THE IMPACT OF PERCEIVED DISCRIMINATION, PSYCHOSOCIAL FACTORS, AND HIV PREVENTIVE PRACTICES ON SEXUAL HEALTH RISK BEHAVIORS

A Dissertation

by

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ABSTRACT

African American gay and bisexual men are members of marginalized groups that have historically faced persecution and discrimination. Although there is a well-documented relationship between discrimination and engagement in health risk behaviors, fewer studies have explored how the perception of discrimination among African American gay and bisexual men might be predictive of engagement in sexual health risk behaviors. The purpose of this study was to explore how psychosocial variables, such as perceived discrimination and education attainment, could affect engagement in sexual health risk behaviors. This study also explored relationships between perceived sexual orientation discrimination and health risk behaviors, while examining educational attainment and knowledge of HIV preventive practices as moderators.

Participants in this study included 3,916 African American gay and bisexual men. Utilizing structural equation modeling, the proposed hypothesized model obtained good fit $\chi 2$ (N = 3,916, df = 24) = 125.54, $p > .05$; CFI = .94; TLI = .89; RMSEA = .033. Results indicated perceived discrimination mediated the educational attainment-sexual health risk behavior relationship. Additionally, perceived discrimination increased the likelihood of engaging in sexual health risk behaviors. Engagement in HIV preventive practices was found to weaken the association between perceived discrimination and sexual health risk behaviors. Additional results are discussed based on future research implications and future preventive programming.

DEDICATION

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CHAPTER I

LITERATURE REVIEW

The Human Immunodeficiency Virus (HIV) infection among gay and bisexual men is an alarming public health issue that continues to warrant scholarly investigation. The Center for Disease Control reports that gay and bisexual men are more severely affected by HIV than any other group in the United States (CDC, 2015b; CDC, 2017a). In 2010, there were an estimated 29,800 new HIV infections, with 63% of new HIV infections being accounted for by men who have sex with men (CDC, 2015b; CDC, 2012). Additionally, White gay and bisexual men accounted for the highest number of new HIV infections with African American men accounting for the second largest number (CDC, 2015b; CDC, 2012). However, compared to their White and Hispanic counterparts, African American gay and bisexual men are disproportionately impacted and severely affected by the disease (CDC, 2015b; CDC, 2017a). Thus, continued studies are needed to understand the unique experiences of African American gay and bisexual men that could be contributing to new incidences of HIV infection and the overall elevated prevalence of HIV infection.

To date, numerous studies have explored variables that are believed to increase the prevalence of HIV infection among minority populations; however, many of these studies misleadingly assign explanatory measures to constructs of race and sexual orientation (Helms, Jernigan, & Mascher, 2005). Although these studies have provided a plethora of useful information on the prevalence of HIV infection and engagement in

sexual health risk behaviors, these studies do not examine the unique psychosocial experiences, such as discrimination, that could be contributing to the disparities in HIV infection rates among racial and sexual minorities (CDC, 2011a; CDC, 2017a). Approaching health research among racial and sexual minorities with the incorporation of psychosocial factors, such as discrimination, provides a better description of differences of HIV infection rates and health risk behaviors among minority populations. Furthermore, understanding the impact of perceived discrimination on engagement in health risk behaviors is important in providing culturally sensitive prevention efforts and mental health treatment. Because previous research suggests that perceived discrimination and education attainment are related to minority health outcomes, research is needed on these constructs and their association to health risk behaviors among African American gay and bisexual men. Thus, the purpose of this study is to examine if psychocultural factors, such as perceived discrimination, educational attainment, and knowledge of HIV preventive practices, are related to engagement in health risk behaviors for African American gay and bisexual men.

For African American gay and bisexual men, self-identification and perceived group membership of sexual and racial minority groups are fundamental concepts in examining the perception of discrimination. Group identification is based on the endorsement of similar self-perceived attributes, emotional, romantic, and/or sexual attractions toward a specific gender(s) and endorsement of cultural norms of both the Black and Lesbian, Gay, Bisexual, Transgender and Queer (LGBTQ) communities (American Psychological Association, 2015; Hogg, 2006; Tajfel, 1981). Group

membership and self-identification of being gay or bisexual is referenced in this study as sexual minority status. Sexual minority status is based on the participant's endorsement and self-identification of being gay or bisexual. Two terms are used to describe this population: (a) gay and bisexual men and (b) Men who have Sex with Men (MSM). Throughout the health literature the terms are used interchangeably; however, the term MSM utilizes specific sexual behaviors to categorize this population, whereas, the terms gay and bisexual are concepts describing one element of an individual's identity (Young & Meyer, 2005). While MSM may include gay and bisexual men, in some studies the term also includes men who have sex with other men, but who may not identify as gay or bisexual. For the present study, the term gay and bisexual is used as it corresponds to the participants' self-described sexual orientation.

Sexual Minority Status and Perceived Discrimination

Although negative attitudes, beliefs, and treatment of sexual minorities have changed within the past two decades, sexual orientation discrimination still persists in the United States (Herek, 2009). Sexual orientation discrimination is defined as the belief that LGB individuals are treated differently or harassed because of perception of one's sexual orientation (Banks, Kohn-Wood & Spencer, 2006). Sexual minorities are faced with persistent hostility and discrimination (Herek, 2009, 2003; Rostosky, Riggle, Horne, & Miller, 2009). In 2010, only 52% of Americans believed that gay and lesbian relationships were acceptable. Forty-three percent of Americans believed that same-sex relationships were morally wrong (CDC, 2011a).

For African American gay and bisexual men, discriminatory acts may also occur based on both ethnic and sexual minority statuses. As such, individuals' perception of discrimination can be influenced by their ethnic and sexual minority identities. One study, utilizing data collected from Wave Two of the National Epidemiological Survey of Alcohol and Related Conditions (NESARC), sought to examine the perception of discrimination based on sexual orientation, race or ethnicity and gender, and mental health ailments among White, Black, Native American, Asian, and Hispanic lesbians, gay and bisexual adults in the United States (Bostwick, Boyd, Hughes, West, and McCabe, 2014). Of the total Wave Two population (N = 34,652), an estimated 2% percent were identified as being lesbian (n = 145), gay (n = 190) or bisexual (n = 242) (Bostwick, et al., 2014). The researchers found that compared to their White counterparts, Black, Native American, Asian, and Hispanic gay and bisexual men were more likely to report experiencing discrimination based on race, gender, and/or sexual orientation.

