

## Abstract

OLABODE-DADA, OLUSOLA M. Frequency of Condom Use in a Sample of African American College Women and Its Relationship to HIV/AIDS-Related Attitudes. (Under the direction of Craig C. Brookins.)

This study examined the relationships between HIV/AIDS knowledge, perceived risk and stigmatization, self-efficacy for using condoms, religiosity, and frequency of condom use in a sample of 154 African American college women. Four research questions were proposed: Do participants who engage in greater stigmatizing of PLWHA (people living with HIV/AIDS) participate in less condom usage; is greater HIV/AIDS knowledge positively related to frequency of condom use; does condom self-efficacy act as a mediator between stigmatizing of PLWHA and frequency of condom use; and, does perceived risk for HIV/AIDS act as a mediator between HIV/AIDS knowledge and frequency of condom use.

The results showed that none of the three stigma dimensions reported significant correlations with frequency of condom use. Overall, no significant correlations were found between frequency of condom use and any of the other variables (i.e., HIV/AIDS knowledge, and perceived risk), except for condom self-efficacy. A positive correlation was found between condom self-efficacy and frequency of condom use among casual partners ( $.706, p < .005$ ), and a regression analysis indicated that condom self-efficacy was a significant predictor of frequency of condom use among casual partners ( $F = 11.91, p < .005$ ). However, neither condom self-efficacy nor perceived risk for HIV/AIDS acted as mediators between the two identified independent variables.

The implications of these findings for preventative interventions focusing on HIV/AIDS-related behavior change are discussed.

Frequency of Condom Use in a Sample of African American College Women and Its  
Relationship to HIV/AIDS-Related Attitudes

by

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## Biography

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## Introduction

Acquired Immunodeficiency Syndrome (AIDS), caused by the Human Immunodeficiency Virus (HIV), has been identified as one of the main health threats in populations throughout the world. HIV infection is associated with many risk factors (e.g., multiple sex partners, injection drug use) with unprotected sex being the most prevalent due to infrequent condom usage, particularly among at-risk groups (e.g., IV drug users). These risk factors are putting an increasing amount of people in danger of infection and have already caused the virus to spread rapidly.

Within African American communities, infection rates are constantly increasing even beyond other health threats (i.e., cancer, heart disease, and homicide) and HIV/AIDS is now labeled as the main cause of death among adults between the ages of 25 and 44 (as cited in Martin, Younge, & Smith, 2003). Specifically, in 2003, African American women comprised 67% of the diagnosed AIDS cases, young women (i.e., between 13 and 24) represented half of the reported cases in the U.S., and 78% of these were young women of color (cited in Braithwaite & Thomas, 2001, p.116; Centers for Disease Control [CDC], 2003). Moreover, the majority of the women and young girls diagnosed with AIDS are not only African American, but also reside in the South, and had contracted the virus through heterosexual contact (CDC, 2003).

Although many people have been infected with the virus, women in the United States are becoming more at risk through heterosexual contact. The CDC states that “66% of the AIDS cases diagnosed in 2001 among women and adolescent girls can be attributed to heterosexual transmission” (CDC, 2003). This statistical fact could derive from people engaging in sexual intercourse with multiple partners. Weiss & Gupta (1993)

state that men are reported to change sexual partners more often than women suggesting that having multiple sexual partners is more accepted as male sexual behavior in many cultures, and consequently, their behavior contributes to the risk of their female partners (McNair & Prather, 2004). Evidence also shows that young adults who participate in risky sexual behavior are more prone to acquiring STDs, and those infections increase the possibility of contracting HIV/AIDS (Johnson et al., 1994). Being infected with the virus through these methods (i.e., multiple sex partners and increased STD infection) implies that there was no condom usage. For that reason, increasing condom use can prevent STDs and lessen the chance of an individual becoming infected with HIV (CDC, 2002b). It is evident from the information presented above that young African American women are the population at increasing risk of infection and frequency of condom use is a primary risk factor. Nevertheless, few studies have examined the reasons why these women choose not to use condoms or what types of preventative interventions would be most effective in increasing condom use among African American college women.

Like many college students, African American female students have been found to have high levels of accurate HIV/AIDS knowledge, yet misconceptions of the disease and risky sexual behavior still exist (Braithwaite & Thomas, 2001; Cummings, Battle, Barker, & Krasnovsky, 1999; Duncan, Miller, Borskey, Fomby, & Dawson et al., 2002; Jemmott, Jemmott, Spears, Hewitt, & Cruz-Collins, 1992). Moreover, throughout African American communities, the distorted perceptions of risk and stigmatizing attitudes have become a misleading safety measure against infection. Religion has even been said to play a role in these inaccurate perceptions of risk, which may lead to stigmatizing behavior toward PLWHA (UNAIDS, 2002-2003, p. 4; Martin et al., 2003; Fullilove and



Fullilove, 1999; Rose, 1998; Quinn & Thomas, 1994). There may also be a lack of confidence or reluctance to use condoms, so it is necessary to examine how self-efficacious African American college women are in initiating and handling condoms.

The research cited above suggests that African American college women are an at-risk population. The focus of the present study, therefore, was to investigate the frequency of condom use, HIV/AIDS knowledge, perceived risk of infection and stigmatization, condom self-efficacy and religiosity among African American college women who identify as heterosexual and unmarried.

### *Problem Statement*

*African Americans and HIV/AIDS.* In 2002, African Americans accounted for over 50% of the new HIV infections in the United States and the AIDS diagnosis rate was 11 times the rate among Whites (CDC, 2004). These increasing rates of infection and diagnoses within the African American community have been quite disturbing and they continue to rise because of erroneous beliefs about the virus, especially among African American college students. College students, in general, tend to engage in high-risk behaviors that make them more susceptible to the virus. They may perceive themselves to have immunity to HIV/AIDS based on the inconspicuous symptoms of the virus (Bazargan, Kelly, Stein, Husaini, & Bazargan, 2000; Johnson, Gilbert, & Lollis, 1994). After reviewing the literature, Bazargan et al. found (2000) that many studies revealed that college students possess high levels of HIV/AIDS knowledge, but this increased knowledge has no or very little impact on their protective health behaviors. Therefore, it is evident that behavior change is not occurring and HIV/AIDS knowledge may not be

sufficient to produce the desired behavior change, which may be the case among African American college students (Duncan et al., 2002).

Within African American communities, in particular, “low levels of knowledge about the casual transmission of HIV and AIDS” may provide reason for the behaviors displayed by the college students from this population (Bazargan et al., 2000, p. 394). For instance, many students attend church-supported institutions that incorporate the ideas and beliefs of the African American church which still carries many misconceptions of the disease (i.e., only white, gay males are susceptible to the virus). Seemingly, many African American college students are not only misjudging the consequences of their behavior, but they are holding onto a false impression of HIV/AIDS embedded in their community. Duncan et al. (2002) conducted a qualitative study outlining the barriers to African American college students engaging in safer sex behaviors. With a sample of 30 students (17 females, 13 males), the researchers found that negative views of condoms was ranked the most important and trust issues as the second most important barrier. These findings suggest that targeting those issues might be beneficial in prevention research involving African American college students. The incessant risky behaviors are not only placing individuals at increased risk, but will inevitably affect the future of their communities.

It is particularly important for these infection rates to be addressed among African American women who have significantly higher rates of heterosexual transmission (Braithwaite & Thomas, 2001; CDC, 2004). According to McNair & Prather (2004), the social factors that are associated with heterosexual contact magnify the risk of infection for African American women. These social factors include a sex-ratio imbalance, low

levels of condom use, high rates of men's HIV infection and risk behaviors, and a lack of disclosure regarding sexual orientation among African American men. Such factors have an impact, specifically, on African American women's ability to protect themselves from HIV/AIDS and other STDs.

The occurrence of sexual behavior arises within different interpersonal situations and is influenced by many factors (Wulfert & Wan, 1995). Two of those influences, the sex-ratio imbalance and the high rates of infection among men, have a definite affect on the vulnerability of African American women. It has been stated that the sex-ratio imbalance, in particular, has hindered women's discussion and negotiation of condoms (McLean, 1994; McNair & Prather, 2004). For these women, such assertions of power may threaten the relationship if men have more partner alternatives that may not require condom usage (McLean, 1994; McNair & Prather, 2004; Mize, Robinson, Bockting, & Scheltema, 2002). Consequently, many African American women report low rates of condom usage based on negative perceptions, fear of rejection from male partners, inconvenience and unawareness of risks (McNair & Prather, 2004). Additionally, the high infection rates among African American men have an undeniable impact on women because any sexual contact with them could translate into a potential risk. In general, the risk behaviors of an individual's sexual partner become a risk factor for the individual as well.<sup>1</sup>

The need to focus on HIV/AIDS among college women in African American communities is vital because they are the next generation of mothers to sustain the race;

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<sup>1</sup> It is necessary not only to address the actions of women, but also to focus on those of African American men who have the ability to accelerate the spread of the virus more than their counterparts. These social factors pertain solely to African American women because they are factors that impact the group as a whole based on mere membership, hence, programs must incorporate such issues into its curriculum.

based on biological make-up, women are more prone to HIV/AIDS infection than men (Weiss & Gupta, 1993). Furthermore, the proportion of AIDS cases accounted for by African American women has increased 40% between 1993 and 2001 (as cited in McNair & Prather, 2004, p.107). Thus, it is of utmost importance to do further study on this population in order to develop an intervention that would lead to modifications in behavior. As stated above, college women place themselves at high risk for contracting the virus because of their sexual behaviors and that of their partners, but there are many factors (i.e., theory-based components) that affect the preventive changes in behavior.

