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Psychosocial Factors that Contribute to HIV/ AIDS Risk Behavior among Young Black College Women

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To the Graduate Council:

I am submitting herewith a dissertation written by Binta D. Alleyne entitled "Psychosocial Factors that Contribute to HIV/AIDS Risk Behavior among Young Black College Women." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Social Work.

John Wodarski, Major Professor

We have read this dissertation and recommend its acceptance:

William Nugent, Samuel MacMaster, Deborah Welsh

Accepted for the Council:

Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Deborah Welsh, Ph. D.

Accepted for the Council:

Carolyn R. Hodges
Vice Provost and Dean of the
Graduate School

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Psychosocial Factors That Contribute to HIV/AIDS Risk Behaviors Among
Young Black College Women

A Dissertation Presented
for the
Doctor of Philosophy Degree
The University of Tennessee-Knoxville

Binta D. Alleyne

May 2007

Dedications

This dissertation is dedicated to my brother Malik and my nephew Tarik. You are both my biggest motivators for working so hard. I endeavor everyday to show you that where you come from does not have to dictate where you'll end up. You have a brain, use it; and the world will be your playground.

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Abstract

The primary purpose of this dissertation was to investigate the relationship between certain factors associated with the Theory of Gender and Power including: sexual relationships, condom use self-efficacy, substance use, and perceived risk to HIV/AIDS risk behaviors among young Black college women. It provides an intellectual context for empirically-based and theory-supported interventions geared toward this population. African American women are disproportionately burdened by Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS). Statistics show that African American women account for 64% of all HIV/AIDS cases reported in 2005 compared to White women at 19% and Hispanic women at 15% (CDC, 2005). Typically, the majority of HIV/AIDS research focuses on prevention for low-income, substance abusing minority women, adolescents, and men who have sex with men (MSM), while young Black college women are ignored as a risk group. Though this group does not have some of the common risk factors commonly associated with HIV such as poverty, injection drug use, or low levels of education, they still engage in behaviors that place them at risk for contracting HIV. This study consisted of convenience sample of 189 young Black women from Clark Atlanta University between the ages of 18 and 24. Participants were recruited through various campus student organizations. A hierarchical multiple regression analysis was used to test each research hypothesis. Results indicated that type(s) of sexual relationship was the strongest predictor of condom use among young Black college women and accounted for 2.5% of the variance in

their condom use. HIV/AIDS knowledge, condom use self-efficacy, substance use nor HIV/AIDS perceived risk predicted this sample's condom use.

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CHAPTER 1: INTRODUCTION

The purpose of this chapter is to provide information regarding the increasing risk of HIV and AIDS among African American women, specifically among those in college. The purpose and significance of the study as it relates to high risk behaviors are also addressed in this chapter

Research and health education data indicate that over the last decade, the rates of Human Immunodeficiency Virus (HIV), the virus that causes Acquired Immunodeficiency Syndrome (AIDS), among minority women have been increasing at an alarming rate (Centers for Disease Control and Prevention, 2004). While the majority of HIV/AIDS research focuses on populations such as men who have sex with men (MSM), adolescents, and uneducated minority women living in poverty, young Black college women are practically ignored as a group at high risk for contracting HIV/AIDS. While the literature indicates that college students as a whole are at an increased risk for contracting HIV/AIDS due to their risky behaviors such as inconsistent condom use, multiple sex partners, and substance use, there is very limited research on the HIV/AIDS risk behaviors of young Black college women (Lewis, Melton, Succop, & Rosenthal, 2000; & Ybarra, 1996). By virtue of being women, members of an ethnic minority as well as college students, young Black college women face multiple risks for contracting HIV/AIDS.

Statement of the Problem

While African Americans are disproportionately affected by HIV/AIDS, rates of infection among Black women are especially increasing (CDC, 2004). However, young Black college women are often not focused upon in the literature as a risk group for contracting HIV/AIDS. According to Lewis et al. (2000), college students are especially susceptible to HIV/AIDS due to their pattern of sexual behavior including having multiple partners and inconsistent condom use. There is a significant body of literature that focuses on HIV/AIDS prevention for African American women (Barker, Battle, Cummings, & Bancroft, 1998; Becker, Rankin, & Rickel, 1998; Bedimo, Bennett, Kissinger, & Clark, 1998). Earlier works such as Sunnenblick (1998) found that among African American women, AIDS knowledge was actually related to lower levels of perceived susceptibility, which could be a result of exposure to the idea of risk groups. Since poor, uneducated minority women are often considered an “at risk group”, young Black college women may not identify themselves as being at risk. Therefore, increasing knowledge among individuals who do not consider themselves to be members of high-risk groups, such as young Black college women, may actually lower their perceptions of susceptibility, thus having no impact on their risky behaviors (Sunnenblick, 1998)

After reviewing a significant body of HIV/AIDS literature, two significant gaps regarding young Black college women and HIV/AIDS has been revealed. First, there are very few empirical studies that focus on factors that influence the HIV/AIDS risk behavior among this population. Second, there are even fewer

identified HIV/AIDS prevention programs that address the unique cultural, social, and educational needs of young Black college women (Katz, 2003). This is important because as previously mentioned; these young women are at an increased risk for contracting HIV/AIDS by virtue of their being female, members of an ethnic minority, and college students. In their extension of the Theory of Gender and Power, Wingood and DiClemente (2002), identified several factors that influence risky sexual behaviors among minority women including: sexual relationships, condom-use self-efficacy, and substance use. A review of the literature has indicated that perceived risk also influences risky behavior among minority women (Seal & Palmer-Seal, 1996; Wyatt, Vargas, Burns Leob, Guthrie, Chin, & Gordon, 2000).

Purpose of the Study

This study seeks to fill the aforementioned gaps in the literature by investigating the relationship between certain factors associated with the Theory of Gender and Power including: sexual relationships, condom use self-efficacy, substance use, and perceived risk to HIV/AIDS risk behaviors among young Black college women.

Significance of the Study

According to the CDC (2005), of the 18,849 individuals under the age of 25 who received a HIV/AIDS diagnosis between the years of 2001-2004, 61% were African American. Since the beginning of the AIDS epidemic, an estimated 10,041 adolescents and young adults have died as a result of AIDS (CDC, 2004). Furthermore, the number of youth with AIDS diagnoses has increased from 3.9

percent in 1999 to 4.7 percent in 2003 (National Institutes of Health, 2005). The increasing rate of HIV/AIDS among minority populations is most noticeable. The virus has significantly impacted African-American and Hispanic adolescents and young adults. In 2003, African-Americans and Hispanics youths between the ages of 13 and 19, accounted for 66 percent and 21 percent, respectively, of the reported AIDS cases (CDC, 2003).

The literature reveals a startling increase in the number of African American women both contracting and dying from HIV/AIDS (CDC, 2004). According to Wingood and DiClemente (1998a), African American women of all ages are 16 times more likely to contract HIV than White women. The CDC (2005) recognized that race, ethnicity, and gender are not risk factors, but highlight five risk factors or challenges that African Americans are likely to face. These challenges include:

- Poverty- Day-to-day living may be more important than healthcare needs which may prevent many African Americans from obtaining HIV prevention.
- Denial- African Americans have been in dissent about homosexuality within their communities. For instance, the majority of Black men who have sex with other men do not identify themselves as being homosexual, which makes it almost impossible for them to receive services provided by gay initiatives.

- Sexually Transmitted Disease Connection- Partner risk, denial, and substance use are some of the main reasons why African Americans are affected by Sexually Transmitted Diseases (STDs), which increase their risk of contracting HIV.
- Drug use- Injection drug use is second to heterosexual contact as the means by which the majority of African American women are contracting HIV.

When viewed individually or together, these risk factors influence HIV risk among African American women and may also hinder HIV prevention efforts targeted toward this population (CDC, 2005).

Earlier studies have indicated that activities such as alcohol use, experimentation with drugs and sexual activity place college students at risk for contracting STDs including HIV/AIDS (Mahoney, Thombs, & Ford, 1995). In order for HIV/AIDS prevention programs to be effective, particularly with young Black college women, barriers to consistent condom use among this population must first be identified.

Objective

The objective of this dissertation was to:

- I. Determine if certain psychosocial factors influence HIV/AIDS risk behavior such as but not limited to inconsistent condom use among young Black college women.

CHAPTER 2: LITERATURE REVIEW

The purpose of this chapter is to provide a critical analysis of the relevant literature that deals with HIV/AIDS risk behavior among college students, particularly young Black college women. A review of the literature revealed that HIV/AIDS has been in existence for over 20 years, and for at least half that time African American women have been viewed as an at-risk group (NIH, 2005). However, there remains a significant void in the literature regarding HIV/AIDS risk among young Black college women. This gap is noticeable in the academic literature, but is also especially noticed in social work literature. This literature review is inclusive of database searches of numerous disciplines including social work abstracts, social science abstracts, Medline, Ingenta, and Psycinfo, and PsychArticles. The literature review will be presented in several sections.

The first section will give pertinent background information about HIV/AIDS, briefly discuss HIV/AIDS in the African American community in general, African American youth, and particularly African American women. The second section describes the Theory of Gender and Power. The third section addresses risk factors associated with HIV contraction among college students, limitations of the literature, along with suggestions for the direction of future research and prevention. The majority of HIV/AIDS literature identifies all persons of African descent as African American. However, because all people of African lineage do not identify themselves as African American, the word Black in this paper is used in an effort to be inclusive of all persons of African ancestry.

Thus, the term African American and Black will be used interchangeably throughout this paper.

HIV/AIDS in the United States

HIV/AIDS continues to be a significant population health issue for all Americans. In 1981, AIDS was first reported in the U.S. and has since become a major worldwide epidemic. AIDS is caused by HIV. HIV kills and damages the cells of the immune system, in turn progressively destroying the body's ability to fight infections and certain cancers (NIH, 2005). HIV is most commonly contracted through unprotected sex with an infected partner. The virus gains entry into the body through the lining of the vagina, vulva, penis, rectum, or mouth during sex (NIH, 2005). Although HIV/AIDS is most commonly transmitted through sexual contact, it can also be contracted through blood transfusion from a mother to infant during pregnancy and breastfeeding as well as through intravenous drug use (CDC, 2005).

Many people often do not have any symptoms when they initially become infected with HIV, and may only have flu-like illness within a month or two after exposure to the virus (NIH, 2005). However, even during the asymptomatic period, HIV is vigorously destroying the cells of the individual's immune system. Although some people may begin to have symptoms within a few months, others may not have any symptoms for more than 10 years (NIH, 2005).

HIV/AIDS among African Americans

Over the past decade, HIV/AIDS has been increasing among members of the African American community. In 2000, HIV/AIDS was among the top three causes of death for African American men aged 25–54 years, and among the top four causes of death for African American women aged 25–54 years. It was also the number one cause of death for African American women aged 25–34 years (CDC, 2003). The primary mode of HIV transmission among African American men was sexual contact with other men, followed by heterosexual contact and injection drug use (CDC, 2003). Regardless of other distinctiveness such as age, gender, or sexual orientation, African Americans are dominantly impacted by HIV/AIDS (CDC, 2005). These data are illustrated in Figure 1, adapted from the CDC, 2005.

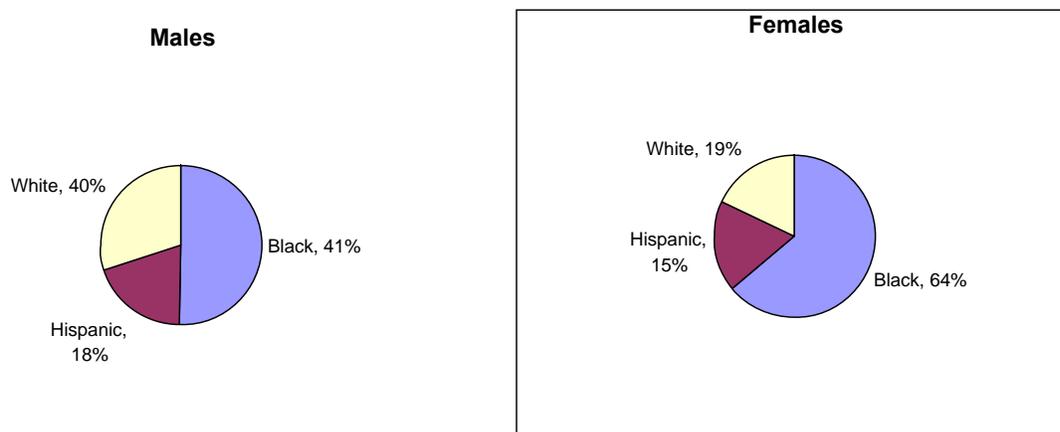


Figure 1 Estimated Number of Diagnoses of HIV/AIDS by Race and Gender

HIV/AIDS among African American Women

Black women are most likely to be infected with HIV as a result of heterosexual contact (CDC, 2005). Ignorance pertaining to their male partners' possible risks for HIV infection, including unprotected sex with multiple partners, bisexuality, and injection drug use increase Black women's risk of contracting HIV (Hader, Smith, Moore, & Holmberg, 2001). Data from an ongoing CDC-sponsored multi-site project conducted at 12 state or local health departments were used by Montgomery, Mokotoff, Gentry, & Blair (2003), to assess the prevalence of bisexual activity in HIV-infected men using self-reported behavioral data from interviews with MSM. Data were also used to assess the frequency by which HIV-infected women reported having sex with bisexual men.

Results indicated that 34% of African American MSM also reported engaging in sex with women, even though only 6% of Black women reported engaging in sex with a bisexual man. However, it should be noted that data from this study were collected at different times during each participant's disease process, which could have possibly impacted the results of this study. As of 2005, heterosexual contact accounted for 74% of transmission, injection drug use accounted for 24% and other modes of transmission accounted for 2% of HIV diagnoses among Black women (CDC, 2005). These data are illustrated in Figure 2.

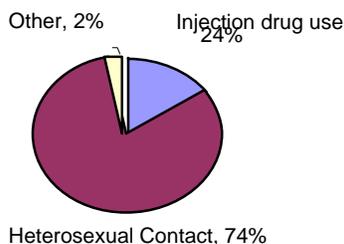


Figure 2 Transmission Categories of Black Women given an HIV/AIDS diagnosis
(adapted from the CDC, 2005)

HIV/AIDS among Young Black Women

Valleroy, MacKellar, Karon, Jansses, and Hayman (1998) completed a study to describe the HIV prevalence among disadvantage out-of-school youth, ages 16-21 who participated in the U. S. Job Corp program. From January 1990 through December 1996, enrollees in the Job Corp program from all U.S. states were screened for HIV. Results indicated that HIV prevalence was higher for African American women than among any other gender and racial group. Black women were seven times as likely as White women, and eight times as likely as Hispanic women to be HIV-positive.

Lee and Fleming (2001) used HIV surveillance data reported from 25 states from 1994 through 1998 to describe recent trends in HIV diagnoses

among women born between 1950 and 1979. The authors found that even though overall HIV diagnoses among women decreased slightly from 1994 through 1995, as the youngest group of women aged 15–19 reached the age at which they initiated risk behaviors, the number of HIV cases caused by injection drug use increased, and the number acquired through heterosexual contact more than doubled (Lee & Fleming, 2001). The authors indicated that due to risk factors such as heterosexual contact and injection drug use, young black women particularly those living in the South, will continue to be at highest risk for heterosexual contact-related HIV infection.

Young Black College Women

As young women enter college, they experience many challenges and opportunities as a result of their newfound freedom. This sense of freedom and autonomy can lead to decisions that may result in serious and unwanted consequences (Foreman, 2003). Existing HIV/AIDS prevention programs are not designed for African American women within the university or college campus environment. Most HIV/AIDS prevention programs target teenagers, uneducated Black women in poverty with a high rate of unemployment, or youth living in low-income neighborhoods. HIV prevention programs targeting African American women from various ages and educational levels are minimal (Katz, 2003).

For instance, at The University of Tennessee, Knoxville, the only visible HIV/AIDS education or prevention information readily available to students consists of pamphlets located throughout the student health center. These

pamphlets provide generic information regarding HIV/AIDS and other sexually transmitted diseases (STDs). For example, one pamphlet entitled *Facts about HIV and AIDS (2005)* is commonly found in the student health center. This pamphlet contains general information defining HIV and AIDS, modes of transmission, and certain steps to prevent HIV infection including: 1) never share needles or syringes, 2) always use a new male latex condom, and 3) don't mix alcohol or other drugs with sex. The pamphlet goes on to state that "HIV can be treated, and with proper treatment people with HIV can have longer and fuller lives" (Facts about HIV and AIDS, 2005).

Another pamphlet entitled *STDs-What you need to know (2005)* describes different types of sexually transmitted diseases (STDs), possible results and treatments. A third pamphlet entitled *HIV on campus-facts for college students (2005)*, again provides general information about HIV and AIDS, but goes on to suggest that college students face special risks due to their gaining independence, and reaching new levels of emotional and sexual maturity (HIV on campus, 2005). Suggestions for students to practice what they may say in certain situations such as being offered drugs by someone, and in certain sexual situations are also provided.

Because these and other HIV/AIDS pamphlets do not specifically target young Black college women, this group may not associate themselves as being at risk. Furthermore, young Black college women may dissociate themselves from "poor, inner-city African American women" who are often highlighted as at

risk for contracting HIV (Katz, 2003; Reid, 2000). Therefore, more empirically-based, theory-guided HIV prevention programs that address the unique needs of young Black college women are needed.

Several risk factors appear to be common among young Black college women which increase their chance of contracting HIV. Wingood and DiClemente (2002) have identified interpersonal relationships such as sexual relationships, condom use self-efficacy, and substance use as psychosocial factors that influence condom use among minority women. Perceived risk of contracting HIV/AIDS has also been identified as an additional psychosocial factor that influences condom use among minority women (Hammer, Fisher, Fitzpatrick, & Fisher, 1996; Seal & Palmer-Seal, 1996; Wyatt et al., 2000).

Risk Factors

The rates of HIV and AIDS among African American and Hispanic women have been increasing over time. A number of social and related factors have been identified in HIV-risk behavior for women. For young Black college women, some of these factors may include their interpersonal relationships such as committed/monogamous or casual sexual relationships, condom use self-efficacy, substance use, and their HIV/AIDS perceived risk.

According to Ybarra (1996), college women are at increased risk for HIV/AIDS due to having multiple sexual partners, experimentation with drugs and alcohol, feelings of invincibility to the disease, and a lack of consistent condom use during sexual encounters. Research has shown that types of sexual

relationships, **such as committed with steady partner or casual** (Foreman, 2003; Hammer, et al., 1996; Hynie, Lydon, & Taradash, 1997; Morrill, Ickovics, Golubehikov, Beren & Rodin, 1996; Misovich, Fisher, & Fisher, 1997; Pilkington, Kern, & Indest, 1994; Pulerwitz, Amaro, DeJong, Gortmaker, & Rudd, 2002; Wingood & DiClemente, 1998a), **condom use self-efficacy** (Bowleg, Belgrave, & Reisen, 2000; Brien & Thombs, 1994; Fernandez-Esquer, Atkinson, Diamond, Useche, & Mendiola, 2004; Seal & Palmer-Seal, 1996; Wingood & DiClemente, 1998b, 2000;), **substance use** (Brien et al., 1994; Bachanas, Morris, Lewis-Gess, Sarett-Cuasay, Sirl, Ries, & Sawyer, 2002; Malow, Devieux, Jennings, Lucenko, & Kalichman, 2001; McEwan, McCallum, Bhopal, & Madhok, 1992; Molitor, Ruiz, Klausner, & McFarland, 2000; Wingood & DiClemente, 2000), and **HIV/AIDS perceived risk** (Hammer et al., 1996; Seal & Palmer-Seal, 1996; Wyatt, Vargas, Burns Loeb, Guthrie, Chin, & Gordon, 2000, and Ybarra, 1996) are instrumental in dictating women's condom use.