Although African American gay and bisexual men have similar racial, gender, and non-heteronormative identities, it is important to note that the two groups do not constitute a homogeneous group (Balsam & Mohr, 2007; Dudley, 2013; Savin-Williams, 2001). For instance, Balsam et al. (2007) examined differences in how bisexual, lesbian, and gay adults adapt to the marginalized status that is often assigned to the LGBT community. The study surveyed 613 lesbian (n =273), gay (n =186), and bisexual (n =37) adults in the United States. The results suggested that bisexual participants experienced high levels of identity confusion. Additionally, bisexual participants

endorsed lower levels of self-disclosure and sense of community within the larger LGBT community. Although the sample used in this study was predominantly White (90%), this study still highlights the importance of examining experiences of sexual minorities based on their own respective sexual identities. The literature commonly presents studies in which gay and bisexual men are grouped together, limiting what is known about the experiences of each group, respectively (Miller, André, Ebin, & Bessonova, 2007). As noted by scholars, gay and bisexual men have their own respective sexual identities, norms, and values associated with their respective social identity (D'Augelli, 1994; Diamond, 2006). For example, Diamond (2006) presented a feminist theorized article that begins with a critique of LGBT literature that either (a) excludes bisexuality, or (b) presents bisexuality as a development stage that precludes identification of a gay or lesbian sexual orientation. As a possible remedy, Diamond (2006) suggests focusing on exploring the uniqueness that each sexual minority group encounters through their respective development process of sexual orientation. Utilizing this theorized framework of examination presents the potential to uncover an authentic perception of the differing norms, values, and respective identities among gay and bisexual men (Diamond, 2006).

As such, it is possible that African American gay and bisexual men may perceive discrimination differently and/or perceive different amounts of discrimination based on their respective group identification. For example, Bostwick et al. (2014) found that compared to their bisexual counterparts, gay men were more likely to report discriminatory experiences based on sexual orientation. Additionally, bisexual individuals may perceive the source of discrimination differently than their gay

counterparts (Bostwick et al., 2014). Bisexual individuals may encounter discrimination from both heterosexual populations as well as from other sexual minority groups (Bostwick, 2012; Bostwick et al., 2014; Gurevich, Mathieson, & Bower, 2002; Hequembourg & Brallier, 2009).

Research suggests that there are five types of perceived discrimination often reported by LGBTQ individuals (Herek, 2009; Mays & Cochran, 2001). They include (a) being called names or insulted; (b) receiving poorer services in restaurants and business; (c) being treated unfairly at work or school; (d) being denied or given poorer quality health care; and (e) being physically attacked or injured because of one's sexual minority status. What follows is an overview of the possible perceived discrimination of African American gay and bisexual men.

Called names or insulted. The larger LGBTQ body of literature provides key insights about the perception of verbal discriminatory events since few studies specifically examine this among African American gay and bisexual men, thus the larger body of literature is referenced. Studies have documented incidents in which gay and bisexual men have perceived being called names or verbally insulted because of their sexual minority status (Berrill, 1992; Mays et al., 2001; Otis & Skinner, 1996; Pilkington & D'Augelli, 1995). One previously presented study (Huebner et al., 2014), examined harassment, discrimination, and violence among gay and bisexual men. In this study, the sample consisted of 1,248 gay and bisexual men from the southwestern area of the United States (Huebner et al., 2014). Participants were recruited via venue-driven sampling, as a part of a larger community-level HIV prevention intervention. Results

indicated that 37% of study participants perceived verbal anti-gay discriminatory remarks within the last six months.

Reilly, Neaigus, Jenness, Wendel, Marshall, and Hagan (2015) also conducted a study measuring the experiences of discrimination and HIV risk among a sample of gay and bisexual men. The study was conducted in New York and participants were recruited from bars, parks, street locations, dance clubs, and restaurants (Reilly et al., 2015). The diverse sample consisted of gay and bisexual males who identified as 118 African American males (23.3%), 200 Latino males (39.4%), 147 White males (29.05%) and 42 (8.3%) other races. Of the total sample (N =509), 78.4% of participants identified as gay (n =399), and 19.4% identified as bisexual (n =99) (Reilly et al., 2015). The results depicted that 45% of the total sample reported being called names or insulted because of their sexual orientation (Reilly et al., 2015).

Research focusing on the perceptions of verbal discrimination within the school settings also provides insight into the perception of discrimination among this population (Huebner et al., 2004). The 2011 National School Climate Survey, conducted among 8,584 students ages 13-20, determined that 80% of LGBT students perceived verbal discrimination because of their sexual orientation. Similarly, 91.4% of LGBT students hearing the word “gay” used in a negative way that caused participants psychological distress (Kosciw, Greytak, Bartkiewicz, Boesen, & Palmer, 2011).

The perception of being called names or insulted may be different for gay and bisexual men. From the Bostwick et al. (2014) study, previously presented, gay men were more likely to report being called names, insulted, or being verbally threatened

(Bostwick et al., 2014), whereas bisexuals were found to report fewer discrimination experiences of being verbally threatened (Bostwick et al., 2014). However, another study reported that 26 percent of gay men compared to 37 percent of bisexual men experience rape, physical violence, or stalking by an intimate partner (Human Rights Campaign, 2017). Therefore there are mixed findings.

Bisexual individuals may experience a different type of verbal discrimination. Bisexual individuals who are verbally challenged with questions on the validity of bisexuality as a sexual orientation may perceive this as discrimination (Klesse, 2011; Mulick & Wright, 2002; Kollen, 2013). For example, in a conceptual article by Alarie and Gaudet (2013), three mechanisms were presented in which bisexuality as a sexual identity can be invisible. The mechanisms include "(a) depicting bisexuality as temporary, (b) making it almost impossible to be a 'real' bisexual, and (c) devaluing bisexuality" (Alarie & Gaudet, p.192). Bisexual individuals may perceive any of the three proposed mechanisms of invisibility as verbal discrimination.

Received poorer services. After a thorough search of the literature, two studies found the perception of discrimination in terms of receiving poorer services based solely on sexual orientation among African American gay and bisexual men. Research on the perception of receiving poorer services in restaurants, business, and other agencies are more prevalent within studies that group all LGBT individuals together without exploring psychocultural differences such as race and ethnicity. The Pew Research Center (2013) conducted a study in April of 2013 examining attitudes, experiences, and values among American LGBT adults. Of the total LGBT adult sample (N =1,197), there

were 398 gay, 277 lesbian, 479 bisexual, and 43 transgender adults. The study was conducted among predominantly White participants (n = 331), compared to the 54 participants who identified as African American. Although the study examined numerous experiences of LGBT adults, the present study focused on the number of participants who reported receiving poorer services. The study found that 23% of participants perceived a lifetime prevalence of receiving poorer services in restaurants, hotels, and other places of business (Pew Research Center, 2013).

The perceived likelihood of receiving poorer services in restaurants, businesses, and other agencies may be different for gay and bisexual men. From the Bostwick et al. (2014) study previously presented, researchers sought out to examine the perception of discrimination based on sexual orientation, race or ethnicity, and gender, and mental health ailments among White, Black, Native American, Asian and Hispanic lesbians, gay, and bisexual adults in the United States. Findings suggested that gay men were more likely to report facing discriminatory acts in stores and restaurants compared to their bisexual counterparts.