#### *Prevention Areas*

Prevention areas targeted for women have included: HIV/AIDS knowledge, perceived risk, condom self-efficacy, and the individual's sexual risk behaviors. These variables (i.e., alone or in some combination) have been previously used to promote behavior change among people at high risk for contracting HIV/AIDS (DiClemente & Wingood, 1995; Kalichman, Carey & Johnson, 1996; Jemmott & Jemmott, 1991; Jemmott et al., 1992; Mize et al., 2002), but there has been no exploration of all of these variables on the behavior change of African American college women. There seems to be a lack of comprehensive investigation of the factors that influence sexual risk behaviors among women outside of the "high-risk" categories (i.e., injection drug users or low-income). Specifically, there are social and contextual factors present within African American communities that exacerbate many women's exposure to HIV infection, and examination of the variables listed above (i.e., as they relate to the college population) may aid in addressing these influential factors beyond the "high-risk" groups. All in all, it is necessary to take a more holistic approach to examine the effects and relationship of

these HIV/AIDS-related variables on prevention, especially for young women of color (i.e., in college) who are steadily increasing in infection rates.

### *Theoretical Foundations*

There have been many theories developed that deal with attitude and behavior change in relation to several health outcomes (e.g., smoking cessation, mammography screening). Moreover, a few of these theories have been applied specifically to HIV/AIDS prevention (e.g., Theory of Reasoned Action, the Information-Motivational-Behavioral model), but some were seen by this author to be more appropriate than others. The Health Belief Model (HBM) and the AIDS Risk Reduction Model (ARRM), or certain aspects of each theory have been frequently used to guide HIV/AIDS prevention programs (Burkholder, Harlow & Washkwich, 1999; Catania, Coates, Kegeles, 1994; Steers, Elliott, Nemiro, Ditman & Oskamp, 1996; Wulfert & Wan, 1995). For that reason, an overview of these two theories will be presented here. Although this study will not directly test these models, they are instead being used as a guideline for understanding relevant variables.

*Health Belief Model.* The Health Belief Model (HBM) was developed to “explain change and maintenance of health-related behavior” once an evaluation of personal vulnerability and perceived severity of an illness was taken into account (Janz, Champion, & Strecher, 2002, p. 45). According to Janz et al. (2002), a person will make efforts to modify behavior when they regard the illness as a serious threat, which could result in negative consequences if not attended to. After acknowledging the severity, a person must also believe that the options to reduce the risk of illness are feasible and beneficial, with few associated costs. Over time, this original model was extended to

include variables that test what prompts people to engage in healthy behavior, their level of confidence in performing that behavior and other variables that may influence behavior change (i.e., demographics, structural variables, and sociopsychological factors). These recent modifications were to provide the model with more explanatory power in health-related behaviors, especially in regards to HIV/AIDS prevention.

As of now, the HBM is comprised of six key components: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. This framework for behavior change has been frequently used in HIV/AIDS research and interventions, however, given the specific focus of this study, the only components that will be utilized here are perceived susceptibility (i.e., the perception of risk that an illness poses to an individual's health) and self-efficacy (i.e., one's perception of confidence and ability to engage in a specific behavior) due to their frequent associations with AIDS-protective behaviors (Steers et al., 1996). Within this model, each component is based on subjective perceptions because the theory hypothesizes that all action is directly associated with the cognitive processes of the individual. Although this theory is based on the premise that individual-level processes directly influence behavior, it is important to note that people live within systems that are interdependent; therefore, the presence of many factors (e.g., adherence from sexual partners or social support) contributes to behavior change for reductions in HIV infection. Overall, the HBM posits that a change in one's beliefs about health may cause a change in one's health behaviors "modifying people's health beliefs might cause them to modify unsafe health behaviors," which is how this model is relevant to HIV/AIDS prevention (Steers et al., 1996, p. 100).

In the area of HIV/AIDS, there is little evidence showing the effectiveness of the model, but of the studies that do exist there is marginal support. Studies examining the modified version of the HBM have not always tested the comprehensive model with all variables included, but have chosen to examine specific constructs of interest. For example, Steers et al. (1996) measured perceived susceptibility, perceived severity, self-efficacy, perceived barriers, and social support to predict HIV-preventive behavior. After examining these variables, they found that susceptibility, self-efficacy, and social support were the most important predictors of sexual behavior change. On the other hand, none of the variables significantly predicted behavior change for African Americans. Winfield and Whaley (2002) conducted a study testing the utility of the full extended HBM to predict condom use among African American college students. They found that the additional components did not significantly increase the model's ability to explain condom use. Furthermore, the only significant predictor of condom use among African American college students was perceived barriers. Wulfert and Wan (1995), after testing only the core components of the HBM among two predominantly White samples, also found the benefit/barrier variables to be the only significant variables in predicting intentions to use condoms. Lastly, Mattson (1999) tested the comprehensive version of the HBM and found no support between the variables at pre-test and safer-sex compliance. In summary the HBM remains in need of comprehensive evaluation with regards to HIV/AIDS preventive behavior. This study will attempt to contribute to furthering our knowledge on the perceived risk and self-efficacy dimensions of the model.

*AIDS Risk Reduction Model.* The ARRM is a stage model of harm reduction that has been used to understand the social and psychological determinants of condom usage (Catania et al., 1994). It is comprised of three stages that are as follows: Stage 1, identification and labeling of one's behavior as risky; Stage 2, commitment to behavior change; and Stage 3, actual change in behavior (Burkholder et al., 1999; Catania et al., 1994). According to this theory, the initial motivation to change behavior arises from the actual presence of a risk factor for HIV and the individual's perceived risk. In order for modifications in sexual behavior to occur, there must be an acknowledgement and understanding of risky behavior. Catania et al. hypothesized that this stage of the model stems from people's stereotypic health beliefs and prior experiences with STDs. In a study testing the validity of the theory, Catania et al. found that respondents who held strong stereotypic beliefs were less likely to label their sexual behavior as risky for HIV. Underlying the perception of risk, an individual may not label one's behavior as risky if HIV is only associated with specific groups (e.g., gay men). This interpretation of HIV risk minimizes the individual's assessment of possible infection and becomes a misleading gauge of one's behavior. The researchers also found that those who had a history of STDs were significantly more likely to identify their sexual behavior as problematic. In other words, any previous experience with STDs is likely to heighten people's awareness of behavioral risk. The ARRM is a useful framework for HIV/AIDS risk reduction because each stage comprises of important variables, for women especially, that are prerequisites to behavior change (i.e., Stage 1-perceived risk; Stage 2-self-efficacy; Stage 3-sexual negotiation). Specifically, in order to reduce the spread of HIV/AIDS, "belief that there is actual risk and that this risk necessitates a change in



behavior is a factor thought to mediate or create the conditions necessary for risk reduction” (Braithwaite & Thomas, 2001, p. 126).

Both models of behavior change incorporate necessary components to HIV/AIDS prevention, especially for college women; it has been suggested that self-efficacy and perceived risk are important motivating factors for change (Jemmott et al., 1992; Steers et al., 1996). For that reason, it is logical to use the HBM as one of the frameworks for HIV research which is comprised of both variables. Stage 1 of the ARRM is critical because one of the main problems with HIV prevention among African American women, in particular, has been the low perception of risk (Cummings, et al., 1999; McNair & Prather, 2004). This inaccurate assessment arises from stereotypic beliefs (i.e., White gay male disease) and the abnormal sense of security within monogamous relationships that may lead these women to believe that unprotected sex with their sexual partner is not a risk (Cummings et al., 1999; McNair & Prather, 2004). According to Duncan et al. (2002), trust issues often interfere with some African American college students’ ability to engage in safer sex, but trust was defined differently based on the gender. Specifically, men related trust to whether they felt their partner appeared to be in good health (i.e., free of any STDs), whereas, women perceived trust to mean that their partners were monogamous. In both instances, the students based their perception of trust on an assumption that involved no communication. Therefore, the lack of communication and misperceptions of trust solidify the need for protection.

### *Empirical Research*

There have been few studies conducted on the predictors of risky sexual behavior among African American college women alone, which compels one to believe that this

subpopulation does not merit separate investigation. Due to the social and contextual factors mentioned above, assessment of HIV/AIDS-related variables for African American women may actually differ in relation to other groups. Studies on African American college students, in general, have provided some insight on the women within this population, but gender differences (if any) have not been directly addressed. Therefore, it is necessary to review those studies that present HIV/AIDS-related information on African American college students and that highlight possible gender differences among relevant variables (i.e., HIV/AIDS knowledge, perceived risk, self-efficacy, sexual risk behaviors).

*HIV/AIDS Knowledge.* Although many studies fail to show a relationship between HIV/AIDS knowledge and behavior change, understanding the “means of transmission and methods of preventing infection are still prerequisites to any risk-reduction behavior” (Bazargan, et al., 2000, p. 395). Bazargan et al. (2000) examined the association of HIV/AIDS knowledge, sexual activity, and condom use with risk-taking behavior among African American college students. They found that only 65% of their sample correctly answered items relating to HIV transmission through sexual activities, making it apparent that misconceptions about sexual transmission still prevail. Results also indicated that when HIV/AIDS knowledge was divided into sexual and nonsexual domains, only sexually transmitted HIV infection had a direct impact on condom use among African Americans (p.400). Nevertheless, both types of HIV/AIDS knowledge (sexual and nonsexual) were associated with more positive attitudes about condoms. Using structural equation modeling, this study found that greater HIV knowledge (sexual acts), male gender, less age, nonmonogamous relationship, more experiences with condoms, and

greater behavioral skills (i.e., behavioral skills and personal efficacy in negotiating and practicing safer sex) were significant predictors of condom use. These findings suggest that it might be necessary to make a distinction between the different dimensions of HIV/AIDS knowledge and the degree to which that knowledge needs to be combined with or interact with other requisite behaviors or skills, in order for modifications in condom use and sexual behaviors to occur for African American college students.