Type(s) of Sexual Relationship

Research has provided evidence to show that while college students are at risk for contracting HIV, those in steady or supposedly monogamous relationships are less likely to concern themselves with safer-sex practices (Hammer et al. 1996; Foreman, 2003; Misovich, et al., 1997; & Pilkington, et al., 1994). College students tend to have multiple partners over the course of their college experience and may consider their current committed/monogamous relationships as permanent and "safe" (Hammer et al., 1996; Lewis et al., 2000;

Misovich et al.,1997; Ybarra,1996). Research with high school and college students has shown that as the duration of the relationship increases, condom usage decreases (Misovich et al., 1997). This means that college students tend to switch from safer to unsafe sexual practices with the passage of time in their sexual relationships.

Foreman (2003) completed a study of 15 African American college women ages 18-33 at The University of Texas to describe and understand their safer sex-decision making process. Results indicated that young college women stratified sex along a risk and significance scale. The young women tended to view short and brief sexual encounters as risky and less significant, which warranted safer sex practices such as condom usage. The majority of the study's participants engaged in unprotected intercourse within relationships they deemed important and significant. In other words, these young women used condoms significantly less with sexual partners with whom they felt a sense of commitment (Foreman, 2003).

This pattern of behavior appears to be the norm in the general population as well. An earlier study completed by Ford and Norris (1993) showed that people were more likely to use condoms with casual partners than with spouses or live-in partners. In an attempt to develop predictive models of safer sexual behavior among heterosexual women, Morrill et al. (1996) completed a longitudinal study of 189 women from four community health clinics in southern Connecticut, who were voluntarily seeking HIV counseling and testing. These

women were interviewed at baseline and at follow-up which was three months later. Results indicated that participants who were not in seriously committed relationships were more likely to practice safer sex such as using condoms, than those who were in more committed relationships. These results were consistent at both baseline and follow-up.

Pulerwitz et al. (2002) completed a study of the effects of relationship power on condom use in a sample of 388 mostly Latina female patients at an urban community health clinic in Massachusetts. The authors found that only eight percent of the participants consistently used condoms within their primary relationships, and even women who reported the most condom use, reported relatively low rates of usage (13%) during sexual encounters.

According to Saul, Norris, Bartholow, Dixon, Peters, and Moore (2000), persons who are more committed to their intimate relationships tend to make certain decisions to maintain that relationship. Consequently, when the need to ask a partner to use a condom arises, such persons may have difficulty being assertive because of a fear of losing the relationship (Saul et al., 2000). Wingood and DiClemente (2000) stated that women in a steady/committed relationship are nearly three to four times as likely to never use condoms. This increases a woman's risk for contracting HIV/AIDS because sexual relationships outside the primary relationship are hardly ever disclosed (Wingood & DiClemente, 2000).

Another study of 697 Latino and non-Latino White women completed by Gomez and VanOss Marin (1996) found that none of the participants used

condoms with their primary sex partners. According to Misovich et al. (1997), some of the positives of being in a relationship such as feelings of trust and security may produce and bring about elevated levels of AIDS risk behavior in couples.

There appears to be numerous reasons for the misconception that sex within a relationship is safer than other sexual encounters. First, according to Misovich et al. (1997), at one time HIV/AIDS health specialists promoted monogamy as a method of prevention, giving individuals a false sense of safety within their relationships. Furthermore, Misovich et al. (1997), also explains that many young people engage in what is described as serial monogamy which is being monogamous with numerous partners over a period of time, thus increasing their risk of contracting HIV/AIDS. Secondly, maintaining intimacy within a relationship has been shown to be a higher priority among young people than prevention (Hammer et al., 1996). Furthermore, according to Sobo, 1993; and Saul et al., 2000, safer sex discussions within a relationship may imply something negative about the individual or partner.

Numerous studies have also found that asking a partner to use a condom, especially after intimacy has been established within the relationship, may signify a lack of trust, or infidelity within the relationship (Foreman, 2003; Gomez & VanOss Marin, 1996; Hammer et al., 1996; Pilkington et al., 1994; Misovich et al., 1997; Sobo, 1993; Wingood & DiClemente, 1998b. In the study by Morrill et al. (1996), it was found that women do not view abstinence and condom use as

the only means of HIV/AIDS protection. Women tend to regulate their sexual practices depending on the level of commitment within their relationships. For instance, unprotected sex with main or steady partners is often viewed as a token of trust, warranting the concession of a certain degree of safety (Morrill et al., 1996). Therefore, college students primarily concerned with preserving their relationships may view HIV/AIDS prevention as less important (Hammer et al., 1996).

Condom Use Self-efficacy

Defined as the confidence one has in his or her ability to effect change in a specific practice (Bandura, 1989), self-efficacy has emerged as one of the strongest predictors of safer sex behavior (Brien et al., 1994). Individuals who possess high self-efficacy with respect to a task are likely to engage in that behavior, while those who have little confidence in their abilities will probably avoid the activity (Brien et al., 1994). Self-efficacy, as a predictor of health-related behavior, has indicated that a person's perception of his or her ability to perform a behavior is an important indicator of the likelihood that the behavior will be carried out (Goldman & Harlow, 1993). According to Bandura (1989), self-efficacy involves managing interpersonal relationships and the weaker the perceived self-efficacy, the greater the likelihood of risky sexual behavior among individuals. Several studies have noted that condom usage among college students tends to be inconsistent (DiClemente, Forrest, & Mickler, 1990; Freimuth, Hammond, Edgar, McDonald, & Fink, 1992; Misovich et al., 1997).

However, the low rate of condom use among college students cannot be blamed on inadequate knowledge about STDs or safer sex practices (Brien et al., 1994).

A study of 119 heterosexual college dating couples at The University of New Mexico conducted by Seal and Palmer-Seal (1996) found that a lack of self-efficacy was cited by 16% of the sample as the reason for not using condoms with their partner during sexual intercourse. Another study of 339 college students, ages 18 to 23, conducted by Brien and Thombs (1994) tested the ability of the Condom Use Self-Efficacy Scale (CUSES) to distinguish among three groups of condom users which included: nonusers, sporadic users, and ritualistic users. Results indicated that college students' sporadic use of condoms during sexual encounters was mostly influenced by their lack of condom use self-efficacy and their substance use.

Fernandez-Esquer et al. (2004) completed a rapid needs assessment of 152 U. S. born Latinos living in Houston, Texas to identify behavioral and psychosocial factors that influence their HIV/AIDS risk. Results indicated that while condom use self-efficacy did influence condom usage, actual usage during last sexual encounter or with a main partner was determined by perceived risk. Although condom use self-efficacy has emerged as an important determining factor of condom usage, the literature fails to address this construct among young Black college women signifying a major gap in the literature. In addition to self-efficacy, alcohol and other drug has been shown to influence college students' HIV risk.

Substance Use

Alcohol is reported to play a major role in sexual risk taking (McEwan et al., 1992). Alcohol and other drugs are thought to interfere with judgment and decision making (Leigh & Stall, 1993). Marlow et al. (2001) states that youth are more likely to experiment with alcohol and other drugs prior to sexual encounters, impairing their judgment and impulse control which facilitates risky sexual behavior. According to Staton, Leukefeld, Logan, Zimmerman, Lynam et al. (1999), adolescents increasingly use alcohol and other substances as they progress into young adulthood. The use of these substances may lead to risky sexual behaviors, increasing young adults' risk of STDs including HIV. A pioneer study conducted by Butcher, Thompson, and O'Neal (1991) explored the prevalence of behavioral risk factors for HIV infection among 243 single college students, ages 17-24 who identified themselves as heterosexual. Participants completed questionnaires related to planned and unplanned sexual intercourse and other factors such as alcohol and nonprescription drug use that might increase their risk of contracting HIV. The authors found that 47% of men and 57% of women indicated that they had sexual intercourse one to five times while under the influence of alcohol. According to Molitor et al. (2000), the use of alcohol and drugs, especially stimulants, lowers inhibitions and elevates sexual excitement, which increases HIV/AIDS risks.

Bachanas, Morris, Lewis-Gess, Sarett-Cuasay, Sirl, Ries, et al. (2002), completed a study to describe the risky sexual behavior of an at-risk sample of 158 minority adolescent girls, ages 12-19 who were receiving treatment at a

primary care clinic. Participants completed measures of depression, conduct problems, substance use, peer norms, social support, HIV knowledge, sexual self-efficacy, and sexual behavior. Results indicated that 69% of the youth reported having used some form of drugs or alcohol in the past year.

Furthermore, of the teens who reported more substance use, reported engaging in high risk sexual behavior. Results also indicated that substance use was the strongest predictor of risky sexual behavior among African American girls (Bachanas et al., 2002).

Despite the fact that alcohol is illegal on most undergraduate campuses, alcohol use is common on most college campuses (Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994). Several studies have indicated that college students often engage in binge drinking defined as four or more drinks in a row, which poses serious risks for drinkers and others in the college environment (Benjamin & Wulfert, 2005; Ingersoll, Ceperich, Nettleman, Karanda, Brocksen, & Johnson, 2005; Wechsler et al., 1994). In the study by Wechsler et al. (1994) on binge drinking in college, 140 college campuses and 17096 students surveyed indicated that almost 44% of all students were binge drinkers, and almost half (47%) of those binge drinkers experienced five or more different drinking related problems including injuries and engaging in unplanned sex. Binge drinkers were seven to ten times more likely than non-binge drinkers to not use condoms during sexual encounters and to engage in unplanned sexual activity.

Other drugs such as marijuana and cocaine have also been correlated with unsafe sexual practices. In 1995 and 1996, Bailey, Camlin, and Ennett (1998) surveyed 327 homeless and runaway youth, ages of 14-21 in Washington, DC in order to characterize HIV/AIDS related risk behavior among this population, and determine whether substance use influenced these behaviors. Results of this study indicated that marijuana use during the last sexual encounter was associated with no condom use.

Liau, DiClemente, Wingood, Crosby, Williams, Harrington, et al. (2002), also conducted a study of 522 African American adolescent females to determine the association between marijuana use and STDs. Participants completed self-administered surveys and face-to-face interviews. The adolescents also provided urine and vaginal swab specimens that were analyzed for marijuana use and STDs. The results indicated that adolescent females with laboratory confirmed marijuana use were 3.4 times more likely to test positive for gonorrhea and 3.9 times more likely to test positive for Chlamydia (Liau et al., 2002). Furthermore, those with laboratory confirmed marijuana use were 2.9 times more likely to report never using condoms in the past 30 days and 3.6 times less likely to report using condoms frequently within the past 6 months (Liau et al., 2002).

While these studies have demonstrated that alcohol and other drug use have a significant correlation with unsafe sexual practices, research has also shown that individuals' perceived risk for contracting HIV/AIDS also influence their safe sex practices.

HIV/AIDS Perceived Risk

Perceived risk is operationally defined by Goldman and Harlow (1993) as an individual's insight that he/she may be at risk for contracting HIV/AIDS, with perceived risk or perceived susceptibility shown to be an important mediator in the prediction of HIV-preventive behavior. For example, in a study of 602 undergraduate psychology students from a New England University, Goldman and Harlow (1993) found that a sense of meaning and control, as well as feelings of self-efficacy and perceived risk is significantly related to HIV/AIDS preventive behavior among college students.

A longitudinal study completed by Bryan, Aiken, and West (1997) of 198 undergraduate students in study 1, and 238 undergraduate females students in study 2 tested a comprehensive model of the determinants of condom use among young women. The authors found that perceived susceptibility, attitudes toward condom use and users, and self-efficacy for condom use were directly related to intentions to use condoms. In their structural equation model, perceived susceptibility exhibited the strongest correlation of all model constructs with intentions for condom use (Bryan et al., 1997).

In a study completed by Ford and Norris (1993) of urban, low-income African American and Hispanic youth, the findings indicated that those in a monogamous relationship with a spouse or live-in partner worried significantly less about getting AIDS than participants who 1) always used condoms or, 2)

either had two or more partners in the past year and used condoms some, or had one partner in the past year and did not use condoms.

Despite the alarming rates of infection among African American women, their perceptions of personal risk remain low. For instance, a study completed by Kalichman, Hunter, and Kelly (1992) examined perceptions of AIDS susceptibility among minority and non-minority women, and indicated that when compared to non-minority women, minority women reported less concern about AIDS and estimated their personal risk to be lower. Furthermore, the authors found an interaction between ethnicity and risk level. This indicates that minority women at high risk, who were similar to women with low behavior risk, were less concerned about AIDS than their non-minority female counterparts (Kalichman et al., 1992).

Sunnenblick (1998) indicated that among African American females, AIDS knowledge was actually related to lower levels of perceived susceptibility, which could be a result of exposure to the idea of risk groups. For example, young Black college women are not targeted as a risk group for contracting HIV/AIDS, as a result lowering their perception of risk due to their supposed HIV/AIDS knowledge. Increasing knowledge among individuals who do not consider themselves to be members of high-risk groups may actually lower their perceptions of susceptibility, thus having no impact on their risky behaviors (Sunnenblick, 1998). Additionally, it may be more important to identify the associated factors that cause people to view, or not view, themselves as at risk

rather than to assume that being a member of a certain group or a particular category will result in higher levels of perceived self-risk (Sunnenblick, 1998).

In an earlier study completed by Jemmott and Jemmott (1992), the findings indicated that an increase in beliefs that condoms can prevent HIV/AIDS was not found to be associated with condom use among African American females. Today, despite numerous media messages that only condoms and barrier methods can protect against HIV/AIDS, heterosexual African American women are still not making a connection between their risk and the need to use condoms when participating in sexual intercourse (CDC, 2003). African American females may feel that condoms are an effective method of preventing the spread of HIV; however, if they do not perceive their partners to be infected, then they will not use condoms (Kusseling, Shapiro, Greenberg, & Wenger, 1996).

Studies have found that individuals tend to determine the risk of sex without a condom on a situational basis. For example, they may feel it is unnecessary to use a condom in certain instances or with particular partners, especially when the relationship is thought to be monogamous or committed, since asking to use condoms within these relationships may signal disloyalty (Foreman, 2003; Hammer et al., 1996; Hynie et al., 1997; Misovich et al., 1997; Morrill et al., 1996; Pilkington et al., 1994; Pulerwitz et al., 2002; Wingood & DiClemente, 1998b, 2000). Therefore, effective HIV/AIDS prevention programs geared toward young women need to consider the degree to which these young women perceive their risk for contracting HIV/AIDS, and incorporate this construct into interventions.

Theory of Gender and Power

Reducing the risk of HIV infection among sexually active minority women requires the examination of factors associated with unsafe sexual practices of this population. One major limitation of empirical studies examining HIV risk behavior of minority women is that the majority of these studies rely on traditional psychological models to explain behavior (Wingood and DiClemente, 1998a). HIV/AIDS intervention programs tailored for African American women have not accounted for the countless socio-cultural influences persistent in the African American community. According to Wingood, Hunter-Gamble, and DiClemente (1993), for prevention programs geared specifically toward minority women to be effective, it is important for researchers to understand all factors that influence their sexual decision making such as cultural, relationship and gender-specific factors.

First developed by Connell (1987), and extended by Wingood and DiClemente (2002), the Theory of Gender and Power is based on sexual inequality, gender, and power imbalance. It incorporates three overlapping but distinct structures that explain the culturally bound roles between men and women (Wingood and DiClemente, 1998a). The three structures include: the sexual division of labor, the sexual division of power, and the structure of cathexis, which is the construction of emotionally charged social relations with “objects” (i.e., other people) in the real world (Connell, 1987). These structures are the major system of belief that characterizes the relationships between men

and women (Connell, 1987). In Wingood and DiClemente's (1998) extension of the theory, the structure of cathexis is renamed the structure of *affective attachments and social norms*. The influence of the Theory of Gender and Power on women's health is demonstrated in Table 1.

The first structure, the sexual division of labor, is an allocation of particular types of work to particular categories of people. This structure explains that people are usually constrained from exploring certain job options because of their sex (Connell, 1987). The sexual division of labor is maintained through the segregation of unpaid work, namely household and childcare to women, which are often referred to as "women's work", and inequalities in wages and educational attainment between men and women (Connell, 1987). According to Wingood and DiClemente (2000), certain socioeconomic factors which are factors originating from the individual include: 1) being younger, and 2) being an ethnic minority are often synonymous with women's HIV-related economic exposures.

The second structure, the sexual division of power, examines inequalities and abuses of authority and control in relationships and institutions favoring males (Connell, 1987). The sexual division of power is maintained by means such as the abuse of authority and control in relationships. Relationship power, defined by Pulerwitz, Gortmaker, and DeJong (2000), is having control of the connection and decision making. The inequalities resulting from the sexual division of power are apparent as physical and behavioral risk factors.

Table 1 Influence of the Theory of Gender and Power on Women's Health

Societal Level Disease	Institutional Level	The Social Mechanisms	Exposures	Risk Factors	Biological Factors
Sexual division of labor	Work site School Family	Manifested as unequal pay, which produces economic inequalities for women	Economic exposures risk factors	Socio-economic	
Sexual division of power	Relationships Medical system Media	Manifested as imbalances in control, which produce inequalities in power for women	Physical exposures	Behavioral risk factors	
HIV				Douching Pregnancy Contraception	
Structure of cathexis: Social norms and affective attachments	Relationships Family Church	Manifested as constraints in expectations, which produce disparities in norms for women	Social exposures	Personal risk factors	

(adapted from Wingood & DiClemente, 2002)

As the power inequalities between men and women increase and favors men, women's sexual choices and behavior may be inhibited, thereby increasing their risk for HIV (Connell, 1987). For example, college women who are knowledgeable about HIV/AIDS yet fail to demand that their partners use condoms for every sexual encounter, may lack power in those relationships.

Women in power-imbalanced relationships tend to experience some common HIV-related interpersonal, partner-related risks such as having a sexually, and or physically abusive, drug-abusing, or high-risk, non-monogamous sexual partners (Wingood & DiClemente, 2002). They also have some common behavioral risk factors including: 1) using alcohol or drugs, 2) being less efficacious in negotiating and using condoms, and 3) perceiving themselves as having limited or no power (Wingood & DiClemente, 2000).

Finally, the structure of affective attachments and social norms dictates appropriate sexual behavior for women, and encompasses emotional attachments involved in social relationships. This structure defines the outlook that society has regarding women's sexuality, in turn shaping women's expectations about themselves (Wingood & DiClemente, 2002). This structure is maintained by biases people have regarding how each gender's sexuality should be expressed. These biases produce cultural norms, and the enforcement of stereotypical beliefs about women (Wingood & DiClemente, 2002).

In summary, the Theory of Gender and Power seeks to explain gender inequalities between men and women that may affect women's health outcomes.

