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LOMA LINDA UNIVERSITY
School of Behavioral Health
in conjunction with the
Department of Psychology

Religion and Risky Sex in a Sample of Predominately Black Young Adult Men

by

Jade Seto

A Project submitted in partial satisfaction of
the requirements for the degree
Doctor of Philosophy

October 2020

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Each person whose signature appears below certifies that this doctoral project in his/her opinion is adequate, in scope and quality, as a dissertation for the degree Doctor of Philosophy.

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By the Grace of God and the dedicated support of my mother, friends, and mentors, I have achieved my dream of becoming a Clinical Psychologist.

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ABSTRACT OF THE DOCTORAL PROJECT

Religion and Risky Sex in a Sample of Predominately Black Young Adult Men

by

Jade Seto

Doctor of Philosophy, Graduate Program in Psychology
Loma Linda University, October 2020
Dr. Kendal C. Boyd, Chairperson

This study examined religion and spirituality as protective factors against risky sexual behaviors among young adult Black and non-Black men while exploring the mediating mechanisms. Participants included 110 young adult men (58.2% Black; 41.8% non-Black). Results revealed that intrinsic religiosity predicted a moderate decrease in total sexual risk-taking, while sexual permissiveness predicted a moderate-large increase. Race/ethnicity was not a significant independent predictor. Furthermore, intrinsic religiosity significantly predicted decreased sexual risk-taking through the indirect effect of sexual permissive attitudes; suggesting religiosity served as a buffer against sexual risk behaviors. Implications are suggested for professionals in educational and clinical setting

CHAPTER ONE

INTRODUCTION

Studies in recent decades have demonstrated an inverse relationship between religious adherence/engagement and certain risk behaviors, including risky sex (Mojahed, 2014). Particularly, greater adherence to religious beliefs and practices have been associated with lower risk behaviors. While research has supported the influence of religion and spirituality on sexual attitudes and sexual risk behaviors among college students, generalizability of findings has been limited due to underrepresentation of males, particularly Black young adult men. The lack of information amongst this population on the correlates and potential protective factors related to sexual risk behaviors poses a concern. Black college students reportedly face a “double dilemma” (Browne, Clubb, Wang, & Wagner, 2009). African Americans are not only disproportionately affected by STDs and STIs, but the CDC reported that eighty percent of new HIV diagnoses in 2015 occurred in youth ages 20-24, an age group of typical college students (Hendricks, Brooks, Tague, & Ray, 2018).

Most college students fall within the age range considered as young adult or emerging adults. According to Arnett (2000), emerging adulthood is the age period between 18 and 25 years that is distinct from adolescence and young adulthood. Emerging adulthood is marked by identity exploration in the domains of love, work, and worldview. During identity exploration in love, less focus is on recreational dating and more on exploring the potential for emotional and physical intimacy. Romantic relationships during this period tend to include sexual intercourse and cohabitation (Arnett, 2000). As noted by Cooper (2002), college provides opportunities for self-

governance and independence. In addition, college provides a new context to manage sexual relationships and sexuality which are managed through growth and mastery. Unfortunately, this gives rise to risks for emotional trauma and pain and physical health consequences.

Young adults tend to engage in high levels of sexual risk behaviors that place them at greater risk for adverse health consequences. Given the salient roles of religion and spirituality in Black culture, it's important to elucidate the mechanisms by which religion and spirituality influence risky sexual behaviors. This is important public health knowledge that needs further exploration for an understudied at-risk population such as young adult Black men. Study results may have implications for mental health practitioners and educators on recommendations and prevention measures to better protect this population from the impact of risky sexual behaviors and its consequences.

Risky Sexual Behaviors

Risky sexual behaviors as conceptualized by Turchik and Garske (2009) include substance use (drugs and alcohol) prior to and during sexual activity, lack of safe sex communication, sex with multiple partners, and inconsistent use of condoms during vaginal and anal intercourse. These behaviors are categorized as risky given the increased probability of negative consequences. Such consequences include the contraction of sexually transmitted infections (STIs), sexually transmitted diseases (STDs) such as HIV/AIDS, and unplanned pregnancies among women (Langer, Warheit, & McDonald, 2001). Risky sex research has identified a number of risk factors correlated with risky sexual behaviors. Such factors include age, gender, race/ethnicity, age of first sex,

number of sex partners, age of first alcohol use, bingeing on alcohol, and self-esteem (Langer, Warheit, & McDonald, 2001).

In terms of age, risky sexual behaviors tend to increase as age increases. Gender differences have also been detected throughout the literature; with findings displaying that age of onset of sexual behaviors begin earlier in males compared to females. In addition, males are more likely to have multiple partners and sexual activity associated with drug and alcohol use (Langer et al., 2001). Racial and ethnic differences have also been studied, with some findings suggesting that ethnic minorities engage in more risky sexual behaviors compared to non-Hispanic Whites (CDC, 1997). Studies have also found a significant relationship between the number of sexual partners a person has and engagement in risky sexual behaviors. Particularly, the more sexual partners an individual has, the more likely one will engage in risky sexual behaviors. A significant relationship has also been found for age of first alcohol use, with earlier age of use more likely to predict risky sexual behaviors. In terms of alcohol use, binge drinking has been found to be a risk factor, with binges associated with an increased probability of engaging in risky sexual behaviors. Lastly, in terms of self-esteem, low self-esteem has been associated with greater sexual activity and risky sexual behaviors among adolescents and young adults (Langer et al., 2001). There have also been findings to suggest that decision making style such as impulsiveness is significantly associated with increased risky sexual practices compared with more rational and deliberate styles (Langer et al., 2001).

Shifts in U.S. adults' sexual behaviors have been identified by Twenge, Sherman, and Wells (2015). Compared to age and time period, generation/birth cohort was the greatest predictor of changes in sexual behavior between 1972 and 2012. Specifically,

U.S. adults in 2000-2012 compared to the 70's and 80's had more sexual partners and were more likely to engage in sex with a casual date, pickup, or acquaintance. The number of sexual partners since age 18 increased from 7.17 in the late 80's to 11.22 in the 2010s. Change was greatest for White males with few changes amongst African Americans. The changes in sexual behaviors align with the literature that show college students' propensity for engaging in high-risk sexual behaviors. As a result, this places them at greater risks for the negative consequences associated with sexual risk taking.

According to Turchik and Garske (2009) casual sex is common among college students with hook-ups considered a normal part of sexual practices. The Centers for Disease Control and Prevention (CDC) reported that emerging adults are more likely to be sexually active, yet are less likely to use condoms. Condom use in particular has remained inconsistent among this population. In 2006 the CDC reported that 40% of sexually active students did not use a condom in their last sexual encounter. In relation to this finding, researchers Corbin and Fromme (2002) found that of college students with multiple sexual partners, only 18% of men and 13% of women consistently used condoms (LaBrie, Pedersen, Thompson, & Earlywine, 2008). Rates were even higher in a 2005 study of students who engaged in heterosexual intercourse; 37% had never used condoms in the previous year and two-thirds used condoms less than 50% of their sexual episodes (Penhollow, Young, & Denny, 2005). Needless to say, condom use remains low among sexually active college students. Given the disproportionate number of college students who engage in risky sex, research has found that not only are students more accepting of casual sex but they experience less sexual guilt than their younger peers (Penhollow et al., 2005).

Another source of risky sexual behaviors comes from the hook-up culture across college campuses. Some researchers have opined that hook-up culture has replaced dating among college students. Although the term “hook-up” has been defined in many ways in the literature, the most common definition is “... a sexual encounter between people who are strangers or brief acquaintances. This encounter may involve sexual intercourse or may be limited to behaviors other than intercourse. There is no expectation of any relationship with the other person beyond this sexual encounter” (Penhollow, Young, and Bailey, 2007). Studies have found 50-75% of college students report hooking-up in the past year (Owen, Rhoades, Stanley, & Fincham, 2007). Another study by Paul and colleagues (2000) reported that out of 555 students surveyed, 68% had engaged in a hook-up, with 48% of males and 33% of females reporting having sexual intercourse during their hook-up (Brimeyer & Smith, 2012). According to Owen, Rhoades, Stanley, and Fincham (2010), hooking-up has been associated with health risks including STIs.

Unfortunately, African American college students face a “double dilemma.” Specifically, African Americans are disproportionately affected by STDs and STIs including HIV/AIDS (Browne, Clubb, Wang, & Wagner, 2009). Not only are AIDS prevalent in the African American community but HIV infection is increasing within the college population (Taylor et al., 1997). According to the CDC report in 2004, although African Americans make up 12.3% of the US population, African Americans represent 39% of all AIDS cases and 54% of annual new HIV cases with the poorest survival rates (Davis et al., 2007). These statistics reveal that African American college students are at increased risk for the adverse consequences of risky sexual behaviors.

Sexual Attitudes

Risky sexual behaviors are often shaped by sexual attitudes. The association between sexual attitudes and risky sexual behaviors has been corroborated by research displaying sexual attitudes as a strong predictor of sexual risk behavior, casual sex, and number of sexual partners (Twenge et al., 2015). Especially among adolescents and young adults, sexual attitudes and risky sexual behaviors have been found to be closely correlated (Weeden & Sabini, 2007). Sexual attitudes tend to be conceptualized as falling on a continuum between conservative and sexually permissive attitudes. The Sexual Attitude Scale (Hendrick & Hendrick, 1987) was developed in order to provide a more comprehensive and dimensional approach to measuring sexual attitudes in response to the heavy reliance on sexual permissiveness. According to this scale, sexual attitudes are comprised of four facets, including permissiveness, birth control, communion, and instrumentality.

Research has supported a generational shift in sexual attitudes. A study by Twenge et al., (2015) found that adults in 2000-2012 compared to the 70's and 80's were more accepting of non-marital sex including premarital sex, and teen sex. Results display that compared to the G.I. Generation, Boomers, and Generation X'ers, Millennials has become most accepting of non-marital sex. There have also been gender differences noted in the literature. A study by Fischer (2007) measuring sexual behaviors and attitudes found that men reported higher levels of sexual experiences and more sexually permissive attitudes than females (Luquis et al., 2012). Although sexual attitudes have direct effects on risky sexual behaviors, sexual attitudes can also serve as a mechanism for which religion and spirituality influence risky sexual behaviors.

Religion/Spirituality

Defining religion can be difficult. Within the psychology of religion literature there's been little consensus among scholars on the conceptualization and measurement of religion and spirituality (Breisford, Luquis, & Murray-Swank, 2011). Some studies have considered religion and spirituality to be distinct constructs while others have considered the two to be one in the same. Yet, more studies are starting to consider the unique properties of each while viewing both religion and spirituality as multifaceted. According to Boyd-Starke, Hill, Fife, and Whittington (2011), religion can be defined as:

An organized system of beliefs, practices, rituals, and symbols designed to (a) facilitate closeness to the sacred or transcendent (God, higher power, or ultimate truth/reality), and (b) to foster an understanding of one's relationship and responsibility to others in living together in a community (pp. 529-530).

On the other hand, spirituality is more of "a personal quest for understanding answers to ultimate questions about life, about meaning, and about a relationship with the sacred or transcendent, which may or may not lead to the development of religious rituals and the formation of 'community'" (Boyd-Starke et al., 2011, p. 130).

Given the difficult task of scientifically measuring a belief, religion and spirituality have been assessed in various ways. Across risky sex literature, religion has been measured as a single construct to predict sexual attitudes and risky sexual behaviors. Classic constructs include religious affiliation, church attendance, and subjective religiousness. However, other studies have measured religion multidimensionally. It was proposed by Glock (1962) that religion encompassed five dimensions. This included religious/ritualistic behavior, feelings and emotions/experiential, beliefs/ideology,

knowledge/intellectual, and life/consequential (Young, Denny, Penhollow, Palacios, & Morris, 2015). Some studies have also included distinct measurements of spirituality. MacDonald (2000) identified five dimensions of spirituality in his Expressions of Spirituality Inventory. The dimensions include cognitive orientation towards spirituality, experiential/phenomenological dimensions of spirituality, existential well-being, paranormal beliefs, and religiousness (Boyd-Starke et al., 2011). The buffer effects of religion and spirituality on risky sexual behaviors have been increasingly studied.

According to Mojahed (2014), many studies within the last decade have found an inverse relationship between religion and risk behaviors including suicide, drug abuse, alcoholism, violence, and risky sexual behavior. Mojahed (2014) explained that religion reduces risky behaviors in both direct and indirect ways. First, religion encompasses orders and prohibitions that enforce followers to practice healthy and riskless behaviors. Prohibitions also prevent people from engaging in risk behaviors including consumption of alcoholic drinks and drugs while also limiting risky sexual behaviors. Indirectly religion may limit the proper conditions for engaging in risky behaviors. Specifically, belonging in a religious community may offer social support and feelings of belonging in a group which may mitigate stress, improve mental health, and decrease risky behaviors. Also, devotion to religious practices such as frequent church attendance may limit the free time that others would ordinarily have. In addition, religion may contribute to the development of one's identity and sense of self; decreasing risky sexual behaviors.

In analyzing the relationship between religion and risky sex behaviors, a considerable number of studies have supported links between religiousness, sexual attitudes, and sexual behaviors of college students (Breisford et al., 2011). In terms of

religion's influence on sexual attitudes, studies have found that overall, college students who report higher levels of religiousness will also report greater conservative attitudes regarding sex. Religious affiliation and church attendance have also shown to be strong predictors of conservative sexual attitudes. In addition, research by Beckwith and Marrow (2005) displayed that intrinsic religiosity was negatively correlated with sexual attitudes endorsing sexual permissiveness, casual sex practices, and instrumental aspects of sexual intercourse (Ahrold et al., 2011). Besides religion a handful of studies have analyzed the unique properties of spirituality and its relation to sexual attitudes. A study by Beckwith and Marrow (2005) found mixed results. Although core spirituality was found to be related to more conservative sexual attitudes, existential spirituality was linked to more liberal sexual attitudes (Breisford et al., 2011).