Braithwaite & Thomas (2001) conducted a study focusing solely on the HIV/AIDS knowledge, attitudes, and risk-behaviors of African American and Caribbean college women. One of the objectives of the study was to provide research on populations that were rarely represented in the literature. It was hypothesized that the African American college women would: a) have more accurate knowledge about HIV/AIDS, b) have more liberal attitudes toward HIV/AIDS as a disease and toward HIV infected persons, and c) engage in less risk-taking behaviors than the Caribbean college women. The results indicated that both groups had a fairly high degree of HIV/AIDS knowledge, but African American women possessed more accurate knowledge than the Caribbean college women. In general, there was a positive relationship found between women's HIV/AIDS knowledge and their HIV/AIDS attitudes, condom self-efficacy, and self-esteem. However, no significant relationship was found between HIV/AIDS knowledge and sexual risk taking, meaning that knowledge was not a direct indicator of behavior. For that reason, researchers were still left wondering why African American women are not making more effort to protect themselves sexually from HIV infection, given the high diagnosis rates. They concluded that high rates of sexual activity, frequency of unplanned sexual encounters, and perceptions of invulnerability place these young adults at

increased risk. Consequently, it appears that understanding these women's perceptions of risk is essential to promoting risk-reducing behavior.

*Perceived Risk and Stigmatization.* As stated above, African American women are at higher risk of contracting HIV/AIDS because of the sexual behavior of their counterparts and their indifference about the high rates of infection within their ethnic group (Baker, Beadnell, Stoner, Morrison & Gordon, et al., 2003; McNair & Prather, 2004). Many studies have emphasized the low perception of risk among college students, in general, and have highlighted the importance of this component to HIV/AIDS prevention efforts. There have even been attempts to examine the predictors of perceived risk, but African American women have not been the focus (Melkote & Muppidi, 1999). It has also been suggested that stigmatization, an aspect of perceived risk, may also be a contributing factor to increased HIV/AIDS infections (Academy for Educational Development, 2003; Burkholder et al., 1999; Herek & Capitanio, 1992). Given the potential influence of these variables, this section will review the literature on both perceived risk and stigmatization.

Melkote & Muppidi (1999) attempted to identify the factors that contribute to people's perception of risk for HIV/AIDS. They hypothesized that many factors contribute to a person's perceived risk (i.e., HIV/AIDS knowledge; attitude toward AIDS and people living with HIV/AIDS, PLWHA; cognitive, affective, and behavioral involvement with AIDS; and practice of risk-reduction behaviors). A structured interview was conducted on a sample of 323 college students who were recruited using a modified random-digit dialing method. Based on the results, two knowledge factors (i.e., knowledge of AIDS through internal contact with body fluids and knowledge of AIDS

from general contact with infected persons) and practice of preventive behaviors (i.e., safe sex methods) contributed to lower perceived risk for contracting the virus. On the other hand, knowledge of AIDS through external contact with body fluids (e.g., coughing) and knowledge of AIDS from social contact (e.g., being touched) predicted greater perceived risk. Although people possessed accurate knowledge of HIV/AIDS and its modes of transmission, participants continued to believe in the misconceptions of the disease, which increased their level of fear. It was concluded that media-based intervention strategies must not only provide the medical/immunological perspective of HIV/AIDS to educate, but also address mistaken beliefs about the virus.

Cummings et al. (1999) conducted a study that examined the AIDS-related worry among African American women, in particular. They sought to determine whether HIV/AIDS risk behaviors were associated with women's AIDS-related worry status. A sample of 142 low-income African American women participated in semi-structured interviews and was asked questions relating to self-perceived vulnerability to AIDS and HIV/AIDS risk behaviors (e.g., condom use in the last 6 months). Based on a content analysis, women who expressed a sense of vulnerability or an instance where they felt there was potential exposure to the virus were classified as "worried." The findings provided reasons why 36% of the women were worried (e.g., deadly disease or sex partners' risk) and why 64% of the women were not worried (e.g., trust partner or protective behaviors). Overall, both worried and non-worried women equally reported the occurrence of risk behaviors (e.g., no condom use or risky sexual partners). The results did indicate that non-worried women were more likely to have multiple partners. However, of the women not worried about contracting the virus, 64% felt they had the

ability to protect themselves. Considering that past studies have shown African American women to be in denial about their vulnerability to HIV/AIDS, the researchers suggest that future programs address the issue and equip women with the skills to assess and modify their risk.

The stigma of HIV/AIDS plays an important role in the reactions people have toward the virus and those infected with it; therefore, research must address this factor along with knowledge, other dimensions of perceived risks, and risk behaviors. According to Satterwhite (2002), HIV/AIDS-related stigma has increased or contributed to the lack of control over the disease, for the negative beliefs have created a foundation of fear, silence, and denial. When such feelings are associated with the virus it can cause people to become avoidant of the pertinent issues regarding HIV/AIDS (i.e., prevention/protection from infection). Therefore, prevention efforts that recommend examination of individual sexual risk behaviors may be met with resistance because individuals may not perceive themselves to be at risk based on what they associate with the disease (e.g., homosexuals, people not in college) (Mickler, 1993). This process of avoidance leads people to disassociate from all they perceive to be related to HIV/AIDS (or even the topic as a whole) and their lack of accurate awareness can then unknowingly increase their risk (Burkholder et al., 1999). For that reason, perception of risks should be addressed with an emphasis on stigmatization because HIV/AIDS does not discriminate.

“People are stigmatized when they are viewed as possessing characteristics that constitute a basis for avoiding or excluding them---*interpersonal disassociation*” (Leary & Schreindorfer, 1998, p. 15). The basis of this social exclusion can fall under four categories that are as follows: 1) poses a threat to others’ health or safety, 2) deviate

excessively from group standards, 3) fail to adequately contribute to society, and 4) create negative emotional reactions in others (Leary & Schreindorfer, 1998). In that regard, HIV/AIDS seems to meet all of those criteria, especially as it pertains to deviancy by way of its long association with homosexuality.

Some African American churches, in fact, have long associated the virus with seemingly immoral behaviors (i.e., homosexuality, adultery, and drug use), relaying to their congregations that “HIV/AIDS is a punishment by God” (UNAIDS, 2002-2003, p. 4; Martin et al., 2003; Fullilove and Fullilove, 1999; Rose, 1998; Quinn & Thomas, 1994). Within African American communities, the stigmas that are associated with the virus may contribute to the increasing infection rates, and may also relate to beliefs presented in the church. The creation of stigmas elicits a false sense of protection from the disease in the stigma holder, when in actuality everyone is vulnerable.

Burkholder et al. (1999) conducted a correlational study among heterosexual adolescents that hypothesized a relationship between the stigmatizing of people living with HIV/AIDS (PLWHA) and sexual risk behaviors through condom self-efficacy. Within this study, the hypothesized process of high-risk behavior change was based on such theories as the AIDS Risk Reduction Model (ARRM; Catania et al., 1994) and the Health Belief Model (HBM; Janz & Becker, 1984). Using structural equation modeling, they found “that greater stigmatizing practice was associated with greater behavioral risk for HIV/AIDS, through the mediation of condom self-efficacy” (p.32). In other words, the more people stigmatized others, the lower their condom self-efficacy, which in turn increased their sexual risk behaviors. Therefore, this area merits further investigation

because only one study has examined the relationship between stigma and risk behaviors (Burkholder et al., 1999), and none within African American communities.

*Condom Self-Efficacy.* There have been a few mixed results regarding the extent to which self-efficacy affects behavior change (Bowleg, Belgrave, & Reisen, 2000; Rosenthal, Moore & Flynn, 1991; Steers et al., 1996), but these studies have failed to examine how pertinent this variable is to an African American college female sample, exclusively. Steers et al. (1996) found, when testing the HBM components, that no significant behavior changes were predicted for African American college students of both genders. This finding may be due to the small representation of African Americans within their sample (i.e., 8.5%), with no additional differentiation between males and females. According to some, self-efficacy has been suggested to not be as relevant to women's condom use because women are not usually the individuals who control the use of the male condoms (Bowleg et al., 2000). Furthermore, Cochran & Mays state that this concept may not be beneficial or applicable to women of color who may have more complex lifestyles (e.g., due to experiences of racism, inequality, sex-ratio imbalance or oppression) (as cited in Bowleg et al., 2000).

Alternatively, based on studies that have incorporated self-efficacy as a predictor to HIV/AIDS risk reduction, assessment of this construct has usually followed skills training techniques that have been implemented within an intervention (Jemmott & Jemmott, 1991; Jemmott et al., 1992). Jemmott & Jemmott (1991) state that perceived condom self-efficacy has been a strong predictor of intentions to use condoms, specifically. In their study with 109 sexually active Black adolescent females, they attempted to increase self-efficacy with the implementation of an HIV/AIDS intervention



that focused on role-playing, negotiation, and demonstration of condom use. They found that self-efficacy to use condoms was significantly higher upon completion of the intervention compared to preintervention scores. The results also indicated that the participants who had greater increases in self-efficacy reported greater intentions to use condoms. Thus, the notion that self-efficacy influences the intentions to engage in safer sex was supported with activities to enhance skills, and these skills may be critical for women to feel competent in protecting themselves against HIV infection. Jemmott et al. (1992) came to similar conclusions when testing the perceived self-efficacy of 19 Black female adolescents. Once again, a skills training intervention was implemented (with the same components used in the previous study) and the results supported that perceived self-efficacy was an important predictor of intentions to use condoms.