It takes into consideration that there are cultural, relationship, and gender-specific factors that influence women's sexual decision making. According to Wingood and DiClemente (2002), minority women may have individual risk factors which when coupled with the above mentioned variables, increases their chances for contracting HIV. For young Black college women, certain factors such as steady/committed sexual relationships, condom use self-efficacy, substance use and HIV/AIDS perceived risk which when coupled with cultural and gender-specific factors may influence their condom usage. While the theory does not address women's HIV/AIDS perceived risk, the literature has shown that HIV/AIDS perceived risk is an important factor that influences women's application and maintenance of HIV/AIDS preventive behaviors.

Numerous studies have all indicated that HIV/AIDS perceived risk and perceived susceptibility influence risk behavior among women (Ford & Norris, 1993; Goldman & Harlow, 1993; Hammer et al., 1996; Seal & Palmer-Seal, 1996; Sunnenblick, 1998; Wyatt et al., 2000; Ybarra, 1996, Yzer, Fisher, Bakker, Siero & Misovich, 1998). Therefore, this construct should be added to the Theory of Gender and Power to provide a more comprehensive understanding of HIV risk behaviors that may be significant among young Black college women. A pictorial summary of the above mentioned risk factors, their connection to each other, and to condom use is illustrated in Figure 3.

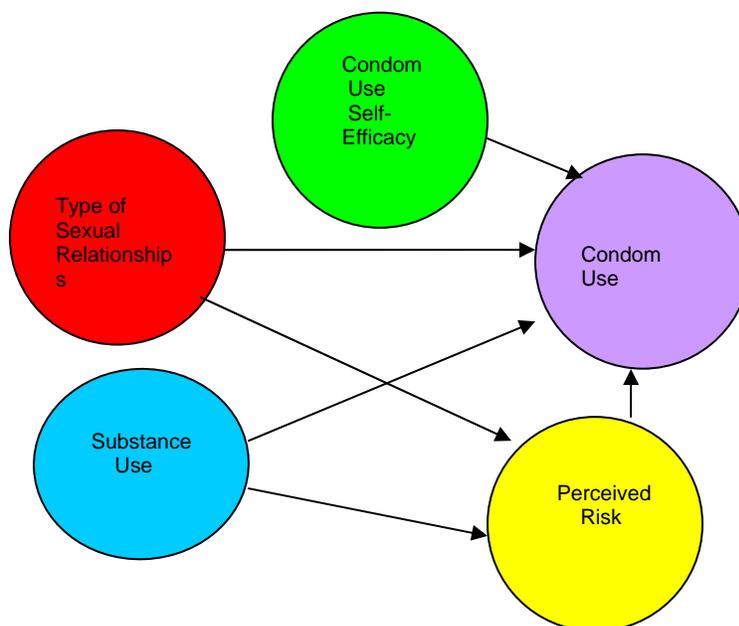


Figure 3 Risk Factors and their Relationship to Condom Use

Methodological Limitations and Direction for Future Research

Empirical Studies

Empirical studies focusing on HIV/AIDS risky behaviors among young Black college women in the social work literature is extremely limited. In general, the majority of the literature calls attention to risky behaviors of college students (Brien et al., 1994; DiClemente et al., 1990; Freimuth, et al., 1992; Lewis et al., 2000; Misovich et al., 1997; Seal & Palmer- Seal, 1996; Ybarra, 1996), minority adolescents (Bachanas et al., 2002; Liau et al., 2002; Marlow et al., 2001; Staton et al., 1999) or minority women (Fernandez-Esquer et al., 2004; Gomez & VanOss Marin, 1996; Kalichman et al., 1992; Sobo, 1993; Wingood &

DiClemente, 2000). However, none of these studies focus on risky behaviors of young Black college women.

Sampling Methods

A pattern of methodological weakness is evident throughout the literature in regards to the selection of participants. The use of convenience and/or small samples affects the amount of confidence that can be placed in the results, and limits the generalizability of the studies beyond the sample populations. For instance, Foreman (2003) completed a study of 15 African American college women ages 18-33 at The University of Texas to describe and understand their safer sex-decision making process. The sample size of this study limits the ability to generalize beyond the sample to other areas.

Another study completed by Morrill et al. (1996) used a convenience sample of 189 women from four community health clinics in southern Connecticut, who were voluntarily seeking HIV counseling and testing. Because this sample was a clinical sample and not randomly selected, the ability to generalize the results to other women are limited. Furthermore, because these women were voluntarily seeking HIV testing and counseling, they may be more aware of their HIV risk than women who were not seeking such services. In 1993, Goldman and Harlow completed a study of 602 undergraduate psychology students from a New England University. However, the sampling make-up of this study, which included participants identifying their race as: 88% White, 3%

Hispanic, 3% Black, 3% Asian, and 3% other, makes it difficult to generalize findings to minority groups.

Data Collection

A number of studies used face-to-face interviews with participants to obtain information about their risky behaviors (Foreman, 2003; Liao et al., 2002; Morrill et al., 1996). However, this type of data collection may present several limitations including: 1) participants may respond in a manner in which he or she feels is acceptable to the interviewer, and 2) interviewers may misinterpret participants' responses to questions asked during the interview. Furthermore, Foreman (2003) completed focus groups to obtain information regarding college women's sexual decision making. This type of environment may cause participants to feel pressured and respond in a socially desirable manner.

Fernandez-Esquer et al. (2004) completed a rapid needs assessment of 152 U. S. born Latinos living in Houston, Texas, which was used to identify behavioral and psychosocial factors that influence their HIV risk. Because this study used a rapid needs assessment to determine behavioral and psychosocial factors that influence condom use self-efficacy among Latinos, the researchers were unable to get an in depth picture of the behaviors that may really influence HIV risk of the sample, which limited the results of the study. Furthermore, face-to-face interviews were conducted with the sample, which increases the probability of getting socially desirable responses.

The vast majority of researchers used cross-sectional studies to obtain information regarding HIV risk behaviors among different populations. However, causal relationships cannot be inferred with cross-sectional studies. Furthermore, researchers must take into account that participants are not always truthful when completing surveys or participating in interviews, which can influence the research findings.

Addressing Methodological Issues

In an attempt to address some of the methodological weaknesses found in previous studies, a non-probability sampling method was used to carry out this study from those who volunteered to participate. A power analysis was used to determine an appropriate sample size. The researcher distributed questionnaires to participants and was available on site in case they had any questions or concerns. Even though each measure being used had an independent alpha coefficient, an analysis was conducted to determine the alpha coefficient of the combined measures.

Direction for Future Research and Prevention

Research

A review of the literature has clearly shown that in the U.S., HIV/AIDS is an epidemic of mass proportion. In the past 10 years, more research has focused on the rate of infection in the African American community; however, little research has focused on young Black college women as a HIV risk group. In 1992, Jemmott and Jemmott stated the research on strategies to change HIV risk-associated behavior in diverse populations is still young; this statement

appears to remain true today. Very little research has focused on determining the HIV/AIDS prevention needs of young Black college women. As previously noted, by virtue of being women, members of a minority group, and college students, this group is particularly susceptible to contracting HIV/AIDS. Therefore, future research that examines psychosocial factors associated with this population's sexual decision making is needed in an effort to develop culturally sensitive, empirically-guided, and appropriate prevention programs geared toward young Black college women.

Prevention

In the past, the majority of the research utilized male participants, specifically men who identified themselves as gay and bisexual. Much success of education and prevention programs has been demonstrated for these populations (Schieman, 1998). However, the same cannot yet be said of studies focusing on African American women. This discrepancy can be explained by educational and socioeconomic inadequacies within the communities chosen to participate, as well as the cultural insensitivity of researchers (Nyamathi, Bennett, Leake, Lewis, & Flaskerud, 1993; Weeks, Schensul, Williams, Singer, & Grier, 1995).

According to Cummings, Battle, Barker, and, Krasnovsky (1999), the purpose of their study which involved 142 African American women was to explore AIDS-related worry and the degree to which it affected the sexual decision making of African American women. The findings showed that the majority of women were not worried about contracting HIV. Although it is known

that African American women are at risk for contracting HIV, Cummings et al. (1999) concluded that the perception of risk still remained low in this community. According to St. Lawrence, Wilson, Eldridge, Brasfield, and O'Bannon (2001), although African American and Latino women acquire information on the need for risk reduction from numerous approaches, their ability to enact such behaviors may be constrained due to social and cultural contexts in which sexual activity takes place.

Nyamathi and Stein (1997) found that regardless of the tendency of African American women to underestimate their risk of AIDS, the delivery of culturally-competent programs aimed at reducing risk behaviors can result in long-term effective AIDS risk reduction behaviors. In their study, the AIDS prevention counseling offered addressed other areas of concern to the women, including providing culturally-sensitive information designed with the needs of African American women in mind, prevention strategies, skill enhancement to reduce the transmission of HIV, and assistance with obtaining housing, job skills, and food (Nyamathi & Stein, 1997). Therefore, HIV/AIDS interventions must be culturally-competent, provide skills training in condom use and sexual communication, and place emphasis on gender-based power imbalances as well as sexual assertiveness (Barker, Battle, Cummings, & Bancroft, 1998). To date, the literature has revealed only one such proposed HIV-education and prevention program geared toward young Black college women.

Katz (2003) proposed developing an instructional hypermedia program entitled *HIV & AIDS Prevention Education for African American Women* which

seeks to educate women of color about HIV/AIDS, how to communicate about HIV/AIDS, and the protection options that are available to protect oneself from contracting HIV (Katz, 2003). The program was designed to specifically meet the needs of African American women on college campuses. It incorporated hip-hop and rap music, ethnically suitable graphics, and videos portraying young Black women in college settings to make the program culturally, gender, and educationally unique to this population (Katz, 2003).

Several researchers (Flakerud & Nyamathi, 2000; Kreuter & Holt, 2001) have noted that there is an evident need for more prevention inventiveness focusing on young African American women. HIV prevention should be addressed through schools, religious establishments, clinics, and other community organizations. Because HIV is a disease that threatens the lives of many African American young women, holistic prevention messages that could save their lives are desperately needed. It is also important that programs be culturally sensitive, addressing the specific needs of African American women (Flakerud & Nyamathi, 2000; Kreuter & Holt, 2001).

Furthermore, the prevention programs should focus on effecting long-term behavior change. All projects or programs should be comprehensive to include both educational and psychosocial aspects of the barriers to prevention within this population. Linking HIV prevention to other services may also contribute to long-term effectiveness. For example, connecting HIV prevention to other issues that are pertinent to young Black women in college such as substance use and building self-esteem could prove to be a positive connection that leads to

increased effectiveness in prevention programs for young African American women.

This study attempted to answer the following research questions:

1. Do Black college women in steady/committed sexual relationships use condoms less consistently than those who are in casual sexual relationships?
2. Do Black college women with higher levels of condom use self-efficacy use condoms more consistently than those with lower levels of condom use self-efficacy?
3. Does substance use negatively influence Black college women's condom use?
4. Do Black college women who perceive their HIV/AIDS risk to be low use condoms less consistently than those who perceive their risk to be high?
5. Do Black college women in steady/committed sexual relationships (have boyfriends) perceive their HIV/AIDS risk to be lower than those who are in casual sexual relationships?
6. Does substance use negatively influence Black college women's HIV/AIDS perceived risk?

Hypotheses

Based on the presented literature, this study examined the following hypotheses:

1. Black college women in steady/committed sexual relationships will use condoms less consistently than those who are in casual sexual relationships.
2. Black college women with higher levels of condom use self-efficacy will use condoms more consistently than those with lower levels of condom use self-efficacy.
3. There is a negative relationship between substance use and condom usage among Black college women.
4. Black college women who perceive their HIV/AIDS risk to be low will use condoms less consistently than those who perceive their HIV/AIDS to be high.
5. Black college women in steady/committed sexual relationships will perceive their HIV/AIDS risk to be lower than those who are in casual sexual relationships.
6. There is a negative relationship between substance use and Black college women's HIV/AIDS perceived risk.

CHAPTER 3: METHODOLOGY

This chapter addresses the procedures that were used to conduct the study. An agency description, proposed sample, data collection, measurement, research design, data analysis, missing data and power analysis are all addressed in this chapter.

Agency Description

Clark Atlanta University (CAU), located in Atlanta, Georgia, was the site for data collection. CAU is a comprehensive, private, urban, coeducational institution of higher education with a predominantly African-American heritage. It offers undergraduate, graduate, and professional degrees as well as certificate programs to students of diverse racial, ethnic, and socioeconomic backgrounds. It was formed by the consolidation of Atlanta University, which offered only graduate degrees, and Clark College, a four-year liberal arts undergraduate institution.

As of 2003, the undergraduate population of Clark Atlanta University consisted of 3,920 students, 70% of whom are females. Currently, there are more than 55 registered student organizations on campus including four social fraternities, and four social sororities.

Sample

The sample for this study consisted of 189 single, heterosexual, sexually active, Black female undergraduate and graduate students ages 18-24 at CAU in Atlanta, GA. As previously mentioned, African American female students account

for more than 70% of CAU's undergraduate population. A convenience sample was used for this study. Convenience sampling is often used in exploratory research to provide introductory estimates of the results without a great deal of financial burden imposed upon the researcher. However, using this non-probability method may eliminate a proportion of the understudied population, such as those who for whatever reason refuse to participate. Therefore, the ability to generalize the findings of this study to the entire young Black college female population was limited.

Data Collection

Upon approval from The University of Tennessee's Institutional Review Board (IRB), data were collected during the month of November, 2006. Prior to data collection, a site approval letter was obtained from the CAU administration (Appendix A). Upon site and IRB approval, the researcher contacted a number of student organizations and solicited their support for data collection. The researcher attended a number of regularly scheduled functions sponsored by different student organizations. Also, a number of academic departments allowed the researcher to administer the questionnaire to students in their departments.

Each participant received a packet containing the following: 1) an informed consent (Appendix B), and 2) the questionnaire (Appendix C). Upon administering the complete packet to each participant, the directions for completing the questionnaire and returning the packet was discussed by the researcher. Participants had an opportunity to review the packet contents, and

ask any necessary questions. Participants were reminded several times that their participation was completely voluntary and confidential. Participants were also advised that their returned questionnaires would serve as their informed consent and that they were not to put their name or any identifying information on the questionnaires. Finally, the participants were advised that upon completion, they were to place their questionnaires back into the manila envelope, seal it and return the sealed envelopes to the box in the front of the room. The researcher then left the room and allowed the participants to complete their questionnaires. Packets were retrieved once all participants left the room.

Because the participants' completed questionnaires have no identifying information such as their names or anything that could link them to their questionnaires, completed questionnaires serves as participants' informed consent. Participants were notified that they may change their minds about participating in the study at anytime before or while completing the questionnaire. The researcher destroyed all questionnaires in which participants began completing it, but then decided for whatever reason to withdraw their participation.

Measurements

Dependent Variable

Condom Use

Thus far, latex condoms have been shown to be the most effective method of HIV/AIDS and STD prevention for sexually active persons (Bedimo, Bennet, Kissinger, & Clark, 1998). However, for condoms to be effective in the preventing the transmission of diseases they must be used consistently and correctly during every sexual encounter (Anderson, Brackbill, & Mosher, 1998). Despite the many noted benefits of consistent condom use, inconsistent condom use among college students remains a significant health issue. For this study, participants' condom utilization was evaluated using measures that ascertained past and current condom usage (Baker et al, 1995; Southerland, 2003).

Participants were asked to choose **one type** of sexual relationship they've had in the past year. Condom use was measured for each type of sexual relationship(s) that young Black college women may have engaged in. Questions 63-65 measured participants' condom use over the entire course of their relationship, their condom use in the last or past 30 days of their relationship, and how likely were they to use condoms every time they had sexual intercourse with their steady/committed partner. **Steady/committed relationship** refers to a relationship with a man whom a young woman may have sex with, and consider him to be her boyfriend. Scores on questions 63-65 ranged from one through five

(1= very unlikely to 5= very likely), with higher scores indicating greater condom use.

Questions 69-71 measured participants' condom use with casual partner(s) over the entire course of their relationship, their condom use in the last or past 30 days of their relationship, and how likely were they to use condoms every time they had sexual intercourse with their casual partner. **Casual sexual relationship(s)** refers to a relationship in which a woman may have sex with a man or men, but does not consider him/them to be her boyfriend. Scores on questions 69-71 ranged from one through five (1= very unlikely to 5= very likely), with higher scores indicating greater condom use.

Independent Variables

A total of four independent variables were the focus of this study which included: 1) type of sexual relationships, 2) condom use self-efficacy, 3) substance use, and 4) HIV/AIDS perceived risk/susceptibility. Each of these independent variables was believed to influence condom use among young Black college women.

Type(s) of Sexual Relationship

The type of sexual relationship(s) in which an individual is involved has been shown to be a determining factor of condom usage. In general, college students and individuals tend to practice safer sex such as using condoms with individuals whom they have limited knowledge or whom they perceive as being

risky. Participants were instructed to respond to a series of questions pertaining to one particular type of sexual relationship in which they were or had been involved using previously developed items (Baker et al, 1999; Fazekas, et al, 2001; Lewis et al., 2000).

Question 62 asked participants' about their current or last committed/steady sexual relationship in the last year, and questions 66-67 asked whether or not participants' and or their committed/steady sexual partner have had sex with other people in the past three months. Question 68 asked about participants' current or last casual sex partner(s) in the last year, and questions 72-73 asked whether or not participants' and or their casual sex partner(s) have had sex with other people in the past three months.

Condom Use Self-Efficacy

Condom use self-efficacy was defined as expectations about one's ability to use condoms under a variety of circumstances (Brien & Thombs, 1994). The Condom Use Self-Efficacy Scale (CUSES) is a 28-item scale originally developed by Bradford and Beck (1991) and later extended by Brien and Thombs (1994). The extended scale has been used to assess college students' perceived ability to use condoms in different situations. This study used the condom use self-efficacy scale developed by Brien and Thombs (1994).

Questions 21-47 were Likert type (1= strongly disagree to 5= strongly agree) with higher scores indicating greater condom use self-efficacy. Questions asked

about participants' confidence in their ability to negotiate condom use with their partner(s). For instance, "I feel confident I could remember to carry a condom with me should I need one". Seven questions on this scale were reversed scored. SPSS version 14 was used to obtain an alpha coefficient score of .90 with this sample.

Substance Use

Alcohol and other drugs are thought to interfere with judgment and decision making (Leigh & Stall, 1993). The use of these substances may lead to risky sexual behaviors, increasing young adults' risk of STDs including HIV. Three measures previously developed and validated by Lewis et al. (2000) were used to ascertain participants' substance use. Questions 58-60 asked participants how often they used alcohol, marijuana, and other recreational drugs (0=Never to 4=at least once per day). Scores ranged from zero to four with higher scores indicating greater substance use. SPSS version 14 was used to obtain an alpha coefficient of .57 for substance use. Having such a low reliability score indicate that if the researcher were to use this scale again with this sample, it is unlikely that the same responses will be obtained.

HIV/AIDS Perceived Risk

Perceived risk or perceived susceptibility was defined as an individual's insight of risk relative to a health threat (Mahoney et al., 1995). According to Goldman and Harlow (1993), HIV/AIDS perceived risk or perceived susceptibility

has been shown to be an important mediator in the prediction of HIV-preventive behavior. Questions 48-57 measured participants' HIV/AIDS perceived risk. These measures were previously developed by Mahoney, Thombs, and Ford (1995). For instance, participants' were asked "My partner(s) is (are) not the "type" to have HIV/AIDS". Scores ranged from one to five (1= strongly disagree to 5= strongly agree), with higher scores indicating greater perceived risk. SPSS version 14 was used to obtain an alpha coefficient of .83.