Besides ties to sexual attitudes, research has supported unique effects of religion and spirituality on risky sexual behaviors. Studies have found college students with strong religious beliefs are less likely to engage in sexual activity. Specifically, it's been found that college students who are sexually active but attend religious services frequently tend to have fewer sexual partners (Moore, Berkley Patton, & Hawes, 2013). Among several longitudinal studies, it's been suggested that religiosity is a protective factor against sexual behavior, with religious individuals less likely to initiate sex in later time periods (Vasilenko & Lefkowitz, 2014). In terms of the effects of spirituality, a study by Burris et al., (2009) found that young people who reported higher levels of religiousness reported fewer sexual partners and less frequent vaginal sex. Yet, greater spirituality for female respondents was associated with higher levels of sexual behaviors. Other studies have corroborated these results. For example, a study by Swank,

Pargament, and Mahoney (2005) found that the perception of sacred characteristics of premarital caring relationships resulted in more frequent sexual behavior (Breisford et al., 2011).

CHAPTER TWO

LITERATURE REVIEW/AIMS AND HYPOTHESES

Literature on the risky sexual behaviors of college students vary in terms of predictors, outcomes, and populations measured in relation to sexual risk behaviors. While research has looked at risky sexual behaviors broadly, others have focused on specific behaviors such as condom use. A variety of predictors have been measured including substance use, sexual attitudes, religion, and spirituality. The review will start off broadly, focusing on sexual behaviors within the college population. Next, the literature on the effects of religion and spirituality on sexual attitudes and sexual risk behaviors among college students will be assessed and finally the literature on African American risky sexual behaviors.

College Sexual Risk Behaviors

Risky Sexual Behaviors of College-Aged Students

A 2014 study by Caico explored the risky sexual behaviors of college students in addition to knowledge about particular STDs and transmission. A convenience sample of college students from a private suburban college in the Mid-Atlantic region of the United States was recruited. Inclusion criteria included those who were sexually active and between the ages of 17 and 25. Participants filled out a self-report questionnaire which assessed sexual history, sexual practices, and knowledge on many STDs. The Sexual Behavior Questionnaire consisted of questions including: the number of individuals the participant had sexual intercourse with, the number of times a week engaged in sexual intercourse, reasons that describe their motivation to engage in sexual intercourse or

sexual acts, time since last sexual encounter, type of sex during last sexual encounter, and type of contraception if any used during their last vaginal intercourse. A portion of the questionnaire assessed specific sexual behaviors such as insisting on using condoms during intercourse and drinking alcoholic beverages prior or during intercourse. The rest of the questionnaire contained questions regarding STDs and other miscellaneous items pertaining to certain sexual situations such as ever being treated for a STD. Results were that 33% had intercourse with two to five individuals while 15.5% has between 11 and 20 sexual partners. In terms of condom use, 50.9% had unprotected vaginal intercourse without the use of condoms while 45.8% did not insist or used condoms occasionally. In relation to contracting STDs, 47.2% of the participants were not worried about contracting AIDS while 41.3% were not worried about getting genital lesions. 58.1% used alcohol prior or during intercourse.

Strengths of the study included the author's account of department/school of study students were enrolled in given studies in particular areas can impact knowledge about risky sexual behaviors and STDs. The questionnaire was innovative in not only assessing specific sexual behaviors but also one's motivation to engage in intercourse or other intimate sexual acts. Some limitations to the study included not controlling for confounding variables. While sexual orientation was accounted for in the demographics section, research has shown that different sexual orientations have different sexual practices. Thus, there may have been an effect of sexual orientation, which may have influenced results. Another limitation was the study's limit to generalizability. A convenience sample of college students were recruited at a college in the Mid Atlantic. The sexual culture in the Mid Atlantic may be different than those in the East or West.

Therefore, it's important to keep geographical region in mind and the influence of culture when it comes to studying risky sexual behaviors. In terms of exclusion criteria, being married or engaged was not included. Literature has suggested that married couples have different sexual patterns than single individuals. Given this wasn't accounted for the results could be skewed. What also wasn't taken into account was year of college. A study by Brimeyer and Smith (2012) found that college seniors hooked-up and dated more than other students, especially among freshmen so it's important to take this into account when studying sexual behaviors of college students. Also, Caico's measurement of risky sexual behaviors was limited. There was only one question that touched the subject of hooking-up. Instead, it would have improved content validity if the number of times one engaged in specific sexual behaviors such as anal and oral sex had been assessed. Also, questions should have been devoted to more hook-up behaviors that college students tend to engage in such as leaving a social event with someone one just met. Taking into account these limitations could have made the findings stronger in displaying the risky sexual behaviors of college students.

HIV Risk Behaviors and HIV Risk Perception among Students

Another study by Adefuye, Abiona, Balogun, and Lukobo-Durrell (2009) studied the prevalence of HIV risks behaviors and perception of HIV risk among college students. Participants included 390 students recruited from a commuter university in the Mid-west between the ages of 17 and 64. Risk behaviors assessed included initiation of sexual activity, frequency of sexual intercourse, number of sexual partners, and condom use. Other measures related to sexual activity included drug and/or alcohol use during last

sexual intercourse. The study found that males reporting male partners who used marijuana and alcohol along with illegal drugs were significantly more likely to report multiple partners. Females 30 years or older reporting male partners were significantly less likely to report multiple partners. Differences in sexual patterns were also found between age groups. In terms of condom use, older students were less likely to report condom use. Females 30 years or older and those between 20 and 29 were more likely to report inconsistent condom use compared to those 20 years and below. Interestingly marijuana use was correlated with inconsistent condom use while alcohol was correlated with no condom use during last intercourse among females. Also, a greater percentage of White males (90%) compared to African American (62.7%) and Hispanic American (42.9%) males reported inconsistent condom use in the previous 30 days. The overall data reveals that older age and substance use especially among female college students predicts riskier sexual behaviors including inconsistent condom use.

One of the strengths of the study included the authors' account of relevant demographic factors that could provide more information on the engagement in risky sexual behaviors; specifically, the option to report relationship preferences and whether one was in a sorority or fraternity. Many studies focusing on the risky sexual behaviors of college don't take into account these variables which can provide information on differences in risky sexual behaviors according to dating preferences. Also, the culture surrounding sororities and fraternities can illicit behaviors that increase the chances of engaging in risk behaviors such as increased substance use and behaviors to gain favor by members. Therefore, this variable can provide insight on whether membership increases engagement in sexual risk behaviors. What was also unique about the study was its

recruitment of primarily minority students including Hispanic and African American students. The pitfalls of most studies on college students are its primarily White sample which doesn't generalize to students of other ethnic and cultural groups. Yet, there were limitations surrounding their sample including having participants between the ages of 17 and 64 years of age. As proposed by Arnett (2000), emerging adulthood is the age period between 18 and 25, the typical age period for college students. Thus, the sample is not a standard representation of the college population and should not be interpreted as such.

Religion and Sexual Attitudes

Religiosity and Sexual Attitudes among Students

Ahrold, Farmer, Trapell, and Meston (2011) studied the relationship between religiosity, sexual attitudes, and sexual fantasies among undergraduate students at a public university in the Southwest. For the purposes of this study, only the findings on religiosity and sexual attitudes will be discussed. One of the aims of the study was to determine the effects of intrinsic religiosity, spirituality, fundamentalism, and paranormal beliefs on differences in sexual attitudes. A total of 1413 undergraduates were recruited from a psychology class with a predominately female sample (69%). Religious identity was measured with an open-question that asked, "What is your religion?" Intrinsic religiosity was measured using The Age-Universal Intrinsic Religiosity Scale (Gorsuch & Venable, 1983) which assesses the importance and role that religion plays in one's daily life. Spirituality was measured using A Balanced Version Index of Spiritual Belief (Trapnell, 2005) which measures the personal experience of the transcendent or divine. Fundamentalism, defined as faith in religious institutions and dogma was measured via

the short version of the Religious Fundamentalism Scale (Altemeyer & Hunsberger, 1992). Lastly, paranormal/new age beliefs were measured using the Index of Paranormal and New Age Beliefs (Trapnell, 2005) to assess beliefs in supernatural events or experiences. Sexual attitudes were measured via The Attitude Scale which assesses conservative and liberal attitudes. Attitudes were grouped in categories including attitudes toward masturbation, homosexuality, multiple sexual partners, oral sex, pornography, and premarital sex.

The study found that, for women, religious group was a significant predictor of conservative attitudes, albeit only for attitudes towards masturbation. Overall, agnostics were significantly less conservative than mainline and conservative Christians in sexual attitudes. On the other hand, Buddhists were significantly more conservative on attitudes towards masturbation than all other religious groups. Religious group was also found to be a significant predictor of conservative attitudes among men but on no other attitudinal measure. Agnostics held significantly fewer conservative attitudes than mainline Christians with no other significant differences between other groups. In terms of the dimensions of religion, intrinsic religiosity was the strongest predictor of conservative attitudes among women. Higher levels of intrinsic religiosity predicted higher levels of sexual conservative attitudes. In terms of attitudes towards masturbation, fundamentalism was the strongest predictor. Specifically, fundamentalism was a significant positive predictor of attitudes towards masturbation. Lastly for women, both spirituality and paranormal beliefs were the best predictors of attitudes on pornography. Lower levels of paranormal beliefs yet higher levels of spirituality predicted greater conservative attitudes towards pornography. For men, both intrinsic religiosity and spirituality were the

strongest predictors of attitudes towards oral sex. Higher levels of intrinsic religiosity and lower levels of spirituality predicted more conservative attitudes towards oral sex. Both dimensions were also the strongest predictors of attitudes towards pornography. Higher levels of intrinsic religiosity and lower levels of spirituality predicted more conservative attitudes towards pornography. Interesting to note is the unique effect of spirituality on the sexual attitudes between men and women; for men higher levels of spirituality predicted fewer conservative attitudes whereas for women it predicted more conservative attitudes.

While many studies on the effects of religion have a Christian/Catholic bias, this study was unique in providing an open-ended question for participants to fill in their religious group. This provides a more accurate representation of how individuals classify themselves rather than selected options. Another strength of the study was the level of comparisons between the variables measured, for instance assessing the differences in sexual attitudes between religious groups and the effect of religious group on sexual attitudes between genders. In addition, a multidimensional approach was taken to assess the effects of both religion and spirituality on sexual attitudes which is a more accurate representation of the population given an increasing number of individuals consider themselves spiritual. Also, the measurement of specific sexual attitudes such as attitudes towards premarital sex and pornography is another strength given sexual attitudes tend to be dichotomized in broad categories (conservative vs. permissive).

A limitation of the study included the sample demographics. Over half of the subjects were female. Therefore, differences in sexual attitudes and the effects of religion between male and females in the study should be interpreted with caution. Given only a

sample was taken from a single University in the Southwest, results on the relationship between religiosity and sexual attitudes can't be generalized to all college students. There was also no information on the ethnic composition of the sample which could've provided information on the effects of culture on religious beliefs and sexual attitudes.

Religion, Spirituality, and Permissive Sexual Attitudes

Brelsford, Luquis, and Murray-Swank (2011) studied the effects of intrapersonal and interpersonal aspects of religion and spirituality on male and female college students' sexual permissive attitudes. A convenience sample of 960 students from four northeastern universities was recruited for the study. Participants ranged in age from 18 to 25 and were predominately female (68%), White, and Christian. In addition to reporting extent of one's religiousness and spirituality, participants filled out intrapersonal measures of religion and spirituality from the Brief Multidimensional Measurement of Religiousness and Spirituality. Subscales used for this study were The Daily Experiences Scale and Private Religious Practice Scale. Single item measures were also extracted from the measure including frequency of church attendance. In addition, participants filled out measures from the Spiritual Disclosure Scale and The Brief Sexual Attitudes Scale, which assess attitudes towards casual sex.

In general, female students reported greater religiousness, spirituality, daily spiritual experiences, and spiritual disclosure than male students. In regards to sexual attitudes, male students endorsed higher levels of sexual permissive attitudes than females. Results displayed that sexual permissive attitudes were inversely correlated with private religious practices, daily spiritual experiences, and religious service attendance.

For female students, permissive sexual attitudes were inversely correlated with religiousness and spiritual disclosure. However, for male students, high self-reported spirituality was related to lower sexual permissive attitudes. Hierarchical regression analyses revealed that for male students, spirituality accounted for a large amount of unique variance after accounting for religiousness when predicting sexually permissive attitudes.

This study was unique in taking a multidimensional approach in measuring the constructs of religion and spirituality and their effects on specifically sexual permissive attitudes among college students. In addition, the authors recruited participants from four different universities in the northeast which helps to diversify the sample. Yet, some limitations included having a predominately female, Caucasian, heterosexual, and Judeo-Christian sample which limits the generalizability of results. In addition, the authors should have included as exclusion criteria being married and homosexual, as both of these factors have been found to confound results. Married students and those who are homosexual are shown to have different sexual practices and levels of engagement than single, heterosexual students. Also, with measures such as self-reported religiousness and sexual attitudes, answers may be subject to social desirability which can also confound results.

Religion and Sexual Risk Behaviors

Religion and Risky Sexual Behaviors of College Athletes

A study by Moore, Berkley-Patton, and Hawes (2013) looked at the relationship between religiosity, alcohol use, and sexual behaviors of college student athletes.

Religiosity was measured in terms of frequency of church attendance and influence of religious beliefs. Questions on sexual behaviors included engagement in oral and/or vaginal sex as well as number of sexual partners. Students were recruited from a Midwestern university where they completed an online survey administered by the university's Athletics Department. Varsity sports included basketball, track, gold, tennis, soccer (male only), softball (female only), and volleyball (female only). There was a total of 83 valid responses. The sample was 69% female and predominately heterosexual and Caucasian. Over half of the sample reported not being in a current relationship. 91.6% of the sample indicated some religious affiliation with Catholic being the most reported denomination. In addition, 56.6% of the sample agreed to some extent that their religious beliefs influenced their behaviors. In terms of sex behaviors, 71% reported ever having vaginal sex while 75% had oral sex. For participants who were sexually active, the average number of sexual partners was 2.3 in the last 12 months. Both church attendance and influence of religious beliefs were significant predictors of sex behaviors of college athletes. In terms of oral sex, participants more influenced by religious beliefs were 69% more likely to have never had oral sex and 98% more likely have never had vaginal sex. However, frequent church attendance resulted in a 43% more likelihood to have had vaginal sex. Influence of religious beliefs was also found to be inversely related to the number of sex partners. It can be concluded that among college-student athletes, the influence of religious beliefs serves as a buffer against sexual risk behaviors, specifically engagement in oral and vaginal sex as well as the number of sex partners compared to church attendance.