There have also been studies that incorporate the self-efficacy construct into their conceptual models in order to test its predictive power, but mixed results still exist. Wulfert & Wan (1995) conducted three studies on predominantly White samples, in an attempt to test the self-efficacy component of the Social Cognitive theory on intentions to use condoms. They found that self-efficacy explained the majority of the variance in intentions to use condoms in all three of their samples, concluding that the construct is a major determinant of behavior. On the other hand, Bowleg et al. (2000) conducted a study on a sample of Black and Latina women in order to test whether precautionary sexual self-efficacy mediated the effects of gender roles and power strategies on HIV/AIDS protective behaviors. They failed to support their hypothesis and concluded that the self-efficacy scale used was able to measure ability to practice safe sex, but was unable to directly measure efficacy in condom use skills.

Evidently, these studies provide mixed support for the inclusion of the self-efficacy construct in any conceptual model to predict AIDS risk reduction behavior. There is some indication that a skills training intervention has an affect on self-efficacy and its predictive power over behavior, but the results from correlational studies varied. None of these studies used African American college women as the sole population of interest, so it cannot be concluded that the construct has no relevance to this group.

*Religiosity.* As mentioned earlier, religion may play a role in the stigmatization of the virus and PLWHA because of the associations with homosexuality, adultery, and drug use (UNAIDS, 2002-2003, p. 4; Martin et al., 2003; Fullilove and Fullilove, 1999; Rose, 1998; Quinn & Thomas, 1994). Homosexuality, in particular, has already carried a negative connotation within Black churches and its connection with HIV/AIDS has led some to suggest that the stigmatization and spread of the virus will persist (Schulte & Battle, 2004). For that reason, an individual's religiosity might play an important role in determining whether that person engages in sexual risk behaviors. Religiousness has previously been associated with health status, so extending the investigation to sexual risk-taking behavior is not unusual (as cited in Miller & Gur, 2002). If African American college women are sexually active then it might be useful to examine the relationship between religiosity and frequency of condom use, for HIV/AIDS will not adequately be addressed if these misconceptions and prejudices continue within the Black church and community.

Schulte and Battle (2004) conducted a study on the ethnic differences that exist in the attitudes toward gays and lesbians and if religious attendance is a possible factor. Using a sample of 315 college students, they administered questionnaires measuring

attitudes toward gay men and lesbians, religious attendance and demographic variables (i.e., ethnicity, sexual orientation, marital status, geographic location, and religious denomination). They hypothesized that the attitudes toward gays and lesbians would be a function of ethnicity (i.e., African American vs. European American) and mediated by religious attendance. Specifically, the researchers believed that African Americans were more likely than European Americans to emulate attitudes of homosexuality put forth by the church due to the influence of the Black church in the African American community. The results showed that attitudes toward the homosexual population was not necessarily based on ethnicity but was more related to religious attendance. This finding implies that one's level of religiosity might give insight into one's attitudes toward homosexuality, and that may then relate to perceptions of HIV/AIDS and sexual risks behaviors.

Miller and Gur (2002) conducted a study that directly examined the role of religiousness on sexual responsibility, which comprised of lifetime history of sexual intercourse, perception of risks when having sex, and use of birth control. They looked at three dimensions of religiousness (i.e., personal devotion- a sense of personal connection to God; personal conservatism- rigid or literal adherence to creed of religious denomination; and institutional conservatism- fundamentalism of religious denomination, p. 402). A sample of 3356 female adolescents was obtained from a public use database. The results indicated that three of the four dimensions of religiousness (i.e., excluding personal conservatism) were associated with a decreased number of sexual partners in the past year. Personal devotion, in particular, was shown to have a negative association with lifetime sexual activity outside of a romantic relationship. In other words, the greater the personal connection to God, the less likely one would engage in sexual activity outside of

a monogamous relationship. The results also showed that perception of HIV risk or pregnancy was positively associated with frequent religious attendance and negatively associated with personal devotion. An increase in perception of HIV risk indicated an increase in frequent religious attendance; however, an increase in perception of risk resulted in less of a connection to God. Lastly, responsible and planned use of birth control was significantly associated with frequent religious attendance. These findings, overall, imply that religiousness does play a role in sexual responsibility but the dimensions relate differently, and religiousness was not associated with sexual abstinence.

Thus, it can be concluded that religiosity may influence people's attitudes, as it relates to factors associated with HIV/AIDS (i.e., homosexuality), and sexual risk behaviors. The above articles provide some evidence of the affect of religiosity on stigmatization and sexual protective behaviors, but additional support would be useful. It is necessary to conduct further study on the correlation between religiosity and stigmatization and frequency of condom use because there is little research exploring these relationships. The current study will examine these possible connections and relate them specifically to African American college women.

*Risk Behaviors.* There are different risk behaviors that can lead to HIV infection and they include multiple sexual partners, needle sharing, alcohol and drug use, and infrequent condom usage. These risk behaviors cause individuals to be more susceptible to the virus either because there is an exchange of bodily fluids, an individual's decision-making abilities are inhibited or a combination of the two. Within this study, the focus is placed on infrequent condom use because the populations of African American college

women are at risk due to heterosexual transmission and increasing condom usage might prevent such infection.

Many studies have presented data and assessed the quality of HIV/AIDS prevention interventions on sexual risk behaviors (Kalichman et al., 1996); however, studies solely sampling African American college women are almost non-existent. Then again, Braithwaite & Thomas (2001) conducted a study that concentrated on African American college women in comparison to Caribbean college women, and Mize et al. (2002) conducted a review that targeted African American women, in general. The failure to include African American college women in additional research studies suggests that this group is not at risk, and may inadvertently promote further engagement in risky sexual behaviors among that population. Two of the risky behaviors that will be discussed include multiple sexual partners and inconsistent or lack of condom usage.

Villarruel, Jemmott, Howard, Taylor & Bush (1998) conducted a qualitative study examining the HIV knowledge, beliefs, and sexual behaviors of adolescents and adolescent peer educators in an urban environment. Adolescents stated the following reasons for engaging in sexual risk behaviors: blind faith in and trust in one's sexual partner, feelings of insecurity, feelings of dependency, and ineffective communication patterns. The female participants also stated that men have the tendency to have multiple partners, which implies that they are not concerned about the safety of others. Additionally, the researchers found that there was no concern about the virus because of the asymptatology (i.e., inability to see symptoms) and the associated stigma (e.g., avoidance of those typically linked to HIV/AIDS and fear of testing), which leads to continued risky sexual behaviors.

A cross-sectional study, conducted by McNair & Roberts (1997), focuses on the multiple risk factors that African American women are exposed to that increase their vulnerability to HIV/AIDS. The sample was comprised of 278 African American women attending a family-planning clinic. The mean age was 21 years and the majority of the women were unmarried (85.6%) with no children (61.9%). The researchers hypothesized that: 1) condoms will be predicted by individuals' risk behaviors as well as peers' risk behaviors and 2) there will be significant positive correlations among risky behaviors across varied health domains (i.e., cigarette and substance use, having sex while high on drugs, having sex in exchange for something, and unprotected sex). The structured interviews consisted of questions that assessed demographic information, sexual history (e.g., any occurrence of STDs and sex in exchange for something), condom use, and substance use. Based on the findings, individual and peer behaviors influence condom use. In addition, the women in this sample participated in many high-risk behaviors that made them susceptible to HIV/AIDS infection. The results indicated that the women did engage in a variety of risk behaviors, not all directly associated with HIV/AIDS transmission (i.e., cigarette smoking and alcohol and drug use). Due to the pervasive exposure to different risk factors, African American women may feel the need to prioritize the specific risks that will be attended to; therefore, the risks associated with HIV/AIDS may not be of immediate concern compared to the other risks they were facing.

Condom use is identified as the risk reduction behavior of interest because “any sexually active (i.e., engages in insertive sexual activity) person with a nonzero risk<sup>2</sup> for

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<sup>2</sup> “Nonzero risk status is assigned to individuals who meet any of the following criteria: (a) being an Injecting Drug User, (b) having 2+ partners in the past year and not being tested for HIV within that year or

contracting or transmitting HIV should, as a minimum safeguard, be using a condom” (Catania et al., 1994, p. 548). Essentially, it has been assumed by some that when individuals engage in sexual activity and/or drug-using behavior while the seropositive status of all involved is positive or unknown, there will be some risk of contraction or transmission of HIV (Catania, Coates, Peterson, Dolcini, & Kegeles et al., 1993). In a study conducted by McNair & Roberts (1997), it is suggested that African American women’s exposure to multiple risks factors increases their vulnerability to HIV/AIDS (e.g., substance use or having sex while high on drugs), so interventions concentrating on condom usage alone may be ineffective. Although these findings indicated that other risk behaviors might influence the intention to engage in safer sex (i.e., condom usage), the majority of the women in this sample did not participate in those behaviors (e.g., 44 of the 278 women or 15.9% reported using cocaine). In other words, risky behaviors may be highly correlated, but the accessibility of condoms and increasing usage is still quite critical to HIV/AIDS prevention. Evidence suggests that considerable risk reduction is achieved by using condoms at least 50% of the time, therefore, it is worth targeting independent of other factors (Jemmott, et. al., 1992).

#### *Addressing the Gaps in the Literature*

The literature reviewed above outlined the particular variables most used in interventions designed to prevent HIV/AIDS with African American women. The Health Belief Model and the AIDS Risk Reduction Model are distinguished from other theories

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not knowing test results, (c) having a history of nonmonogamy during the past 10 years or of IV drug use and being untested or not knowing test results or being HIV+, (d) having a sexual partner(s) who had a history of nonmonogamy and is (was) untested or individual did not know his/her partner’s test results, (e) had a sexual partner(s) who was an IDU, or (f) individual had sex with a prostitute” (Catania, et al., 1993, p. 123).

because they incorporate these variables and appear to be most pertinent. Furthermore, the concepts within both models provide a significant foundation for promoting change in risk behaviors.

