testing, such that higher levels of perceived racism would be associated with more positive attitudes towards testing. This hypothesis was generated by previous work by Ford and colleagues (2009) who found that perceived racism was associated with higher odds of having had an HIV test. A significant positive correlation was found between perceived racism and attitudes toward HIV testing, indicating that as perceptions of racism increased, so did negative testing attitudes. However, this hypothesis was not supported. When perceived racism was entered into a regression model the relationship only reached marginal significance. These findings were not consistent with previous research. Ford et al. (2009) found that perceived racism was associated with positive health outcomes, including a higher likelihood of testing.

The relationship between the two constructs may have not reached statistical significance in this sample due to the generally low levels of perceived racism.

The third hypothesis proposed that perceived racism would moderate the relationship between conspiracy beliefs and HIV testing attitudes, such that this relationship would be stronger among individuals with higher perceptions of racism. This hypothesis was not supported. This finding is likely tied to the fact that perceived racism was not a significant predictor of testing attitudes, along with the fact that there were generally low levels of perceived racism in the sample.

The final hypothesis of this study was that African American males would have higher HIV conspiracy belief and perceived racism scores than females. This hypothesis was designed to replicate the work of Bogart and Thorburn (2005), who found significant gender differences in the types of conspiracy beliefs endorsed, the strength of these beliefs, and the association between conspiracy beliefs and condom use and attitudes. More specifically, males had stronger conspiracy beliefs than females. This study's results found that males had more negative HIV testing attitudes, a stronger endorsement of conspiracy beliefs, and a higher perception of racism than their female counterparts. However, this hypothesis was also not supported and gender differences were not significant. The sample size may have contributed to the lack significant gender differences. While this study had at least 26 participants of each gender, and enough statistical power to detect a large effect size, the analysis was underpowered to detect medium or small effects. According to Cohen (1992) this study would have required 64 participants of each gender in order to test for medium effects. Time constraints prevented more participants from enrolling in the study and data collection ended with a sample of 108, which was disproportionately female at 73.1% (n =79) and 26.8% male ( n = 29). Bogart and Thorburn

(2005) collected data from a sample of 500 participants, which was 34.8% male (n =174) and 65.2% female (n = 326). Another reason for the lack of gender differences in conspiracy beliefs and perceived racism may be because the participants were college students and both male and female college students may have similar exposure to experiences of racism and access to information about the origin of HIV. Bogart and Thorburn (2005) conducted their study among a community sample, and it is possible that gender differences may have been seen in a community sample.

### **Implications for HIV Programs and Interventions**

There are several implications from this study. These implications can inform future programs and interventions as well as research. The finding that HIV conspiracy beliefs negatively impact HIV testing attitudes is notable because these beliefs may prevent individuals from seeking out an HIV test. The lack of HIV testing helps to perpetuate the major HIV disparities between African Americans and Caucasians. Both topics, HIV conspiracy beliefs and testing attitudes should be covered in interventions and educational campaigns.

There are a large number of evidence based interventions for HIV, including SISTA, Nia, and Safe in the City (DiClemente & Wingood, 1995; Kalichman, Cherry, & Browne-Sperling, 1999, Warner et al., 2008). The primary goal of these interventions is to improve condom attitudes and increase the use of condoms. They also entail providing participants with the necessary skills to recognize risky situations and to make better decisions. While these are necessary parts of HIV prevention, the critical component of HIV testing is missing. A few interventions explicitly focus on promoting HIV testing. One is the Future is Ours (FIO), an intervention for heterosexual women in high risk communities. Women in this intervention learn about HIV and other STIs and are encouraged to engage in HIV testing with their partner

(Erhardt et al., 2002). Another relevant intervention is Mpowerment, which focuses on increasing testing among young men who have sex with men (MSM) (Keegles et al., 1996). HIV testing is a vital issue as undiagnosed infection is responsible for more than 50% of all new infections every year (Marks et al., 2006). This is critical in helping individuals learn their status and preventing the spread of HIV infection.

The cultural reality of the African American community is highly influenced by institutional racism and structural discrimination. These factors have given rise to a deep sense of mistrust on the part of some African Americans, which can manifest in the form of HIV conspiracy theories. Because these beliefs are so integral to African American culture and consciousness, interventions should include a discussion of them. This recommendation follows Airhihenbuwa and colleagues (2002) position that cultural competence is necessary for intervention effectiveness. According to Bogart and Thorburn (2005), while some culturally sensitive interventions use African American health educators to disseminate prevention messages, a discussion of conspiracy beliefs is often not part of the curriculum. It is important for researchers and public health organizations to consider conspiracy beliefs when constructing safer sex education messages for African Americans, especially men (Bogart & Thorburn, 2005). This could build trust and rapport between health educators and members of the African American community, making interventions more effective (Benkert et. al, 2006).