A strength of the study was filling the gap in the literature on the effects of religion on risky sexual behaviors specifically among college student athletes. According to Moore et al. (2013), there is limited research on the sexual behaviors of college athletes. There are however several limitations to the study. In terms of demographics, the majority of the sample was female and Caucasian. Therefore, results can't be generalized to the sexual behaviors of all college athletes. Also, the sample size was small, making it statistically difficult to establish power. In terms of measurement, religion was assessed using only two items. Given the multidimensionality of religion, including measures such as frequency of prayer, involvement in church activities, and more measures on intrinsic religiosity could've provided more information on the level of religiosity for each participant. Lastly research has shown that college student athletes report higher rates of inconsistent condom use compared to the general college population. Results should be interpreted with caution given the association between religion and risky sexual behaviors may not hold true for the general college population.

Religion, Spirituality, Sexual Attitudes, and Risky Sex

Luquis, Breisford, and Rojas-Guyer (2012) assessed whether religion, spirituality, and sexual attitudes accounted for differences in sexual behaviors among college students. A convenience sample of 960 college students from four northeastern universities was recruited during the 2008-2009 school year. Participants had the option to complete the questionnaire online or via pencil and paper. Sexual behaviors assessed included number of lifetime partners, number of sexual partners within the last 3 months, vaginal intercourse, condom use for vaginal intercourse and oral sex, and contraception

use. Sexual attitudes were measured using four dimensions of the Brief Sexual Attitudes Scale including permissiveness, birth control, communion, and instrumentality.

Permissiveness measures attitudes surrounding casual sex, birth control addresses sexual responsibility, communion measures idealistic views of sexuality, and instrumentality measures biological or practical aspects of sex (Luquis, Brelsford, & Rojas-Guyer (2012).

Religiosity was measured using the Private Religious Practices subscale of the Brief Multidimensional Measurement of Religiousness and Spirituality (BMMRS) which assesses behaviors such as frequency of reading the bible and prayer. Single item measurements included frequency of church attendance. Spirituality was assessed using a one item measure from the BMMRS to determine the extent a person considered themselves spiritual. Spirituality was also measured using the Spiritual Disclosure Scale which measures the degree college students share thoughts and feelings about personal religious beliefs, spiritual beliefs, and practices with their parents.

The study found gender differences in sexual attitudes, religiosity, and spirituality. In terms of sexual behaviors, 76% of males as compared to 68% females reported having participated in sexual intercourse. A significant difference was also found within vaginal sex in the last three months in which 79% of females as compared to 64% males reported engagement. Gender differences in sexual attitudes were also found. Males reported higher levels of sexual permissiveness and instrumental attitudes than females. Significant differences were also found in levels of religiosity and spirituality. Females were more likely than males to report higher levels of daily spirituality and daily disclosure. For male students, sexually permissive attitudes, private religious practices, and daily spiritual experiences made a unique contribution to

differentiate between those who had and those who had not engaged in sexual intercourse. In contrast, sexual attitudes specifically sexually permissive and birth control attitudes made a unique contribution to differentiate those who had ever engaged and those who had not engaged in sexual intercourse among females. Thus, results display that for men religion, spirituality, and sexual attitudes influence their sexual behaviors whereas for women, mainly sexual attitudes explain their sexual behaviors.

The study did a good job of not only measuring religion and spirituality as predictors of sexual risk behaviors but including sexual attitudes as well. In addition, the authors were insightful in approaching religion and spirituality multidimensionally; adopting multiple measures instead of single items measures to assess both constructs. Limitations can be seen in the sample in which 82% of the participants were White. This is not representative of all college students and results may not apply across different cultures and ethnicities. The sample was also predominately female (68%). This limits the power to find significant differences in smaller samples (Luqius et al., 2012). Geographically speaking, students were recruited from the northeast which may culturally endorse certain sexual attitudes or have different levels of religion, spirituality, and sexual risk behaviors compared to more liberal areas like the West. Also, there was no mention of exclusion criteria. The authors should have controlled for sexual orientation and dating status, given both variables can explain differences in sexual behaviors. For instance, research has displayed married couples may have sexual practices and patterns that are different than single individuals. A study by Winfield and Whaley (2005) found that married college students tended to be nonusers of condoms. Therefore, it's important to control for variables that may skew results.

Religion and Hook-up Behaviors among Students

A study by Penhollow, Young, and Bailey (2007) focused on the relationship between religiosity and specifically hook-up behaviors among college students. A hook-up was defined by the authors as “A sexual encounter between people who are strangers or brief acquaintances. This encounter may involve sexual intercourse, or may be limited to behaviors other than intercourse. There is no expectation of any relationship with the other person beyond this sexual encounter” (p.340). Participants included a convenience sample of 459 undergraduate students enrolled in several courses at a southeastern public university. Courses included health and wellness classes. Participants were single and all under the age of 25. Religiosity was assessed by frequency of worship service attendance and degree of self-reported religious feeling. Hook-up behaviors were measured by indicators of whether the participant ever hooked-up, how often within the last year the participant hooked-up, how often the participant engaged in a sexual intercourse during a hook-up, how often oral sex was given during a hook-up, and how often one received oral sex during a hook-up. The majority of participants (88%) were White and 35% male and 65% female.

Results revealed that males (64%) were significantly more likely than females to have ever hooked-up. Compared to females, males reported significantly higher frequency of hooking-up. In terms of religion, both religious attendance and religious feelings were found to be related to hooking-up. Specifically, those with low worship service attendance and low religious feeling were more likely to report sexual activities related to hooking up. The relationship between religious service attendance and having ever hooked-up was supported for both genders. Yet, the relationship between religious

feeling and having hooked-up only existed for the male participants. In terms of other hook-up behaviors, only frequency of sexual intercourse as part of a hook-up was significantly inversely related to service attendance among females. For males, frequency of hooking-up and sexual intercourse as part of hooking-up was significantly inversely related to both service attendance and religious feeling. In general, only service attendance made a unique contribution in distinguishing between those who had and had not hooked-up and frequencies with sexual intercourse as part of hooking-up among females. For males, only religious feeling made a unique contribution to distinguish between those who had and had not hooked up and different frequencies of sexual intercourse as part of a hook-up.

A strength of the study included clearly defining what a hook-up constitutes. Given its many definitions in the literature and its subjective understanding, the study increased the construct's face validity by elucidating factors involved in a hook-up. There was also a decent sample size ($N = 459$) which helps to increase power of the significance. Another strength was the use of a logistic regression in order to measure whether the two religiosity variables could distinguish between students who did and did not engage in different hook up behaviors. Results could indicate whether any of the religion variables had a unique effect on certain hook-up behaviors which is valuable information in determining the buffer effects of religion.

Weaknesses of the study included the demographics of the sample. Participants were predominately White, with over half of the sample female. Thus, the association between religion and hook-up behaviors cannot be generalized to the college population. Levels of religiosity and sexual risk behaviors differ by gender and cultural factors

including ethnicity. In terms of variables measured, more indicators of religiosity and hook-up behaviors should've been implemented to get a better-rounded measure of each construct. For instance, according to Monad et al. (2011), religion includes three major dimensions including organizational religious activities, nonorganizational religious activities, and subjective or intrinsic religiousness. Therefore, the authors should have used more than two items to measure religion. In addition, other measures of hook-up behaviors other than frequency of hook-up behaviors including oral and vaginal intercourse during a hook-up should've been included. Measures should have included the relational aspect of hooking-up such as having friends with benefits or the tendency to have sex with someone one just met. Measures of hook-up behaviors in this study were broad and limited in capturing the college experience of a hook-up. Future studies need to take a multidimensional approach when measuring constructs such as religiosity and hook-up behaviors.

Effects of Religion on Dating and Hooking-up

A study by Brimeyer and Smith (2012) measured the influence of many variables including religion on dating and hooking-up among college students. The study was conducted at a mid-size state university in the Southeast. A total of 487 students filled out a survey consisting of demographic questions in addition to questions on dating, hooking-up, religiousness, and spirituality. Participants were 42.9% male and 57.1% female while 70.2% were White. In terms of assessing hook-ups, students were asked to define hooking-up and the number of times they hooked-up while at the university. Students were also asked to choose which religion they were raised with including Protestant,

Catholic, Jewish, Other, or none. Next students were asked to choose from a list of statements describing their feelings about the Bible (i.e., the Bible is the actual word of God and it is to be taken literally, word for word). Students were also asked to indicate how often they attended religious church services while in high school and at the University. Other items included how religious and spiritual one considered themselves to be and how aware they were of what their faith tradition taught them about sex, love, and romance. Results suggested that dating and hook-coexist on campus. The more time spent on campus, the increased frequency of dating and hooking up. As displayed, less than 21% of seniors hooked-up two or fewer times while 55.2% hooked-up six or more times. In terms of dating, 15% had been on two or fewer dates while 62.7% dated six times or more. Compared to other grade years, seniors were more likely to have dated and hooked-up multiple times. Race was shown to be a significant predictor of hooking-up with Black students less likely than Whites to hook-up. Two religion variables were significant predictors of hooking-up including church attendance in college and religious affiliation (Catholic). Specifically, students who attended church more often were less likely to hook-up while those who were Catholic were significantly more likely than Protestants to take a more literal approach of the Bible.

Brimeyer and Smith (2012) were innovative in capturing different aspects of religiosity that other studies have failed to capture, including whether one interpreted the bible as literal or the inspired work of God and knowledge of what their faith tradition has taught them about sex and other intimate feelings. Whether one takes a literal or more liberal approach to the bible can have implications for engagement in risky sexual behaviors. As the results displayed, Protestants who take a more literal approach to the

bible are less likely than Catholics to hook-up. Another strength of the study was the use of a qualitative bottom-up approach by asking students to give their definition of a hook-up. This method can get an accurate picture of what college students understand a hook-up to be rather than the use of an a priori definition.

Limitations included lack of generalizability given the sample was predominately White. Also, hooking-up was measured in terms of its frequency. The influence of religion and other variables on hooking-up could've yielded more insight if the authors would've added specific behaviors pertaining to hooking-up such as intercourse. In order to obtain results that are applicable to the population of interest, it's important to get a sample representative of that population and include measures that actually measure the intended construct, in this case hooking-up.

Intellectual Dimension of Religion and Risky Sex

Another study by Young, Denny, Penhollow, Palacios, and Morris (2015) took a different approach in measuring the relationship between religiosity and risky sexual behaviors. Instead, the authors aimed to measure the intellectual dimension of religiosity by developing a measure called Hiding the Word (HTW). The goal was to determine whether this variable accounted for the variance in sexual behaviors of college students above and beyond age and a generic measure of religiosity. HTW consisted of 31 multiple choice items that assessed Bible verse knowledge. A key word or phrase was omitted from each verse in which the participant had to select the missing word or phrase from four choices. Participants were not assessed on general Bible knowledge. New Testament verses were more represented than Old Testament verses with four verses

from the book of Proverbs, Matthew, and Mark. A generic measure of religious commitment was also included from the Religious Commitment Inventory (RCI-10) which assessed religious commitment without religious affiliation. Regarding sexual behavior participants were asked to indicate whether they participated in the following behaviors: sexual intercourse (penile-vaginal), receiving oral sex, giving oral sex, and intercourse (penis in anus). Participants were also asked the frequency of each behavior. Additional questions asked if the participant participated in unprotected penile-vaginal sex during their most recent sexual encounter. Participants were also asked how many people they had sex with in the last month.

The sample consisted of a convenience sample of 1,194 college students from three public universities, one from the extreme southeastern United States, mid-south, and southwest. All participants indicated they were single, heterosexual, and less than 25 years of age. Participants were 35% male and 65% female. Half of the sample was White (50.1%).

A majority of the participants (80%) indicated ever having sexual intercourse. Significantly more males than females reported ever having anal sex. Significant differences between males and females were also found for frequencies of participation in behaviors. Males reported greater frequencies than females for receiving oral sex and participation in anal intercourse. More females than males reported they had not had sex in the last month or sex with only one person. Males on the other hand were more likely to report having sex with two or more people in the last month. Results displayed that after controlling for age and generic religiosity, HTW scores made a significant contribution to distinguish between those who had, and had not engaged in the sexual

behaviors. For females, this was the case for sexual intercourse, giving oral sex, and anal intercourse. Higher HTW scores were associated with lower participation rates for the aforementioned behaviors. For males, HTW scores made a significant contribution toward sexual intercourse and receiving oral sex. HTW scores was less of a factor in accounting for the variation in the frequency of participation. For males HTW scores was a significant predictor of the frequency of participation in penile-vaginal intercourse, receiving oral sex, and number of sexual partners in the last month. HTW scores were only significant for the number of sexual partners in the last month for females. Lastly, age, religiosity, and bible verse knowledge did not make a significant contribution in distinguishing between those who had and had not engaged in unprotected penile-vaginal intercourse in their sexual encounter for males. For females, age and HTW scores did make a significant contribution such that those who were older and had higher scores were more likely to have had unprotected sex. Results displayed that more so than the frequency of sexual behaviors, HTW has a greater influence on determining whether or not a person has participated in a certain sexual behavior.

Strengths of the study included filling the gap in literature on the effects of the intellectual dimension of religion on sexual behaviors among college students. While most studies on religion focus more on its ritualistic aspect, this study was able to display that bible verse knowledge predicts sexual behaviors and distinguishes between those who have and have not engaged in certain sexual behaviors. The authors were wise in having a panel of experts rate each verse on the degree of influence on health behaviors. Another strength of the study was the inclusion of measures on oral (receiving and giving) and anal sex. Many studies that have looked at the risky sexual behaviors of

college students have failed to include measures on anal sex, so it was important that this study included a measure on that. Yet, the study also had some limitations. Given results were compared between males and females, results on differences need to be interpreted with caution given over half of the sample was Female. This limits the power to find a significant effect for males with a smaller sample size. Also, the relationships between variables were not assessed by ethnicity. Given ethnicity and race are sources of culture, the study could've provided more information on possible cultural effects and differences on bible verse knowledge. There may have been an effect of culture on engagement in sexual risk behaviors. In addition, sexual orientation was not taken into account. Research has shown differences in level of risky sex as a function of sexual orientation. Its possible Bible verse knowledge may have different meanings for people of various sexualities. This may have implications for sexual behaviors, specifically engagement/frequency of them.