A number of gaps in the literature were identified as in need of further exploration. Specifically, there have not been many studies done with African American college women, the group currently experiencing the greatest increase in HIV infection rates. Moreover, the perceived severity of HIV/AIDS by members of this group is lessened because they are not the ones shown to be dying from the disease. Hence, it is imperative to treat HIV infection as a real danger for African American college women by addressing it in the literature and in research (Villarruel et al., 1998, p.9). Many of the studies that do concentrate on African American women are those that examine low-income, inner-city, or drug abusing populations. Due to the severity and increasing rate of infection, it is necessary to show that even those who fall outside the above categories are at risk (Lewis, 1997). Failure to conduct studies on African American college women runs the risk of perpetuating the preexisting stigma and stereotype of the disease. Consequently, this dearth of research knowledge on African American college woman limits our ability to develop appropriate interventions as well as being able to adequately assess the effectiveness of existing interventions. The proposed study intends to address these gaps and recommend additional strategies that might enhance intervention effects for the specified population.

A second area where gaps in the literature were identified relates to the social factors that may hinder prevention efforts (e.g., stigmatization, perceived risk, and condom self-efficacy). This study will examine perceived risk and condom self-efficacy,



components of both the Health Belief Model (HBM) and AIDS Risk Reduction Model (AARM), as they relate to African American college women. It is necessary to examine whether the self-efficacy or perceived risk variables predict risky sexual behavior of African American college women, as the HBM and AARM suggest.

### *Research Questions/Hypotheses*

This study proposes the following research questions and hypotheses:

1) Do single, sexually active African American female undergraduates who engage in greater stigmatizing of PLWHA (people living with HIV/AIDS) participate in less condom usage?

Hypothesis 1: Greater stigmatizing of PLWHA is associated with less condom usage.

2) What is the relationship between HIV/AIDS knowledge and sexual risk behaviors (i.e., frequency of condom usage)?

Hypothesis 2: Greater HIV/AIDS knowledge will be positively related to frequency of condom use.

3) Is there a mediating role for condom self-efficacy and perceived risk for HIV/AIDS?

Hypothesis 3: Condom self-efficacy will act as a mediator between stigmatizing of PLWHA and frequency of condom use.

Hypothesis 4: Perceived risk for HIV/AIDS will act as a mediator between HIV/AIDS knowledge and frequency of condom use.

4) Do the two domains of HIV/AIDS (sexual and nonsexual transmission) relate differently to frequency of condom use?

5) Does a relationship exist between religiosity and stigma?

6) Does a relationship exist between religiosity and frequency of condom usage?

## Method

The purpose of this study was to address a few of the numerous gaps in the literature that fail to examine a few of the variables (i.e., HIV/AIDS knowledge, perceived risk/stigmatization, condom self-efficacy and religiosity) that may affect the frequency of condom usage for African American college women who are heterosexual, not married and sexually active.

### *Participants*

The participants were African American college women from a Historically Black college/university (HBCU) in the southern United States. Data were collected from 154 women, 131 of whom self-identified as heterosexual, unmarried, and sexually active. It was important that heterosexual women be the targeted population because the purpose of the study was to address HIV transmission through heterosexual contact. Furthermore, in order to consider the participants at risk of potential HIV infection, this study required them to be sexually active (i.e., have had sex in the past year) and unmarried.

### *Measures*

Six instruments were used to operationalize the following variables: (a) an individual's sexual activity and frequency of condom use, (b) HIV/AIDS knowledge, (c) perceived risk for HIV/AIDS, (d) HIV/AIDS-related stigma, (e) self-efficacy for condom use, and (f) religiosity. Modifications were made to make the instruments more appropriate to the sample population and a focus group was conducted (2 participants) to determine the appropriateness of the wording of the items and the length of time it would take to complete the full battery of questions. Finally, a demographic questionnaire was used to obtain the participants' age, year in school, marital status, sexual orientation,

religious affiliation, relationship status with partner (i.e., monogamous or multi-partnered) and previous participation in an HIV/AIDS program. A summation of the scales and their properties is provided in Table 1.

*Frequency of Condom Use.* The Frequency of Condom Use scale has been used in prior HIV/AIDS studies. A proportional score is derived by dividing the number of times the participant stated they used condoms by the total number of times the participant reported having sex in the past 30 days. The measure consists of 24 items that ask questions pertaining to a main and a casual partner. Respondents also have the option to refuse to answer a question or state they “Don’t Know.” Each type of sexual act (i.e., vaginal, anal, and oral) and the number of times a condom was used for that sexual act in the past 30 days is asked separately. A sample question is “In the past 30 days, of the times that you had vaginal sex with your steady partner, how many times did you use a female condom?”

*HIV/AIDS Knowledge.* HIV/AIDS knowledge was assessed using the AIDS Risk Behavior Knowledge Test developed by Kelly, Lawrence, Hood & Brasfield (1989). It consists of 40 items and assesses the participants’ knowledge of basic HIV/AIDS information, sexual transmission, and prevention/risks. The scale provides a single score that is derived from the sum of the correctly answered items. The maximum score is 40 (i.e., ranging from 0-40), with higher scores indicating more accurate HIV/AIDS knowledge. The scale items are designed as true/false. Participants are asked such questions as “Most people who transmit the AIDS virus look unhealthy.” The split-half reliability coefficients were reported as .53 (Part 1) and .46 (Part2).

Table 1

*Summary of Scales, Subscales and their Properties*

Scales and Subscales	# of Items	M	SD	$\alpha$
Frequency of Condom Use (main and casual partners)	24	.49/.61	.87/.57	n/a
AIDS Risk Behavior Knowledge	40	32.38	3.55	.53/.46
Perceived risk for HIV/AIDS	7	15.59	5.11	.55
Certainty of Exposure	3	6.71	3.17	.61
Previous Exposure	2	3.56	2.19	.56
AIDS Stigma Index				
Negative feelings	3	4.69	2.03	.66
Support for coercive AIDS-related policies & blame for persons with AIDS	3	4.73	1.91	.66
Avoidant behaviors	4	.42	.76	.46
Self-Efficacy for Condom Use	7	7.49	1.88	.91
Multidimensionality of Religiosity	13*	n/a	n/a	n/a
Organizational	5	9.60	2.65	.77
Nonorganizational	4	13.89	2.98	.70
Subjective	3	9.92	1.60	.77

\* = one item was not included in the original factor analysis conducted by Levin et al.

(1995)

*Perceived Risk.* Perceived risk for HIV/AIDS was measured using seven items previously used in a study conducted by Burkholder et al. (1999). The items assess the level of risk the participant feels she is at for contracting HIV/AIDS. Using a 5-point Likert scale (i.e., 1-not at all sure to 5-very sure), with questions such as “I feel that I am at risk of getting AIDS at this time in my life.” High scores on this scale specify a high perception of risk for contracting HIV/AIDS. The coefficient alpha for this scale, excluding item #'s 4 and 7, was .55. The two factors exhibited coefficient alphas of .61 (i.e., Certainty of Exposure) and .56 (i.e., Previous Exposure).

*HIV/AIDS-related Stigma.* This 10-item stigma index, developed by Herek & Capitanio (1993), was used to assess the different manifestations of HIV/AIDS-related stigma a participant can exhibit toward another (e.g., PLWHA). This scale includes the following four subscales that are scored independently with no overall summative score: negative feelings toward persons with AIDS, support for coercive AIDS-related policies, blame for persons with AIDS, and intentions to avoid a person with AIDS in various situations. The response formats, sample questions, and reliability statistics for each subscale are provided below:

- Negative feelings- Responses were scored on a 4-point Likert scale (i.e., 1-not at all angry to 4- very angry), with questions such as “How angry do you feel at people with AIDS.” Scores ranged from 3-21, with low scores indicating that the feelings were not reported. The coefficient alpha was .66.
- Support for coercive AIDS-related policies- Responses were scored on a 4-point Likert scale (i.e., 1-disagree strongly to 4-agree strongly), with questions such as “The names of people with AIDS should be made public so that others can avoid

them.” Scores ranged from 2-8, with low scores indicating that the participant disagreed with the item. The coefficient alpha was .66.

- Blame for persons with AIDS- Responses were scored on 4-point Likert scale (i.e., 1-disagree strongly to 4-agree strongly), with questions such as “People who got AIDS through sex or drug use have gotten what they deserve.” This component was combined with the coercive policies component, so the scoring and coefficient alpha was the same (i.e.,  $\alpha = .66$ ).
- Avoidant behaviors component of the stigma index is on a 2-point scale (i.e., a value of 1 assigned to avoidant responses and a value of 0 to supportive or prosocial responses). Scores ranged from 0-4, with higher scores indicating greater avoidance. Participants were asked questions that pertained to their willingness to take care of a close friend or relative who AIDS. The coefficient alpha was .46.

*Condom Self-Efficacy.* This subscale was derived from the Health Belief Model scale and is labeled as Self-Efficacy for Condom Use (Lux & Petosa, 1994). It is used to measure the confidence in one’s ability to use condoms. Consisting of seven items, a 4-point Likert scale (i.e., 4-agree to 1-disagree) is used to ask questions such as “I know how to use a condom when I have sex with someone.” The coefficient alpha was .91.

*Religiosity.* The religiosity variable was measured using the Multidimensionality of Religiosity Scale (Levin, Taylor, & Chatters, 1995). It is a 13-item scale that measures an individual’s level of religiosity based on three dimensions (i.e., Organizational, Non-Organizational, and Subjective). Each dimension is represented by a subscale and an additive score is derived for all three. The response format is mixed with yes/no items

and 3-, 4- and 5-point Likert scale items. A sample question is, “How often do you pray?” The scale was found to be reliable and valid through confirmatory factor analysis conducted by Levin et al. (1995). The coefficient alphas for each dimension were .77 (i.e., Organizational Religiosity), .70 (i.e., Nonorganizational Religiosity), and .77 (i.e., Subjective Religiosity).