Covariate Variable

The variable below was added to the multiple regression analysis in an attempt to assess the relationship between independent variables to the dependent variable, autonomous of the effects of the covariate listed below.

HIV/AIDS Knowledge

In an effort to ascertain participants' HIV/AIDS knowledge, the HIV/AIDS Knowledge Scale, developed by Yancy, Wang, Goodin, and Cockrell (2003) was used. A sample question asked "birth control pills protect against the AIDS virus" (0= don't know to 2= true). Questions 9-20 were used to measure participants' HIV/AIDS knowledge by asking if the statements listed were true or false. SPSS was used to obtain a reliability score of .42 with this sample of young Black college women. Such a low alpha coefficient indicates low reliability with this scale. This means that if the researcher used this scale again with this sample, it is like to obtain different responses from participants.

Demographic Information

Additional questions were added to collect demographic information which included age, self-reported academic performance, financial support, and mother's level of education, and sexual history.

Research Design

For this study, a correlational design was used. Rubin & Babbie (2001), states that a study is correlational if the data lend themselves only to the interpretations about the degree to which certain variables are related to each other. The major disadvantage of using this type of research design is that the actual reason for the association between the variables is indistinct. On the other hand, a correlational design allows a number of variables to be analyzed in an attempt to authenticate if relationships exist between them. Because the researcher was only trying to ascertain if type of sexual relationships, condom use self-efficacy, substance use, and HIV/AIDS perceived risk independently predict condom use among young Black college women while controlling for HIV/AIDS knowledge this research design was appropriate.

Data Analysis

Descriptive Statistics

SPSS version 14 program software was used to analyze the data from this study. Univariate analysis consisting of descriptive statistics and frequency distributions was obtained to describe the distinctiveness of the sample and to ensure correct data entry. An alpha coefficient for each measure was obtained to check the measures for internal consistency.

Research Hypotheses

A hierarchical multiple regression analysis was used to test each research hypothesis. HIV/AIDS Knowledge was entered into the analysis first to control for any effects it had on the dependent variables. The other independent variables were entered into the analysis second and finally the independent variable of focus was entered into the analysis third to produce an overall R².

Hypothesis #1: Black college women in steady/committed sexual relationships (have boyfriends) will use condoms less consistently than those in casual sexual relationships when controlling for HIV/AIDS knowledge, substance use, condom use self-efficacy and HIV/AIDS perceived risk.

Hypothesis #2: Black college women with high levels of condom use self-efficacy will use condoms more consistently than those with a lower level of condom use self-efficacy when controlling for HIV/AIDS knowledge, type of sexual relationship, substance use and HIV/AIDS perceived risk.

Hypothesis # 3: There is a negative relationship between substance use and Black college women's condom usage when controlling for HIV/AIDS knowledge, type of sexual relationship, condom use self-efficacy, and HIV/AIDS perceived Risk.

Hypothesis # 4: Black college women who perceive their HIV/AIDS risk to be low will use condoms less consistently than those who perceive their HIV/AIDS risk to be high when controlling for HIV/AIDS knowledge, type of sexual relationship, condom use self efficacy, and substance use.

Hypothesis # 5: Black college women in steady/committed sexual relationships will perceive their HIV/AIDS perceived risk to be lower than those in casual sexual relationship when controlling for HIV/AIDS knowledge, condom use self efficacy, and substance use.

Hypothesis # 6: Substance use will negatively affect Black college women's HIV/AIDS perceived risk when controlling for HIV/AIDS knowledge, type of sexual relationship, and condom use self efficacy.

Missing Data

Missing data are a part of the majority of research studies. As a result, a Missing Values Analysis (MVA) was used to determine the pattern of missing data. If less than 10% of data was missing, a Mean Substitution would have been used. SPSS Mean Substitution uses the mean of available data to estimate what the missing data would be. If more than 10% of data is missing, variables would have been imputed individually using Expectation Maximization (EM) method, which could be used with SPSS' MVA (Cohen, Cohen, West, & Aiken, 2003). The EM method assumes that the data is randomly missing. Therefore, the missing data can be predicted from data that was not used in the regression equation.

Power Analysis

In order to determine the number of participants needed to test the hypothesized relationships between the independent variables, the dependent variable, and the covariate, a power analysis was conducted. With the use of existing literature, the relationship among the covariates and the dependent

variable yield a conservative R^2 of .02, while the average of the independent variables yield an overall R^2 of .55 (Cohen et al., 2003).

For this study, a test-wise of .05 was set. The power analysis indicated that a sample of 130 participants would be needed when alpha is set to .05 to have a power of .86 to detect an association between the independent variables and the dependent variable.

Regression Assumptions

The regression assumptions were tested by: (1) the examination of histograms for residuals as well as normal p-plots to determine normality; (2) visually examining a plot of the standardized residuals by the predicted values of the dependent variables was used to determine conditional variances (homoscedasticity); (3) due to the researcher design, independence of observations was assumed; (4) examination of the residual plots was used to determine linearity; (5) multicollinerity was determined by using the tolerance statistic for each independent variable.

CHAPTER 4: RESULTS

This chapter addresses the results of the study. The sample characteristics, measurement reliability, the results of the regression analyses along with a chapter summary of the findings are presented.

Sample Characteristics

A total of 225 participants were recruited for participation in this study. Upon review of the collected data, 36 questionnaires were destroyed due to being incomplete or respondents indicating that they were virgins, meaning those with no previous sexual experiences. Thus, a total of 189 questionnaires were used in the analysis of the data. Demographic information collected in this study included: age, academic classification, financial support during school, mother's education, sexual orientation, the number of lifetime sex partners, and the numbers of sexual partners in the last twelve months.

Age

The average age of the participants was 20 years (Mean = 20.06; SD= 1.88). More than half of the participants were either 19 or 20 years of age (55.6%). The age distribution is shown in Table 2.

Academic Classification

The majority of the participants (N=71) were sophomores (SD= 1.04), accounting for 37.6% of participants or juniors (28%). This information is depicted in Table 3.

Table 2 Age Range and Distribution of Study Participants

Age	N	%
18	20	10.6
19	54	28.6
20	51	27.0
21	31	16.4
22	13	6.9
23	12	6.3
24	6	3.2
25	1	.5
Total	189	100

Table 3 Academic Classification of Study Participants

Classification	N	%
Freshman	12	6.3
Sophomore	71	37.6
Junior	52	28.0
Senior	40	21.2
Graduate	13	6.9
Total	189	100

Financial Support

Participants were asked to choose from four categories to indicate how they were financially supported during school. The ranges included: (1) parents; (2) self-supporting; (3) scholarships; or (4) a combination of the other options. The majority (57.1%, N=108) of participants indicated that their financial support comes from a combination of resources (SD= 1.34). This information is displayed in Table 4.

Mother's Education

Participants were asked to indicate the level of education that their mothers had received to date and were given four categories to choose from ranging from "some high school or below" to "university degree". Thirty six percent (N=68) of participants' mothers (SD= .92) had a university degree. These data are displayed in Table 5.

Sexual Orientation

The majority of the participants 98.4% (N=186) indicated their sexual orientation as heterosexual (SD= .33). Three participants identified their sexual orientation as either bisexual or unsure. These data are displayed in Table 6.

Lifetime Sexual Partners

The participants were asked to indicate the total number of sexual partners they had to date. No range was given for this question. The number of lifetime sexual partners was indicated by each participant (Mean= 4.89; SD= 3.67). This information is displayed in Table 7.

Table 4 Source of Financial Support

Source	N	%
Parents	52	28
Self-supporting	20	10.6
Scholarships	8	4.2
Combination	108	57.1
Total	189	100

Table 5 Mother's Education of Study Participants

Mother's Education	N	%
Some H.S. or Below	13	6.9
H. S. Diploma	40	21.2
Some College	67	35.4
University Degree	68	36.0
Missing	1	.5
Total	189	100

Table 6 Sexual Orientation of Participants

Sexual Orientation	N	%
Heterosexual	186	98.4
Bisexual	1	.5
Unsure	2	1.1
Total	189	100

Table 7 Lifetime Partners

# of Lifetime Partners	N	%
1	29	15.3
2	22	11.6
3	27	14.3
4	30	15.9
5	21	11.1
6	17	9
7	5	2.6
8	7	3.7
9	8	4.2
10	7	3.7
12	4	2.1
13	3	1.6
14	2	1.1
15+	5	2.5
Missing	2	1.1
Total	189	100

Sexual Partners

In addition to their number of lifetime sexual partners, participants were also asked to indicate the number of sexual partners they had during the last twelve months (Mean= 1.68; SD= 1.11). These data are displayed in Table 8.

Alpha Reliability

A reliability analysis was conducted on the four components of the HIV/AIDS Risk Behavior Survey. The coefficient alpha for the AIDS Knowledge Scale was, .42; for the Condom Use Self-Efficacy Scale, .90; for the HIV/AIDS Perceived Risk Scale, .83; and for the Substance Use Scale, .57. The alpha coefficients for the AIDS Knowledge Scale and the Substance Use Scale indicate

that if the researcher were to use these scales again with this sample, it is very unlikely that the same responses would be obtained.

Condom use

Of the total number of participants with boyfriends (N=157) in this study, less than half (36.7%) indicated that they were *very likely* to use condoms every time they had sexual intercourse with their boyfriends. Furthermore, the findings showed that 19.0% of participants indicated that it was *likely* they would use a condom every time they had sexual intercourse with their boyfriends, 15.8% indicated that they were *somewhat likely* to use condoms every time they had sex with their boyfriends, 15.2% indicated that it was *unlikely* they used condoms every time, and 12.7% indicated that it was *very unlikely* that they used condoms every time they had sex with their boyfriends. These data are displayed in Table 9.

Table 8 Number of Sexual Partners

Sexual Partners	N	%
0	6	3.2
1	103	54.4
2	39	20.6
3	20	10.6
4	10	5.3
5+	5	2.7
Missing	6	3.2
Total	189	100

Table 9 Condom Use Over Entire Relationship with Boyfriend

Condom use over entire relationship with boyfriend	N	%
Very unlikely	7	4.5
Unlikely	18	11.5
Somewhat likely	32	20.4
Likely	34	21.7
Very likely	66	42.0
Total	157	100

Moreover, in the last 30 days of their relationship 47.7% of participants indicated they were *very likely* to use condoms with their boyfriends, while 14.4% indicated that it was *very unlikely* that they used condoms with their boyfriends. These data are displayed in Table 10. Over the entire course of their relationship 42.0% of participants indicated that they were *very likely* to use condoms with their boyfriends while 4.5% of participants indicated that it was *very unlikely* that they used condoms with their boyfriends over the entire course of their relationship. These data are displayed in Table 11.

In addition, participants with boyfriends were asked if “during the time you and your steady partner have/had been together, do you think he has had sex with anyone else”? The majority of participants (49.7%) replied no. However, 5.8% of respondents replied yes, but not in the last three months, while 6.3% indicated yes that their boyfriends had sex with someone else within the last three months of their relationship.

Table 10 Condom Use Over Last 30 days with Boyfriend

Condom use every time with boyfriend	N	%
Very unlikely	20	12.7
Unlikely	24	15.2
Somewhat likely	25	15.8
Likely	30	19.0
Very likely	58	36.7
Total	157	100

Table 11 Condom Use Every Time with Boyfriend

Condom use over last 30 days with boyfriend	N	%
Very unlikely	22	14.4
Unlikely	16	10.5
Somewhat likely	19	12.5
Likely	23	15.0
Very likely	73	47.7
Total	157	100

Furthermore, 12.7% of participants with boyfriends indicated that that they were uncertain, but suspected that their boyfriends had sex with someone else, and 9% indicated that they were uncertain.

In contrast, of the total number of participants who indicated they were only involved in a casual sexual relationship in the last twelve months (N=27), more than half (55.6%) responded that they were *very likely* to use condoms every time they had a sexual encounter. Only 18.5% indicated that it was *very unlikely* that they used a condom during every sexual encounter with their partner(s). These data are displayed in Table 12. In the last 30 days of this relationship 66.7% of participants indicated they were *very likely* to use condoms with their casual partner(s), while 14.8% indicated that it was *very unlikely* they used condoms with their casual partner(s). These data are displayed in Table 13. Over the entire course of their casual relationship 66.7% of participants indicated that they were *very likely* to use condoms, while 7.4% noted that it was *very unlikely* that they used condoms with their casual partner(s). These data are displayed in Table 14.

Table 12 Condom Use Over Entire Relationship with Casual Partner(s)

Condom use over entire relationship with casual partner(s)	N	%
Very unlikely	2	7.4
Unlikely	0	0
Somewhat likely	3	11.1
Likely	4	14.8
Very likely	18	66.7
Total	27	100

Table 13 Condom Use in Last 30 days with Casual Partner(s)

Condom use over last 30 days with casual partner(s)	N	%
Very unlikely	4	14.8
Unlikely	3	11.1
Somewhat likely	1	3.7
Likely	1	3.7
Very likely	18	66.7
Total	27	100

Table 14 Condom Use Every Time with Casual Partner(s)

Condom use every time with casual partner(s)	N	%
Very unlikely	5	18.5
Unlikely	2	7.4
Somewhat likely	2	7.4
Likely	3	11.1
Very likely	15	55.6
Total	27	100

Tests of Hypotheses

Hypotheses 1:

It was hypothesized that Black college women in steady/committed sexual relationships (have boyfriends) would use condoms less consistently than those in casual sexual relationships when controlling for HIV/AIDS knowledge, substance use, condom use self-efficacy and HIV/AIDS perceived risk. A regression analysis was conducted to test this hypothesis. AIDS Knowledge was entered first into the regression model. Three of the four independent variables (condom use self-efficacy, perceived risk, and substance use) were entered into the regression model second. Finally, relationship was entered into the regression model third to simultaneously control for HIV/AIDS Knowledge and the other independent variables.

The results of the regression analysis are shown in Table 15. As shown in the shaded area of Table 9, a statistically significant relationship was found between relationship and condom use ($B = .589$, $t(5) = 2.287$, $p = .023$, two-tailed). The positive regression coefficient indicated that Black college women in steady/committed sexual relationships used condoms less consistently than those in casual sexual relationships. An analysis was conducted to determine observed power. The observed power for this test was .62.

Regression Assumptions

An examination of the distribution of the residuals suggested that there may have been a problem with the assumption of normality of residuals as shown by the histogram (Appendix D), and the normal p-plot (Appendix E). An

examination of a scatterplot of the predicted values and the residuals also indicated there may have been a problem with the assumption of homoscedasticity (Appendix F). According to Cohen et al., (2003), if tolerance is less than .20 there is an indication of problems with multicollinearity. Tolerance equaled .947, indicating that there were no problems with multicollinearity.

Table 15 Relationship Coefficient Predicting Condom Use

	B	SE	t-value	Sig
(CONSTANT)	3.645	.576	6.329	.000
AIDSCORETOTAL	.026	.055	.480	.632
	Adjusted R²= -.004			
	F=.230			
	P=.632			
(CONSTANT)	2.887	.970	2.975	.003
AIDSCORETOTAL	.026	.055	.481	.631
Self efficacy	.194	.174	1.116	.266
Perceived risk	.031	.111	.279	.781
Substance use	-.286	.171	-1.670	.097
	Adjusted R²= .002			
	F=1.105			
	P= .356			
(CONSTANT)	1.787	1.073	1.666	.097
AIDSCORETOTAL	.028	.054	.511	.610
Self efficacy	.287	.177	1.621	.107
Perceived risk	.034	.110	.307	.759
Substance use	-.287	.169	-1.698	.091
Relationship	.589	.257	2.287	.023
	Adjusted R²= .025			
	F=1.950			
	P= .088			

N=183

Hypothesis 2:

It was hypothesized that Black college women with high levels of condom use self-efficacy would use condoms more consistently than those with a lower level of condom use self-efficacy when controlling for HIV/AIDS knowledge, type of sexual relationship, substance use and HIV/AIDS perceived risk. A regression analysis was conducted. AIDS Knowledge was entered first into the regression model. Three of the four independent variables (relationship, perceived risk, and substance use) were entered into the regression model second. Finally, condom use self-efficacy was entered into the regression model third to simultaneously control for HIV/AIDS Knowledge and the other independent variables.

The results of the regression analysis are shown in Table 16. The shaded area of Table 10 shows that there was not a statistically significant relationship between young Black college women's condom use self-efficacy and their actual condom usage ($B = .287$, $t(5) = 1.621$, $p = .107$, two-tailed). An analysis was conducted to determine observed power. The observed power for this test was .36.

Regression Assumptions

An examination of the distribution of the residuals suggested that there may have been a problem with the assumption of normality of residuals as shown by the histogram (Appendix G), and the normal p-plot (Appendix H). An examination of a scatterplot of the predicted values and the residuals also indicated there may have been a problem with the assumption of homoscedasticity (Appendix I). According to Cohen et al., (2003), if tolerance is

less than .20 there is an indication of problems with multicollinearity. Tolerance equaled .941, indicating that there were no problems with multicollinearity.

Table 16 Self-efficacy Coefficient Predicting Condom Use

	B	SE	t-value	Sig
(CONSTANT)	3.645	.576	6.329	.000
AIDSCORETOTAL	.026	.055	.480	.632
	Adjusted R² = -.004			
	F = .230			
	P = .632			
(CONSTANT)	3.062	.733	4.175	.000
AIDSCORETOTAL	.033	.054	.615	.540
Perceived Risk	.041	.110	.371	.711
Substance Use	-.283	.170	-1.667	.097
Relationship	.493	.252	1.960	.052
	Adjusted R² = .017			
	F = 1.765			
	P = .138			
(CONSTANT)	1.787	1.073	1.666	.097
AIDSCORETOTAL	.028	.054	.511	.610
Perceived Risk	.287	.110	.307	.759
Substance Use	.034	.169	-1.698	.091
Relationship	-.287	.257	2.287	.023
Self-Efficacy	.287	.177	1.621	.107
	Adjusted R² = .025			
	F = 1.950			
	P = .088			

N = 183

Hypothesis 3:

It was hypothesized that there was a negative relationship between substance use and Black college women's condom usage when controlling for HIV/AIDS knowledge, type of sexual relationship, condom use self-efficacy, and HIV/AIDS perceived Risk. A regression analysis was conducted to test this hypothesis. AIDS Knowledge was entered first into the regression model. Three of the four independent variables (relationship, perceived risk, and self-efficacy) were entered into the regression model second. Finally, substance use was entered into the regression model third to simultaneously control for HIV/AIDS Knowledge and the other independent variables.

The results of the regression analysis are shown in Table 17. The shaded area of Table 11 shows that although the relationship between young Black college women's substance use and their condom usage was not a statistically significant, there was a negative relationship ($B = -.287$, $t(5) = -1.698$, $p = .091$, two-tailed). An analysis was conducted to determine observed power. The observed power for this test was .39.

Regression Assumptions

An examination of the distribution of the residuals suggested that there may have been a problem with the assumption of normality of residuals, as shown by the histogram (Appendix J), and the normal p-plot (Appendix K). An examination of a scatterplot of the predicted values and the residuals also indicated there may have been a problem with the assumption of homoscedasticity (Appendix L). According to Cohen et al., (2003), if tolerance is

less than .20 there is an indication of problems with multicollinearity. Tolerance equaled .991, indicating that there were no problems with multicollinearity.