African American Risky Sexual Behaviors

Religion and Risky Sex among AA College Women

A study by Thomas and Freeman (2011) examined the influence of religiosity and spirituality on sexual risk taking among African American women attending a historically black college and university (HBCU). A convenience sample of 100 students from a HBCU in Georgia was recruited to participate in the study. Students ranged in age from 18 to 24. Males and those who were not within the age range of 18 to 24 were excluded from the study. Students filled out a questionnaire on sexual activity and sexual risk-taking including condom use over the past 12 months, anal/penile-vaginal/oral sex,

number of sexual partners per year, and health behaviors such as being diagnosed with a STI. Measures on religion and spirituality were taken from the Brief Multidimensional Measure of Religiousness/Spirituality. Constructs measured included: daily spiritual experiences, values/beliefs, private religious practices, religious/spiritual coping, commitment, organizational religiousness, religious preference, and over-all self-ranking of religiousness.

Results displayed no significant differences in perceived norms of sexual risk-taking behaviors, knowledge, beliefs, attitudes, personal characteristics (SES), and beliefs of significant others by religious group, self-description of religiosity, or spirituality. It was also found that self-reported religiosity/spirituality and religious affiliation were not protective factors against sexual risk-taking.

A strength of the study included the use of a multidimensional approach in measuring different aspects of religion and spirituality. This increases the validity of both religious and spiritual measures in the study. This study was also innovative in focusing on whether religion and spirituality served as buffer effects against sexual risk-taking among specifically African American college women. Most studies on sexual risk taking of college students have a predominately White sample. There were also some limitations within the study. Given only 100 students participated in the study, results can't be generalized to all African American women in college. Also results can't be generalized to African American college students given only women were studied. There are not many studies that have assessed the buffer effects of religion and spirituality on risky sexual behaviors among African American students so it would've been nice if this study included males as well. In terms of exclusion criteria, there was no mention of excluding

those who were married. This may have influenced results given research has shown married women engage in higher levels of risk sexual behaviors. There could've also been an effect of school type. According to Thomas and Freeman (2011), research has shown an imbalance between males and females at HBCUs, potentially increasing the risk of STIs. Therefore, the study may have garnered more information if multiple schools, not just a HBCU were included in the study. Also, there should have been more items that assessed risky sexual behaviors other than frequency of condom use and type of sex. Given hook-up culture is prevalent across college campuses; measures should have included hook-up behaviors.

Religion and HIV Risk Behaviors of AA College Students

A study by Boyd-Starke, Hill, Fife, and Whittington (2011) measured the relationship between religiosity and HIV risk behaviors among African American students. A total of 256 students were recruited from two HBCUs in the southeast region of the US ranging in age between 18 and 26 years. Inclusion criteria included being African American, over the age of 18, unmarried, heterosexual, and sexually active. Students filled out measures from the Expressions of Spirituality Inventory (MacDonald, 2000) that measure five dimensions of spirituality. The constructs are cognitive orientation towards spirituality, experiential/phenomenological, existential well-being, paranormal beliefs, and religiousness. Risky sexual behaviors were assessed using the Youth Risk Behavior Survey (YDC). Results showed that overall; the five dimensions of religiosity were not significant predictors of risky sexual behaviors. Cognitive and existential well-being was the only dimensions that were significant negative predictors

of substance abuse. Substance abuse uniquely explained only 2.4% of the variance in risky sexual behavior scores. Therefore, the authors concluded that rather than traditional indicators of religiosity such as affiliation and church attendance, reflective and meaning producing aspects of spirituality are greater predictors of risky sexual behaviors. High scores on cognitive orientation towards spirituality and existential well-being indicate less likelihood to be at risk for HIV than high scores on other dimensions.

The authors were unique in their approach to include a multidimensional measure of spirituality as a predictor of risky sexual behaviors among African American college students. Spirituality is often ignored as a separate construct with many studies only using single item measures to assess the construct. Another strength was the population, focusing on African American college students' risk behaviors as a whole rather than a distinction between just male or just female Black college students. Studying a source of culture (ethnicity) brings us closer to understanding the cultural values within that particular group which is valuable information for the field. This is especially so given African American college students are underrepresented in college studies. Another strong point of the study was the inclusion criteria of being unmarried, heterosexual, and sexually active. Given marital status, sexual orientation, and sexual activity can confound results, the authors were wise in controlling for factors that can increase the endorsement of risky sexual behaviors.

There are some limitations to the study. One, the sample was predominately female, with 199 women and 57 men. Therefore, results can't be generalized African American college students. Also, risky sexual behaviors were not defined by the authors. The study could've been strengthened by offering example items from the Youth Risk

Behavior Survey. In addition, the study did not elucidate the exact sexual risk behaviors that certain dimensions of spirituality were predicting which made the study hard to follow. It's also apparent that the authors overgeneralized their results. Specifically, their conclusions based on the results of the study did not match their results. According to the authors, those with high scores on both cognitive orientation towards spirituality and existential well-being were less likely to be at risk for HIV. In fact, their regression analysis displayed that only cognitive orientation was a significant predictor of risky sexual behaviors. Existential well-being and cognitive orientation were found to be significant predictors of substance use. Although substance use is often associated with risky sexual behaviors, the authors should not have made the generalization that both variables served as a buffer against HIV risk behaviors. Perhaps if the authors would've explained factors, they considered risky could they allude to this finding.

Comparison of Sexual Risk Behaviors between AA Men and AA Women

One study by Taylor, Dilirio, Stephens, and Soet (1997), compared the sexual practices and risk-taking behaviors of African American male and female college students. A total of 649 students who were heterosexual, unmarried, sexually active, and between the ages of 18 and 25 were recruited for the study. Of the six institutions students attended in the southeast, three were predominately White and three were HBCUs. Sexual behaviors and practices were assessed by AIDS risk-reduction practices including condom use, partner communication, and risky behaviors. Sexual practices were measured via a 29-item safe sex questionnaire. Results suggested that overall; the women in the sample were more likely to practice safe sex behaviors. Specifically, the

college women in the study were more likely than their male counterparts to implement measures aimed at preventing HIV transmission. Thirteen out of 29 of the items on preventative measures were endorsed by the women. There was only one item in which men were more likely than women to practice, including “If I know my situation may lead to sex, I carry a condom with me.” This study was able to reveal gender differences within the African American community on safe sex behaviors and practices.

Particularly, African American college women were more likely than African American college men to engage in safe sex communication and preventative measures for specific sex acts.

Strengths of the study included the heterogeneity of the sample. Participants were recruited from six institutions rather than a convenience sample at one university. The authors did not focus on HBCUs but instead also recruited African American students at predominately White institutions which made the sample more generalizable. There was a decent sample size ($N= 649$) and relatively even representations of class standing. Also, the use of a safe sex questionnaire was an appropriate instrument to use given the aim of the study was to determine the differences in safe sex practices and behaviors between African American college males and females. Regarding the questionnaire, this study was unique in underscoring the level of safe sex practices college students engage in such as condom use and partner communication rather than focusing on specific risk behaviors.

Limitations of the study included the sample and safe sex questionnaire. While the aim of the study was to compare the sexual practices between males and females, there were more females (71%) than males (29%) in the study. Therefore, accurate differences between the subjects may have been confounded by the majority female

sample. Also, there was no mention of the validity of the safe sex questionnaire which begs whether the items truly measured safe sex practices. The study could have been strengthened by noting how the items were derived or mentioning the validity and reliability of the questionnaire.

AA Men who have Sex with Men and Men who have Sex with Women

Authors Browne, Clubb, Wang, and Wagner (2009) focused on high-risk sexual behaviors among African American men who have sex with men and men who have sex with women. Freshmen were recruited from 34 HBCUs in the south and mid-Atlantic. All freshmen who were African American, male, single, between the ages 17-19, and had a history of sexual activity were eligible to participate in the study. The survey assessed the frequency with which participants had engaged in vaginal sex, oral sex, anal sex, group sex, and same gender sex. Those who endorsed engagement in same-gender sex at least once was put in the men who have sex with men (MSM) group. Also, two direct measures (inconsistent condom use and sexual partners in the preceding three months) were used to predict risky sexual behaviors. STD infection history was used as an indirect measure of risky sexual behaviors. Covariates were also measured including: maternal educational type, type of neighborhood the participant grew up in, current living arrangements, importance of religion, high school cumulative GPA, school or college attended, age of onset of sexual activity, and drug or alcohol use prior to sexual activity.

The final sample size was 1837 participants. Around 94% of the participants were MSW (men who have sex with women) and 6% MSM. Of the total sample 35% did not consistently use condoms and 44% reported multiple sexual partners within the previous

three months. Five percent of participants had a history of a STD, one third's sexual initiation started at age 13 or before, and one sixth endorsed the use of alcohol or illegal drugs during a recent sexual encounter. In terms of differences between the MSW and MSM groups, those in the MSM group had a higher percentage of inconsistent condom use (44%) compared to the MSW group (34%). A greater percentage of MSM had multiple sexual partners in the preceding three months (54%) than MSW (43%). In terms of STD history, again a greater percentage of MSM (18%) had a history compared to MSW (4%). In addition, 55% of MSM versus 32% of MSW had initiated sexual activity before the age of 14 years. There were no significant differences between the groups on the covariates. Compared to MSW, MSM were 1.8 times more likely to inconsistently use condoms, have multiple sexual partners within the prior three months, and have a history of STDs. It was also found that in general, those who used substances prior to sexual activity and had initiated sex before the age of 14 years were more likely to be involved in risky sexual behaviors. Together results suggests that among African American college men, level of risky sexual behavior is a function of sexual orientation; MSM engage in higher levels of risky sexual behaviors than MSW.

The authors filled an important gap in literature by studying the differences in levels of risky sexual behaviors among African American college men who have sex with men, and men who have sex with women. The fact that data was collected from 34 HBCUs is also impressive given many college samples are taken from one university. In terms of variables measured, strengths include the inclusion of covariates such as neighborhood the participant grew up in, GPA, and school or college attended. It's not often that studies on risky sexual behaviors take into account covariates, let alone the

particular variables measured in the study. The study was insightful in not only accounting for vaginal, oral, and anal sex but group sex and same-gender sex as well. Studies on group and same-gender sex among college students are scarce, especially among African American college males.

Limitations include lack of generalizability given only freshman African American college males were sampled. Therefore, differences in level of sexual behaviors between MSM and MSW can't be generalized to the African American college male population. Also, only males were recruited from HBCUs in which sexual behaviors may be different depending on the demographics of an institution (predominately Black vs. predominately White). In terms of covariates measured, religion was assessed only in terms of importance (low vs. high). This does not take into account the multidimensionality of religion and therefore not an accurate measure of the construct of religion. In addition, there should have been more indicators of risky sexual behaviors measured other than inconsistent condom use, multiple sexual partners, and history of STDs. The study could've yielded more information by measuring differences in casual sex between the two groups such as hook-up behaviors.

Relationship Status, Psychological Orientation, Risky Sex

Winfield and Whaley (2005) studied the relationship between relationship status, psychological orientation, and sexual risk taking among heterosexual African American college students. A total of 223 heterosexual African American students at a predominately White university were recruited to participate in the study. Participants ranged in age from 17 to 70 with a mean age of 22.45 years. Besides demographic

questions on SES, relationship status, gender, and age participants were assessed on four indicators of risky sexual behaviors. These included abstinence, consistent condom use, inconsistent condom use, and no condom use. Psychological variables were also measured including perceived susceptibility of HIV/AIDS, perceived barriers to safer sex, and knowledge on AIDS risk behaviors.

Results displayed significant differences in relationship status with those living with a partner or were married endorsing more nonuse of condoms (26%) relative to other indicators of sexual behaviors (0% to 6%). There were twice as many participants in the nonuse of condoms group who were married (19%) than those living with partners (7%). In terms of the psychological variables, there were no significant between group differences. Results from the logistic regression with the levels of sexual risk behaviors as the outcome revealed no significant differences between the abstinent and no condom user's groups on the demographic and psychological variables. Yet, consistent condom users significantly differed from nonusers in terms of gender and perceived barriers. Compared to consistent use of condoms, females (63%) were less likely to engage in nonuse of condoms than male students (37%). Those in the nonuse group perceived more barriers to safe sex than consistent users. Compared to males, females were more likely to be inconsistent condom users versus nonusers (55% vs. 33%). Lastly, there was a significant effect of relationship status, with single individuals compared to married students less likely to be nonusers of condoms relative to inconsistent use. Together results displayed that married college students are more likely to engage in risky sexual behaviors such as low levels of condom use compared to single students. Also, there are

specific demographic and psychological differences between no condom and inconsistent condom users.

A strength of the study was the inclusion of psychological variables, specifically perceived susceptibility, AIDS knowledge, and barriers to safer sex as predictors of risky sexual behaviors. Sources of culture including religion, gender, and age are often the focus of differences in risky sexual behaviors; yet research has shown specifically in Betancourt's model of culture (2009) that psychological processes or a more proximal determinant of behavior versus population categories. The study was thus able to determine the motivational and cognitive factors of condom use for participants. The study was also able to fill the gap in literature on how relationship status among African American students differentiates those who are consistent, inconsistent, or nonusers of condoms. Particularly in this study, it was found that married participants engage in riskier forms of sex. A limitation of the study was not controlling for age. Given the aim of the study was to study college students, exclusion criteria should've been put in place to limit the age range to 18-25, the typical age range for college students. Its possible age could've confounded results given the likelihood of older adults to be married rather than single. Also, relationship status could've been impacted by the demographic of a predominately White university. The authors should've recruited participants from a HBCU as well to make results more generalizable. Lastly, risky sex was only defined in terms of abstinence and condom use. Results on the effects of both demographic and psychological factors could've yielded more results if risky sex was measured by more specific behaviors such as lack of safe sex communication, substance use prior or during sex, and different forms of birth control.

Correlates of HIV Risk Behaviors among AA Students

Bazargan, Kelly, Stein, Husaini, and Bazargan (2000) studied predicted correlates of risk behaviors among African American college students including HIV knowledge, motivation, and behavioral skills. Specifically, the Information-Motivation-Behavioral (IBM) skills model of AIDs preventative behaviors by Fisher and colleagues was used to understand and predict AIDS preventative acts. A total of 253 sexually active African American college students from two HBCUs were recruited in the spring of 1995. The information portion of the model measured knowledge about HIV transmission through sexual activities and non-sexual activities. AIDS risk-reduction motivation was measured via perceived vulnerability, fear/anxiety about contracting HIV, peer support for safer sex, experiences with condoms, attitudes on condoms, and monogamous relationships. Behavioral skills and personal efficacy in practicing safer sex were assessed such as the avoidance of substances before sexual activities and discussion of safer sex. A path analysis was constructed in which the informational variables and the demographic variables of age and gender predicted the motivational variables. Together, all variables predicted behavioral skills and then all variables predicted percentage of condom use.