Physically attacked or injured. Research has captured routine incidents of violence in which gay and bisexual men have perceived being physically attacked or injured because of their sexual or racial identities (Herek, 2000). Another study previously presented by Reilly et al. (2015) found that 15.1 % (N = 503) of MSM participants in New York reported being physically attacked or injured within the last 12 months.

The National Report on Hate Violence Against Lesbian, Gay, Bisexual,

Transgender, Queer, and HIV-Affected Communities (2013) reported that racial and sexual minorities face disproportionate acts of discriminatory violence and that there is a difference between the prevalence rates in which gay men and bisexual men have experienced being physically attacked (National Coalition of Anti-Violence Programs, 2013). Herek, Gills, and Cogan (1999) also conducted a study on experiences of hate-crime victimization among 2,259 gay, bisexual men, and lesbian adults living in the Sacramento area of California. One finding from the study suggested that 28% of gay men reported being physically attacked or injured at least once within their lifetime. Although the perception of being physically attacked or injured based on one's sexual orientation is not believed to differ based on each respective sexual orientation, the current study seeks to explore if one group encounters more of this form of discrimination.

Treated unfairly at work or school. For LGBT individuals, workplace discrimination is pervasive (Croteau & Bieschke, 1996). Few studies have examined unfair treatment at work or school, specifically among African American gay and bisexual men. Within the context of the workplace, sexual minorities may be concerned about coming out/being out, being alienated, and job security when their sexual orientation is known by colleagues and employers (Bernstein & Swartwout, 2012). In a report published by the Pew Research Center (2013), 21% of LGBT participants (Total N =1,197) perceived a lifetime prevalence of being treated unfairly by an employer because of their sexual orientation. Another study previously described found that 22%

of MSM participants indicated perceiving unfair treatment at work or in school (Reilly et al., 2015).

Other researchers also have documented cases of unfair treatment of LGBT individuals within the school setting. Rankin, Weber, Blumenfeld, and Frazer (2010) presented a national report on the State of Higher Education for LGBT adults aimed at highlighting the discriminatory experiences of LGBT individuals in higher education settings. One finding presented in this report described how collegiate sexual minority students, faculty members, and administrators still face experiences of discrimination and stigmatization. Currently, in 32 states, sexual minorities lack legal protection from workplace and employment discrimination (Human Rights Campaign, 2014). For gay and bisexual individuals who live in states without legal discriminatory protection, such as the participants in this study, sexual minorities may be particularly vulnerable and more likely to experience being treated unfairly at work (Badgett, Sears, Lau, & Ho, 2009). Tilcsik (2011) conducted a social psychology study examining employment discrimination and found that sexual orientation discrimination varied geographically with regional attitudes possibly being influenced by antidiscrimination laws.

Denied or given lower quality health care. Sexual minorities have unique health concerns specific to the population and when these health care concerns are not acknowledged, individuals may perceive this lack of specialized care as discrimination (U.S. Department of Health and Human Services, 2011; Mayer, Bradford, Makadon, Stall, Goldhammer, & Landers, 2008)). Factors such as perceived invisibility (Herek, 2009), lack of culturally sensitive practitioners or programs, previous negative

experiences with health care providers (Mayer et al., 2008), and fear of sexual orientation discrimination (Stuber, Meyer, & Link, 2008) may impede sexual minorities access to quality health care and increase perceptions of discrimination (Miller et al., 2007; (CDC, 2011a). For instance, Reilly et al. (2015) found that 6.7% of MSM participants reported being given lower quality health care or denied health because of their sexual orientation. Perceived discrimination has been identified as a determinant of health-seeking behaviors (Pascoe & Richman, 2009). Kats and Ranji (2014) conducted an online survey on perceived access to health care and coverage among the LGBT community. Results concluded that three in ten gay and bisexual men ($N = 431$) endorsed feeling uncomfortable discussing their sexual orientation with health care professionals, thus impacting the perceived accessibility of health care (Kats & Ranji, 2014). Other findings indicated that 56% of participants endorsed items stating that a doctor has never recommended HIV testing and 61% of participants reported rarely or never discussing HIV during visits with their doctors (Kats & Ranji, 2014). Another study conducted by Bernstein, Begier, Koblin, Karpati, and Murrill (2008) surveyed 454 gay and bisexual men as a part of the NHBS New York site between July 2004 and January 2005. The study aimed to explore sexual minority status disclosure to health care providers. Findings suggested that compared to their White counterparts, African American MSM were less likely to disclose same-sex attraction to health care providers. Each of these studies provides important information about discrimination experienced by gay and bisexual men, in terms of access to quality health care.

Because of perceived healthcare discrimination, for African American gay and bisexual men, quality of care and treatment adherence could be affected (Penner, Dovidio, Edmondson, Dailey, Markova, Albrecht, & Gaertner, 2009).

Perceived healthcare discrimination could increase the risk of negative health outcomes among this population. For example, Koblin et al. (2013) examined HIV acquisition in a cohort of African American MSM found that younger participants were less likely to have a usual place for health care and had unmet health needs. It was also found that three in ten gay and bisexual men who reported not having a primary care physician were primarily younger, had lower income, and identified as being a dual racial/sexual minority (Koblin et al., 2013). The perception of discrimination for gay and bisexual men may differ. For instance, Bostwick et al. (2014) reported that compared to their bisexual counterparts, gay men were more likely to report discrimination within the health care setting.

Educational Attainment And The Sexual Minority Status, Perceived Discrimination Relationship

Based on previous studies, educational attainment is believed to moderate the perception of discrimination (Zhang, Hong, Takeuchi, & Mossakowski, 2012). As a moderator, educational attainment determines under what conditions the relationship between an individual's sexual minority status and one's perception of discrimination would differ. Few studies have examined education attainment as a moderator for sexual minority status and perceived discrimination. However, one study found that participants with at least some college were more likely to have an increased perception of

discrimination related to their sexual minority status (Huebner et al., 2004). Educational attainment has been more frequently examined as a moderating variable that can enhance the perception of discrimination, within the context of the racial discrimination literature. For example, Zhang et al. (2012) conducted a study on the relationships between perceived discrimination, psychological distress, and education among Asian Americans. The study utilized data collected from the 2002-2003 National Latino and Asian American Study (NLAAS). The sample consisted of 2,085 Asian adults. The study found that education status was a moderator for perceived discrimination and psychological distress for Asian American individuals. In that study, the effects of racial discrimination-related stress was stronger for participants with college or higher levels of education (Zhang et al., 2012).