Table 17 Substance Use Coefficient Predicting Condom Use

	B	SE	t-value	Sig
(CONSTANT)	3.645	.576	6.329	.000
AIDSCORETOTAL	.026	.055	.480	.632
	Adjusted R²= -.004			
	F=.230			
	P=.632			
(CONSTANT)	1.631	1.074	1.518	.131
AIDSCORETOTAL	.022	.054	.405	.686
Relationship	.0587	.259	2.268	.024
Self efficacy	.282	.178	1.588	.114
Perceived risk	.047	.110	.432	.666
	Adjusted R²=.015			
	F=1.700			
	P= .152			
(CONSTANT)	1.787	1.073	1.666	.097
AIDSCORETOTAL	.028	.054	.511	.610
Relationship	.589	.257	2.287	.023
Self efficacy	.287	.177	1.621	.107
Perceived risk	-.034	.110	.307	.759
Substance Use	-.287	.169	-1.698	.091
	Adjusted R²=.025			
	F=1.950			
	P= .088			

N= 183

Hypothesis 4:

The researcher hypothesized that Black college women who perceived their HIV/AIDS risk to be low would use condoms less consistently than those who perceived their HIV/AIDS risk to be high when controlling for HIV/AIDS knowledge, type of sexual relationship, condom use self efficacy, and substance use. In the regression analysis, AIDS Knowledge was entered first into the regression model. Three of the four independent variables (relationship, self-efficacy, and substance use) were entered into the regression model second. Finally, perceived risk was entered into the regression model third to simultaneously control for HIV/AIDS Knowledge and the other independent variables.

The results of the regression analysis are shown in Table 18. The shaded area of Table 12 shows that young Black college women's HIV/AIDS perceived risk did not independently predict their condom usage ($B = -.034$, $t(5) .307$, $p = .759$, two-tailed). An analysis was conducted to determine observed power. The observed power for this test was .06.

Regression Assumptions

An examination of the distribution of the residuals suggested that there may have been a problem with the assumption of normality of residuals, as shown by the histogram (Appendix M), and the normal p-plot (Appendix N). An examination of a scatterplot of the predicted values and the residuals also indicated there may have been a problem with the assumption of

homoscedasticity (Appendix O). According to Cohen et al., (2003), if tolerance is less than .20 there is an indication of problems with multicollinearity. Tolerance equaled .991, indicating that there were no problems with multicollinearity.

Table 18 Perceived Risk Coefficient Predicting Condom Use

	B	SE	t-value	Sig
(CONSTANT)	3.645	.576	6.329	.000
AIDSCORETOTAL	.026	.055	.480	.632
	Adjusted R²=-.004			
	F=.230			
	P=.632			
(CONSTANT)	1.881	1.026	1.833	.068
AIDSCORETOTAL	.029	.054	.529	.597
Substance use	-.291	.168	-1.730	.085
Relationship	.588	.257	2.289	.023
Self-efficacy	.289	.176	1.639	.103
	Adjusted R²= .030			
	F=2.427			
	P= .050			
(CONSTANT)	1.787	1.073	1.666	.097
AIDSCORETOTAL	.028	.054	.511	.610
Substance use	-.287	.169	-1.698	.091
Relationship	.589	.257	2.287	.023
Self-efficacy	.287	.177	1.621	.107
Perceived Risk	.034	.110	.307	.759
	Adjusted R²=.025			
	F=1.950			
	P= .088			

N= 183

Hypothesis 5:

The researcher hypothesized that Black college women in steady/committed sexual relationships would perceive their HIV/AIDS risk to be lower than those in casual sexual relationship when controlling for HIV/AIDS knowledge, condom use self efficacy, and substance use. In the regression analysis, AIDS knowledge was entered first into the regression model. Substance use and self-efficacy were entered into the regression model second. Relationship was entered into the regression model third to simultaneously control for HIV/AIDS Knowledge and the other independent variables.

The results of the regression analysis are shown in Table 19. The shaded area of Table 13 shows that the type of sexual relationships that young Black college women are involved in did not statistically predict their HIV/AIDS perceived risk ($B = -.026$, $t(4) = -.146$, $p = .884$, two-tailed).

Regression Assumptions

An examination of the distribution of the residuals did not indicate any major problem with normality, as shown by the histogram (Appendix P), and the normal p-plot (Appendix Q). A visual examination of a scatterplot of the predicted values and the residuals indicated a problem with homoscedasticity (Appendix R). According to Cohen et al., (2003), if tolerance is less than .20 there is an indication of problems with multicollinearity. Tolerance equaled .947, indicating that there were no problems with multicollinearity.

Table 19 Relationship Coefficients Predicting HIV/AIDS Perceived Risk

	B	SE	t-value	Sig
(CONSTANT)	2.962	.386	7.665	.000
AIDSCORETOTAL	.026	.037	.707	.481
	Adjusted R²= -.003			
	F=.499			
	P=.481			
(CONSTANT)	2.733	.622	4.394	.000
AIDSCORETOTAL	.027	.037	.718	.474
Self-efficacy	.069	.117	.586	.558
Substance use	-.115	.115	-.995	.321
	Adjusted R²= .007			
	F=.606			
	P=.612			
(CONSTANT)	2.780	.704	3.949	.000
AIDSCORETOTAL	.026	.037	.714	.476
Self-efficacy	.065	.121	.536	.593
Substance use	-.115	.116	-.992	.323
Relationship	-.026	.176	-.146	.884
	Adjusted R²= -.012			
	F=.458			
	P=.767			

N= 183

Hypothesis 6:

It was hypothesized that substance use would negatively affect Black college women's HIV/AIDS perceived risk when controlling for HIV/AIDS knowledge, sexual relationship, and condom use self efficacy. A regression analysis was conducted to test this hypothesis. AIDS Knowledge was entered first into the regression model. Relationship and self-efficacy were entered into the regression model second. Substance use was entered into the regression model third to simultaneously control for HIV/AIDS Knowledge and the other independent variables.

The results of the regression analysis are shown in Table 20. The shaded area of Table 14 shows that there was not a statistically significant relationship between young Black college women's substance use and their HIV/AIDS perceived risk ($B = -.115$, $t(4) = -.992$, $p = .323$, two-tailed).

Regression Assumptions

An examination of the distribution of the residuals indicated no major problems with normality, as shown by the histogram (Appendix S), and the normal p-plot (Appendix T). A visual examination of a scatterplot of the predicted values and the residuals also indicated a problem with homoscedasticity (Appendix U). According to Cohen et al., (2003), if tolerance is less than .20 there is an indication of problems with multicollinearity. Tolerance equaled .996, indicating that there were no problems with multicollinearity.

Table 20 Substance Use Coefficients Predicting HIV/AIDS Perceived Risk

	B	SE	t-value	Sig
(CONSTANT)	2.962	.386	7.665	.000
SCORETOTAL	.026	.037	.707	.481
	Adjusted R²= - .003			
	F=.499 P=.481			
(CONSTANT)	2.733	.702	3.891	.000
SCORETOTAL	.024	.037	.658	.511
Relationship	-.026	.176	-.150	.881
Self-efficacy	.063	.121	.524	.601
	Adjusted R²= - .012			
	F=.282 P= .838			
(CONSTANT)	2.780	.704	3.949	.000
SCORETOTAL	.026	.037	.714	.476
Relationship	-.026	.176	-.146	.884
Self-efficacy	.065	.121	.536	.593
Substance use	-.115	.116	-.992	.323
	Adjusted R²= - .012			
	F=.458 P= .767			

N= 183

Summary

Contrary to previous research only two scales displayed adequate reliability (Brien & Thombs, 1994; Mahoney, Thombs, and Ford, 1995). Despite the researcher's predictions, only young Black college women's sexual relationships independently predicted their condom usage when controlling for AIDS Knowledge, substance use, condom use self-efficacy and HIV/AIDS perceived risk at the .05 level. AIDS knowledge, substance use, condom use self-efficacy or HIV/AIDS perceived risk was statistically associated with young Black college women's condom usage. Neither their substance use nor their sexual relationships statistically predicted young Black college women's HIV/AIDS perceived risk.

It should be noted that the violations of the normality and homoscedasticity assumptions for the regression models were likely due to the dependent variable being ordinal. An ordinal logistic regression analysis was conducted and yielded very similar results. Therefore, it is highly unlikely that these research findings are the result of the analysis conducted.

CHAPTER 5: DISCUSSION

Conclusions, Recommendations, Limitations, and Implications

Introduction

This chapter will discuss the conclusions, limitations of this study, recommendations for future research, and implications for social work practice.

The purpose of this study was to determine if certain constructs associated with the Theory of Gender and Power, specifically sexual relationships, condom use self-efficacy, substance use, and HIV/AIDS perceived risk were associated with young Black college women at Clark Atlanta University HIV/AIDS risk behavior, specifically condom use among this population. The research questions guiding this study were:

1. Do Black college women in steady/committed sexual relationships use condoms less consistently than those who are in casual sexual relationships?
2. Do Black college women with higher levels of condom use self-efficacy use condoms more consistently than those with lower levels of condom use self-efficacy?
3. Does substance use negatively influence Black college women's condom use?
4. Do Black college women who perceive their HIV/AIDS risk to be low use condoms less consistently than those who perceive their risk to be high?

5. Do Black college women in steady/committed sexual relationships (have boyfriends) perceive their HIV/AIDS risk to be lower than those who are in casual sexual relationships?
6. Does substance use negatively influence Black college women's HIV/AIDS perceived risk?

This study sought to fill the gaps in the literature by focusing specifically on African American women between the age of 18 and 24. This section provides an in depth discussion of the conclusions drawn from this study.

Conclusions

Two major conclusions can be drawn as a result of the data analysis conducted for this study. The conclusions are as follows:

1. Young Black college women are knowledgeable about HIV/AIDS; however, despite this knowledge, this population still engages in behaviors that increases their risk for contracting HIV/AIDS and other STDs.
2. The type(s) of sexual relationship that young Black college women are involved in, such as a committed or casual relationship, significantly influences their condom usage.

Participants' scores indicate that young Black college women are knowledgeable about how HIV/AIDS is transmitted and how to protect themselves from contracting HIV/AIDS. However, numerous researchers including Wingood and DiClement (1997) have noted that HIV education and knowledge has little impact on behavior. This fact rings true for the young Black

college women who participated in this study. Even though they have HIV/AIDS education, they participated in behaviors that increased their risk for contracting HIV/AIDS and other STDs.

The single most important factor that influenced participants' condom use was the type of sexual relationship in which they were engaged. The type of sexual relationship in which participants were involved significantly impacted their condom use which is consistent with previous research conducted by Foreman (2003), indicating that young women tended to use condoms less consistently with partners they deemed important such as boyfriends. The results of a study completed by Morrill et al. (1996) also indicated that women who were not in committed relationships were more likely to practice safer sex, such as using condoms, than those who were in committed relationships which also supports the results of this study.

Of the total number of participants with boyfriends (N=157) in this study, less than half (36.7%) indicated that they were *very likely* to use condoms every time they had sexual intercourse with their boyfriends. Furthermore, the findings showed that 19.0% of participants indicated that it was *likely* they would use a condom every time they had sexual intercourse with their boyfriends, 15.8% indicated that they were *somewhat likely* to use condoms every time they had sex with their boyfriends, 15.2% indicated that it was *unlikely* they used condoms every time, and 12.7% indicated that it was *very unlikely* that they used condoms every time they had sex with their boyfriends.

Moreover, in the last 30 days of their relationship 47.7% of participants indicated they were *very likely* to use condoms with their boyfriends, while 14.4% indicated that it was *very unlikely* that they used condoms with their boyfriends. Over the entire course of their relationship 42.0% of participants indicated that they were *very likely* to use condoms with their boyfriends while 4.5% of participants indicated that it was *very unlikely* that they used condoms with their boyfriend over the entire course of their relationship.

In addition, participants with boyfriends were asked if “during the time you and your steady partner have/had been together, do you think he has had sex with anyone else”? The majority of participants (49.7%) replied no. However, 5.8% of respondents replied yes, but not in the last three months, while 6.3% indicated yes that their boyfriends had sex with someone else within the last three months of their relationship. In addition, 12.7% of participants with boyfriends indicated that that they were uncertain, but suspected that their boyfriends had sex with someone else, and 9% indicated that they were uncertain.

In contrast, of the total number of participants who indicated they were only involved in a casual sexual relationship in the last twelve months (N=27), more than half (55.6%) responded that they were *very likely* to use condoms every time they had a sexual encounter. Only 18.5% indicated that it was *very unlikely* that they used a condom during every sexual encounter with their partner(s). In the last 30 days of this relationship 66.7% of participants indicated they were *very likely* to use condoms with their casual partner(s), while 14.8%

indicated that it was *very unlikely* they used condoms with their casual partner(s). Over the entire course of their casual relationship 66.7% of participants indicated that they were *very likely* to use condoms, while 7.4% noted that it was *very unlikely* that they used condoms with their casual partner(s).

These results are significant because even though almost 34% of the participants with boyfriends were either certain or suspected their boyfriends had sex with someone else during the course of their relationship, only 36.7% of all participants with boyfriends indicated they were very likely to use condoms every time they had sexual intercourse with their boyfriends. This signifies that these young women are placing themselves at an increased risk for contracting HIV/AIDS or other STDs as a result of their partner(s) sexual behavior.

Another factor that increases the risk for these young women in contracting HIV/AIDS or other STDs is their number of sexual partners. Participants were asked to indicate the number of sexual partners they have had over the course of their lifetime, and during the last twelve months. Fifty seven percent (N= 108) indicated they had less than five lifetime partners, while the remaining number of participants (N=79) indicated that they had five or more lifetime partners. Furthermore, fifty four percent (N=103) of participants indicated that they had one sexual partner during the past twelve months, while the remaining 38% of participants indicated they had two or more sexual partners during the last twelve months.

Research has clearly specified that having multiple partners increases college women's risk for contracting HIV/AIDS and other STDs (Ybarra, 1996).

According to previous studies (Hammer et al., 1996; Lewis et al., 2000; Misovich et al. 1997; Ybarra, 1996), college students tend to have multiple partners over the course of their college experience and may consider their current committed/monogamous relationships as permanent and “safe”; therefore, they are less likely to use condoms consistently within these relationships.

Based on their responses to the HIV/AIDS knowledge questions it can be inferred that participants in this study are fairly knowledgeable about HIV/AIDS transmission. However, these young women are making sexual decisions that have been shown to increase their risk for contracting HIV/AIDS and other STDs including, inconsistently using condoms within relationships they deem safe and having multiple sex partners.

With this sample substance use, condom use self-efficacy, and HIV/AIDS perceived risk were not shown to statistically impact their condom use. The majority of participants in this study reported fairly high levels of condom use self-efficacy. Furthermore, the results of the regression analysis indicated that the majority of participants’ HIV/AIDS perceived risk scores were average, and did not shown any statistically significant relationship to their actual condom usage.

Methodological Limitations of Study

The results of this study should be taken within the milieu of the study’s limitations. Therefore, caution should be taken when interpreting these findings.

Design

For this study, a correlational design was used. According to Rubin & Babbie (2001), a study is correlational if the data lend themselves only to the

interpretations about the degree to which certain variables are related to each other. The major disadvantage of using this type of research design is that the actual reason for the association between the variables is indistinct. Therefore, a causal relationship cannot be ascertained, and the actual reasons for the association between the variables are unclear. Because the researcher was only trying to ascertain if type of sexual relationships, condom use self-efficacy, substance use, and HIV/AIDS perceived risk independently predicted condom use among young Black college women while controlling for HIV/AIDS knowledge, this research design is appropriate.

Sample

A convenience sample, which was used for this study, is often used in exploratory research to provide introductory estimates of the results without a great deal of financial burden imposed upon the researcher. However, using this non-probability method may eliminate a proportion of the understudied population such as among individuals who for whatever reason refused to participate, or those who were not members of campus organizations, or did not participate in activities sponsored by campus organizations. Therefore, the ability to generalize the findings of this study to the entire young Black college female population is limited. Replication of this study with young Black college women from other colleges and universities as well as those in the general campus population is highly recommended.

Power

The sample size for this study was determined by a power analysis of estimates of the R-square for the independent variables to the dependent variables. A power analysis was conducted and resulted in observed power ranging from .06 to .62 for the independent variables of focus. According to Sheskin (2004), inadequate power may yield inconclusive and ambiguous results. A sample of 130 participants was needed when the alpha was set to .01 in order to have power in excess of .86 to detect an association between the independent variables and the dependent variable.

Mean Substitution

According to King, Fogg, and Downey (1998), as long as no more than 20% of the respondents are missing items or the percentage of missing items does not exceed 30%, a mean substitution provides reasonable estimates of missing data. In this study, missing data accounted for less than 5%; therefore, the results of this study were not compromised by using mean substitution.

Additional Limitations

A number of things thought to be advantageous at the beginning of the study are now viewed as limitations. For example, using campus organizations to recruit a large number of participants at one time seemed like a good idea. However, using such a sample excluded another possible population such as young women who were not members of campus organizations or those who did not participate in organization sponsored events. Furthermore, the participants from this study were all obtained from Clark Atlanta University, which limits the

researcher's ability to generalize to Black college women at other institutions of higher education.

In addition, a survey instrument was used for data collection in this study. However, using a survey alone limited the range of participants' responses to questions. If the researcher had incorporated additional data collection methods such as interviews or focus groups, a wider range of responses may have been obtained from participants regarding psychosocial factors that influence their condom use in addition to those listed on the questionnaire.

Finally, although the researcher stressed the voluntary nature of the study and no identifying information was obtained from participants, there is no way to ascertain the credibility of participants' responses. This study was very sensitive in nature and asked participants to reveal information regarding their condom use, sexual history, substance use, perceived risk, condom use self-efficacy, and their partner(s) sexual behavior. Many participants may have been reluctant to reveal such intimate and private information regarding their sexual behavior and history.

Future Research

Based on the findings of this study, a number of suggestions are made for future research. First, this study should be replicated with young Black college women from a number of different colleges and universities. By virtue of being female, members of an ethnic minority, and college students, young Black women are at an increased risk for contracting HIV/AIDS and other STDs. However, this study's population came from only one university which limits the

ability to generalize the findings to young Black women at other institutions of higher learning. Replicating this study with numerous colleges and universities, possibly in several cities and states, would strengthen the studies results, along with the researchers' ability to develop effective prevention programs for this population.

Second, conducting research that focuses on young Black men in college would also serve to bring awareness to this population as an "at risk" group as well. Statistics from the CDC (2005) have shown that in 2005, HIV/AIDS men accounted for 41% of all HIV/AIDS cases reported. Furthermore, HIV/AIDS is one of the top three causes of death for Black men ages 25-54 (CDC, 2005). Just like their female counterparts, young Black men in college are not typically focused upon as a high risk group for contracting HIV/AIDS. However, heterosexual contact is the number one mode of HIV/AIDS transmission for Black women. Moreover, results of this study have shown that young Black women with boyfriends tend to use condoms less consistently than those in casual sexual relationships. Therefore, holistic HIV/AIDS prevention programs will need to address the behaviors of both young Black men and women in order to be most effective.