Results displayed that although 38% the of sexually active students reported being in a monogamous relationship, only 27.3% reported using condoms at all times. Students seemed to be knowledgeable about sexual and nonsexual activities related to HIV/AIDS, with 65.7% correctly answering questions regarding HIV transmission through sexual activities and 65.2% correctly answering HIV transmission through nonsexual activities. Significant predictors of condom use percentage were greater HIV knowledge on sexual acts, male gender, lower age, non-monogamous relationship, more experiences with

condoms, and greater behavioral skills. Significant predictors of greater behavioral skills were more experiences with and positive attitudes towards condoms, a monogamous relationship, more peer support, greater HIV knowledge of sexual acts, and less perceived vulnerability. Significant indirect predictors of condom use percentage mediated through behavioral skills or motivational variables included greater peer support, positive condom attitudes, more HIV knowledge of sexual acts, more experiences with condoms, greater HIV knowledge of nonsexual acts, and younger age. Together results display that information and motivation influence behavioral skills while behavioral skills have significant effects on HIV/AIDS preventative behaviors. Results underscored the finding that African American male students, those who were more knowledgeable about HIV transmission through sexual activities, and those with positive experiences with previous use of condoms were more likely to use condoms recently.

A strength of the study was the implementation of a path analysis to study the interrelationships among the information, motivation, and behavioral skills variables to understand their influence on HIV/AIDS preventative behaviors among African American students. This filled the gap in literature on how information, motivational factors, and specific behavioral skills influence condom use among this population. Another strength was the exclusion of participants who were married or not sexually active as these factors would've confounded results. Limitations included the imbalance of female and male participants with a predominately female sample (61.7%). This limits the generalizability of results to the African American college community. It should also be noted that the sample was taken in 1995. It's plausible that sexual practices among African American have changed over time and that HIV/AIDS knowledge has increased.

Therefore, the relationships among variables may be different for today's African American college students. Also, given HIV/AIDS knowledge was measured, the authors should've controlled for whether participants ever received sex education.

Predictors of Condom Use among AA College Students

Burns and Dillon (2005) studied the relationship between self-reported frequency of condom use by one's self or partner during the past six months and lifetime, locus of control, self-efficacy, and future time orientation among African American college students. Participants included 154 single and sexually active students (although 106 surveys were usable) within the past year from a southeastern HBCU. The sample was 32.1% male and 67.9% female. Besides demographic questions including relationship status, students filled out measures from the Future Time Orientation Subscale (Jones, Banicky, Pomare, & Lasane, 1999) which describes cognitive, affective, and behavioral orientation to the future. Locus of control was assessed using the AIDS Multidimensional Health Locus of Control (MHLOC) Scale (Kelly et al., 1990) which measures three dimensions of control (internal control, chance/luck external control, and powerful-others external control). Self-efficacy was measured using the Behavioral Skills and Personal Efficacy Scale (Fisher, Fisher, Williams, & Malloy, 1994) which assesses personal efficacy in negotiating and practicing safer sex with one's partner. Lastly participants answered questions on the frequency of condom use during the past 6 months and percentage in their lifetime. Controlling for relationship status, a multiple regression was performed to test AIDS health locus of control, self-efficacy for safer sex, and future time orientation as predictors of frequency of condom use. A full model multiple regression

was also assessed to determine whether gender moderated the relationship between the predictor variables and outcome variable.

Together all three independent variables (locus of control, self-efficacy, and future time orientation) significantly predicted condom use in the past 6 months, $p < .001$. The variables accounted for 21% of the variance. Self-efficacy for safer sex practice made the biggest contribution ($\beta = .35$). With all other predictors held constant, self-efficacy positively predicted frequency of condom use the past 6 months. Future time orientation was also positively related to frequency of condom use during the past 6 months. Only self-efficacy and future time orientation were significant predictors of frequency of condom use. In terms of lifetime condom use, all three independent variables significantly predicted lifetime condom use, $p < .001$. Again, the predictors accounted for 21% of the variance. Self-efficacy for safer sex positively predicted lifetime frequency of condom use with all other predictors held constant. Future time orientation was also positively related to lifetime frequency of condom use. Together only self-efficacy and future time orientation were significant predictors of lifetime frequency of condom use. Results also found a significant effect of gender with male gender a predictor of condom use during the past 6 months and lifetime. For females, self-efficacy was a significant predictor of frequency of condom use during the past 6 months and lifetime. Future time orientation was also found to be a significant predictor of frequency of condom use within the past 6 months and lifetime among women. For both men and women, locus of control was not a significant predictor of condom use. Results underscore the influence that self-efficacy for practicing safer sex and future time orientation have on condom use among African American college students. Results also

suggest that for male students, future time orientation is not significantly associated with condom use relative to self-efficacy; displaying gender differences in the role future time orientation has in sexual activities. As Burns and Dillon (2005) postulated, women have more negative future consequences to contemplate compared to men with respect to condom use.

A strength of this study was the exploration of psychological factors other than HIV/AIDS knowledge to assess predictors of sexual risk behaviors. Specifically, this study contributes to the field of sexual studies the effects of locus of control, self-efficacy, and future time orientation on frequency of condom use among African American college students. Limitations included a greater percentage of female than male participants. Also, a convenience sample was taken from one university, a HBCU in the southeast. Both of these factors limit the generalizability of results to the greater African American college population. There was also no indication of an age range for inclusion criterion. Although the mean age was 21.1 years, participants older than the emerging adult age range (> 25) could've confounded results given age could moderate the relationship between the predictor variables and condom use. Also, data pertaining to sexual history, sexual activity, and condom use were self-report measures. Answers relied on memory and may have therefore been subject to socially desirable biases.

Innovation

A review of the literature suggests a number of shortcomings when it comes to measuring the relationship between religion, spirituality, and risky sexual behaviors among college students. For one, the variables of religion and spirituality are often

measured by common indicators such as religious affiliation, frequency of church attendance, and subjective religiousness. While some studies fail to take spirituality into account, our proposed study takes a multidimensional approach in measuring both aspects of religion and spirituality among students; therefore, increasing the content validity of both constructs.

Second, many studies that measure sexual risk behaviors among college students assess gender differences in the levels of sexual risk. Often men are underrepresented which limits the generalizability of risk behaviors among male college students. The proposed study takes this into account by conducting a descriptive analysis particularly focusing on male college students.

In relation to limits of generalizability, studies on college students tend to treat the sample as a homogenous group. This is a problem given samples tend to be predominately, female, White, and Christian. Students of color are often underrepresented. Thus, our study fills the gap in literature in examining the effects of religion, spirituality, and sexual attitudes on the risky sexual behaviors of African American men in college.

The proposed study is also innovative in using the Sexual Risk Survey (SRS) to measure sexual risk behaviors. The SRS was developed specifically to provide a broad measure of sexual risk behaviors among college students. The study will also provide more information by separating out risky sexual behaviors by its five factors found by Turchik and Garske. This will enable us to determine whether there are stronger effects of religion, spirituality, and sexual attitudes on certain facets of risk behaviors including

sexual risk taking with uncommitted partners, risky sexual acts, impulsive sexual behaviors, intent to engage in risky sexual behaviors, and risky anal sex acts.

Lastly, the mechanisms by which religion and spirituality affect risky sexual behaviors are often unexplored. The proposed study's use of a mediation model to test whether sexual attitudes significantly explain the relationship between religion, spirituality, and risky sexual behaviors is unique among African American male college students.

Specific Aims

The aim of the study is to investigate whether race, religion, spirituality, and sexual attitudes predict risky sexual behaviors (sexual risk taking with uncommitted partners, risky sexual acts, impulsive sexual behaviors, intent to engage in risky sexual behaviors, and risky anal sex acts) of young adult men. Specifically, the study aims to explore whether religion and spirituality serve as protective factors against risky sexual behaviors, particularly amongst Black young adult males, while underscoring the mechanisms that can explain this relationship.

Aim 1. Determine whether there is a significant relationship between race and religious/spiritual beliefs and practices.

Hypothesis 1.1

There will be a correlation between race and religious beliefs and practices, particularly that Black respondents will have higher religious beliefs and practices.

Hypothesis 1.2

There will be a correlation between race and spirituality, particularly that Black respondents will have higher spirituality.

Aim 2. Determine whether there is a significant relationship between race and sexual attitudes.

Hypothesis 2.1

There will be a positive correlation between race and sexual permissive attitudes, particularly that Black respondents will have higher sexual permissive attitudes.

Hypothesis 2.2

There will be a positive correlation between race and sexual birth control attitudes, particularly that Black respondents will have higher sexual birth control attitudes.

Hypothesis 2.3

There will be a positive correlation between race and communion, particularly that Black respondents will have higher sexual communion attitudes.

Hypothesis 2.4

There will be a positive correlation between race and instrumentality, particularly that Black respondents will have higher sexual instrumentality attitudes.

Aim 3. Determine whether there is a significant relationship between race and sexual risk taking.

Hypothesis 3.1

There will be a positive correlation between race and sexual risk taking, particularly that Black respondents will have higher sexual risk-taking behaviors.

Aim 4: Determine whether there is a significant relationship between religious/spiritual beliefs and practices and sexual risk taking.

Hypothesis 4.1

There will be a negative correlation between religious beliefs/practices and sexual risk taking, such that as religious beliefs/practices increases, sexual risk taking will decrease.

Hypothesis 4.2

There will be a negative correlation between spirituality and sexual risk taking, such that as spirituality increases, sexual risk taking will decrease.

Aim 5. Determine whether there is a significant relationship between religious/spiritual beliefs and practices and sexual attitudes

Hypothesis 5.1

There will be a negative correlation between religious beliefs/practices and sexual permissive attitudes, such that as religious beliefs/practices increases, sexual permissive attitudes will decrease.

Hypothesis 5.2

There will be a negative correlation between religious belief/practices and sexual birth control attitudes, such that as religious beliefs/practices increases, sexual birth control attitudes will decrease.

Hypothesis 5.3

There will be a negative correlation between religious beliefs/practices and sexual communion attitudes, such that as religious beliefs/practices increases, sexual communion attitudes will decrease.

Hypothesis 5.4

There will be a negative correlation between religious beliefs/practices and sexual instrumental attitudes, such that as religious beliefs/practices increases, sexual instrumental attitudes will decrease.

Hypothesis 5.5

There will be a negative correlation between spirituality and sexual permissive attitudes, such that as spirituality increases, sexual permissive attitudes will decrease.

Hypothesis 5.6

There will be a negative correlation between spirituality and sexual birth control attitudes, such that as sexuality increases, sexual birth control attitudes will decrease.

Hypothesis 5.7

There will be a negative correlation between spirituality and sexual communion attitudes, such that as spirituality increases, sexual communion attitudes will decrease.

Hypothesis 5.8

There will be a negative correlation between spirituality and sexual instrumental attitudes, such that as spirituality increases, sexual instrumental attitudes will decrease.

Aim 6. Determine whether there is a significant relationship between sexual attitudes and sexual risk taking.

Hypothesis 6.1

There will be a positive correlation between sexual permissive attitude and sexual risk taking, such that as sexual permissive attitude increases, sexual risk taking will increase.

Hypothesis 6.2

There will be a negative correlation between sexual birth control attitude and sexual risk taking, such that as sexual birth control attitude increases, sexual risk taking will decrease.

Hypothesis 6.3

There will be a positive correlation between sexual communion attitude and sexual risk taking, such that as sexual communion attitudes increases, sexual risk taking will increase.

Hypothesis 6.4

There will be a positive correlation between sexual instrumentality attitudes and sexual risk taking, such that as sexual instrumentality attitudes increases, sexual risk taking will increase.

Aim 7. Determine whether race, religion, spirituality, and sexual attitudes predict sexual risk taking.

Hypothesis 7.1

Race, religion, spirituality, and sexual attitudes will significantly predict sexual risk taking such that, particularly Black respondents will be higher on sexual risk taking, as religion/spirituality increases sexual risk taking will decrease, and as sexual attitudes increases sexual risk taking will also increase.

CHAPTER THREE

METHODS

Participants

Eligibility criteria for this study included identifying as a young adult male, being between the ages of 18 to 25, and being unmarried or not engaged. A total of ($N = 110$) participants completed the survey with a mean age of 21 years. Of the 110 participants, 58.2% ($N = 64$) identified as Black while 41.8% ($N = 46$) represented other races. In terms of faith, 46.4% ($N = 51$) of participants reported being both religious and spiritual. See Tables 1 and 2 for further demographics. All participants who partook in this study were volunteers.

Table 1. Demographics of Participants

	<i>N</i>	%
Participants	110	100
Age		
18	5	4.5
19	20	18.2
20	25	22.7
21	13	11.8
22	11	10.0
23	12	10.9
24	13	11.8
25	11	10.0
Black Race	64	58.2
Black or African American	45	40.9
African	5	4.5
Caribbean	13	11.8
Mixed or Multiracial	5	4.5
Other Race/Ethnicities		
Non-Black	46	41.8

Note. *N*= number. %= percentage.

Table 1. Continued

	<i>N</i>	%
Participants	110	100
Other Race/Ethnicities	46	41.8
Latin Origin	20	18.2
American Indian or Alaskan Native	1	0.9
Asian or Asian Indian	11	10.0
White	19	17.3
Native Hawaiian or Other Pacific Islander	2	1.8
Sexual Orientation		
Heterosexual/Straight	101	91.8
Bisexual	4	3.6
Gay/Homosexual	5	4.5
Dating/Relationship Status		
Dating, nonexclusive	10	9.1
Dating, exclusive	43	39.1
Not in a relationship	57	51.8
Place of Residence		
Dormitory	8	7.3
Apartment/House	46	41.8
Living with parents	55	50.0
Other	1	0.9

Note. *N*= number. %= percentage.

Table 2. Religious and Spiritual Demographics of Participants

	N	%
Participants	110	100
Religious Denomination		
Baptist	10	9.1
Methodist	2	1.8
Pentecostal	3	2.7
Catholic	3	2.7
Adventist	52	47.3
Protestant	2	1.41
Other	6	5.5
No denomination	14	12.7
Belief System		
Religious but not spiritual	17	15.5
Spiritual but not religious	28	25.5
Religious and Spiritual	51	46.4
Neither Religious or Spiritual	13	11.8

Note. N = number. % = percentage.