### **Limitations**

While this study makes a contribution towards understanding the effect of HIV conspiracy theories on HIV testing, there are some limitations. One limitation was that the study used a sample of African American college students attending a majority White institution and these students are not representative of all African American college students, particularly those

at historically Black colleges and universities (HCBUs). Even further, this sample is likely not representative of a community sample of African Americans in the same age group. Individuals in the community may have lower levels of education, which may result in lower levels of HIV knowledge (Ebrahim et al., 2004). Also this sample may have reported lower levels of conspiracy beliefs and perception of racism than that found in the African American community. Age may have accounted for the lower levels of racism. For example, older African Americans may be more aware of past event such as the Tuskegee Syphilis Study, and issues of race may be more salient for them. This would likely generate a higher perception of racism than found in this sample.

Another limitation of this study was the Perceived Racism Scale (McNeilly et al., 1996). This scale assesses an individual's frequency of racist perceptions in three situational domains: "on the job", "in academic settings", and "in the public realm". Several of the items from these scales may not have been appropriate. The mean age of this study's sample was 19 years and a majority of these individuals were full time students. The "on the job" items on the PRS were likely not relevant to most participants and many responded with a score of 1 for "not applicable". Another flaw of the PRS is that it fails to tap into the more subtle forms of modern racism. For example, a public realm item is "I have known African American men who have suffered negative consequences for talking to White women (being hurt or killed)." This is an occurrence which occurs infrequently in today's society. Thus, a floor effect occurred with the participants' scores being at the bottom of the distribution due to many of the items not being relevant for a college age sample or due to assessing blatant forms of racism that are no longer prevalent. Lastly, the statistical test for the fourth hypothesis was underpowered to detect smaller

effects. The gender differences found may have reached statistical significance with a larger sample size.

### **Future Research**

In terms of future research, the present study's findings accounted for a significant but relatively modest amount of variance in perception of HIV testing. Future research could attempt to replicate this study with a larger community sample of African Americans. With a larger sample, possible effects not found in this study may be detected. African American's disproportionate rates of HIV are due to many factors, such as low income, poverty, access to care, homelessness, etc. (CDC, 2008; Fullilove, 2006; Moseley, Freed, Bullard, & Goold, 2007). It would be interesting for future research to control for these factors and examine if these disparity rates still occur.

Bogart and Thorburn (2005) also note that an important step is to examine if conspiracy beliefs are negatively associated with HIV testing in other populations. Future studies could assess if testing attitudes are linked to conspiracy beliefs among other groups disproportionately affected by HIV, such as men who have sex with men (MSM), Latinos, and injection drug users.

An interesting route for future research is to identify other factors that are linked to HIV testing attitudes, such as risky behaviors. This study found that year in college was correlated with previous testing behavior. It was also inversely correlated with testing attitudes. If age and increased exposure help promote better preventative health behaviors and attitudes, future research can examine what experiences promote this change. It is possible that older individuals have engaged in more risky behaviors like unprotected sex or having multiple partners (Cooper, 2002). The older college students who have experienced these situations may have had contact with other sexually transmitted infections, which increased their awareness of HIV risk and



created a greater openness toward testing. More specifically, future studies could gain a deeper understanding by assessing participant's risky sexual behaviors and assessing their relationship to attitudes. For example, Thomas et al. (2008) suggest that risky behaviors are associated with a greater likelihood of testing. More research could be conducted to assess if these behaviors also have a relationship towards testing attitudes.

Bogart and Thorburn (2005) have noted that more qualitative research is needed to better understand the antecedents and consequences of various conspiracy beliefs. Qualitative studies could be performed to determine where conspiracy beliefs develop. While the current sample may be generally less knowledgeable about historical factors, it is likely that parents or older community members would be more knowledgeable. Qualitative research could also provide a more nuanced method for assessing the extent to which individuals endorse these beliefs and how these beliefs affect an individual's health behavior. For example, Bogart and Thorburn (2005) have suggested that conspiracy beliefs may influence an African American's willingness to adhere to medical treatment. Another interesting area would be to assess if African American endorse conspiracy theories in other areas, such as politics. Taking it a step further, research could also determine if conspiracy beliefs impact behaviors such as voting. Research could also examine conspiracy beliefs among other racial and ethnic groups.