Third, incorporating different methods of data collection would prove beneficial when conducting research with this population. For instance, this research study used a quantitative research method. However, the use of interviews and in depth focus groups could help to further explore additional psychosocial factors that influence condom use among young Black women in

college. The questionnaire used in this study gave participants a limited range of responses. However, focus groups and interviews would allow participants to speak freely and provide researchers with more information than can be collected on a survey. Furthermore, such qualitative methods will enable researchers to address more cultural factors that influence this population's condom use.

Finally, it is imperative for future studies focusing on this population to explore other factors in addition to the ones included in this study that may influence young Black college women's condom use. For example, in this study HIV/AIDS knowledge, condom use self-efficacy, HIV/AIDS perceived risk, substance use, and type of sexual relationship were explored. However, factors such as religion, relationship power, and cultural influences may also have a significant impact on young Black college women's condom use. Amaro (1995) suggests that women are often socialized to be passive in their social behavior and that sexual negotiation is wrong. Therefore, exploring how young Black women are sexually socialized may be a significant component when developing culturally sensitive prevention programs for this population. Another factor that needs to be explored with this population is their sense of power in their sexual relationships. According to St. Lawrence et al.(2001) confronting and amending gender norms and power imbalances in sexual relationships is an important factors for interventions targeting risk reduction.

Implications for Social Work

HIV/AIDS is impacting the Black community at alarming rates. According to the CDC (2005), in 2005, African Americans accounted for almost 49% of all HIV/AIDS cases reported. More alarming are the rates of HIV/AIDS among African American women who accounted for 64% of all HIV/AIDS cases reported in 2005 in comparison to 19% for White women and 15% for Hispanic women (CDC, 2005). As of 2005, HIV/AIDS was the number one cause of death for African American women ages 25-34 (CDC, 2005). By virtue of being female, members of an ethnic minority, and college students, young Black women in college are at an increased risk for contracting HIV/AIDS.

The findings of this study offer a number of implications for the social work profession. First, social workers need to bring attention to the risky sexual behaviors of young Black women in college. Typically, poor, uneducated, and injection drug users make minority women a “high risk” group. However, the findings of this study indicate that although knowledgeable about HIV/AIDS, Black women in college are displaying some behaviors that are representative of other high risk groups such as inconsistent condom use, having multiple sex partners, and having sex while high or intoxicated.

Furthermore, this population has demonstrated that their knowledge of HIV/AIDS does not translate into precautionary behavior. Social workers need to work with college administrators, and campus student organizations to develop visual campus wide HIV/AIDS awareness programs for students. Regular campus health fairs and free and confidential onsite HIV/AIDS testing should be

promoted on all college campuses. In addition, developing student forums that focuses on ways to reduce risky behaviors among college students and increase safer sex practices should be encouraged.

Finally, social workers need to work with college administrators and students to develop culturally sensitive, theory guided, holistic HIV/AIDS prevention programs that target young Black women in the college and university environment. The model developed in this study, guided by the Theory of Gender and Power, would serve as an excellent tool in the development of such prevention programs. The model is a visual representation of the relationship between the independent variables of focus including type of sexual relationship, condom use self-efficacy, substance use, and HIV/AIDS perceived risk and condom use. Each variable within this model can be used by social workers as an area of focus in a HIV/AIDS prevention program targeted toward this population.

Although there is an abundance of HIV/AIDS prevention programs, most programs target teenagers, uneducated Black women in poverty with high unemployment, or youth living in low-income neighborhoods. HIV prevention programs targeting African American women from various age and educational levels are minimal (Katz, 2003). According to Flakerud and Nyamathi (2000), there is a dire need for prevention programs that focuses on the needs of Black women. Social workers need to ensure that HIV/AIDS prevention programs targeted toward this population are culturally sensitive. To date, a review of the literature has revealed no such program.

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APPENDIXES

Appendix A. Site Approval Letter

CLARK ATLANTA UNIVERSITY

May 2, 2006

Binta Alleyne, MSW
1107 Ferncliff Way
Knoxville, TN 37923

Dear Ms. Alleyne:

The office of Student Activities at Clark Atlanta University (CAU), is happy to provide you with a letter of support for your dissertation proposal entitled, "Psychosocial Factors that Influence HIV Risk Behaviors among Young Black College Women".

Upon your study's approval from the University of Tennessee's Institution Review Board (IRB), you are invited to administer your questionnaires to female undergraduate students at CAU. You may contact campus student organizations in an attempt to recruit female participants for your study.

Currently, CAU does not require you to go through a separate IRB process. However, a letter of your study's approval from the University of Tennessee's IRB is required before you can proceed with your data collection.

If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

A handwritten signature in cursive script that reads "De'Neia Whitted".

De'Neia Whitted
Program Specialist for Student Activities

Appendix B. Study Information Sheet

HIV Risk Behavior among Young Black College Women

You are invited to participate in a research study through The University of Tennessee College of Social Work. The purpose of this study is to determine psychosocial factors associated with condom use among young Black college women.

INFORMATION

You are invited to participate if you are a female college student of African descent between the ages of 18 through 24. As a participant in this study, you will be asked to complete questions regarding your HIV/AIDS knowledge and your condom use within the context on your current or last sexual relationship.

RISKS

There are no known risks to you as a subject of this study. Upon completing the questionnaire, if you have additional questions regarding HIV/AIDS please contact your campus health clinic or local health department.

BENEFITS

There are no monetary benefits to you as an individual for participating in this study. However, the information obtained from this study will be used to develop and implement HIV/AIDS prevention programs geared toward the special needs of young Black college women.

CONFIDENTIALITY

The information in the study records will be kept completely confidential. The completed questionnaires will be kept in a locked cabinet in Henson Hall, and only the researcher and her doctoral chair will have access to the questionnaires. There will be no way to link any participant in this study to the completed questionnaires.

CONTACT

If you have questions at anytime about the study you may contact the principal investigator Ms. Binta Alleyne, MSW at The University of Tennessee, College of Social Work, 117 Henson Hall, Knoxville, TN 37996, (865) 974-9135. Or you may also contact faculty advisor, Dr. John Wodarski at The University of Tennessee, College of Social Work, 117 Henson Hall, Knoxville, TN 37996, (865) 974-xxxx. If you would like a copy of the study's results, please contact the principal investigator or faculty advisor and they will provide it to you at no cost. If you have any questions regarding your rights as a participant of this study, contact the Research Compliance Services section of the Office of Research at (865) 974-3466.

PARTICIPATION

Your participation in this study is completely voluntary. You may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty. If you withdraw from the study before completing your questionnaire, your questionnaire will be destroyed. Return of your completed questionnaire constitutes your consent to participate.

Appendix C. HIV/AIDS Risk Behavior Survey

Part A: Please tell us a little about yourself

- 1) What is your date of birth? _____/_____/_____
- 2) What year did you graduate from High School? _____
- 3) What year in college are you (**select one**)?
 Freshman Sophomore Junior Senior
- 4) What is your current grade point average? _____
- 6) What is your sexual orientation (**select one**)?
 heterosexual homosexual bisexual unsure
- 7) Have you ever had sexual intercourse?
 Yes No
- 8) In your life, how many different people have you had sexual intercourse with? _____
- 9) How many different people have you had sexual intercourse with in the past 6 months?

- 10) Who is responsible for your financial support during school?
 parents self-supporting scholarships combination of these
- 11) What is your mother's highest education level?
 university degree some college high school diploma
 some high school or below

Part B: Please answer the following questions based on your knowledge and understanding of the HIV/AIDS virus.

- 12) Birth control pills protect against the AIDS virus
 True False
- 13) If a man pulls out before orgasm, condoms don't need to be used to protect against the AIDS virus
 True False
- 14) Most people who have the AIDS virus look sick
 True False
- 15) Vaseline and other oils should be used to lubricate condoms
 True False
- 16) Latex is the best material a condom can be made of for protection against the AIDS virus
 True False

- 17) Cleaning injection needles with water is enough to kill the AIDS virus
 True False
- 18) Most people who carry the AIDS virus look and feel healthy
 True False
- 19) Hand lotion is not a good lubricant to use with a condom
 True False
- 20) A woman is not likely to get the AIDS virus from having sex with a man unless he is gay or bisexual
 True False
- 21) Condoms cause men physical pain
 True False
- 22) If you are seeing a man and if he agrees to not have sex with other people, it's important to use a condom
 True False
- 23) Always leave some room or "slack" in the tip of a condom when putting it on
 True False

Part C: Please check the item that best represents your views, attitudes, emotional responses, and behaviors. What do you think or feel even if you do not currently have a sexual partner.

- 24) I feel confident in my ability to put a condom on myself or my partner.
 Strongly Disagree Disagree Undecided Agree Strongly Agree
- 25) I feel confident I could purchase condoms without feeling embarrassed.
 Strongly Disagree Disagree Undecided Agree Strongly Agree
- 26) I feel confident I could remember to carry a condom with me should I need one.
 Strongly Disagree Disagree Undecided Agree Strongly Agree
- 27) I feel confident in my ability to discuss condom usage with any partner I might have.
 Strongly Disagree Disagree Undecided Agree Strongly Agree
- 28) I feel confident in my ability to suggest using condoms with a new partner.
 Strongly Disagree Disagree Undecided Agree Strongly Agree
- 29) I feel confident I could suggest using a condom without my partner feeling "diseased".

- ___Strongly Disagree ___Disagree ___Undecided ___Agree ___Strongly Agree
- 30) I feel confident in my own or my partner's ability to maintain an erection while using a condom.
- ___Strongly Disagree ___Disagree ___Undecided ___Agree ___Strongly Agree
- 31) I would feel embarrassed to put a condom on myself or my partner.
- ___Strongly Disagree ___Disagree ___Undecided ___Agree ___Strongly Agree
- 32) If I were to suggest using a condom to a partner, I would feel afraid that he or she would reject me.
- ___Strongly Disagree ___Disagree ___Undecided ___Agree ___Strongly Agree
- 33) If I were unsure of my partner's feelings about using condoms, I would not suggest using one.
- ___Strongly Disagree ___Disagree ___Undecided ___Agree ___Strongly Agree
- 34) I feel confident in my ability to use a condom correctly.
- ___Strongly Disagree ___Disagree ___Undecided ___Agree ___Strongly Agree
- 35) I would feel uncomfortable discussing condom use with a potential sexual partner before we ever had any sexual contact (e.g. hugging, kissing, caressing, etc.).
- ___Strongly Disagree ___Disagree ___Don't Know ___Agree ___Strongly Agree
- 36) I feel confident in my ability to persuade a partner to accept using a condom when we have intercourse.
- ___Strongly Disagree ___Disagree ___Don't Know ___Agree ___Strongly Agree
- 37) I feel confident I could gracefully remove and dispose of a condom when we have intercourse.
- ___Strongly Disagree ___Disagree ___Don't Know ___Agree ___Strongly Agree
- 38) If my partner and I were to try and use a condom and did not succeed, I would feel embarrassed to try to use one again (e.g. not being able to unroll condom, putting it on backwards, or awkwardness)
- ___Strongly Disagree ___Disagree ___Don't Know ___Agree ___Strongly Agree
- 39) I would not feel confident suggesting using a condom with a new partner because I would be afraid he or she would think I have a sexually transmitted disease.
- ___Strongly Disagree ___Disagree ___Don't Know ___Agree ___Strongly Agree
- 40) I would not feel confident suggesting using condoms with a new partner because I would be afraid he or she would think I've had a past homosexual experience.
- ___Strongly Disagree ___Disagree ___Don't Know ___Agree ___Strongly Agree

41) I would feel comfortable discussing condom use with a potential sexual partner before we ever engaged in intercourse.

___ Strongly Disagree ___ Disagree ___ Don't Know ___ Agree ___ Strongly Agree

42) I feel confident in my ability to incorporate putting a condom on myself or my partner into foreplay.

___ Strongly Disagree ___ Disagree ___ Don't Know ___ Agree ___ Strongly Agree

43) I feel confident that I could use a condom with a partner without "breaking the mood".

___ Strongly Disagree ___ Disagree ___ Don't Know ___ Agree ___ Strongly Agree

44) I feel confident in my ability to put a condom on myself or my partner quickly.

___ Strongly Disagree ___ Disagree ___ Don't Know ___ Agree ___ Strongly Agree

45) I feel confident I could use a condom during intercourse without reducing any sexual sensations.

___ Strongly Disagree ___ Disagree ___ Don't Know ___ Agree ___ Strongly Agree

46) I feel confident that I would remember to use a condom even after I have been drinking.

___ Strongly Disagree ___ Disagree ___ Don't Know ___ Agree ___ Strongly Agree

47) I feel confident that I would remember to use a condom even if I were high.

___ Strongly Disagree ___ Disagree ___ Don't Know ___ Agree ___ Strongly Agree

48) If my partner didn't want to use a condom during intercourse, I could easily convince him or her that it was necessary to do so.

___ Strongly Disagree ___ Disagree ___ Don't Know ___ Agree ___ Strongly Agree

49) I feel confident that I could use a condom successfully.

___ Strongly Disagree ___ Disagree ___ Don't Know ___ Agree ___ Strongly Agree

50) I feel confident I could stop to put a condom on myself or my partner even in the heat of passion.

___ Strongly Disagree ___ Disagree ___ Don't Know ___ Agree ___ Strongly Agree

51) My partner(s) is (are) not the "type" to have HIV/AIDS.

___ Strongly Disagree ___ Disagree ___ Don't Know ___ Agree ___ Strongly Agree

52) I am not concerned about acquiring HIV/AIDS because I am "picky" about partners I have sex with.

___ Strongly Disagree ___ Disagree ___ Don't Know ___ Agree ___ Strongly Agree

53) I do not view myself as being at risk for acquiring HIV/AIDS.

___ Strongly Disagree ___ Disagree ___ Don't Know ___ Agree ___ Strongly Agree

54) My partner(s) is (are) not the “type” to have a sexually transmitted disease (other than HIV/AIDS).

Strongly Disagree Disagree Don't Know Agree Strongly Agree

55) I am not concerned about acquiring a sexually transmitted disease (other than HIV/AIDS) because I am “picky” about partners I have sex with.

Strongly Disagree Disagree Don't Know Agree Strongly Agree

56) I do not view myself as being at risk for acquiring a sexually transmitted disease (other than HIV/AIDS).

Strongly Disagree Disagree Don't Know Agree Strongly Agree

57) It is possible that I am infected with HIV/AIDS even though I have not been diagnosed with it.

Strongly Disagree Disagree Don't Know Agree Strongly Agree

58) It is likely that I will acquire HIV/AIDS within the next five years.

Strongly Disagree Disagree Don't Know Agree Strongly Agree

59) It is possible that I am infected with a sexually transmitted disease (other than HIV/AIDS) even though I have not been diagnosed with one.

Strongly Disagree Disagree Don't Know Agree Strongly Agree

60) It is likely that I will acquire a sexually transmitted disease (other than HIV/AIDS) within the next five years.

Strongly Disagree Disagree Don't Know Agree Strongly Agree

Part D: Please answer the following questions based on your experience with alcohol and other drugs.

61) How often have you used alcohol?

Never 1-12 times a year 2-3 times a month at least once a week
 At least once a day

62) How often have you used marijuana?

Never 1-12 times a year 2-3 times a month at least once a week
 At least once a day

63) How often have you used other drugs for recreational purpose?

Never 1-12 times a year 2-3 times a month at least once a week
 At least once a day

64) How often do you have sexual intercourse when intoxicated or high?

Most of the time Sometimes Never

F: The following questions ask about different types of sexual relationships/partners that young women may have. **Steady partner** (a man you have sex with and consider to be your boyfriend). **Casual partner** (a man you have sex with but do not consider him as your boyfriend).

Please choose **ONE** of the following types of sexual relationship that you have been involved in **within the last year**, and answer the following questions pertaining specifically to that relationship.

Questions 65 – 70 asks about your current or last steady sexual partner (a man you have/had sex with AND consider/considered him to be your boyfriend). If you choose to answer questions about your current or last steady partner, please **ONLY** answer questions 65-70.

65) What is/was the approximate length of this relationship?

_____Weeks _____Months _____Years

a) How long do/did you see your relationship lasting (**check one**)?

_____Forever (will likely get married or permanently live together)
 _____One year to several years
 _____Several months
 _____A few weeks to one month
 _____Not long at all (will likely end the relationship soon)

66) Over the entire course of this relationship, how likely were you to use condoms with your steady partner?

___Very unlikely ___Unlikely ___Somewhat likely ___Likely ___Very likely

67) In the past 30 days (or less if the relationship is shorter than 30 days) how likely were you to use condoms with your steady partner?

___Very unlikely ___Unlikely ___Somewhat likely ___Likely ___Very likely

68) How likely were you to use condoms **every time** you have sex with your steady partner?

___Very unlikely ___Unlikely ___Somewhat likely ___Likely ___Very likely

69) During the time you and your steady partner have/had been together, do you think he has had sex with anyone else?

_____No
 _____Yes, but not in the last three months
 _____Yes, in the last three months
 _____Uncertain, but suspect he has
 _____Uncertain

70) During the time you and your steady partner have/had been together have you had sex with anyone else?

_____No

- Yes, but not in the last three months
 Yes, in the last three months

Questions 71- 76 ask about your current or last casual sex partner(s). Casual partner refers to a man/men you have/had sex with but do not consider him/them to be your boyfriend). If you choose to answer questions about your current or last casual partner(s), please **ONLY** answer questions 71-76.

71) What is/was the approximate length of this/these relationship(s)?

Weeks Months Years

a) How long do/did you see this/these relationship(s) lasting (**check one**)?

- Forever (will likely get married or permanently live together)
 One year to several years
 Several months
 A few weeks to one month
 Not long at all (will likely end the relationship soon)

72) Over the course of this relationship, how likely were you to use condoms with your casual sex partner(s)?

Very unlikely Unlikely Somewhat likely Likely Very likely

73) In the past 30 days (or less if the relationship is shorter than 30 days), how likely were you to use condoms with your casual sex partner(s)?

Very unlikely Unlikely Somewhat likely Likely Very likely

74) How likely are/were you to use condoms *every time* you have/had sex with your casual sex partner(s)?

Very unlikely Unlikely Somewhat likely Likely Very likely

75) During the time you and your casual sex partner(s) have/had been together, do you think he has had sex with anyone else?