Measures

The survey contained demographic questions related to age, race/ethnicity, sexual orientation, religious denomination, residence, class standing, relationship status, and average family income. Participants were then asked questions related to religion, spirituality, sexual attitudes, and risky sexual behaviors.

Religion

Religion was measured utilizing the following subscales from the Brief Multidimensional Measurement of Religion and Spirituality Scale (BMMRS): Private Religious Practice, Organizational Religiousness, and Religious/Spiritual History. In addition, religion was assessed via the Mature Faith (Vertical Dimension) Scale by Benson and Elkin. The Private Religious Practice Subscale is a four-item scale with the first three questions ranging from 1 (several times a day), 2 (once a day), 3 (a few times a week), 4 (once a week), 5 (a few times a month), 6 (once a month), 7 (less than once a month), to 8 (never). A sample question is “How often do you read the Bible or other religious literature?” The last item on the scale, “How often are prayers or grace said before or after meals in your home?” is measured on a different scale, ranging from 1 (at all meals), 2 (once a day), 3 (at least once a week), 4 (only on special occasions), to 5 (never). A two-item short form of the organizational religiousness subscale will be utilized. Items include “how often do you attend religious services?” and “besides religious services, how often do you take part in other activities at a place of worship?” Both items range from 1 (never), 2 (less than once a year), 3 (about once or twice a year), 4 (several times a year), 5 (about once a month), 6 (2-3 times a month), 7 (nearly every

week), 8 (every week), to 9 (several times a week). A single item question adapted from the religious/spiritual history subscale will also be included. The item “strength of your religious/spiritual faith” ranges from 1 (low), 2 (medium), 3 (high), to 4 (does not apply). Lastly, a short item version of the intrinsic religious motivation scale will be created using the vertical dimension of the Mature Faith Scale. Three items will be adapted from the scale. A sample item includes “My faith shapes how I think and act each and every day.” All items range from 1 (strongly agree), 2 (agree), 3 (not sure), 4 (disagree), to 5 (strongly disagree). Findings from the General Social Survey in 1998 revealed that the subscales of the BMMRS had Cronbach’s alpha values ranging from 0.54 to 0.96 (Thomas & Freeman, 2011).

Spirituality

Spirituality was assessed using the Daily Spiritual Experiences and Religious/Spiritual History subscales of the BMMRS. The daily experiences scale is a 16-item measure on an individual’s perception of the transcendent in daily life, interaction with the transcendent, and involvement of the transcendent in life. The first 14 items are measured on a six-point scale, ranging from 1 (many times a day), 2 (every day), 3 (most days), 4 (some days), 5 (once in a while), to 6 (never or almost never). A sample item is “I feel God’s love for me, directly.” The last two items are scored on a different metric, ranging from 1(not at all close), 2 (somewhat close), 3 (very close), and 4 (as close as possible). One of the items asks “In general, how close do you feel to God?” The daily spiritual experiences scale has high internal consistency with alphas ranging from .91 to .95 across samples. Spirituality will also be measured using a single-

item question from the religious/spiritual history scale, “strength of your religious/spiritual faith.”

Sexual Attitudes

Sexual attitudes were measured via the 23-item Brief Sexual Attitudes Scale which assesses four aspects of sexual attitudes: permissiveness, birth control, communion, and instrumentality. The Permissiveness subscale consists of 10 items which measure attitudes on casual sexual behaviors. An example is the statement “I would like to have sex with many partners.” Birth Control is a 3-item subscale that measures sexual responsibility. This includes the item “Birth control is part of responsible sexuality.” The Communion subscale consists of 5 items on idealistic views of sexuality. A sample item is “Sex is a very important part of life.” Lastly the 5-item Instrumentality subscale measures the biological/practical aspect of sex. An item includes “Sex is primarily physical.” All items are measured on a five-point scale ranging from 1 (strongly agree with the statement), 2 (moderately agree with the statement), 3 (neutral- neither agree nor disagree), 4 (moderately disagree with the statement), to 5 (strongly disagree with the statement). The alphas are as follows for each subscale: permissiveness = .93, birth control = .84, communion = .71, and instrumentality = .77 (Hendrick, Hendrick, & Reich, 2006).

Risky Sex

Risky sexual behaviors were assessed using the Sexual Risk Survey (SRS). The 23-item scale was specifically constructed to take into account sexual behaviors among

college students; specifically, the frequency of engagement in sexual risk behaviors within the past 6 months. The scale contains 5 factors including: sexual risk taking with uncommitted partners, risky sexual acts, impulsive sexual behaviors, intent to engage in risky sexual behaviors, and risky anal sex acts. Sample questions include “How many partners have you had sex with?” and “how many times have you had sex with someone you don’t know well or just met?” Given each item requires a number response; items will be recoded as recommended into ordinal series of categories to reduce the variability in raw score totals. For example, item 1 (number of sexual behavioral partners), will be coded 0 = 0 partners, 1 = 1-2 partners, 2 = 3-4 partners, 3 = 5-9 partners, and 4 = 10+ partners. Yet, other items are coded differently. This scale displays internal consistency reliability with an alpha of .88. The Cronbach’s alphas for each subscale are the following: sexual risk taking with uncommitted partners = .88, risky sex acts = .80, impulsive sexual behaviors = .78, intent to engage in risky sexual behaviors = .89, and risky anal sex acts = .61. The total SRS also displays good test-retest reliability, with a 2-week test-retest reliability of .93. The test-retest reliabilities for the aforementioned subscales are .90, .89, .79, .70, and .58. There’s also been evidence for the scale’s convergent validity. It’s shown to be related to scales of sexual inhibitions, sexual desire, impulsive sensation seeking, etc. In terms of concurrent validity, all of the subscales except for intent to engage in risky sexual behaviors were related to higher reported sexual health consequences and greater lifetime health consequences.

Procedure

Participants were recruited utilizing various methodology, including email recruitment to psychology chairs and faculty at Historically Black Colleges and Universities (HBCUs) and other institutions, snowball sampling, text messaging, and advertisements by institutions and organizations on websites and social media pages. All participants were given a link to access the survey through Qualtrics Survey Questionnaire which contained an informed consent and measures on demographics, religion, spirituality, sexual attitudes, and risky sexual behaviors. Participants were given the option to be entered in a random drawing for a chance to win one of sixteen Amazon Gift Cards.

Analysis of the data was conducted using IBM SPSS Statistical Software. Before performing any analyses, certain variables were reverse coded so the highest value on a particular scale indicated the highest level of endorsement or agreement for that item. All sexual attitudes subscales were reverse coded along with the daily spiritual experiences, private religiousness, and intrinsic religiosity scales. We also created a dichotomized race variable, with a value of “1” indicating black race and “0” all other races.

Upon initial examination of the data, it was observed that older age, living in an apartment, and non-exclusive dating were associated with increased sexual risk behaviors. We therefore decided to control for the effects of these variables in subsequent analyses. This will be described further in the descriptives of our results.

Statistical Analyses

The research design of this study was non-experimental and cross-sectional. We conducted a partial correlation analysis to assess the association between race, religion, spirituality, sexual attitudes, and risky sexual behaviors controlling for the effects of age, non-exclusive dating, and living in an apartment. Next, we conducted six hierarchical multiple regression analyses to determine the influence of religion, spirituality, sexual attitudes, and race on total sexual risk taking, as well as the subscales of sexual risk taking with uncommitted partners, risky sex acts, impulsive sexual behaviors, intent to engage in risky sexual behaviors, and risky anal sex acts. Based on results from our multiple regressions, we conducted post-hoc analyses to determine the mediational effect of sexual permissive attitudes on the relationship between organizational religiousness and total sexual risk taking and intrinsic religiosity and total sexual risk taking. Simple linear regressions using the causal steps model were performed to determine the individual relationships between the variables. We used the bootstrapping strategy for testing mediation.

CHAPTER FOUR

RESULTS

Partial Correlations

Black Race and Religious/Spiritual Beliefs and Practices

The matrix of our partial correlation analysis controlling for age, non-exclusive dating, and living in an apartment can be seen in Table 3. There were significant small-moderate positive associations between Black race and daily spiritual experiences ($pr = .249, p = .010$), longing for the transcendent ($pr = .193, p = .047$), and private religious experiences ($pr = .226, p = .019$). There was not a significant association between Black race and organizational religiousness or intrinsic religiosity, $ps > .05$.

Black Race and Sexual Attitudes

There was a significant small-moderate negative association between Black race and sexual communion attitudes ($pr = -.192, p = .047$). There were no significant associations between Black race and sexual birth control, permissiveness, or instrumentality, $ps > .05$.

Black Race and Sexual Risk Taking

There was not a significant association between Black race and sexual risk-taking, $p > .05$.

Religious Beliefs/Practices and Sexual Attitudes

There was a large negative association between organizational religiousness and sexual permissive attitudes ($pr = -.466$, $p = .000$). Organizational religiousness was not significantly associated with sexual birth control, communion, or instrumentality attitudes, $p > .05$. There was a large negative association between private religious experiences and sexual permissive attitudes ($pr = -.457$, $p = .000$) and a significant small-moderate association between private religious experiences and sexual instrumentality attitudes ($pr = -.241$, $p = .012$). Private religious experiences were not significantly associated with sexual birth control or communion attitudes, $ps > .05$. There was a moderate-large negative association between intrinsic religiosity and sexual permissive attitudes ($pr = -.438$, $p = .000$); however, there was a small-moderate positive association between intrinsic religiosity and sexual communion attitudes ($pr = .198$, $p = .041$). Intrinsic religiosity was not significantly associated with sexual birth control or instrumentality attitudes, $ps > .05$. These results can be seen in Table 3.

Table 3. Partial Correlations of Study Variables

Variable	1	2	3	4	5	6	7	8
Black Race	-	.249***	.193*	.030	.226*	.134	.007	.095
Daily Spiritual	.249***	-	.789***	.549***	.726***	.730***	-.106	-.208**
Longing for Transcendent	.193*	.789***	-	.570***	.690***	.700***	-.073	-.353***
Organizational Religiousness	.030	.549***	.570***	-	.711***	.656***	-.071	-.466***
Private Religiousness	.226*	.726***	.690***	.711***	-	.697***	-.099	-.457***
Intrinsic Religiosity	.134	.730***	.700***	.656***	.697***	-	-.124	-.438***
Birth Control	.007	-.106	-.073	-.071	-.099	-.124	-	.220*
Permissiveness	.095	-.280**	-.353***	-.466***	-.457***	-.438***	.220*	-

Note. Adjusted for age, living in an apartment, and nonexclusive dating.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 3. Continued

Variable	1	2	3	4	5	6	7	8
Communion	-192*	.202*	.216*	.089	.226*	.198*	.090	-.081
Instrumentality	-.149	-.108	-.0194*	-.288**	-.241*	-.188	-.034	.314***
SR_Uncommitted	-.023	-.057	-.134	-.155	-.0116	-.267**	.154	.436***
SR_Acts	-.012	-.125	-.088	-.121	-.143	-.181	.112	.224*
SR_Impulsive	-.052	.100	-.027	-.056	-.012	-.103	-.008	.319***
SR_Intent	-.091	.050	.051	-.003	.023	-.024	.019	-.174
SR_Anal	-.085	-.073	-.102	-.175	-.148	-.152	.201*	.340***
SR_Total	-.062	-.057	-.116	-.161	-.126	-.255**	.134	.442***

Note. Adjusted for age, living in an apartment, and nonexclusive dating.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 3. Continued

Variable	9	10	11	12	13	14	15	16
Communion	-	.122	-.100	-.038	-.063	-.086	.074	-.075
Instrumentality	.122	-	-.189	-.082	-.160	.206*	.164	.168
SR_Uncommitted	-.100	.189	-	.391***	.619***	.435***	.367***	.877***
SR_Acts	-.038	-.082	.391***	-	.265**	.162	.200*	.659***
SR_Impulsive	-.063	.160***	.619***	.265**	-	.524***	.372***	.773***
SR_Intent	-.086	.206*	.435***	.162	.524	-	.211*	.569
SR_Anal	.047	.164	.367***	.200*	.372***	.211***	-	.499***
SR_Total	-.075	.168	.877***	.659***	.773***	.569***	.499***	-

Note. Adjusted for age, living in an apartment, and nonexclusive dating.

* $p < .05$, ** $p < .01$, *** $p < .001$

Multivariate Regression

The matrix of our partial correlation analysis controlling for age, non-exclusive dating, and living in an apartment can be seen in Table 3. There were significant small-moderate positive associations between Black race and daily spiritual experiences ($pr = .249, p = .010$), longing for the transcendent ($pr = .193, p = .047$), and private religious experiences ($pr = .226, p = .019$). There was not a significant association between Black race and organizational religiousness or intrinsic religiosity, $ps > .05$.

Total Sexual Risk Taking

Overall, religion, spirituality, sexual attitudes, and race were significant predictors that in combination contributed to total sexual risk taking ($F(13,96) = 5.85, p < .05$). Intrinsic religiosity predicted a moderate decrease in total sexual risk taking ($\beta = -.273, p < .05$). Sexual permissive attitudes predicted a moderate-large increase in total sexual risk taking ($\beta = .417, p < .05$). Neither spirituality nor race were significant independent predictors of total sexual risk taking, $ps > .05$.

Sexual Risk Taking with Uncommitted Partners

Overall, religion, spirituality, sexual attitudes, and race were significant predictors that in combination contributed to sexual risk taking with uncommitted partners ($F(13, 96) = 5.14, p < .05$). Intrinsic religiosity predicted a moderate decrease in sexual risk taking with uncommitted partners ($\beta = -.311, p < .05$). Sexual permissive attitudes predicted a moderate-large increase in sexual risk taking with uncommitted partners ($\beta =$

.397, $p < .05$). Neither spirituality nor race were significant independent predictors of total sexual risk taking, $ps > .05$.

Risky Sex Acts

Overall, religion, spirituality, sexual attitudes, and race were significant predictors that in combination contributed to risky sex acts ($F(13, 96) = 2.51, p < .05$). However, none of the individual predictor variables (religion, spirituality, sexual attitudes, race) were significant independent predictors of risky sex acts, $ps > .05$.