Another study examined the experiences and consequences of perceived racial discrimination among 312 African Americans from the Detroit, Michigan area, (Broman, Mavaddat, & Hsu, 2000). Results suggested that highly educated African Americans were more likely to perceive racial discrimination; in particular, participants who had not graduated college, but who had some college, perceived the most racial discrimination (Broman et al., 2000). One other study conducted by Reilly et al. (2015) found that participants with less than a high school education reported being physically attacked due to the perception of their sexual minority status more frequently. Each of these studies provides support for educational attainment as a moderator. This present study explores if educational attainment enhances the perception of sexual minority discrimination.

Perceived Discrimination Relationship To Sexual Health Risk Behaviors

African American gay and bisexual men are more significantly affected by HIV infection more when compared to their other racial minority counterparts (CDC, 2011b). For instance, an estimated 477,175 gay and bisexual men were diagnosed and living with HIV; of that number, 145,707 were African American, 99,495 were Hispanics (CDC, 2011b). The CDC also reports the lifetime projected rate of HIV infection for African American men is one-in-two, compared to one-in-four for their Hispanic counterparts and one-in-eleven for their White counterparts (CDC, 2017a).

Health risk behaviors are commonly identified in the literature as behaviors that can lead to negative health outcomes, such as unintended pregnancy, Sexual Transmitted Infections (STIs), and HIV infection (Pascoe & Richman, 2009). The Youth Risk Behavior Surveillance System defines health risk behaviors as (a) unintentional injuries and violence; (b) tobacco use; (c) alcohol and drug use; (d) unhealthy dietary behaviors; (e) physical activities; and (f) risky sexual behaviors that can contribute to unintended pregnancy STIs and HIV infection (Eaton, Kann, Kinchen, Shanklin, Ross, & Hawkins, 2012). This study focused exclusively on risky sexual behaviors and substance use in relation to sexual activity. Health risk behaviors examined include (a) having multiple sexual partners; (b) having sex while under the influence of alcohol or drugs; and (c) being previously diagnosed with a sexually transmitted infection.

The HIV literature provides insights as to why there are elevated HIV infection rates among African American gay and bisexual men by examining health risk behaviors. Perceived discrimination has been significantly correlated to risky behaviors,

such as reduced physical activity, substance abuse, and smoking (Yoshikawa, Wilson, Chae, & Cheng, 2004; Samet, Pace & Cheng, 2010). Studies also support significant relationships between perceived discrimination and sexual health risk behaviors (Fields, Bogart, Galvan, Wagner, Klein, & Schuster, 2013; Kalichman et al., 2005; Reilly et al., 2015). For example, Frye et al. (2015) used secondary data analysis to examine sexual orientation, race-based discrimination, and sexual HIV risk behaviors among urban MSM (N = 1,369). Results indicated that sexual orientation discrimination at home or in social neighborhood settings were positively correlated with increased HIV acquisition risk. Another study examined if psychosocial, behavioral, and cultural factors could predict health risk behaviors among Latino gay and bisexual men (Jarama, Kennamer, Poppen, Hendricks, & Bradford, 2005). The sample consisted of 250 gay and bisexual men who self-identified as primarily immigrants from El Salvador. The results of this study suggested that Latino MSM's experience of discrimination were predictive of engagement in HIV health risk behaviors (Jarama et al., 2005).

Engagement in HIV Preventive Practices As A Moderator for the Relationship Between Perceived Discrimination and Health Risk Behaviors

As research has shown, there is a detrimental relationship between discrimination and health risk behaviors. However, there are mixed findings on how HIV preventive practices impact subsequent sexual health risk behaviors. Health scholars have noted that variables such as engagement in HIV preventive practices can decrease negative health outcomes (Jemmott, Jemmott, & Fong, 1992; Weinhardt, Carey, Johnson & Bickman, 1999). Other scholars have found that HIV preventive practices do not solely impact

behaviors leading to HIV infection (Noroozinejad, Yarmohamadi, Bazrafkan, Sehat, Rezazadeh, & Ahmadi, 2013; Salgado, Díaz Pérez, & Maldonado, 1996). The Department of State and Health Services (2013) reported a decrease of new HIV infection among African Americans between 2008 and 2013, believed to be directly related prevention efforts. As such, it is possible that engagement in HIV preventive practices can impact the perceived discrimination-sexual health risk behavior relationship.

Throughout the health literature and foundationally incorporated in many HIV prevention programs is the goal of increasing knowledge of HIV preventive practices among at-risk populations. However, there is limited information about the impact of engagement in HIV preventive practices in relation to incidents of perceived discrimination and possible subsequent engagement in health risk behaviors. As a possible moderator, engagement in HIV preventive practices determines the conditions which the relationship between an individual's level of perceived discrimination and engagement in health risk behaviors would differ. Engagement in HIV preventive practices is defined as awareness of HIV/STI statuses and methods used to increase information aimed at reducing engagement in risky sexual behaviors. In this study, engagement in HIV preventive practices are specifically measured by the participants' awareness of their own HIV status, awareness of HIV statuses of sexual partner(s), and having been tested for HIV. Individuals who lack information on how health risk behaviors are negatively impacting well-being are less likely to challenge the detrimental habits providing short-term gratification (Bandura, 2004). Additionally, persons who

have inadequate health literacy on HIV prevention are at an increased risk of contracting the disease and experiencing negative health outcomes (Kalichman et al., 2005; Kalichman et al.,, 2016; Herek et al., 2009).

One HIV preventive practice that has been suggested to effectively decrease the probability of HIV infection is being aware of and discussing a person's HIV status with sexual partners (CDC, 2015a). Awareness of a partner's HIV status can be prompted by open communication among sexual partners. For example, researchers conducted a study on correlates HIV/STI testing and disclosure among HIV-negative collegiate MSM (Wilkerson, Fuchs, Brady, Jones-Webb, & Rosser, 2014). As a part of a larger prospective study conducted in 16 U.S. Metropolitan Statistical Areas (MSAs), 930 collegiate MSMs were asked to reflect on a time within the last three months that they had protected or unprotected anal sex and discussed HIV status with their partner (Wilkerson et al., 2014). Findings suggested that over half of participants (57.8%) discussed HIV status with new sexual partners (Wilkerson et al., 2014). This study presents the importance of communication and disclosure of one's HIV statuses with sexual partners, as a method of decreasing engagement in risky sexual behaviors.

Another facet of HIV preventive practice presented in the present study is the relationship between knowledge of sexual partners' HIV status and engagement in risky sexual behaviors. For example, one study examined knowledge of partners' HIV status and condom usage among 3,538 HIV-positive patients participating in clinical care in Tanzania, Kenya, and Namibia (Bachanas et al., 2013). Although this population is different from the present study, there are some key insights that demonstrate how

awareness of a partner's HIV status impacts engagement in health risk behaviors. Results from this study suggested that 64% of participants knew their partner's HIV status, and participants were more likely to report condom usage if disclosure of HIV status was shared among partners (Bachanas et al., 2013). This study supports the impact that awareness of sexual partners' HIV status can have on engagement in health risk behaviors.