### *Procedures*

As indicated above, participants were recruited from a Historically Black University in the southeast United States. Once permission to conduct the study and approval of the respective Human Subjects in Research committees was obtained from the institution, the recruitment process began. Permission to administer the questionnaires was sought from professors in three departments at the university (i.e., Psychology, Math, and Criminal Justice) with some professors, from the Psychology and Math department, offering students extra course credit for their participation. Additionally, the majority of the questionnaires were administered in classes. The study was advertised as a project examining HIV/AIDS awareness and prevention among African American college women who are heterosexual, unmarried and have been sexually active in the past year (Appendix A). The participants were given the informed consent form that outlined the details, confidentiality and anonymous nature of the study, and if in agreement, they were then handed a questionnaire to complete. The questionnaires were labeled with a numerical ID and administered in groups either during class or at a separately scheduled time. Participants were reminded that the study was confidential and to not write any identifying information on the questionnaire. Completed questionnaires were immediately placed in a box. No financial incentive was offered to participants.

### *Data Analyses*

The independent variables examined in this study are as follows: HIV/AIDS knowledge, perceived risk, HIV/AIDS-related stigma, condom self-efficacy, religiosity, and demographic variables. The dependent variable was the participant's frequency of condom use. An analysis was conducted to examine the internal consistency reliability of the various scales and subscales in order to insure their psychometric viability. In addition, a Principle Components factor analysis was conducted on the HIV/AIDS knowledge scale to determine if the previously reported two dimensions (i.e., sexual vs. nonsexual transmission) would be validated with this sample. Correlational and hierarchical regression analyses were conducted to test the research questions and hypotheses. A hierarchical multiple regression analysis attempted to control for demographic characteristics by placing them into the equation prior to the independent variables.



## Results

In order to test the proposed research questions and hypotheses each scale representing the independent and dependent variables was examined to determine their reliability and to maximize confidence in the subsequent results as it pertained to this sample of African American college women. As indicated in the Method section, the coefficient alphas for most of the scales administered were .50 and above with the exception of the Perceived Risk Scale and Avoidant Behavior subscale. Two items (#4 and #7) were removed from the Perceived Risk Scale and it was divided into two factors identified as Certainty of Exposure (#'s 1, 5, and 6) and Previous Exposure (#'s 2 and 3). The Avoidant Behavior subscale of stigmatization reported a coefficient alpha of .46, but deleting items would not have optimized the reliability. The results of this study are presented in the order of the proposed research questions and hypotheses. All analyses were conducted using SPSS 13.0. The results from all correlational analyses are presented in Table 2.

**Research Question #1:** Do single, sexually active African American female undergraduates who engage in greater stigmatizing of PLWHA (people living with HIV/AIDS) participate in less condom usage?

**Hypothesis 1. Greater stigmatizing of PLWHA is associated with less condom usage.**

Based on the Pearson correlations, none of the stigma dimensions (i.e., negative feelings, support for coercive AIDS-related policies, blame for persons with AIDS, and avoidant behavior) were associated with frequency of condom use among main or casual partners (Table 2). Although the correlations were in the hypothesized direction, they

were not significant. Therefore, the stigma variables were not included in the regression equation.

Table 2

*Pearson Correlation Coefficients Between Frequency of Condom Use and HIV/AIDS Knowledge, Perceived Risk, HIV/AIDS-Related Stigma, Condom Self-Efficacy, Religiosity*

	Frequency of Condom Use	
	Main partner N=50	Casual partner N=14
HIV/AIDS Knowledge	-0.12	0.03
Perceived Risk	0.16 (N=54)	-0.11 (N=16)
HIV/AIDS-Related Stigma		
Negative Feelings	-0.12	-0.42
Support for coercive AIDS-related policies & blame for persons with AIDS	-0.09	-0.38
Avoidant behaviors	-0.09 (N=48)	0.26 (N=11)
Condom Self-Efficacy	-0.03	0.71*
Religiosity	-0.16	-0.04

\*  $p < .005$

**Research Question #2:** What is the relationship between HIV/AIDS knowledge and sexual risk behaviors (i.e., frequency of condom usage)?

**Hypothesis 2: Greater HIV/AIDS knowledge will be positively related to frequency of condom use.**

The results indicated that the majority of the participants scored high on the knowledge scale ( $M = 32.38$ ,  $SD = 3.55$ ), and the chi-square analysis revealed that these scores were better than chance  $\{\chi^2(15, N = 131) = 61.61, p = .000\}$ .

There were no significant correlations found between HIV/AIDS knowledge and frequency of condom use among main or casual partners. In fact, the correlation between HIV/AIDS knowledge and frequency of condom use among main partners was in the negative direction ( $-.117$ ), but it was not significant.

**Research Question #3:** Is there a mediating role for condom self-efficacy and perceived risk for HIV/AIDS?

**Hypothesis 3: Condom self-efficacy will act as a mediator between stigmatizing of PLWHA and frequency of condom use.**

**Hypothesis 4: Perceived risk for HIV/AIDS will act as a mediator between HIV/AIDS knowledge and frequency of condom use.**

There was no mediating effect between stigmatizing of PLWHA and frequency of condom use (among main or casual partners) because these two variables were not related to one another (negative feelings- main partner:  $-.117$ , casual partner:  $-.420$ ; support for coercive AIDS-related policies and blame for persons with AIDS- main partner:  $-.089$ , casual partner:  $-.381$ ; and avoidant behavior- main partner:  $-.089$ , casual partner:  $.266$ ). Additionally, a mediating effect did not exist between HIV/AIDS

knowledge and frequency of condom use for the same reason as stated above. Mediation would have been tested by running a hierarchical regression, controlling for all other variables as step 1, inputting the stigmatization or HIV/AIDS knowledge variables as step 2, and lastly inputting the condom self-efficacy or perceived risk variables into the equation to observe the  $R^2$ . However, mediation can only occur if a relationship exists between the independent and dependent variables (Kenny, 2003). Therefore, neither condom self-efficacy nor perceived risk for HIV/AIDS acted as mediators between the two identified independent variables and frequency of condom use.

Although no research question nor hypothesis were proposed, these data did reveal that condom self-efficacy was significantly correlated with frequency of condom use among casual partners ( $.706, p < .005$ ) and a subsequent regression analysis, indicated that condom self-efficacy was a significant predictor of frequency of condom use among casual partners ( $F = 11.91, p < .005$ ). Condom self-efficacy explained 50% of the variance in frequency of condom use among casual partners ( $R^2 = .498$ ) as shown in Table 3.

Table 3

*Summary of Regression Analysis for Variables Predicting Frequency of Condom Use among Casual Partners*

Variable	<i>B</i>	SE <i>B</i>	$\beta$
Condom Self-Efficacy	.749	.217	.706*

\*  $p < .005$

**Research Question #4:** Do the two domains of HIV/AIDS (sexual and nonsexual transmission) relate differently to frequency of condom use?

The HIV/AIDS Knowledge scale was analyzed using a Principal Components factor analysis with a Varimax rotation procedure and it did not result in two distinct factors that could be identified as the sexual and nonsexual modes of transmission. Consequently, it was not possible to determine if there was a differential relationship of HIV/AIDS knowledge on frequency of condom use.

**Research Question #5:** Does a relationship exist between religiosity and stigma?

Only one of the stigma dimensions, Avoidant Behaviors, was correlated with one of the religiosity dimensions, Non-Organizational Religiosity. In other words, stigmatizing avoidant behaviors was negatively correlated with non-organizational religiosity, and it was significant ( $-213, p < .018$ ). No hypothesis was associated with this research question because it was exploratory and there was not enough evidence within the literature to predict a specific direction.

**Research Question #6:** Does a relationship exist between religiosity and frequency of condom usage?

A correlational analysis of the Multidimensionality of Religiosity Scale and Frequency of Condom Use Scale showed no relationship between religiosity and frequency of condom usage among main or casual partners.

## Discussion

This study examined the relationships between HIV/AIDS-related attitudes (i.e., HIV/AIDS-related stigma, HIV/AIDS knowledge, condom self-efficacy, perceived risk, and religiosity) and frequency of condom use in a sample of African American college women. Correlational analyses were conducted to examine these interactions. Of particular interest was the relationship between frequency of condom use and HIV/AIDS-related stigma (hypothesis one), which was divided into three subscales (i.e., negative feelings, support for coercive AIDS-related policies and blame for persons with AIDS, and avoidant behavior). None of the three stigma dimensions reported significant results. Stigmatization, therefore, appears to have no effect on the frequency of condom use, at least in this sample.

These results could imply that African American women who stigmatize PLWHA (people living with HIV/AIDS) do not engage in less condom use. It is possible that women who are highly avoidant of HIV/AIDS and who might disassociate themselves from people living with the virus may not be less protective during sexual intercourse. Although the African American women in this sample have high HIV/AIDS awareness, based on stigmatizing views, this study does not show that their risk of contracting the virus would decrease or increase. These findings do not support those presented by Burkholder et al. (1999) who found a relationship to exist between stigmatization and sexual risk behaviors through condom self-efficacy as the mediating variable.

When testing the relationship between HIV/AIDS knowledge and frequency of condom use, hypothesis two, no significant correlation was found. The level of HIV/AIDS knowledge was high for this particular sample of women but the results of

this study failed to show a direct relationship between HIV/AIDS knowledge and sexual risk-taking behavior, which is a finding similar to other studies (Bazargan et al., 2000; Braithwaite & Thomas, 2001). In fact, results from past research have shown that greater HIV knowledge was a significant predictor of condom use only when grouped with other variables (i.e., male gender, less age, non-monogamous relationship, more experiences with condoms, and greater condom self-efficacy) (Bazargan et al., 2000). Thus, HIV/AIDS knowledge alone may be insufficient in predicting behavior change in this sample of African American woman, and little to no relationship may even exist.