Impulsive Sexual Behaviors

Overall, religion, spirituality, sexual attitudes, and race were significant predictors that in combination contributed to impulsive sexual behaviors ($F(13, 96) = 3.13, p < .05$). Both daily spiritual experiences ($\beta = .379, p < .05$) and sexual permissive attitudes ($\beta = .377, p < .05$) predicted a moderate-large increase in impulsive sexual behaviors. Religion nor race were significant independent predictors of impulsive sexual behaviors, $ps > .05$.

Risky Anal Sex Acts

Overall, religion, spirituality, sexual attitudes, and race were significant predictors that in combination contributed to risky anal acts ($F(13, 96) = 3.13, p < .05$). Sexual permissive attitudes predicted a moderate increase in risky anal sex acts ($\beta = .313, p < .05$). Religion, spirituality, nor race were significant independent predictors of risky anal sex acts, $ps > .05$.

Table 4. Standardized Beta Weights of Hierarchical Regression Analyses Predicting Sexual Risk-Taking Subscales

Model	Independent Predictors	Dependent Variables					
		SR_Uncommitted	SR_Acts	SR_Impulsive	SR_Intent	SR_Anal	SR_Total
1	Age	.134	.169	-.016	.156	.074	.133
	Living in an apartment	.165	.155	.113	.002	.249*	.189*
	Nonexclusive Dating	.307***	.267**	.308***	.076	.110	.354***
2	Organizational Religiousness	-.002	.009	.003	-.009	-.104	-.016
	Daily Spiritual Experiences	.307	-.017	.464**	.093	.138	.269
	Longing for the transcendent	-.083	.105	-.161	.081	-.011	-.033
	Private Religiousness	.029	-.069	-.024	.011	-.079	-.002
	Intrinsic Religiosity	-.424**	-.182	-.306*	-.148	-.113	-.382**
3	Birth Control	.070	.036	-.057	.013	.127	.043
	Permissiveness	.369***	.214	.336**	.184	.284*	.381***
	Communion	-.078	.014	-.060	-.133	.072	-.048
	Instrumentality	.089	-.159	.076	.227*	.061	.055
4	Black race	-.130	-.051	-.194	-.199	-.134	-.174

Note. SR = Sexual Risk.

* $p < .05$, ** $p < .01$, *** $p < .001$

Post Hoc Analyses

Organizational Religiousness Predicting Sexual Risk Taking

We used the causal steps strategy running a series of regressions to assess for mediation as outlined by Baron and Kenny (1986). According to this strategy, there must be a significant relationship between the independent and dependent variable, between the independent variable and mediator variable, and between the mediator variable and dependent variable. However, the effect of the independent variable on the dependent variable must no longer be significant or be significantly reduced once the mediator variable is included in the model. Our results demonstrate that organizational religiousness is a significant predictor of decreased total sexual risk-taking ($\beta = -.201, p < .05$). Organizational religiousness also significantly predicts decreased sexual permissive attitudes ($\beta = -.479, p < .001$). Sexual permissive attitudes significantly predict total sexual risk-taking ($\beta = .512, p < .001$). A simultaneous multiple regression was used to determine the influence of organizational religiousness and sexual permissive attitudes on total sexual risk-taking. When sexual permissiveness was included in the model, organizational religiousness was no longer a significant predictor of sexual risk-taking ($p > .05$). See Figure 1 for results.

We used a simple mediation analysis to test the hypothesis that organizational religiousness predicts sexual risk-taking through the indirect effect of sexual permissive attitudes using the bootstrapping strategy. Results indicate that sexual permissiveness significantly mediates the relationship between organizational religiousness and sexual risk taking, $ab' = -.246, 95\% \text{ CI } [-.364, -.157]$. As organizational religiousness increases

by one standard deviation on the Organizational Religiousness Subscale, total sexual risk-taking decreases by .246 standard deviations via the effect of sexual permissive attitudes.

Intrinsic Religiosity Predicting Sexual Risk Taking

The same methods employed above were used to assess mediation of the relationship between intrinsic religiosity and sexual risk taking through the indirect effect of sexual permissive attitudes. Intrinsic religiosity significantly predicted decreased sexual risk taking ($\beta = -.203, p < .05$). Intrinsic religiosity also significantly predicted decreased sexual permissive attitudes ($\beta = -.407, p < .001$), and sexual permissive attitudes significantly predicted increased total sexual risk taking ($\beta = .512, p < .001$). A simultaneous multiple regression was used to determine the influence of intrinsic religiosity and sexual permissive attitudes on total sexual risk-taking. When sexual permissiveness was included in the model, intrinsic religiosity was no longer a significant predictor of sexual risk-taking ($p > .05$). See Figure 2 for results.

A simple mediation analysis was utilized to test the hypothesis that intrinsic religiosity predicts sexual risk-taking through the indirect effect of sexual permissive attitudes using the bootstrapping strategy. Results indicate that sexual permissive attitudes significantly mediate the relationship between intrinsic religiosity and sexual risk taking, $ab' = -.213, 95\% \text{ CI } [-.330, -.124]$. As intrinsic religiosity increases by one standard deviation on the intrinsic religiosity subscale, total sexual risk-taking decreases by .124 standard deviations via the effect of sexual permissive attitudes.

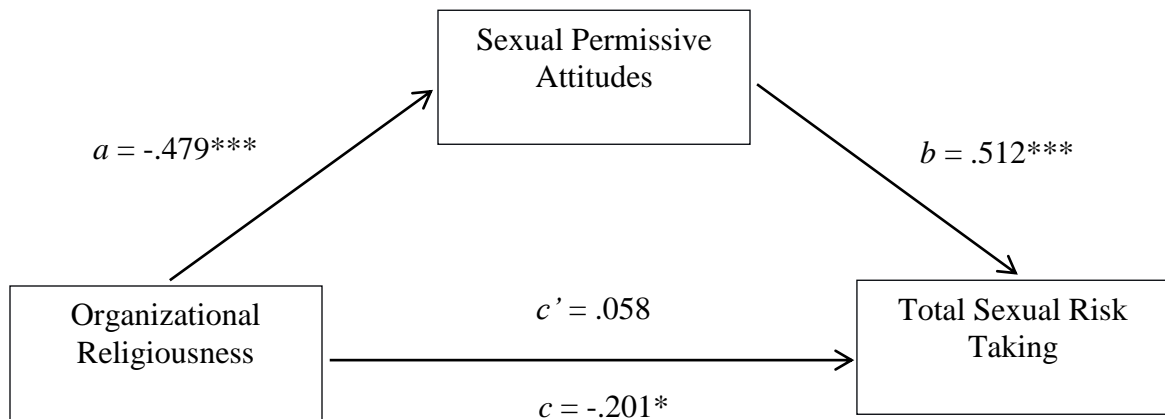


Figure 1. The standardized regression coefficients for the relationship between organizational religiousness and total sexual risk taking as mediated by sexual permissive attitudes; *a* is effect of organizational religiousness on sexual permissive attitudes; *b* is effect of sexual permissive attitudes on total sexual risk taking; *c* is direct effect of organizational religiousness on total sexual risk taking; *c'* is total effect of organizational religiousness on total sexual risk taking.

* $p < .05$, ** $p < .01$, *** $p < .001$

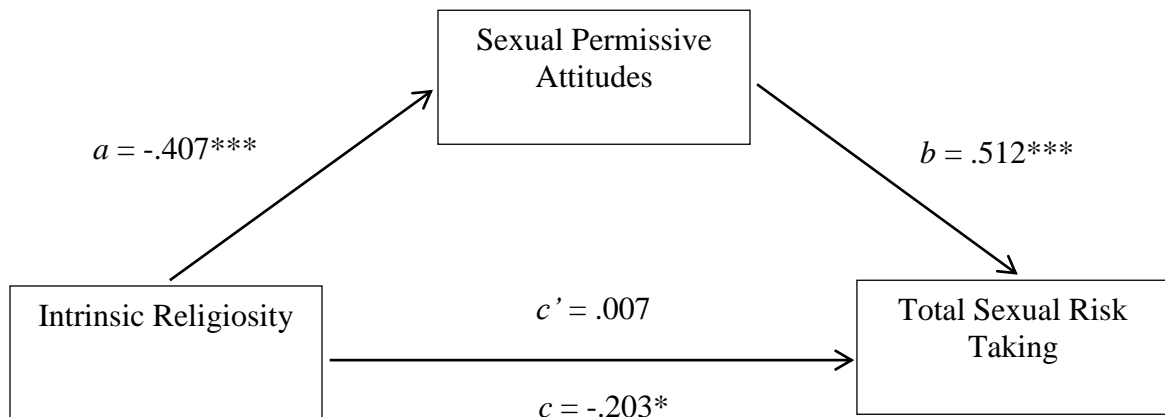


Figure 2. The standardized regression coefficients for the relationship intrinsic religiosity and total sexual risk taking as mediated by sexual permissive attitudes; *a* is effect of intrinsic religiosity on sexual permissive attitudes; *b* is effect of sexual permissive attitudes on total sexual risk taking; *c* is direct effect of intrinsic religiosity on total sexual risk taking; *c'* is total effect of organizational religiousness on total sexual risk taking. * $p < .05$, ** $p < .01$, *** $p < .001$

Daily Spiritual Experiences and Sexual Risk Taking

We created a correlation matrix to determine the association between the items on the daily spiritual experiences scale and items on the impulsive sexual behaviors scale. There was a significant moderate negative association between the daily spiritual experiences item “I ask for God’s help in the midst of daily activities” and impulsive sexual behaviors item “How many times have you left a social event with someone you just met?” ($r = .263, p = .005$).

Results indicated there was a significant small-moderate positive association between the daily spiritual experiences item “I feel thankful for my blessings” and impulsive sexual behaviors item “How many partners have you engaged in sexual behavior with but not had sex with?” ($r = -.225, p = .018$). There was a significant moderate-large positive association between the daily spiritual experiences item “I feel selfless caring for others” and the impulsive sexual behaviors item “How many partners have you engaged in sexual behavior with but not had sex with?” ($r = -.400, p = .000$) and significant small-moderate association between the daily spiritual experiences item and impulsive sexual behaviors item “How many times have you “hooked up” but not had sex with someone you didn’t know or didn’t know well?” ($r = -.230, p = .016$).

CHAPTER FIVE

DISCUSSION

The young adult population, particularly college students represent a group in which high frequency sexual risk taking occurs (Turchik & Garske, 2008). Amongst this population, previous studies have demonstrated gender differences in high-risk sexual practices. According to Granados et al. (2020), traditional gender roles have been associated with risky sexual behaviors, with men often reporting taking on a more active role (i.e., taking initiative for a sexual encounter) versus women. Additionally, men have often reported more sexual risk behaviors than females. A review of the literature suggests a number of limitations when it comes to studying the correlates of sexual risk behaviors among the young adult population. Young adult men have often been underrepresented in these studies, limiting the generalizability of sexual risk behaviors amongst this population. With young adult black men facing a double dilemma of being disproportionately affected by STD's and STI and representing an age range characterized by engagement in high-risk sexual behaviors, more studies are needed that examines factors related risky sexual behaviors among this group. Thus, the current study sought to examine the relationship between race, religion, spirituality, sexual attitudes, and risky sexual behaviors, with the aim to determine whether religion, spirituality, and sexual attitudes predict risky sexual behaviors among Black young adult men.

Results from our study suggest that race was significantly associated with religious/spiritual beliefs and practices and sexual attitudes, however race was not significantly associated with sexual risk-taking behaviors. Specifically, Black race was significantly positively associated with religion and spirituality, with participants who

indicated that they were Black scoring higher on the daily spiritual experiences, longing for the transcendent, and private religious experiences subscales than participants in the “other” category. Results supports previous findings that compared to White individuals, Black individuals feel more strongly about religious beliefs, attend services more frequently, and pray more frequently (Chatters et al., 2009). A study by Gallup and Lindsay (1999) also found that African Americans overrepresent national rates of church membership, church attendance, and beliefs that religion is very important in their lives. The association between Black race and spirituality in our study underscores the ways in which this population perceives the transcendent which results suggests is more of an internal experience that is experiential and relational in nature. Results also revealed that amongst our sample, Black race was not significantly associated with organizational religiousness or intrinsic religiosity. With spirituality conceptualized as an internal experience compared to religion which has been understood as more external and institutional, it is not surprising that there was not an association between Black race and organizational religiousness. Those with a spiritual connection with the transcendent may not feel the need to attend religious services. Results are also reflective of the trend in young adults and church attendance. According to Manglos-Weber et al. (2016), young adults today are less likely than their elders to be involved in organized religion, yet, are more likely to be engaged in exploring multiple dimensions of religious beliefs and practices. Further exploration on the young adult Black experience in the church would be helpful in understanding this phenomenon.

In terms of sexual attitudes, race was not significantly associated with sexual birth control, permissiveness, or instrumentality attitudes. However, Black race was inversely

associated with sexual communion attitudes, which in our study, means that being in the other race category was associated with sexual communion attitudes, or idealistic views of sex. While spirituality and sexual communion attitudes were positively associated in our study and Black race being associated with spirituality, it's surprising that there was not a relationship between Black race and idealistic views of sex. Research on racial differences in sexual attitudes would benefit from determining variables or mediating factors that explains this difference. Lastly, race was not significantly associated with sexual risk taking, suggesting that other predictor or mediating variables may better explain sexual risk taking among our sample.

In examining the association between religious and spiritual beliefs/practices and sexual attitudes, all five of our religion and spirituality variables (organizational religiousness, private religious experiences, intrinsic religiosity, daily spiritual experience, and longing for the transcendent) were significantly inversely related to sexual permissive attitudes. Endorsing higher levels of spirituality, private religious experiences, internal religious motivation, and involvement with a religious institution (church, temple, etc.) or religious activities was associated with lower levels of sexual permissive attitudes. The responses of our sample support research findings on the relationship between religion and sexual attitudes. A study on the relationship between religion, spirituality, and sexual permissive attitudes among college students also found private religious experiences to be negatively associated with sexual permissive attitudes. The study also found that among male students, high self-reported spirituality was related to lower sexual permissive attitudes (Brelsford et al., 2011). With sexual permissive attitudes being the only sexual attitude subscale to be significantly associated with all of

our religious and spiritual variables, results demonstrate that one's religious/spiritual beliefs and practices are a stronger determinant of casual sexual behaviors versus behaviors related to sexual responsibility (birth control), idealistic views of sex (communion), or biological/practical views of sex (instrumentality). A standout in our findings displayed that both intrinsic religiosity and spirituality were positively versus inversely related to sexual communion attitudes. In other words, a higher religious internal motivation and longing for the transcendent were associated with more idealistic views of sex. There seems to be a connection between more internal phenomenon of religion and spirituality and idealistic views of sex. The relationship between sexual communion attitudes and longing for the transcendent which is associated with spirituality is not surprising. Both constructs seem to have an experiential and relational aspect to connections. For example, a sample item from the sexual communion subscale consists of "At its best, sex seems to be the merging of two souls" which sounds more spiritual. Future research on the relationship between religion, spirituality, and sexual attitudes is needed to determine if these findings generalize across other populations and studies.