## **Conclusion**

This study has implications for understanding the impact of HIV conspiracy beliefs on testing attitudes of African Americans. While recent studies (Bohnert & Latkin, 2009; Clark et al., 2008) have suggested that HIV conspiracy theories are associated with an increased likelihood of testing, this study supports the earlier and more negative conception of conspiracy beliefs (Bogart & Thorburn, 2005). The findings from this study suggest that it is important for

programs to integrate discussions of conspiracy theories into HIV prevention messages for African Americans. Integrating these messages in interventions, will reduce one barrier to positive testing attitudes. This is a critical element in improving testing attitudes and encouraging individuals to know their status. Ultimately, I believe this will help the African American community to reduce the spread of this devastating virus.

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## Appendix 1

### Measures Used in this Study

#### The Perceived Racism Scale

##### Section 1

Not applicable = 1

Almost never = 2

Several times a year = 3

Several times a month = 4

Several times a week = 5

Several times a day = 6

##### A. Racism on the job (If you have never been employed, please skip this section and go to section B, question number 11).

1. Because I am African American, I'm assigned the jobs no one else wants to do.
  - a) How often has this happened in the past year?
  - b) How often has this happened during my life?
2. At work when different opinions would be helpful, my opinion is not asked for because of my race.
3. I am treated with less dignity and respect than I would be if I were white.
4. I am watched more closely than other workers because of my race.
5. Racial jokes or harassment are directed at me at work.
6. Because I am African American, I feel as I have to work twice as hard.
7. Tasks that require intelligence are usually given to Caucasians, while African Americans get those that don't require much thought.
8. I am often ignored or not taken seriously by my boss because of my race.
9. Caucasians often assume I work in a lower status job than I do and treat me as such.
10. A white co-worker with less experience and qualifications got promoted before me.

##### B. Racism in Academic Settings

11. I have been made to feel uncomfortable in a classroom of White students.

12. Teachers and students assume I'm less intelligent because of my race.
13. Caucasians assume I gained admission to school only because of Affirmative Action, not based on my abilities or intelligence.
14. My graded assignments are judged more critically because I am African American.
15. Although I'm equally prepared and responsive, I am called on less than Caucasians in the class.
16. White I excel academically, I am looked upon as an exception to my race.
17. I find it difficult to trust White teachers and/or students.
18. My academic advancement has suffered because of my race.
19. Although I am equally intelligent, Caucasians often don't include me in study groups because I am African American.
20. I have been taught in school that Europeans are civilized and Africans are primitive.

### **C. Racism in the Public Realm**

21. I have been called insulting names related to my race or skin color.
22. When I go shopping, I am often followed by White security guards or watched by White clerks.
23. I hear comments from Caucasians expressing surprise at my or other minority individuals intelligence or industriousness.
24. People "talk down" to me because I am African American.
25. I have been refused rental housing which was then later rented to Caucasians of similar standing (e.g., comparable family income).
26. I know of people who have gotten into trouble (gotten hurt, beaten up, shot) by Caucasians (individuals, gangs, police, White hate groups).
27. I have difficulty getting a loan because I am African American.
28. I am followed, stopped, or arrested by White police more than others because of my race.
29. I have had to make my speech and posture appear passive when dealing with Caucasians.
30. Waiters and waitresses ignore me and serve Caucasians first.
31. White males talk about not desiring African American women for "serious" relationships versus those with White women.
32. My house has been vandalized because of my race.
33. I have had to allow Caucasians to obtain the best seats in public places.
34. I have been denied hospitalization or medical care because of my race.
35. I have known African American men who have suffered negative consequences for talking to White women (being hurt or killed).
36. I have encountered legal restrictions against African Americans. Please indicate each one that applies: housing, marriage, jobs, use of public facilities.  
B) How often have any of these events happened during my life?

### **D. Responses to Racism Statements**

37. "Over the past few years, African Americans have gotten more economic and educational breaks than they deserve."
38. "African Americans should not push themselves into places where they are not wanted."
39. "Most African Americans are on welfare because they are too lazy to get a job."

40. “If an African American family moved in next door to me, I would seriously think about moving.”
41. “African American people are generally not as smart as Caucasians.”
42. “African American men have an animal like passion in bed.”
43. “Some African Americans get so touchy about their rights that it is difficult to get along with them.”

**Section 2 (Please circle a response next to each emotion that best describes how you feel in that setting):**

Not at all		Moderately		Extremely
1	2	3	4	5

44. When I experience racism on the job I generally feel.
45. When I experience racism in academic settings I generally feel.
46. When I experience racism in the public realm I generally feel.
47. When I hear racist statements, I generally feel.

**Section 3 (Please indicate the behavior or behaviors that best describe how you deal with racism in that setting):**

- A. Speaking up
- B. Accepting it
- C. Ignoring it
- D. Trying to change things
- E. Keeping it to myself
- F. Working harder to prove them wrong
- G. Praying
- H. Avoiding it
- I. Getting violent
- J. Forgetting it
- K. Other (please list)

48. When I experience racism on the job I generally deal with it by.
49. When I experience racism in academic settings I generally deal with it by.
50. When I experience racism in the public realm I generally deal with it by.
51. When I hear racist statements, I generally deal with it by.