Health scholars and prominent public health agencies have identified the usefulness of theory-driven, evidenced-based practices that aim to increase the knowledge of HIV preventive practices, with the goal of decreased HIV transmission and infection among at-risk populations (CDC, 2014b; Johnson et al., 2003; Rebchook, Kegeles, & Huebner, 2006). For example, one-on-one and intimate group prevention programs have shown effectiveness in reducing unsafe sexual behaviors (CDC, 2014b; Leaver, Allman, Meyers, & Veugelers, 2004; O'Donnell, Stueve, Joseph & Flores, 2014). Understanding this complex relationship can aid in developing effective interventions and inform policies directed at decreasing HIV/STI infections among African American gay and bisexual men (CDC, 2015a). Findings suggest that a policy focused on increasing access and attainability of education and knowledge of HIV preventive practices could also greatly increase health behaviors among at-risk populations (Cutler & Lleras-Muney, 2006).

Hypotheses

Using Structural Equation Modeling, the current study aims to examine the relationships between sexual minority status, perceived discrimination, educational

attainment, health risk behaviors, and knowledge of HIV preventive practices among African American gay and bisexual men. The following are hypothesized:

Hypothesis 1: There will be a relationship between sexual orientation (0 = gay; 1 = bisexual) and perceived discrimination.

Hypothesis 2: Educational attainment will modify the sexual orientation-perceived discrimination relationship.

Hypothesis 3: Perceived discrimination will mediate the educational attainment-sexual health risk behavior relationship.

Hypothesis 4: Perceived discrimination will be positively correlated with sexual health risk behaviors.

Hypothesis 5: Engagement in HIV preventive practices will modify the perceived discrimination-sexual health risk behaviors relationship.

CHAPTER II

METHODOLOGY

Data used in this study is from the National Health Behavioral Surveillance System (NHBS), Men who have Sex with Men (MSM) cycle 2014. The NHBS is a large cross-sectional study funded by the Center for Disease and Prevention that is conducted in collaboration with local and state health departments as well as universities and community-based originations in 20 cities across the United States (CDC, 2015b). The overall NHBS studies aim to assess behavioral surveillance among individuals with increased risk of HIV infection (CDC, 2015b). The groups identified as high risk include men who have sex with men (MSM), intravenous drug users (IDU), and heterosexual individuals (HET). Data is collected every three years for the respective at-risk populations.

To recruit gay and bisexual participants and collect data, the NHBS utilizes venue sampling with a study design that focuses on reducing selection bias (Gallagher, Sullivan, Lansky, & Onorato, 2007; Reilly et al., 2015). Participants are recruited from public venues such as bars, street locations, LGBT pride events, and social clubs. The NHBS specifically uses a standardized interview to collect information on HIV health risk behaviors, psychosocial elements such as discrimination and stigma, and information related to HIV preventive practices. The NHBS focuses on collecting rotating 12-month cycles of surveillance data from participants within metropolitan areas among populations that have been identified as high risk for HIV infection by the CDC.

Each participant completed an approximately 30-45 minute interviewer-administered standardized survey that included demographics questions on race, gender, age, household income, educational level, and sexual orientation. The survey also asked participants questions about sexual health risk behaviors, incarceration history, drug use, previous STI infection(s) and HIV testing history and status. Numerous other studies have also provided information on the methods of the NHBS study (Gallagher et al., 2007; Reilly et al., 2015).

Eligible NHBS MSM cycle 2014 participants had the following attributes: (a) above the age of 18; (b) lived in one of the 20 requirement areas at the time of collection; (c) identified as being male; (d) had at least one sexual partner within the past 12 months; (e) reported engaging in anal or oral sex with one or more same-sex partner(s); and (f) were given and signed an informed-consent form. A total of 10,369 participants were recruited. Of these participants, 42% were below the age 29 years, 79.5% self-identified as gay, 17.9% identified as bisexual, and 2.2% identified as heterosexual. In terms of education, 4.6% competed grades 11 or under, 21.6% graduated or obtained a GED, 32.1% had some college, associate's degree, or technical degree, 27.0% obtained a bachelor's degree, and 14.7% had some postgraduate studies. The household income of 75% of participants was above the federal poverty level. Racially, 38% of the population identified as Caucasian 38%, Black 28%, and Hispanic or Latino 28%.

Participants in the current study: identified their ethnic/racial identity as non-Hispanic Black/African American (n= 3,916); identified their sexual orientation as either

gay (n= 3422, 87.4%) or bisexual (n=494, 12.6%); and 64.34% were below the age 45 years. The educational distribution of participants included: 17.14% less than high school degree; 27.79% high school degree or equivalent; 33.23% some college, associate's degree, or technical degree; and 21.84% bachelor's degree and postgraduate studies.

Measures

Perceived discrimination. Perceived discrimination was assessed by five questions commonly presented in the LGBT literature (Berril, 1992; Krieger & Sidney, 1997; Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005; Mays et al., 2001; Williams, Yan, Jackson, & Anderson, 1997). Participants were asked, "During the past 12 months, have any of the following things happened to you because someone knew or assumed you were attracted to men?" (a) "called names or insulted," (b) "received poorer services than other people in restaurants, stores, other businesses or agencies," (c) "treated unfairly at work or school," (d) "denied or given lower quality health care," and (d) "physically attacked or injured."

The original response set consisted of five dichotomized questions. An aggregate perceived discrimination variable consisting of the five perceived discrimination questions was created and utilized in the SEM Model. Each "yes" factor equaled 1 point, and each "no" response equaled 0 points. A total perceived discrimination score was calculated for each participant. Higher total scores equaled greater perceptions of discrimination. Cronbach's alpha was .60 for construct reliability.

Sexual health risk behaviors. Sexual health risk behaviors, a latent construct assessed indirectly through associated items. Elements of the NHBS data set are believed to measure this latent variable. These factors have frequently been identified in the literature as being positively correlated with increased HIV infection (Eaton et al., 2012; CDC, 2011b). These factors include (a) engaging in condomless anal sex in the past 12 months; (b) not using a condom the whole time at last sex act; (c) having 2 or more anal or oral sexual partners; (d) having sex while under the influence of a controlled substance at last sex; and (e) having a previous diagnosis of a sexually transmitted infection (STI) including syphilis, gonorrhea, chlamydia, and other STI within the past 12 months. These five factors where originally planned for analysis. However, factors 1 and 2 were removed due to the inclusion and exclusion criteria for the NHBS survey. Thus, the sexual health risk behavior was comprised of (a) having two or more anal or oral sexual partners; (b) having sex while under the influence of a controlled substance at last sex; (c) having a previous diagnosis of a sexually transmitted infection (STI) including syphilis, gonorrhea, chlamydia, and other STI within the past 12 months. Each of these observed factors (1-3) was loaded onto the sexual health risk behavior latent variable. Modeling sexual health risk behaviors as a latent variable provides additional power in testing the hypotheses. Additional power is added because the outcome variable, Sexual Health Risk Behaviors, represents the variance shared by the three factors.