While organizational religiousness and private religious experiences were not significantly associated with sexual risk behaviors, intrinsic religiosity was inversely related with sexual risk taking. It appears that the use of religion regardless of social or external pressures is more strongly protective against sexual risk behaviors versus more external aspects of religion (organizational religiousness). While organizational or private religious experiences were not significantly associated with sexual risk taking, mediating

variables such as sexual attitudes may better explain this relationship. In our study, spirituality was not significantly associated with sexual risk taking.

Not surprisingly, sexual permissive attitudes were significantly associated with total sexual risk-taking behaviors. Endorsing higher levels of sexual permissiveness or casual sexual beliefs was associated with higher levels of total sexual risk taking. Sexual birth control, communion, and instrumentality attitudes were not significantly associated with total sexual risk taking. However, there was a significant positive association between sexual birth control attitudes and risky anal sex acts; suggesting that those who endorse or believe more in sexual responsibility may feel more comfortable engaging in risky anal sex acts if there's protection. Our findings also displayed a significant positive association between sexual instrumental attitudes and intent to engage in risky sexual behaviors. Therefore, endorsing higher levels of instrumental or biological/practical aspect of sex was associated with increased intent to engage in risky sexual behaviors. This seems to be a fitting association, given those who have an intent to have sex or hook-up with someone likely has beliefs that align with practical or instrumental aspects of sex including beliefs that sex is physical and the main purpose of sex is to enjoy one's self. Relational and emotional beliefs pertaining to sex do not seem relevant to instrumental views of sex which may help to explain why those with these beliefs may engage in more hook-ups that places less emphasis on emotional connectivity. More research is needed on the association between sexual attitudes and different facets of sexual risk behaviors which can help explain correlates of sexual risk behaviors across culturally different populations.

In our multivariate analysis with race, religion, spirituality, and sexual attitudes predicting sexual risk-taking behaviors, only religion and sexual attitudes predicted total sexual risk-taking behaviors. In particular, intrinsic religiosity and sexual permissive attitudes were significant independent predictors of sexual risk taking. Race and spirituality were not significant independent predictors of sexual risk taking in our model. This supports our theory that the relationship between religion (organizational religiousness or private religious experiences) and sexual risk taking may be better explained through the indirect effect of sexual attitudes, specifically sexual permissive attitudes.

A standout finding in our multivariate analyses was the finding that among our sample, both daily spiritual experiences and sexual permissive attitudes moderately predicted increased impulsive sexual behaviors. However, our post-hoc analyses demonstrated that an increased sense of gratitude, compassion, and mercy (factors of the daily spiritual experiences items that were positively associated with impulsive sexual behaviors) is associated with an increased number of sexual behavioral partners in which intercourse did not take place. While a sense of connection is an important concept in spirituality, it could be that for young adult men, connectivity with others is emphasized that doesn't depend solely on physical aspects of connection. Further exploration on the dimensions of spirituality that predict impulsivity related to sexual behaviors is needed to understand this phenomenon. In our post hoc analyses, we examined intrinsic religiosity as a predictor of sexual risk through the indirect effect of sexual permissive attitudes and organizational religiousness as a predictor of sexual risk taking through the indirect effect of sexual permissive attitudes. In both of our mediation analyses, when we controlled for

sexual permissive attitudes, organizational religiousness and intrinsic religiosity did not significantly predict sexual risk taking. However, both organizational religiousness and intrinsic religiosity significantly predicted sexual risk taking through the indirect effect of sexual permissive attitudes. This finding is supported by previous studies, such as the one by Luquis et al. (2011) which found that among college males, religion, spirituality, and sexual attitudes influenced their sexual behaviors.

Prevention and Clinical Implications

Our results suggest that in our sample, religious beliefs and practices acted as a buffer against risky sexual behaviors. Specifically, organizational religiousness and intrinsic religiosity predict sexual risk taking through the indirect effect of decreased sexual permissive attitudes. As organizational religiousness and intrinsic religiosity increase, sexual risk-taking decreases through the indirect effect of decreased sexual permissive attitudes. Understanding the correlates of risky sexual behaviors is crucial given the high rates of young adults, particularly college students who engage in sexual risk behaviors and fact that African Americans account for a higher proportion of all new HIV diagnoses and people living with HIV compared to other races/ethnicities. In understanding the buffer effects of religion on sexual risk behaviors, our findings can inform culturally tailored interventions within education and clinical setting by integrating and emphasizing religion to promote safe sex practices for particular cultural groups. Addressing religion in prevention or education programs regarding sexual risk behaviors may be particularly beneficial for Black young adult men.

Strengths and Limitations

While our study exemplified strengths in 1) utilizing a multidimensional approach to assess our variables of interest (religion, spirituality, sexual attitudes, and risky sexual behaviors) which allowed us to determine more specified relationships, 2) producing more generalizable results on the relationship between religion, spirituality, sexual attitudes, and risky sexual behaviors among young adult Black men, and 3) having educational and clinical implications for intervention and prevention, some limitations exist.

Given the sensitive and arguably stigmatizing topics measured in our study (religion, spirituality, sexual attitudes, and risky sexual behaviors) results may have been influenced by a social desirability bias. Some participants may have underreported their sexual risk behaviors due to feelings of shame or fears related to anonymity while others may have overexaggerated their sexual activity, which according to Corneille et al. (2008) may be considered desirable by men. Thus, results should be interpreted with caution.

Improvements in our study design could strengthen future results. For instance, we used a dichotomized race variable to determine the relationship among our variables with one category for Black participants and all other racial groups in an “other” category. However, analyses assessing the relationship among our variables for particular racial groups represented in our study and how they compared to our Black participants could have produced more fruitful results. Additionally, the relationship between our variables could have been moderated by factors such as education and sexual orientation which was not examined in our study. Lastly, participants entered numeric responses for

the sexual risk session which required coding. Rather than entering a numeric value, some participants used quantifiers such as “several” or “plenty of times” which required subjectivity by the investigator in choosing a numeric value for those responses.

An additional limitation of the study is our sample size of 110 participants. A bigger sample size would have yielded greater statistical power that would have allowed us to run more complex analyses in assessing different associations and relationships among our variables.

Future Research

While our studied focused exclusively on the young adult population, future studies should assess the effects of religion and spirituality on sexual attitudes and risky sexual behaviors among other age groups to compare and determine cohort differences among Black men. Furthermore, the majority of our young adult sample were recruited from colleges and university, therefore future studies on religion, spirituality, sexual attitudes, and risky sexual behaviors of young adult men should include more diverse, representative groups including those exclusively in the workforce, other organizational setting, and various geographical locations for generalizability. It’s important to consider that different regions, states, and countries have differing cultural beliefs and practices that impact behaviors such as sexual risk taking. Further research on the relationship between religion, spirituality, sexual attitudes, and risky sexual behaviors especially among young adult Black men should be conducted outside the U.S. to determine additional cultural influences and whether religion still applies as a buffer effect against sexual risk taking.

REFERENCES

- Adefuye, A. S., Abiona, T. C., Balogun, J. A., & Lukobo-Durrell, M. (2009). HIV sexual risk behaviors and perception of risk among college students: implications for planning interventions. *BMC public health*, 9(1), 281.
- Ahrold, T. K., Farmer, M., Trapnell, P. D., & Meston, C. M. (2011). The relationship among sexual attitudes, sexual fantasy, and religiosity. *Archives of sexual behavior*, 40(3), 619-630.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American psychologist*, 55(5), 469.
- Bazargan, M., Kelly, E. M., Stein, J. A., Husaini, B. A., & Bazargan, S. H. (2000). Correlates of HIV risk-taking behaviors among African-American college students: the effect of HIV knowledge, motivation, and behavioral skills. *Journal of the National Medical Association*, 92(8), 391.
- Boyd-Starke, K., Hill, O. W., Fife, J., & Whittington, M. (2011). Religiosity and HIV risk behaviors in African-American students. *Psychological reports*, 108(2), 528-536.
- Breisford, G. M., Luquis, R., & Murray-Swank, N. A. (2011). College students' permissive sexual attitudes: Links to religiousness and spirituality. *The International Journal for the Psychology of Religion*, 21(2), 127- 136.
- Brimeyer, T. M., & Smith, W. L. (2012). Religion, race, social class, and gender differences in dating and hooking up among college students. *Sociological Spectrum*, 32(5), 462-473.
- Browne, D. C., Clubb, P. A., Wang, Y., & Wagner, F. (2009). Drug use and high-risk sexual behaviors among African American men who have sex with men and men who have sex with women. *American journal of public health*, 99(6), 1062-1066.
- Burns, M. J., & Dillon, F. R. (2005). AIDS health locus of control, self-efficacy for safer sexual practices, and future time orientation as predictors of condom use in African American college students. *Journal of Black Psychology*, 31(2), 172-188.
- Burris, J. L., Smith, G. T., & Carlson, C. R. (2009). Relations among religiousness, spirituality, and sexual practices. *Journal of Sex Research*, 46(4), 282-289.
- Caico, C. (2014). Sexually risky behavior in college-aged students. *Open Journal of Preventive Medicine*, 4(05), 354.
- Chatters, L. M., Taylor, R. J., Bullard, K. M., & Jackson, J. S. (2009). Race and ethnic

- differences in religious involvement: African Americans, Caribbean blacks and non-Hispanic whites. *Ethnic and racial studies*, 32(7), 1143-1163.
- Cooper, M. L. (2002). Alcohol use and risky sexual behavior among college students and youth: evaluating the evidence. *Journal of Studies on Alcohol, supplement*, (14), 101-117.
- Davis, C., Sloan, M., MacMaster, S., & Kilbourne, B. (2007). HIV/AIDS knowledge and sexual activity: An examination of racial differences in a college sample. *Health & Social Work*, 32(3), 211-218.
- Granados, R., Moyano, N., & Sierra, J. C. (2020). Behavioral intention to have risky sex in young men and women: The role of sexual excitation and assertiveness. *Plos one*, 15(5), e0232889.
- Hendrick, C., Hendrick, S. S., & Reich, D. A. (2006). The brief sexual attitudes scale. *Journal of Sex Research*, 43(1), 76-86.
- LaBrie, J. W., Pedersen, E. R., Thompson, A. D., & Earleywine, M. (2008). A brief decisional balance intervention increases motivation and behavior regarding condom use in high-risk heterosexual college men. *Archives of sexual behavior*, 37(2), 330-339.
- Langer, L. M., Warheit, G. J., & McDonald, L. P. (2001). Correlates and predictors of risky sexual practices among a multi-racial/ethnic sample of university students. *Social Behavior and Personality: an international journal*, 29(2), 133-144.
- Luquis, R. R., Brelsford, G. M., & Rojas-Guyler, L. (2012). Religiosity, spirituality, sexual attitudes, and sexual behaviors among college students. *Journal of religion and health*, 51(3), 601-614.
- Manglos-Weber, N. D., Mooney, M. A., Bollen, K. A., & Roos, J. M. (2016). Relationships with God among young adults: Validating a measurement model with four dimensions. *Sociology of Religion*, 77(2), 193-213.
- Mojahed, A. (2014). Religiosity and Preventing Risky Behaviors. *International Journal of High Risk Behaviors & Addiction*, 3(3), e22844.
<http://doi.org/10.5812/ijhrba.22844>
- Monod, S., Brennan, M., Rochat, E., Martin, E., Rochat, S., & Büla, C. J. (2011). Instruments measuring spirituality in clinical research: a systematic review. *Journal of General Internal Medicine*, 26(11), 1345.
- Moore, E. W., Berkley-Patton, J. Y., & Hawes, S. M. (2013). Religiosity, alcohol use, and sex behaviors among college student-athletes. *Journal of religion and health*, 52(3), 930-940.

- Owen, J. J., Rhoades, G. K., Stanley, S. M., & Fincham, F. D. (2010). "Hooking up" among college students: Demographic and psychosocial correlates. *Archives of sexual behavior, 39*(3), 653-663.
- Penhollow, T., Young, M., & Bailey, W. (2007). Relationship between religiosity and "hooking up" behavior. *American Journal of Health Education, 38*(6), 338-345.
- Penhollow, T., Young, M., & Denny, G. (2005). The impact of religiosity on the sexual behaviors of college students. *Journal of Health Education, 36*(2), 75-85.
- Taylor, S. E., Dilorio, C., Stephens, T. T., & Soet, J. E. (1997). A comparison of AIDS-related sexual risk behaviors among African-American college students. *Journal of the National Medical Association, 89*(6), 397.
- Thomas, T. L., & Freeman, A. (2011). Project genesis: Self-reported religiosity and spirituality and sexual risk-taking in young African-American women attending a historically African-American college. *Journal of National Black Nurses Association, 22*(1), 27.
- Turchik, J. A., & Garske, J. P. (2009). Measurement of sexual risk taking among college students. *Archives of sexual behavior, 38*(6), 936-948.
- Twenge, J. M., Sherman, R. A., & Wells, B. E. (2015). Changes in American adults' sexual behavior and attitudes, 1972–2012. *Archives of Sexual Behavior, 44*(8), 2273-2285.
- Vasilenko, S. A., & Lefkowitz, E. S. (2014). Changes in religiosity after first intercourse in the transition to adulthood. *Psychology of religion and spirituality, 6*(4), 310.
- Weeden, J., & Sabini, J. (2007). Subjective and objective measures of attractiveness and their relation to sexual behavior and sexual attitudes in university students. *Archives of sexual behavior, 36*(1), 79-88.
- Winfield, E. B., & Whaley, A. L. (2005). Relationship status, psychological orientation, and sexual risk taking in a heterosexual African American college sample. *Journal of Black Psychology, 31*(2), 189-204.
- Young, M., Denny, G., Penhollow, T., Palacios, R., & Morris, D. (2015). Hiding the word: Examining the relationship between a new measure of religiosity and sexual behavior. *Journal of religion and health, 54*(3), 922-942.