### The HIV Conspiracy Theory Scale

Please read the following statements carefully and indicate how much you agree or disagree using the scale below. Please answer according to how you actually feel, not how you think you should feel or would like to feel. Thank you.

1	2	3	4	5	6	7
Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Mostly Agree	Strongly Agree

1. The medicines used to treat HIV are saving lives in the African American community.
2. A lot of information about AIDS is being held back from the public.
3. There is a cure for AIDS, but it is being withheld from the poor
4. The government is telling the truth about AIDS.
5. The medicine used to treat HIV causes people to get AIDS.
6. AIDS was created by the government to control the African American population.
7. People who take the new medicines for HIV are human guinea pigs for the government.
8. Medical and public health institutions are trying to stop the spread of HIV in African American communities.
9. AIDS was produced in a government laboratory.
10. Scientist and doctors can be trusted to tell us the truth about AIDS.
11. AIDS was created to kill African Americans and poor folks.
12. The government has a cure for HIV but will not release it.
13. The drug companies have a vaccine to prevent HIV infection but will not release it.

## The HIV-Antibody Testing Attitude Scale

Please read the following statements carefully and indicate how much you agree or disagree using the scale below. Please answer according to how you actually feel, not how you think you should feel or would like to feel. Thank you.

1	2	3	4	5	6	7
Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Mostly Agree	Strongly Agree

1. I am afraid that if I were to be tested for HIV, my name would go into public records.
2. Anyone who is tested for HIV is disgusting.
3. HIV antibody testing is not really confidential.
4. I would not consider getting an HIV test because I would be asked about things I have done that could get me into trouble.
5. I would be embarrassed if my friends found out I had decided to have an HIV test.
6. People would assume I have HIV if I decided to get tested.
7. I am afraid someone would find out I was tested for HIV.
8. I would not get tested for HIV because I would be asked information that was too personal.
9. HIV antibody testing information is kept very confidential by the medical staff who do testing.
10. I trust the HIV counselors and nurses to keep my information confidential.

## Demographics

1. How old are you? \_\_\_\_\_ (years)
2. What is your sex?
  - a. Male
  - b. Female
3. What is your primary language?
  - a. English
  - b. Spanish
  - c. Other (specify) \_\_\_\_\_
4. How would you describe yourself?
  - a. Straight/Heterosexual
  - b. Bisexual
  - c. Gay/Lesbian
  - d. Unsure
  - e. Other (specify) \_\_\_\_\_
5. Do you currently have a romantic partner?
  - a. Yes
  - b. No
6. Are you currently married?
  - a. Yes
  - b. No
7. How long have you and your romantic partner or spouse been together?
  - a. I do not have a romantic partner
  - b. We have been together for.....
8. Are you living with your romantic partner?
  - a. Yes
  - b. No
9. Do you have children? If yes, how many?
  - a. Yes, I have \_\_\_\_\_ children
  - b. No
10. How old were you when you had your first child?
  - a. \_\_\_\_\_ (years)
  - b. I do not have children
11. What best describes your year in school?      Freshman    Sophomore    Junior    Senior



Other please describe \_\_\_\_\_

12. Are you currently sexually active?  
a. Yes  
b. No
13. How old were you when you first had sex?  
a. \_\_\_\_\_ (years)  
b. I have never had sex
14. Are you currently pregnant? (women only)  
a. Yes  
b. No
15. Have you ever been pregnant? (women only)  
a. Yes  
b. No
16. Are you actively trying to get pregnant?  
a. Yes  
b. No
17. Have you ever had a sexually transmitted disease or infection?  
a. Yes  
b. No
18. In your lifetime, have you ever been tested for HIV?  
a. Yes  
b. No
19. In the past month, have you ever been tested for HIV?  
a. Yes  
b. No
20. How would you describe your current relationship status?  
a. I am in a committed relationship  
b. I am in a casual relationship  
c. I am dating someone  
d. I am seeing someone  
e. I am involved with someone  
f. I am hooking up with someone  
g. I am single and looking  
h. I am single and not looking  
i. I am not involved with anyone  
e. Other (specify) \_\_\_\_\_
21. Is this your first semester in college?  
a. Yes  
b. No

## Vita

Joshua Kyle Brevard was born on April 25, 1989 in Columbia, South Carolina. He graduated from Warwick High School, Newport News, Virginia in 2007. He received his Bachelor of Science in Psychology from Virginia Commonwealth University in 2011.