Hypothesis three proposed that condom self-efficacy would act as a mediating variable between stigmatization of PLWHA and frequency of condom use. Additionally, hypothesis four proposed that perceived risk would act as a mediating variable between HIV/AIDS knowledge and frequency of condom use. As stated earlier, no relationship was found between any of the two main variables, so a mediation effect was not examined. On the other hand, the results did show a direct relationship between condom self-efficacy and frequency of condom use among casual partners. According to the regression analysis, condom self-efficacy was a significant predictor, a finding that has not consistently been the case in other studies predicting sexual behavior change (Bowleg et al., 2000; Steers et al., 1996).

Previous studies have not examined how relevant condom self-efficacy is to African American college women, and the current study shows how this construct is useful and may be more predictive of behavior change than any other variable that was examined. Furthermore, based on the findings in a study conducted by Cummings et al. (1999), 64% of the non-worried (i.e., not expressing a sense of vulnerability or an



instance where there was potential exposure to the virus) African American women were not worried due to protective behaviors. These women were also more likely to have multiple partners, suggesting that they felt more practiced in condom usage and negotiation that resulted from more sexual experiences. Although the direction of the predictive relationship between condom use and self-efficacy is unknown, the results could suggest that condom self-efficacy results from more sexual encounters, which contribute to the level of confidence one has in using condoms. On the other hand, the more comfortable and confident women feel in using condoms might lead them to have more sexual experiences. The direction of causality can be interpreted in both ways.

The objective of the current study was also to explore the different domains of HIV/AIDS knowledge. Bazargan et al. (2000) revealed that there were two types of HIV/AIDS knowledge (sexual and nonsexual) and only the sexual domain had a direct effect on condom use. In contrast, the findings from the current study showed that the HIV/AIDS knowledge scale used was homogenous, meaning that it was not divided into two distinct domains. Thus, the two domains of HIV/AIDS knowledge were not examined and may not have existed within the content of the scale being used.

The effect of religiosity on stigmatization and frequency of condom use was also investigated to see if any relationships existed. Only one domain of religiosity (i.e., non-organizational) was found to be significantly correlated with one of the stigma components (i.e., avoidant behavior). In other words, the more respondents engaged in non-organizational religiosity (i.e., reads religious books, watches religious programming, pray or ask someone to pray for them), the less they avoided PLWHA. The stigma of HIV/AIDS was thought to have partly developed out of the Black church based

on remarks of HIV/AIDS being a punishment from God (UNAIDS, 2002-2003, p.4; Martin et al., 2003; Fullilove & Fullilove, 1999; Rose, 1998; Quinn & Thomas, 1994), but this study provides a different perspective. These results suggest that religiosity may play a role in shaping behavior as also reported elsewhere (Miller & Gur, 2002), in the areas of greater tolerance and non-judgmental attitudes, especially in regards to the stigmatization of HIV/AIDS and people associated with the virus. Finally, religiosity was not associated with frequency of condom use at all, offering no evidence to support whether religion has an influence on African American college women's condom usage.

### *Limitations*

The main limitation in this study was the small sample size that affected the results for the dependent variable (i.e., frequency of condom use) and the effect sizes, in general. There were not many women who reported participating in sexual activity in the past 30 days, and of those who reported having sex, few reported it being with a casual partner. These small sample sizes had a big impact on the results because any effect that may have existed was diminished. This pertained to all of the research questions and to particular instruments.

For example, the Stigma scale and the Frequency of Condom Use scale demonstrated limited face validity because the actual layout or the wording of the scale items were ambiguous. The scales were not pilot tested on an adequate number of people in order to recognize these problems prior to the general collection of data. The considerable amount of missing data suggests that the participants may have perceived the questions to be confusing. Many items were left blank or appeared to be misinterpreted based on the answers that were given. Furthermore, the current study was

the first to use the Frequency of Condom Scale on an African American college woman population, so it would have been beneficial to pilot test this scale, as well, to insure that the items were more appropriate for the sample. There was also very little variance within most of the scales (i.e., except for the HIV/AIDS Knowledge scale), contributing to the lack of significant findings.

Lastly, two distinct domains of HIV/AIDS knowledge may not have been apparent in this study because a different scale was used from the one Bazargan et al. (2000) administered. The two factor knowledge scale they used could not be replicated in this study. Future studies will need to reliably assess the different components of HIV/AIDS knowledge (if it exists) and then examine the possible effects of each component.

In regards to future research, attempts should be made to either develop the current scales or use more reliable and valid scales, and also to gather data from a larger sample of African American college women. Additionally, an increase in sample size alone could drastically change the results of a similar study because it may provide more variance within the scales. It also might be helpful to include other groups, such as women who identify as bisexual because they have sexual interactions with women and men that could be infected with the virus. An increase in the options of who one would classify as a potential sexual partner might increase HIV/AIDS risk.

Finally, it would be advantageous to examine the condom self-efficacy construct more closely for the African American college woman population. This variable was the only one that revealed a significant effect on the frequency of condom use, particularly with casual partners. The implication of this finding could lead to two interpretations.

Women might gain more confidence in using and negotiating condoms when they acquire more sexual experiences. On the other hand, condom self-efficacy as a significant predictor could refer to how women are just more protective of themselves when they are accustomed to having multiple partners, as opposed to only one. If it is the latter, future research could examine the factors that lead women who are in monogamous relationships to use condoms or discard them.

The current study could be used to direct future studies by placing more focus on the condom self-efficacy variable as a predictor of frequency of condom use. The finding from this study offers some support toward existing literature in this area that has shown a relationship between condom self-efficacy and condom usage in the context of a skills training intervention (Jemmott & Jemmott, 1991; Jemmott et al., 1992). Once additional research is conducted on the relationship between the two variables, researchers and practitioners could use the literature to guide more interventions that develop condom self-efficacy skills while also promoting actual condom use behavior, rather than the intentions to use condoms. Advances fail to be made in any of the other prevention areas discussed earlier. As mentioned above, more needs to be done in regards to improving the scales used and obtaining a larger sample size before informing intervention.

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## Appendix A

## **African American college women needed!**

### HIV/AIDS Research Study

Due to the increasing threat of HIV/AIDS among young adults and African American women, in particular, it is necessary for students to become more actively involved in prevention efforts. Therefore, we would like to solicit your help in examining how prevention scientists should develop and tailor programs to reduce risky behaviors. All that is needed is your time to fill out a confidential survey about HIV/AIDS and other relevant topics. Although this is a small request, your participation is important and will be contributing to the needed information that will assist in decreasing infection rates in the African American community.

#### Criteria to participate:

- heterosexual
- unmarried
- sexually active in the past year

## Appendix B

## AIDS Risk Behavior Knowledge Test

This is a true/false test. Please do not skip any questions. Because this is a test, some of the statements are true and accurate, while others are false and inaccurate.

- |   |   |   |
|---|---|---|
| 1) Most people who transmit the AIDS virus look unhealthy.  | T | F |
| 2) Anal intercourse is high risk for transmitting the AIDS virus.   | T | F |
| 3) Oral intercourse carries risk for AIDS virus transmission.   | T | F |
| 4) A person can be exposed to the AIDS virus in one sexual contact.   | T | F |
| 5) Keeping in good physical condition is the best way to prevent exposure to the AIDS virus.                    | T | F |
| 6) It is unwise to touch a person with AIDS.  | T | F |
| 7) Condoms make intercourse completely safe.  | T | F |
| 8) Showering after sex greatly reduces the transmission of AIDS.  | T | F |
| 9) When people become sexually exclusive with one another, they no longer need to follow "safe sex" guidelines. | T | F |
| 10) Oral sex is safe if the partners "don't swallow."   | T | F |
| 11) Most people who have been exposed to the AIDS virus quickly show symptoms of serious illness.               | T | F |
| 12) By reducing the number of different sexual partners, you are effectively protected from AIDS.               | T | F |
| 13) The AIDS virus does not penetrate unbroken skin.  | T | F |
| 14) Female-to-male transmission of the AIDS virus has not been documented.                                      |   |   |
| 15) Sharing toothbrushes and razors can transmit the AIDS virus.  | T | F |
| 16) Pre-ejaculatory fluids carry the AIDS virus.  | T | F |
| 17) Intravenous drug users are at risk for AIDS when they share needles.  | T | F |

18) A person must have many different sexual partners to be at risk from AIDS.	T	F
19) People carrying the IDS virus generally feel quite ill.	T	F
20) Vaginal intercourse carries high risk for AIDS transmission.	T	F
21) Withdrawal immediately before orgasm makes intercourse safe.	T	F
22) Persons who are exclusively heterosexual are not at risk from AIDS.	T	F
23) Healthy persons in AIDS risk groups should not donate blood.	T	F
24) Sharing kitchen utensils or a bathroom with a person with AIDS poses no risk.	T	F
25) Intravenous drug users become exposed to the AIDS virus because the virus is often contained in heroin, amphetamines, and the injected drugs.	T	F
26) A wholesome diet and plenty of sleep will keep a person from becoming exposed to the AIDS virus.	T	F
27) A cure of AIDS is expected within the next two years.	T	F
28) It is more important to take precautions against AIDS in large cities than in small cities.	T	F
29) A negative result on the AIDS virus antibody test can occur even for people who carry the virus.	T	F
30) A positive result on the AIDS virus antibody test can occur Even for people who do not carry the virus.	T	F
31) Coughing does not spread AIDS.	T	F
32) Only receptive (passive) anal intercourse transmits AIDS.	T	F
33) Most present cases of AIDS are due to blood transfusions that took place before 1984.	T	F
34) Most persons exposed to the AIDS virus know they are		

exposed.	T	F
35) A great deal is now known about how the AIDS virus is transmitted.	T	F
36) Donating blood carries no AIDS risk for the donor.	T	F
37) No cases of AIDS have ever been linked to social (dry) kissing.	T	F
38) Mutual masturbation and body rubbing are low in risk unless the partners have cuts or scratches.	T	F
39) People who become exposed to the AIDS virus through needle-sharing can transmit the virus to others during sexual activities.	T	F
40) The AIDS virus can be transmitted by mosquitoes or cockroaches.	T	F

## Appendix C

### **Health Belief Model - Self-Efficacy for Condom Use (HBMC)**

**Instructions:** This scale pertains to your level of confidence or how comfortable you feel with condoms. Please respond to each of the following items thoughtfully. There are no correct answers. Use the 4-point scale below to rate each of the statements as it applies to you. Do not spend too much time on any item; record the first response that comes to your mind.