Engagement in HIV preventive practices. Engagement in HIV Preventive Practices was assessed by three questions that fall under a larger global understanding of

HIV preventive knowledge presented throughout the health literature. In the originally proposed analysis, Engagement in HIV Preventive Practices was comprised of (a) knowledge of one's own HIV status; (b) knowledge of partner(s)' statuses; (c) having participated in an HIV preventive session in a one-on-one setting; or (d) having participated in an HIV preventive session in a group setting. However, the alpha reliability coefficient of these four questions was .30. Given this low reliability, the literature was reviewed. The variable was reformatted to obtain questions that better measured this construct. This variable is now measured with the following questions: (a) knowledge of one's own HIV status; (b) knowledge of partner(s)' statuses; (c) ever tested for HIV. Dichotomous "yes/no" scores were created to measure each of the knowledge of HIV preventive practices. Knowledge of partners statuses were measured as 0 = No (no knowledge of partners statues and knowledge of only some partners statues) and 1= Yes (knowledge of all partners statuses). A total composite score was created with factors one through three. Higher total scores equaled greater engagement in HIV preventive practices. Cronbach's alpha was .42 for the variable comprised of three questions.

Sexual orientation and demographics. Sexual orientation was assessed by asking participants to identify their sexual orientation: (a) Homosexual, Gay (dummy-coded as 0 or (b) Bisexual (dummy-coded as 1). Educational attainment was measured as (a) less than high school degree; (b) high school degree or equivalent; (c) some college, associate's degree, or technical degree; and (d) bachelor's degree and postgraduate studies.

CHAPTER III

RESULTS

Descriptive Results

Perceived discrimination was one of the predictor variables in this study. Being "called names or insulted" was the most frequently (31.2%) perceived type of discrimination. Some participants (12.8%) reported receiving poorer services than other people in restaurants, stores, other businesses, or agencies. Other participants (11.6%) indicated they were treated unfairly at work or school while a smaller set of participants (6.4%) reported being physically attacked.

For the outcome sexual health risk behavior variable, almost half (46.54%) of the participants reported using alcohol or other drugs the last time they had sex. Within the last 12 months, 74.9% of participants reported having two or more sexual partners. The majority of participants (87.5%) also reported not having a STI within the last 12 months. Of participants who did report having an STI, within the last 12 months, 6.9% reported Gonorrhea, 4.6% reported Chlamydia, 3.6% reported Syphilis, and 1.5% reported having any other STD. In terms of HIV status, 14.7% reported being HIV positive, 85.2% reported being HIV negative/ not knowing their status. Table 1 presents the correlations between variables in this study. Table 2 presented additional sample characteristics.

Preliminary Analyses

Structural equation modeling analysis starts by evaluating for multivariate normality, linearity, multicollinearity, and normal distribution of each variables. Thus, data analysis started by reviewing each variables multivariate distributions. Assessing for normal distribution is important because violations in normal multivariate distribution can cause SEM modeling to yield inaccurate results (Weston, Gore, Chan, & Catalano, 2008). Each variable met normal statistical assumptions for multivariate normality, and linearity. Next, univariate and multivariate outliers were assessed by using frequency distributions and exploring for outliers three standard deviations from the mean. Outliers can affect correlations leading to an underestimate or overestimate of paths within modeling (Schumacker & Lomax, 2016). Outliers were found on one of the factor loadings for the latent sexual health risk behavior variable (i.e., had multiple sexual partners within the last 12 months).

Several factors were considered in examining the outliers for this question. First, this variable in the survey was open ended. Open-ended count variables are often used in HIV prevention research, despite the distribution challenges that outliers cause (Schroder, Carey, & Vanable, 2003). Count variables are used because they provide in-depth frequencies of sexual behaviors. Second, sample size can impact the probability of outliers. In studies with smaller samples sizes, it is more likely that a data point will be selected from the densely concentrated area of a normal distribution (Osborne & Overbay, 2004; Field, 2013). However, as a study population becomes larger, the sample population resembles the population from which it is selected. This increases the overall

likelihood that outliers will be present in the sample population (Osborne & Overbay 2004; Field, 2013). In essence, the outliers in studies with larger samples could be legitimate cases caused by the inherent variability of the population.

Outliers were kept in this study because they are believed to be a part of the natural variability of the sampled population. Data collection in this study used venue-driven sampling. This means that outlier participants were in the same venues as the rest of the participants. Outliers are most at risk of HIV infection and their risk could impact the risk of other participants. Outliers in this study represent less than 1% of the sample, which decreases the likelihood that an outlier data point would be selected for analysis. However, to minimize the effect of outliers, this variable was transformed into two risk groups. Using transformations allows outliers to be kept in a study with the skew and error variance possibly caused by outliers to be reduced (Hamilton,1992; Osborne, 2005).

The next step in analysis included assessing for multicollinearity. Multicollinearity occurs when multiple predictor variables are highly correlated with one another. Multicollinearity measurement errors can impact model fit indices (Grewal, Cote, & Baumgartner, 2004; Weston et al., 2008). However, multicollinearity, using variance inflation factors (VIF) among predictor variables were not found in this study. Additionally, bivariate correlations were examined to identify possible coefficient values of (.85) or higher. Results indicated that none of the bivariate correlations met or exceeded the recommended limit.

Continuing preliminary analysis focused on reviewing the Skew and Kurtosis Indexes for each of the variables in this study. Acceptable skewness and kurtosis were found for continuous variables in this study. The evaluation of skewness and kurtosis was based on well-established norms of absolute value of the Skewness Index ≤ 3 and the absolute value of the Kurtosis Index being ≤ 8 (Curran, West, & Finch, 1996; Kline, 2005).

Preliminary analyses also included examining for missing data. Missing data in this study is believed to be missing at random (MAR). To account for minimal missing data, the Full Information Maximum Likelihood Method (FIML) in Mplus was utilized. In the FIML, missing data is estimated based on the population and sample parameters (Collins, Shafer, & Kam, 2001). Furthermore, FIML allows all available data information to be used to estimate the model (Kline, 2015).

Main Data Analysis

The main analysis in this study included SEM modeling. SEM modeling was chosen because of the ability to empirically determine how well a proposed theoretical model is empirically supported and represented within the data (Hays, Revicki, & Coyne, 2005; Kline, 2015). For this study, structural equation modeling provided the best fit for the hypothesized research questions of this study.