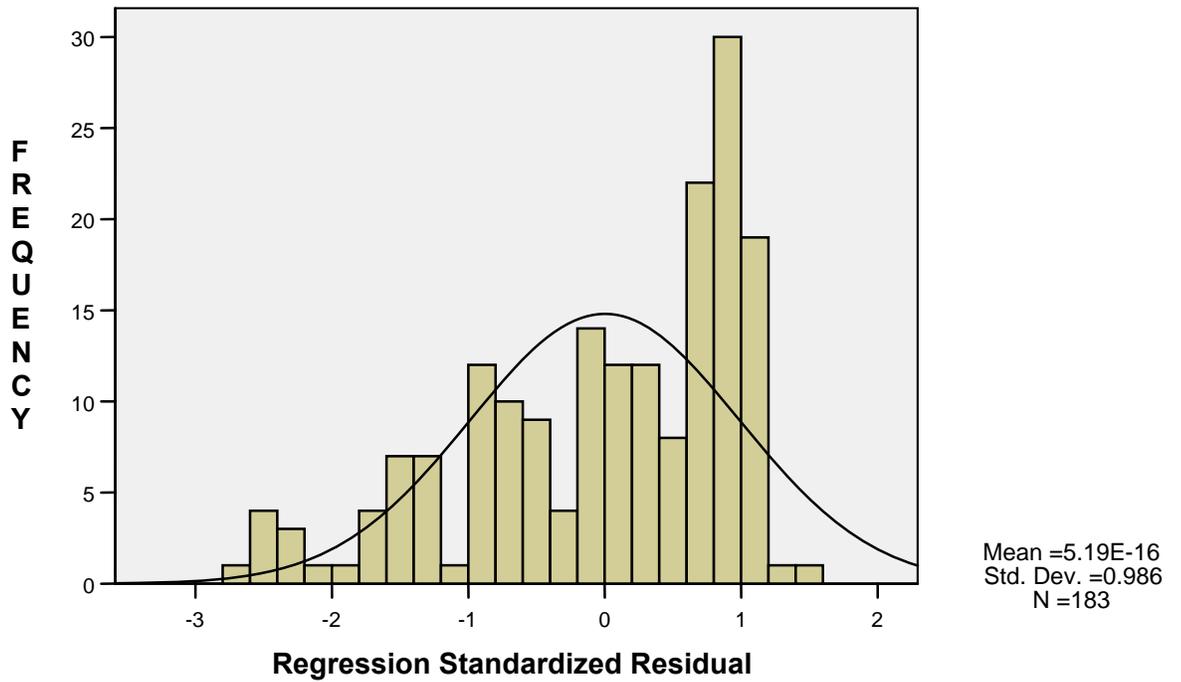
- No
 Yes, but not in the last three months
 Yes, in the last three months
 Uncertain, but suspect he has
 Uncertain

76) During the time you and your casual sex partner(s) have/had been together have you had sex with anyone else?

- No
 Yes, but not in the last three months
 Yes, in the last three months

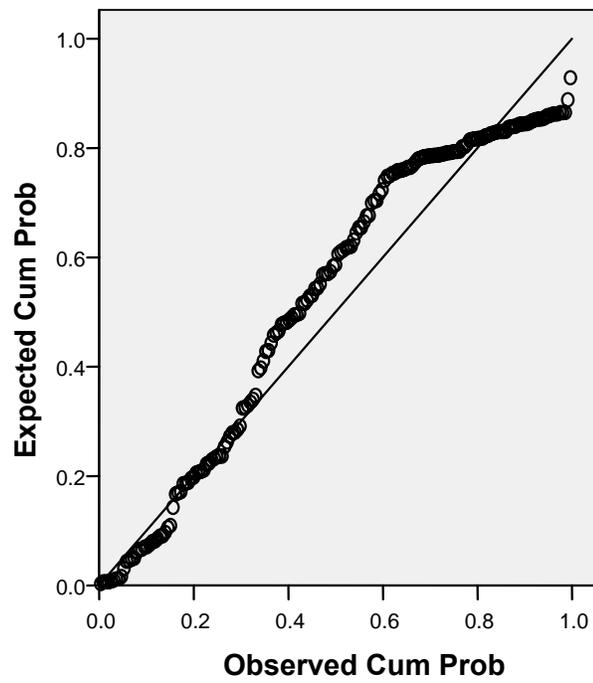
Thank you for your participation.

Appendix D. Sexual Relationship Histogram

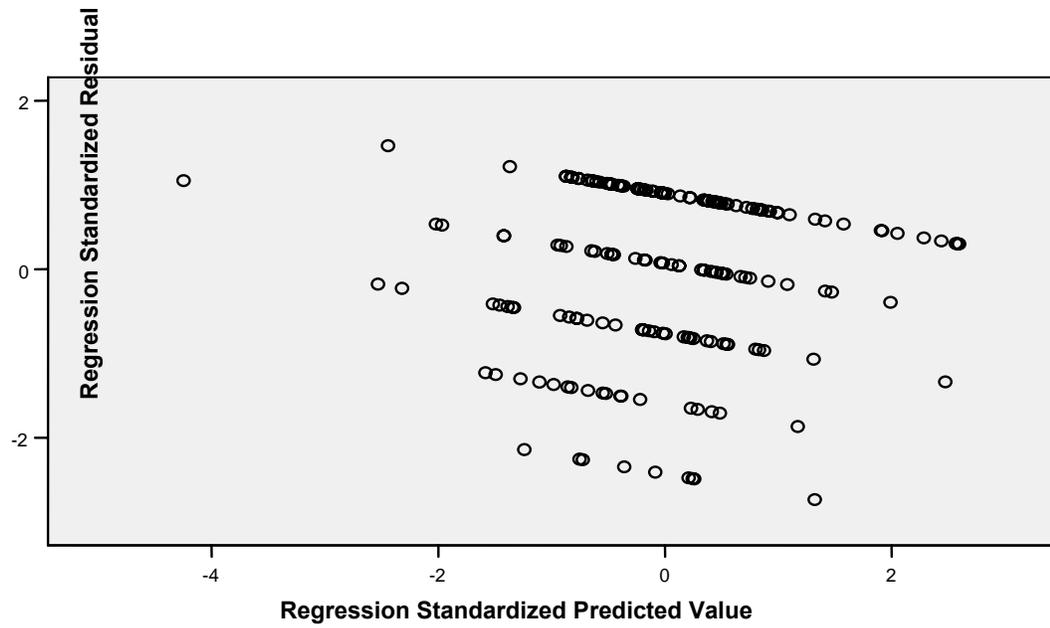


Dependent Variable: Condom Use

Appendix E. Sexual Relationship Normal P-Plot of Regression Standardized Residuals

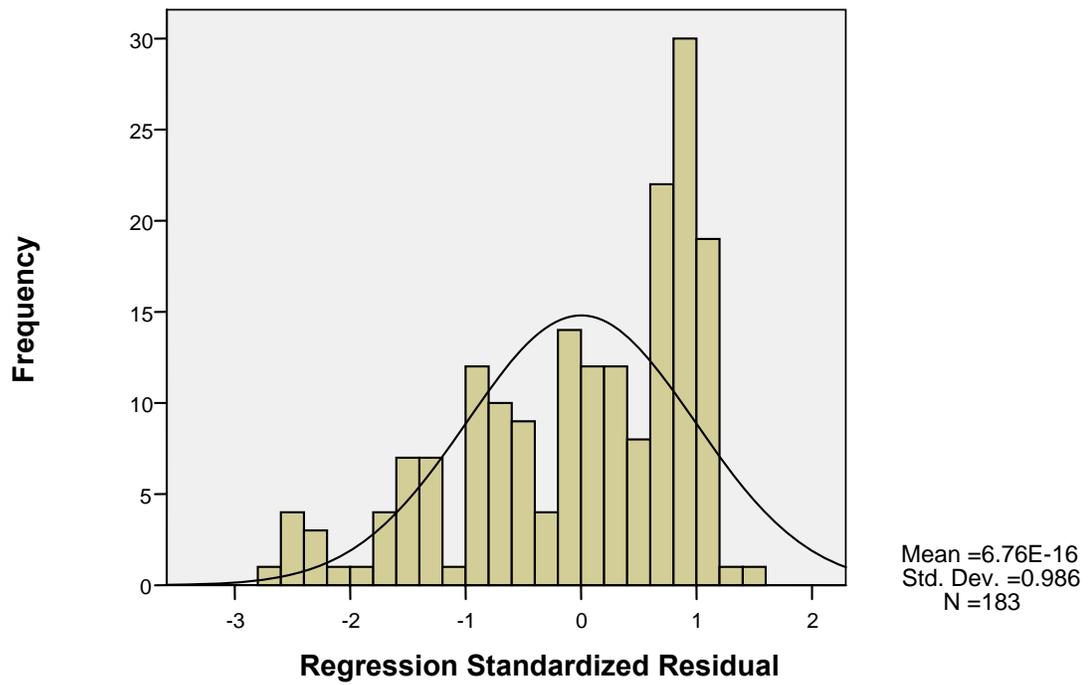


Dependent Variable: Condom Use

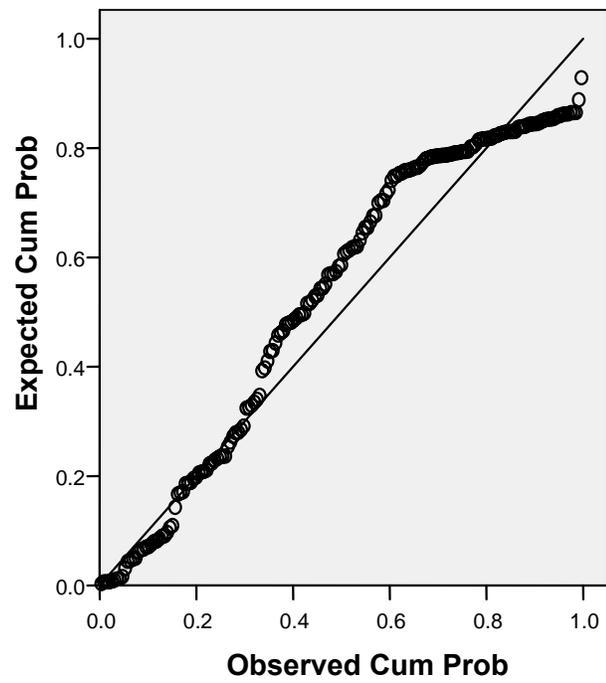
Appendix F. Sexual Relationship Scatterplot

Dependent Variable: Condom Use

Appendix G. Self-efficacy Histogram

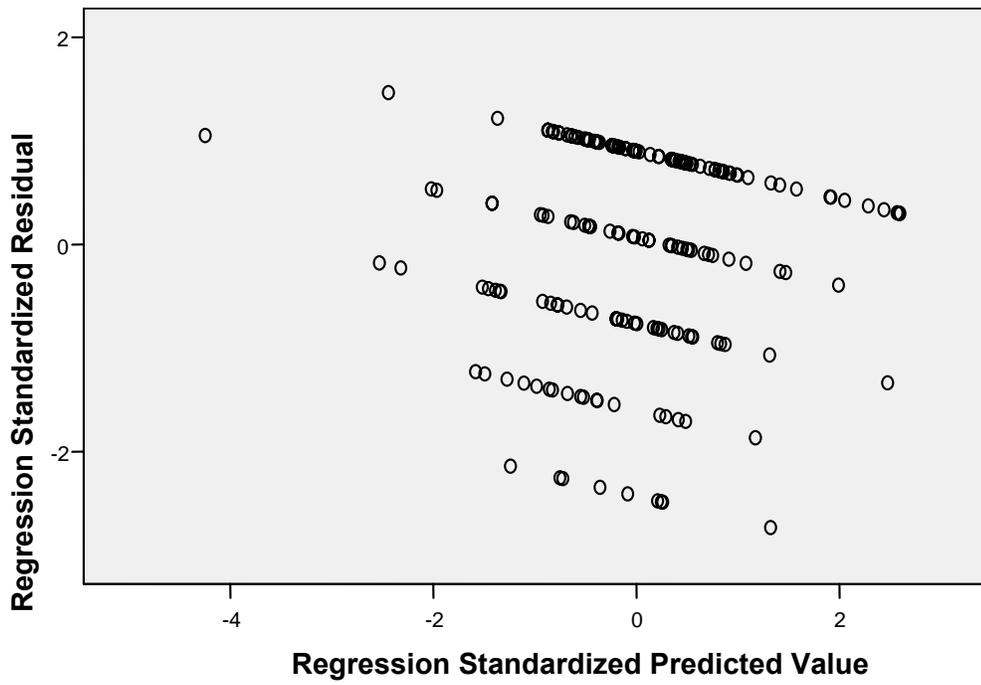


Dependent Variable: Condom Use

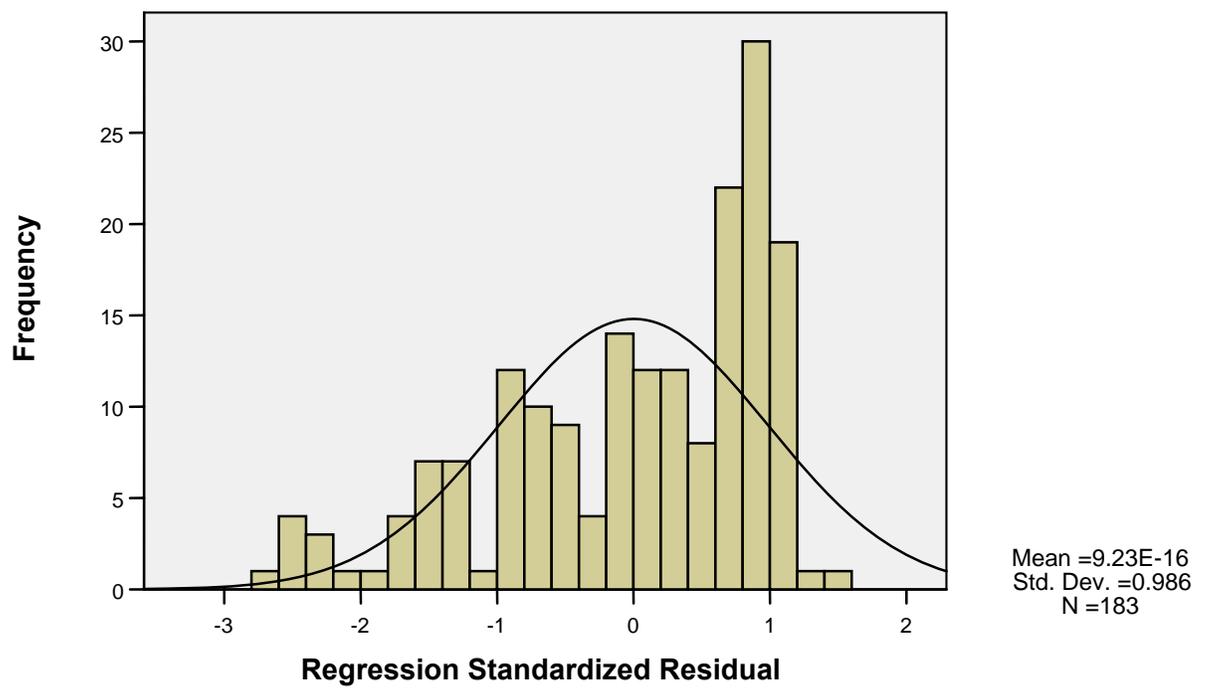
Appendix H. Self-Efficacy Normal P-Plot of Regression Standardized Residuals