**1 = Agree; 2 = Mildly Agree; 3 = Mildly Disagree; 4 = Disagree**

---

- 1) Condoms are easy to use.
- 2) Using condoms when having sex tells my partner I care about my health.
- 3) I am able to buy condoms.
- 4) I know where to get condoms
- 5) I am able to carry condoms with me on a date in case I decide to have sex.
- 6) I know how to use a condom when having sex with someone.
- 7) I am able to make sure a condom is used with a new sex partner.



## Appendix D

### **Perceived Risk for HIV/AIDS**

**Instructions:** These questions relate to your perception of risk for HIV infection. Please read each item carefully and mark the answer that is most applicable to you. There are no correct answers. Use the 5-point scale provided below to rate each statement.

**1 = Not at all sure; 2 = A little sure; 3 = Kind of sure; 4 = Fairly sure; 5 = Very sure**

- 1) I feel that I am at risk of getting AIDS at this time in my life.
- 2) I sometimes think that I may have been exposed to AIDS.
- 3) I have had sex with someone who could have given me AIDS.
- 4) One of my close friends does things that could lead to them getting AIDS.
- 5) How sure are you that you have not been exposed to AIDS?
- 6) How sure are you that your sex partner(s) have NOT been exposed to AIDS?
- 7) If you were to make a guess, how sure are you that you are at risk for getting HIV/AIDS at this time in your life?

## Appendix E

## AIDS Stigma

### SURVEY ITEMS

**Feelings Towards Persons with AIDS** People have many different feelings when they think about people who have AIDS. As I read each of the following feelings, please tell me how you personally feel.

1. How about feeling angry at them? Would you say you feel:
  - (a) very angry,
  - (b) somewhat,
  - (c) a little, or
  - (d) not at all angry at people with AIDS?
2. (How about) afraid of them?
3. (How about) disgusted by them?

**Coercive Attitudes and Blame** Now I'm going to read a list of statements people have made. As I read each one, please tell me how much you agree or disagree.

1. How about "people with AIDS should be legally separated from others to protect the public health?" Would you say you:
  - (a) agree strongly,
  - (b) agree somewhat,
  - (c) disagree somewhat, or
  - (d) disagree strongly?
2. (How about) "The names of people with AIDS should be made public so that others can avoid them?"
3. (How about) "People who got AIDS through sex or drug use have gotten what they deserve?"

- Avoidant Behavioral Intentions**
1. Suppose you had a close friend or relative who developed AIDS.
    - (a) Would you be willing to take care of him/her, or
    - (b) is that something you would not be willing to do?

*IF (b): Is that because*

    - (c) you wouldn't want to take care of someone with AIDS, or
    - (d) for some other reason?

[supportive response = a; avoidant response = c]

2. And suppose you had a young child who was attending school where one of the students was known to have AIDS. What would you do? Would you:

- (a) send your child to another school, or
- (b) leave your child in the same school?
- IF (b):* Would you
- (c) encourage your child to be especially nice to the student with AIDS,
- (d) discourage your child from contact with him/her, or
- (e) encourage your child to treat him/her as always?

[supportive responses = c, e; avoidant responses = a, d]

3. Now suppose you had an office job where one of the men working with you developed AIDS. Would you:
- (a) still be willing to work with him,
  - (b) ask he be assigned someplace else,
  - (c) or ask to be assigned with someone else.
  - IF (a):* Would you
  - (d) go out of your way to help him,
  - (e) try to avoid contact with him, or
  - (f) treat him the same as always?

[supportive responses = d, f; avoidant responses = b, c, e]

4. Suppose that you found out that the owner of a small neighborhood grocery store where you like to shop had AIDS. Would you:
- (a) continue to shop there, or
  - (b) probably go someplace else to shop?
  - IF (a):* Do you think you would shop there
  - (c) more often or
  - (d) less often than you did before you found out the owner had AIDS, or
  - (e) would you continue to shop there as much as you did before you found out?

[supportive responses = c, e; avoidant responses = b, d]

## Appendix F

## Frequency of Condom Use Scale

**Instructions:** These questions pertain to your sexual activity, asking you to generate a number related to sexual partners and condom usage. Please read each item carefully. Some questions may not apply to you, so follow instructions that direct you to the next question. Please be as accurate as possible and just reflect on the past 30 days.

H5. In the past 30 days, has there been any male who you consider to be a main partner?

Yes	1	
No	2	GO TO H14
DK/Unsure	-4	
Refused	-7	

H5a. How many main partners have you had in the past 30 days?

_ _	DK/Unsure	Refused
# main partners (1-99)	-4	-7

H9. How many times in the last 30 days did you have vaginal sex with your steady partner?

_ _ _	DK/Unsure	Refused
Times	-4	-7

IF "000," GO TO H10.

H9a. Of these times that you had vaginal sex with your steady partner, how many times did he use a male condom?

_ _ _	DK/Unsure	Refused
Times	-4	-7

H9b. In the past 30 days, of the times that you had vaginal sex with your steady partner, how many times did you use a female condom?

_ _ _	DK/Unsure	Refused
Times	-4	-7

H10. How many times in the last 30 days when you had sex did your steady partner put his penis into your mouth?

_ _ _	DK/Unsure	Refused
Times	-4	-7

IF "000," GO TO H11.

H10a. Of the times that you gave your steady partner a blow job, how many times did he use a male condom?

_ _ _	DK/Unsure	Refused
Times	-4	-7

H11. How many times in the last 30 days when you had sex with your steady partner did he put his mouth on your vagina?

_ _ _	DK/Unsure	Refused
Times	-4	-7

IF "000," GO TO H12.

H11a. In the past 30 days, of the times that your steady partner went down on you, how many times did you use a latex barrier, saran wrap, dental dam, or other barrier protection?

_ _ _	DK/Unsure	Refused
Times	-4	-7

H12. How many times in the last 30 days when you had sex with your steady partner did your partner put his penis into your anus?

_ _ _	DK/Unsure	Refused
Times	-4	-7

IF "000," GO TO H13.

H12a. Of these times that you had anal sex with your steady partner, how many times did he use a male condom?

_ _ _	DK/Unsure	Refused
Times	-4	-7

H12b. In the past 30 days, of the times that you had anal sex with your steady partner, how many times did you use a female condom in your anus?

_ _ _	DK/Unsure	Refused
Times	-4	-7



## Appendix G

## Multidimensionality of Religiosity Scale

**Instructions:** Next, we'd like to ask some more questions concerning religion.

1. How often do you usually attend religious services?

Nearly everyday (4 or more times a week)	(1)
At least once a week (1 to 3 times)	(2)
A few times a month (1 to 3 times)	(3)
A few times a year	(4)
Less than once a year	(5)

2. Are you an official member of a church or other place of worship?

Yes	(1)
No	(2)

3. How many church clubs or organizations do you belong to or participate in?

None	(1)
1-3	(2)
4 or more	(3)

4. Besides regular service, how often do you take part in other activities at your place of worship?

Nearly everyday (4 or more times a week)	(1)
At least once a week (1 to 3 times)	(2)
A few times a month (1 to 3 times)	(3)
A few times a year	(4)
Never	(5)

5. Do you hold any positions in your church or place of worship?

Yes	(1)
No	(2)

6. How often do you read religious books or other religious materials?

Nearly everyday (4 or more times a week)	(1)
At least once a week (1 to 3 times)	(2)
A few times a month (1 to 3 times)	(3)
A few times a year	(4)
Less than once a year	(5)

7. How often do you watch or listen to religious programs on TV or radio?

Nearly everyday (4 or more times a week)	(1)
At least once a week (1 to 3 times)	(2)
A few times a month (1 to 3 times)	(3)
A few times a year	(4)
Less than once a year	(5)

8. How often do you pray?

Nearly everyday (4 or more times a week)	(1)
At least once a week (1 to 3 times)	(2)
A few times a month (1 to 3 times)	(3)
A few times a year	(4)
Less than once a year	(5)

9. How often do you ask someone to pray for you?

Nearly everyday (4 or more times a week)	(1)
At least once a week (1 to 3 times)	(2)
A few times a month (1 to 3 times)	(3)
A few times a year	(4)
Less than once a year	(5)

10. How religious would you say are you?

Very religious	(1)
Fairly religious	(2)
Not too religious	(3)
Not religious at all	(4)

11. How important was religion in your home?

Very important	(1)
Fairly important	(2)
Not too important	(3)
Not important all	(4)

12. How important is it for Black parents to send or take their children to religious services?

Very important	(1)
Fairly important	(2)
Not too important	(3)
Not important all	(4)

13. How much help is your church/religious community to you? Would you say:

A lot of help	(1)
Some help	(2)
A little help	(3)
No help	(4)