Kline (2015) suggests the following guidelines for structural equation modeling: (a) model specification, (b) model identification, (c) data preparation (previously described), (d) model estimation, and (e) model modification. Model specification is used for creating and measuring variables, then identifying the hypothesized

relationships among all variables within a theoretical model (Kline, 2015). Model identification occurs when the theoretical parameters of the model are also statically identifiable within modeling software. Model estimation includes reviewing incremental and absolute fit indices. Incremental-fit indices, such as the comparative-fit index (CFI) and Tucker-Lewis Index (TLI), compare the raw chi-squared value to the baseline chi-squared value (Hooper et al., 2008). Whereas absolute fit indices, including Root Mean Square Error of Approximation (RMSEA) and chi-square test of model fit ($\chi 2$), determine how well an *a priori* model fits the sample data and which model has the most superior fit (McDonald and Ho, 2002; Hooper et al., 2008, p. 53). In total, four fit indices are commonly used to evaluate fit: (a) chi-square test of model fit ($\chi 2$), (b) CFI, (c) TLI, and (d) RMSEA. Research suggests that models with good fit have indices that meet the following chi-squared ($\chi 2$) that is not statistically significant at the $p < .05$ level; a chi-square to degrees of freedom ratio ($\chi 2/df$) < 3.0; RMSEA that is < .08; and CFI/TLI >.95 with adequate range including >.90 (Bentler, 1990; Hu & Bentler, 1999). Path coefficients are significant at $p < .05$.

The last step in conducting SEM is model modification. When the *a priori* model has poor fit, then model modification indices can be incorporated into a new model. Researchers suggest the following guidelines in utilizing modification indices to improve model fit. Analysis for the *a priori* model is conducted to confirm the theoretical underpinnings that have been specified, whereas the modified model is exploratory and incorporation of modification indices must make theoretical sense (Kline 2015; Schreiber, Nora, Stage, Barlow, & King, 2006). Guidelines also suggest

utilizing a small number of modification indices. Overall, the successfulness of the modified model is determined if it is statistically superior to the original model (Schreiber et al., 2006).

Before the main analysis, a confirmatory factor analysis was conducted in order to determine how well the observed factor loadings described the underlying latent sexual health-risk construct (Kline, 2015; Schreiber et al., 2006). Findings suggest that three factors adequately measured the latent sexual health-risk behavior variable. Path coefficients are significant for each of the three factors: (a) having multiple sexual partners (B =.83; S.E. = .06, $p < .001$); (b) having sex while under the influence of a controlled substance at last sex (B = .10; S.E. = .04, p = .016); and (c) having a previous diagnosis of a sexually transmitted infection (STI) including syphilis, gonorrhea, chlamydia and other STI within the past 12 months (B = .30; S.E. = .03, $p < .001$).

SEM Model

To measure the hypothesis of this study, the Kline (2015) guidelines outlined in the preliminary data analysis section were completed. The SEM *a priori* model was estimated using Full Information Maximum Likelihood (FIML) to account for missing data. The theoretical model for the *a priori* model is presented in Figure 1. The following fit indices were obtained $\chi 2$ (N = 3,916, df = 29) = 293.676, $p > .05$; CFI = .85; TLI = .77; and RMSEA = .048. The results of the model indicate poor fit.

Because poor fit of the overall model made the interpretation of the relationships within the model unsuitable, the next step was to review the modification indices to determine if a better fitting model was possible. To improve fit for the *a priori* model,

the model parameters were adjusted by adding four pathways. The added pathways included (a) age → engagement in HIV preventive practices, (b) HIV status → perceived discrimination, (c) sexual orientation → engagement in HIV preventive practices, and (d) HIV status → engagement in HIV preventive practices. Each of the added pathways has been previously studied within the literature (CDC, 2014; Harawa et al., 2014; Satterwhite et al., 2008). Additionally, age and HIV status were controlled for in the model. Statically, new pathways are added to an *a priori* model if their modification indices are 3.84 or above. The addition of these pathways (with modification indices 3.84 or above) increases the fit of the model (Bowen, 2014). Each of the pathways added to the model had modification indices above 3.84.

Subsequent analysis with the modified model included all of the original relationships from the *a priori* model in additional to the four new paths added. The modified model was identified. FIML was used to estimate missing data. Utilizing analysis bootstrapping 1000, the modified model obtained adequate fit $\chi 2$ (N = 3,916, df = 24) = 125.54, $p > .05$; CFI = .94; TLI = .89; RMSEA = .033. The modified model is statically superior to the original model based on the comparison of the chi-squared index. Figure 2 presents the modified model with all significant coefficient pathways with the addition of modified indices. Table 3 and Table 4 present all of direct and indirect path coefficients in the modified model.

Modified Model Path Coefficients

Hypothesis 1: There will be a relationship between sexual orientation (0 = gay; 1 =

bisexual) and perceived discrimination

There was not a statically significant relationship between a participant's sexual orientation and experience of discrimination ($p > .05$).

Hypothesis 2: Educational attainment will modify the sexual orientation-perceived discrimination relationship

A modifier is defined as a variable that influences the strength (increases or decreases) and direction of a relationship between two other variables (Baron, & Kenny, 1986). In SEM, moderation effect are tested by creating a multiplied product term that consists of two predictor variables. A product term was created to further investigate if the relationship between sexual orientation and perceived discrimination depends on the educational attainment of participants. To create the product term, sexual orientation was multiplied by educational attainment. Controlling for age, results indicated that educational attainment was not a moderator for the sexual orientation-perceived discrimination relationship ($p > .05$). However, the direct relationship between educational attainment and perceived discrimination was significant. A negative relationship between educational attainment and perceived discrimination was found ($B = -0.81$; S.E. = .01, $p < .001$).

Hypothesis 3: Perceived discrimination will mediate the educational attainment-sexual health risk behavior relationship

A mediator is defined as "a variable that explains the relationship between two variables" (Baron, & Kenny, 1986, p. 1176). Statistically, mediators are indirect effects that introduce a third variable into the X-Y independent and dependent relationships (MacKinnon, Fairchild, & Fritz, 2007). In mediation, there is a causal relation between

X, the mediator Z, and the outcome variable Y (X→ Z→ Y). Mediation occurs when the X→Y relationship is no longer significant after the mediator Z is introduced. Controlling for age, a mediation effect was tested to see if perceived discrimination mediates the educational attainment-sexual health risk behavior relationship.