Dependent Variable: Condom Use

Appendix I. Self-Efficacy Scatterplot

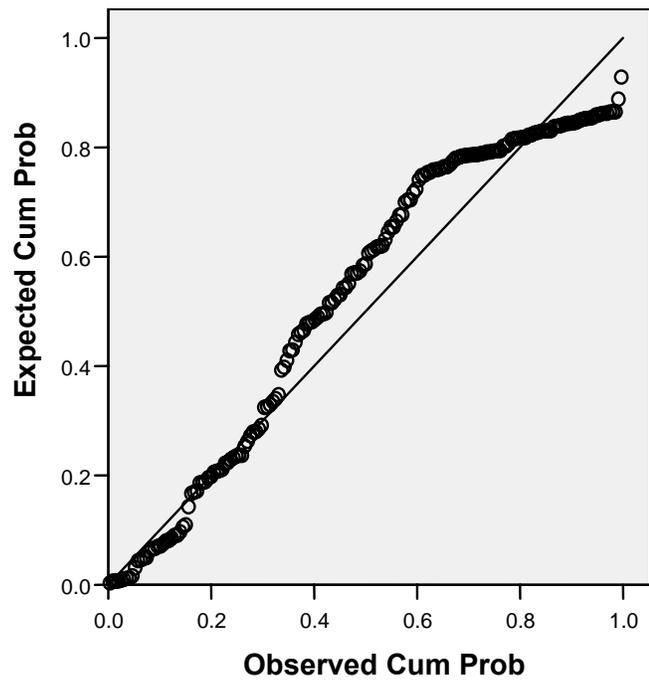


Dependent Variable: Condom Use

Appendix J. Substance Use Histogram

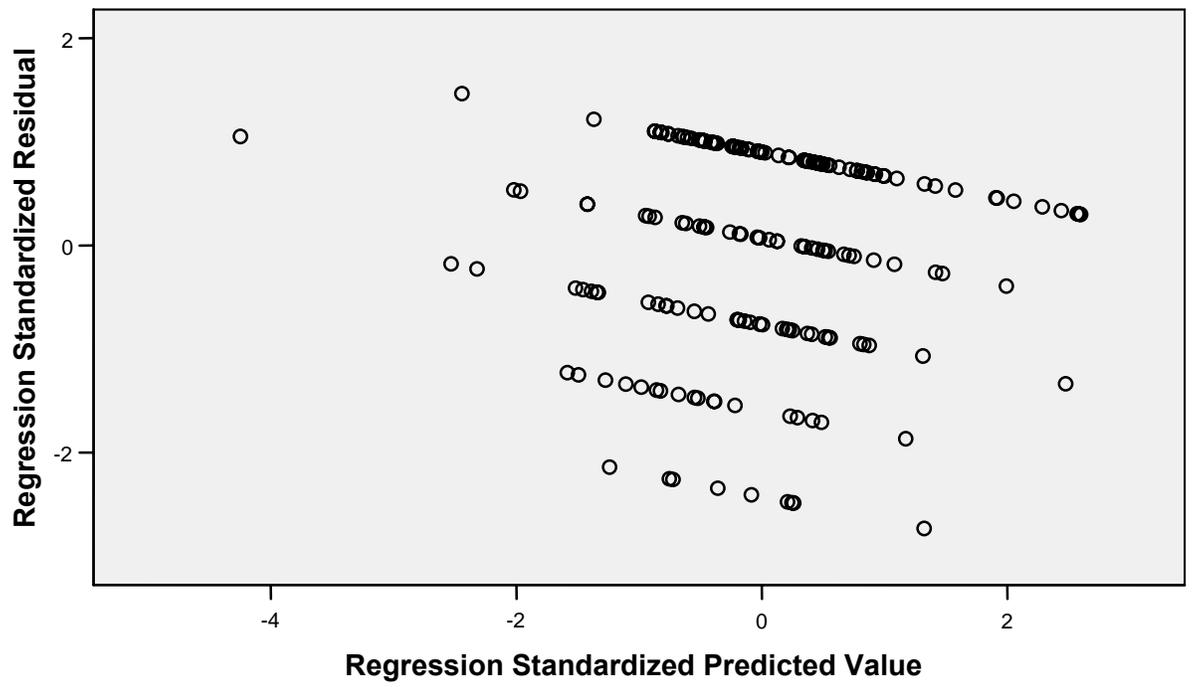
Dependent Variable: Condom Use

Appendix K. Substance Use Normal P-P Plot of Regression Standardized Residual

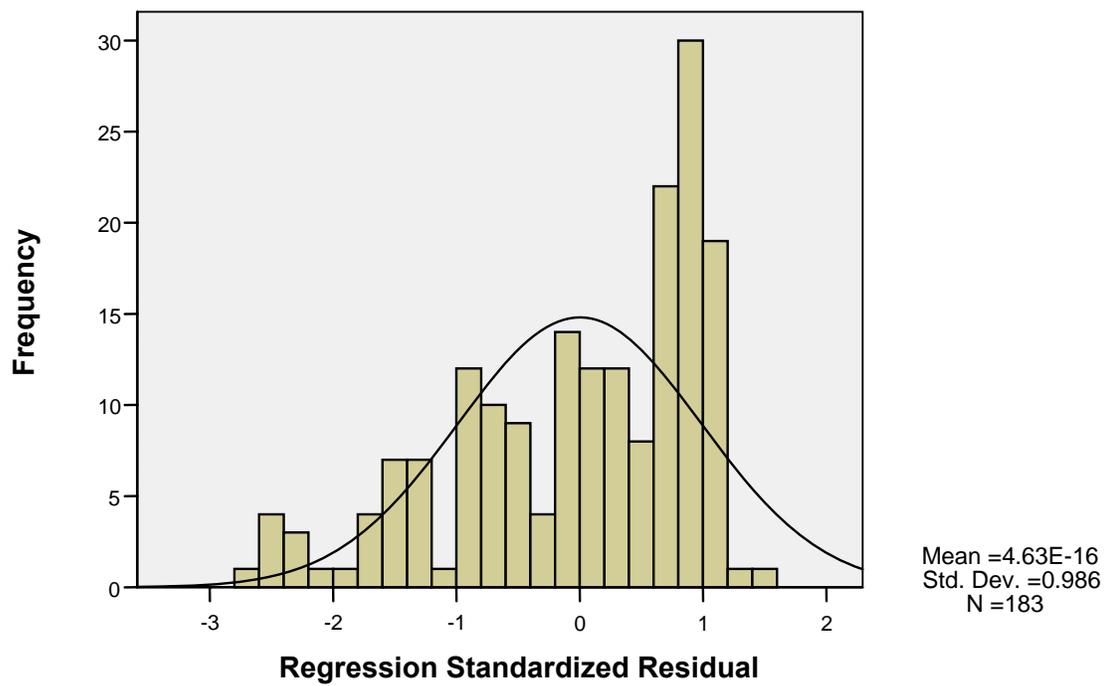


Dependent Variable: Condom Use

Appendix L. Substance Use Scatterplot

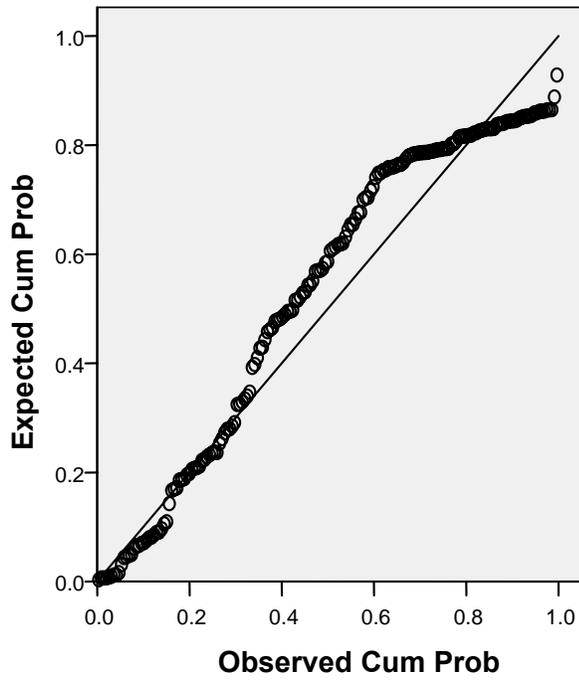


Dependent Variable: Condom Use

Appendix M. Perceived Risk Histogram

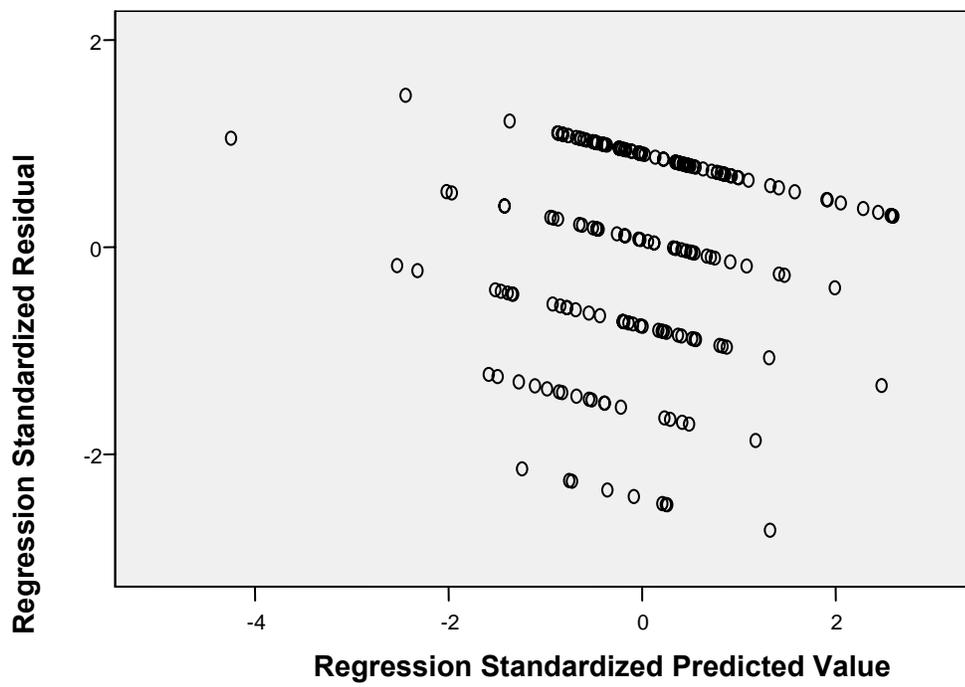
Dependent Variable: Condom Use

Appendix N. Perceived Risk Normal P-P Plot of Regression Standardized Residual

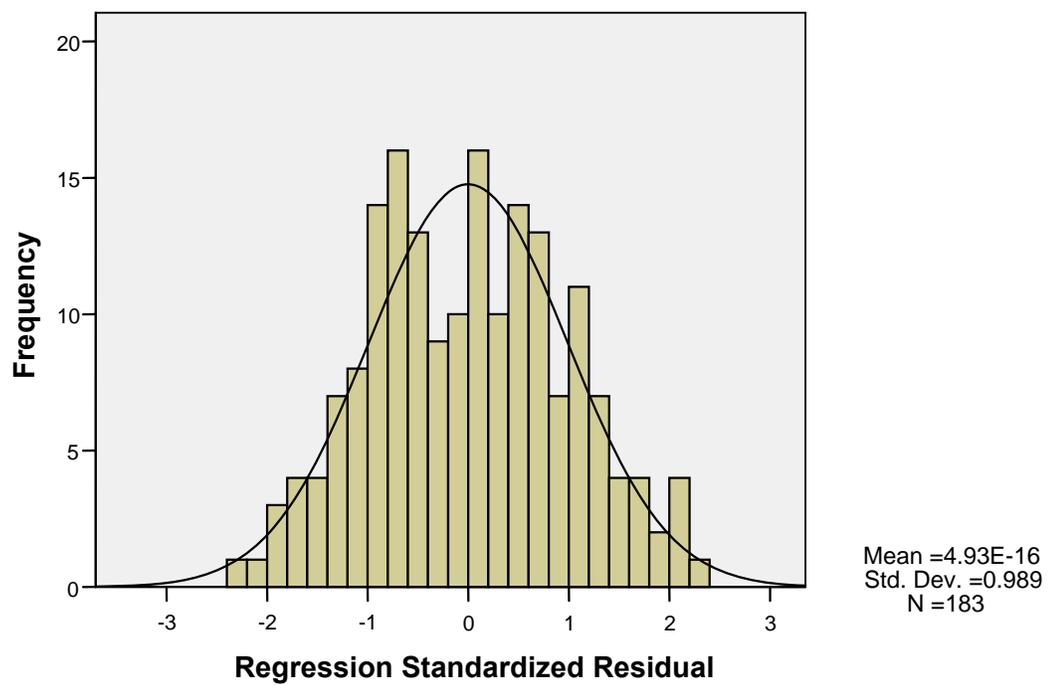


Dependent Variable: Condom Use

Appendix O. Perceived Risk Scatterplot

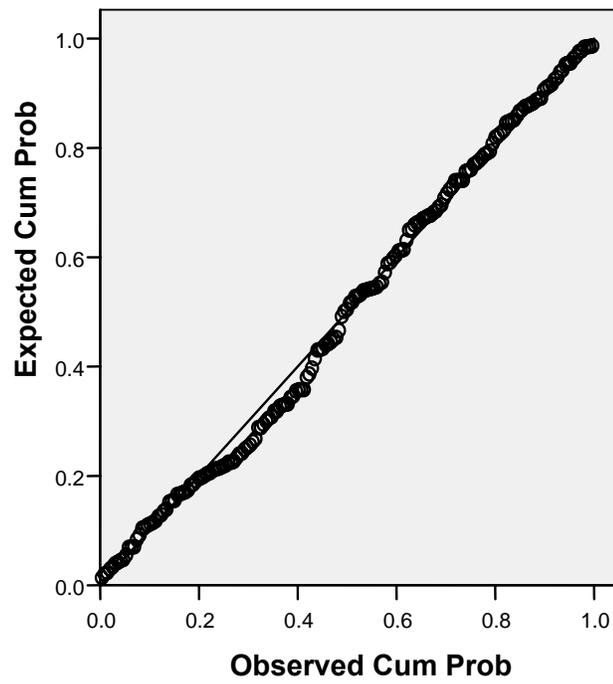


Dependent Variable: Condom Use

Appendix P. Relationship Histogram

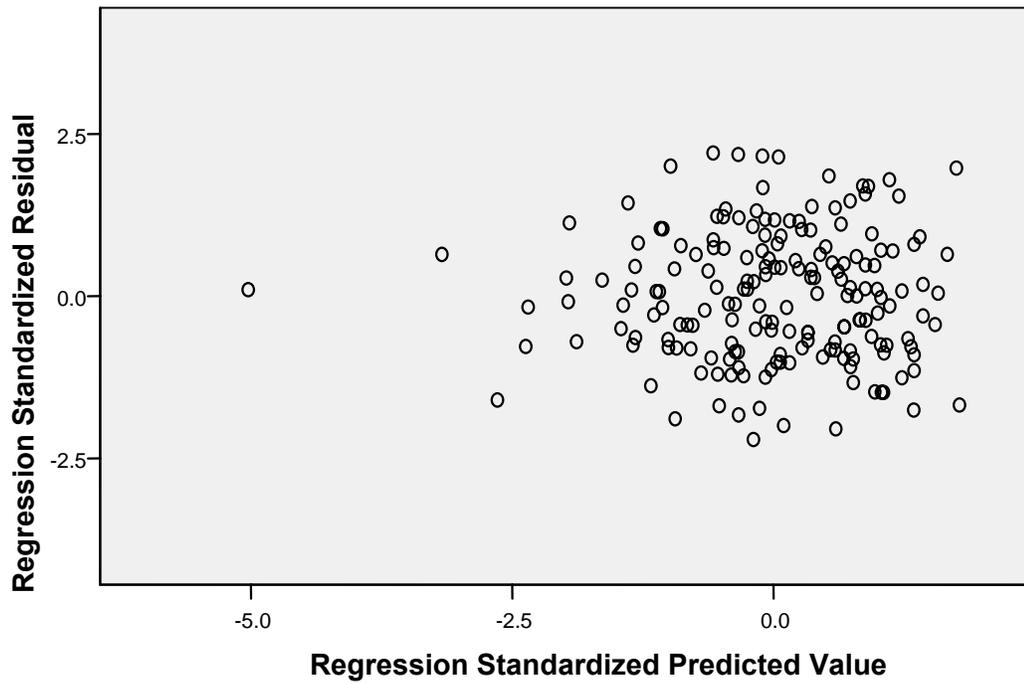
Dependent Variable: Perceived Risk

Appendix Q. Relationship Normal P-P Plot of Regression Standardized Residual

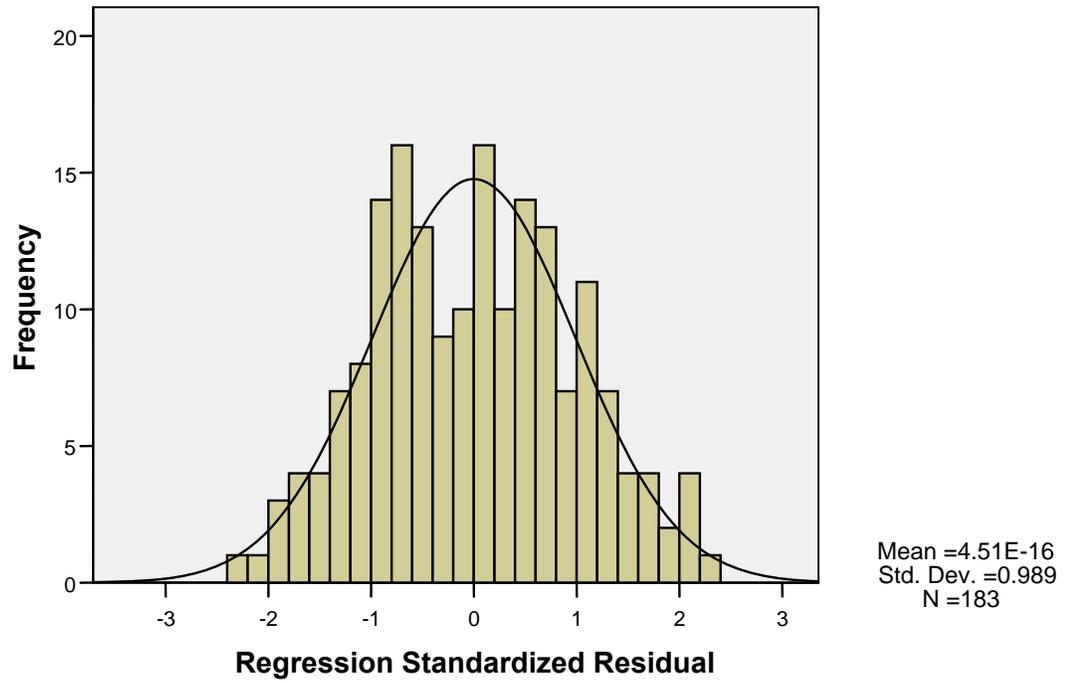


Dependent Variable: Perceived Risk

Appendix R. Relationship Scatterplot

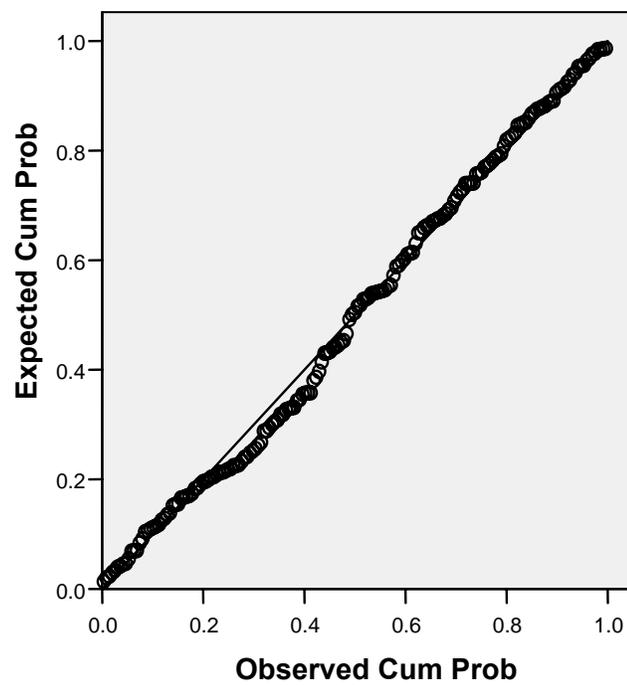


Dependent Variable: Perceived Risk



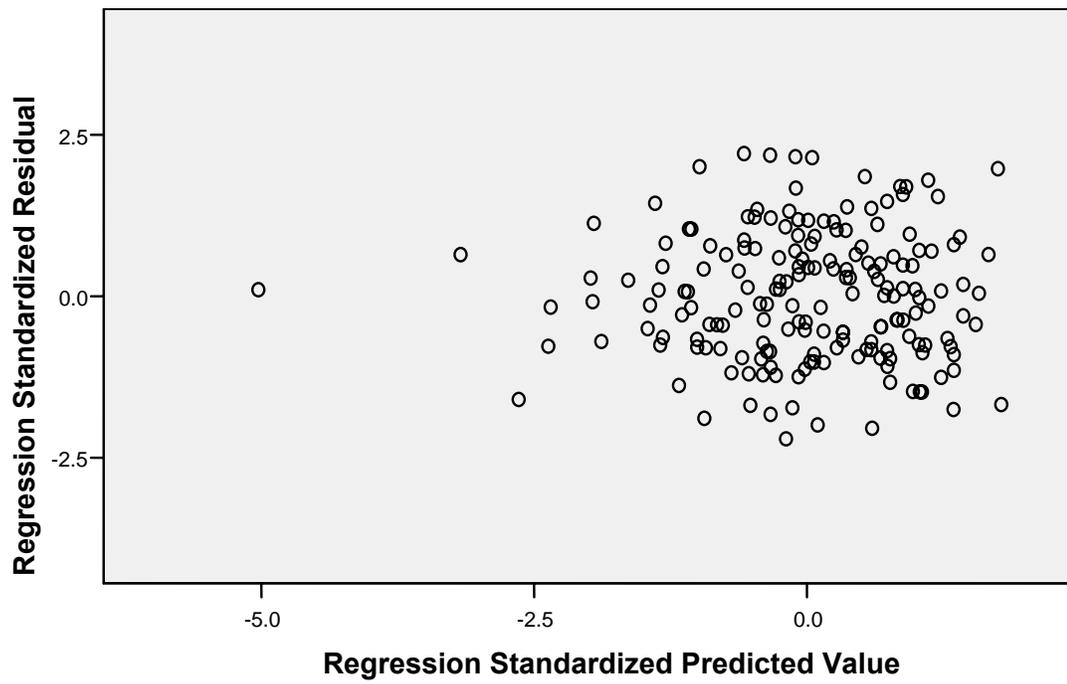
Dependent Variable: Perceived Risk

Appendix T. Substance Use Normal P-P Plot of Regression Standardized Residual



Dependent Variable: Perceived Risk

Appendix U. Substance Use Scatterplot



Dependent Variable: Perceived Risk

VITA

Binta Alleyne was born in Trinidad, W.I. and grew up in Brooklyn, NY. In 1996, she was accepted to Clark Atlanta University as part of the Accelerated Interdisciplinary Dual Degree Program which allowed her to obtain her Bachelors of Arts Degree and her Masters of Social Work Degree from Clark Atlanta University in five years. She graduated from CAU in 2001. Upon graduation, Binta went on to work as a Clinical Social Worker at Carrie Steele Pitts Home in Atlanta, Georgia. As a social worker at Carrie Steel Pitts Home, Binta worked with abused, abandoned, and neglected children until 2004 when she applied and was accepted at The University of Tennessee College of Social Work doctoral program. While in her doctoral program, Binta had the opportunity to once again focus on her longtime research area of interest which is factors that influence minority women's risk for contracting HIV/AIDS and other STDs. Binta's secondary areas of research interests include HIV/AIDS with older African Americans and international social work research. Binta received her doctorate degree in May, 2007.