To test the mediation, the following path coefficients were reviewed. First, a significant correlation between educational attainment (independent variable) and perceived discrimination (mediator) was found (B = -0.81; S.E. = .01, $p < .001$). Second, educational attainment (independent variable) was significantly correlated with sexual health risk behaviors (dependent) (B = .84; S.E. = .27, p = .002). Third, perceived discrimination (mediator) was significantly correlated with sexual health risk behavior (dependent variable) (B = 1.63; S.E. = .39, $p < .001$). Last, after adding perceived discrimination as a mediator, the relationship between educational attainment (independent) and sexual health risk behavior (dependent) was reduced to no significance ($p > 05$; p = .28). Therefore, most of the relationship between educational attainment and sexual health risk behavior is explained through the indirect pathway involving perceived discrimination.

Hypothesis 4: Perceived discrimination will be positively correlated with sexual health risk behaviors

Results indicated a statistically significant association between perception of discrimination and sexual health risk behaviors (B = 1.63; S.E. = .39, $p < .001$). The results did support the hypothesis outcome.

Hypothesis 5: Engagement in HIV preventive practices will modify the perceived discrimination-sexual health risk behaviors relationship

Controlling for HIV status, a moderation effect was tested to determine if the relationship between perceived discrimination and sexual health risk behaviors depends on engagement in HIV preventive practice. To determine the possible moderator effect, a product term was created with perceived discrimination multiplied by engagement in HIV preventive practices. The findings indicate that perceived discrimination (B = 1.63; S.E. = .39, $p < .001$) was positively correlated with sexual health risk behaviors. And engagement in HIV Preventive Practices moderated the perceived discrimination sexual health risk behavior (B = -1.50; S.E. = .33, $p < .001$).

The pathways added to the modified model were also significant. The results of this model indicate there is an association between age and HIV preventive practices (B= -.14; S.E. = .01, $p < .001$). Being older than age 50 was associated with the least engagement in HIV preventive practices. Other findings showed that there is an association between sexual orientation and engagement in HIV preventive practices (B = -.26; S.E. = .03, $p < .001$). In terms of HIV status, there was correlation between HIV status and perceived discrimination (B = .10; S.E. = .01, $p < .001$). Finally, a relationship between HIV status and engagement in HIV preventive practices was significant (B = 0.06; S.E. = .01, $p < .001$).

CHAPTER IV

DISCUSSION

Few studies have examined how perceived discrimination could impact sexual health risk behaviors, specifically for African American gay and bisexual men. Thus, the purpose of this study was to examine if psychosocial variables, such as perceived discrimination and engagement in HIV preventive practices are associated with engagement in sexual health risk behaviors. A comprehensive review of the literature was completed and a hypothesized model was developed and tested to explore the complex nature of how perceived discrimination impacts engagement in sexual health risk behaviors. The results of this study are reviewed and discussed below.

Hypothesis 1: There Will Be A Relationship Between Sexual Orientation (0 = gay; 1 = bisexual) and Perceived discrimination

The results did not support an association between sexual orientation and perceived discrimination. This differs from results of previous research that indicate there is a correlation between one's sexual orientation and their perception of discrimination (Herek et al., 1999). One factor that could be influencing the lack of a significant finding is the measurement of perceived discrimination. As measured currently, participants are asked to determine if they perceived a discriminatory act based exclusively on their sexual orientation. However, the interaction between race and gender expression could also be impacting the perception of discrimination. Not including the intersectionality of race, gender expression, and sexual orientation in the

measurement of perceived discrimination could lead to a skewed understanding of discrimination. More recent studies examining discrimination point to the fact that identities are not believed to be discrete or separable from another (Bostwick et al., 2014; Bowleg, 2008; Stirratt, Meyer, Ouellette, & Gara, 2008). Thus, the possible measurement error stemming from an attempt to isolate sexual orientation from participants' racial identity and gender expression experiences is believed to be impacting the insignificant finding in this study.

Research examining the effectiveness of the commonly used *Everyday Discrimination Scale* found distinctive patterns of experiences of discrimination for racial minorities and sexual minorities (Clark, Coleman, & Novak 2004; Jefferson, 2014). Findings suggest that both minority groups frequently reported verbal aggression, impolite treatment, being the focus of negative opinions (Jefferson, 2014). However, individuals of color exclusively endorsed statements like "people act afraid of you" and "people think you are not as good" (Jefferson, 2014). Additionally, a previously mentioned study found that compared to their White counterparts, Queer People of Color (QPOC) were more likely to report experiencing discrimination based on race, gender, and/or sexual orientation (Bostwick et al., 2014). This study examined discrimination by utilizing the Experiences of Discrimination scales (Krieger et al., 2005). In this study, participants were asked six Likert scale questions to determine if discriminatory events happened in health care, societal interactions, and employment, because of their racial identity, ethic identity, sexual orientation, or binary stated gender (Krieger et al., 2005). Additionally, variables were created measuring if participants

reported experiencing discrimination based on racial or ethnic, sexual orientation, or gender discrimination alone or a combination of these identities (Bostwick et al., 2014). Measuring discrimination by including intersectionality provided an in-depth understanding of how sexual orientation discrimination is impacted by race and gender (Bostwick et al., 2014).

Both previously mentioned studies focused on participants' reporting experiences of discrimination, while the current study focuses on the perception of discrimination. Therefore, future research is needed in establishing a scale or latent variable that incorporates intersectionality in measuring perceived discrimination. Specifically, for African American gay and bisexual men, intersectionality between race, sexual orientation, and gender expression should be included. Research has noted that non-gender conforming gay or bisexual men, whose physical sex may be different than their expressed gender, also experience discrimination due to societal perceptions of their gender (Kattari & Hasche, 2016; Van, Bos, Kuyper, Overbeek, & Sandfort, 2016). Thus, in measuring the perception of discrimination among African American gay and bisexual men, gender expression should be included in future studies. Additionally, it is suggested that future research continues to psychometrically construct perceived discrimination similar to the Bostwick et al., 2014 study, while also including questions that determine how identity salience impact the perception of discrimination. For example, perceived discrimination can be determined by using a question from the Everyday Discrimination Scale (Clark et al., 2004) such as "Do people act as if they are afraid of you?" If a participant says yes to this question, a subsequent question could be

"Do people act as if they are afraid of you because of your race, sexual orientation, gender expression or a combination of your identities?"

Hypothesis 2: Educational Attainment Will Modify The Sexual Orientation-Perceived Discrimination Relationship

Results did not support educational attainment being a moderator for the sexual orientation-perceived discrimination relationship. This result differs from previous research that indicates educational attainment determines under what conditions the relationship between an individual's sexual orientation and one's perception of discrimination would differ (Zhang et al., 2012; Broman et al., 2000). There are two factors that could be impacting this statistically insignificant outcome. First, educational attainment, as measured by a single item in this study, might not be fully measuring what is derived from obtaining education. Educational levels are often used as a proxy for the components of skills obtained during the education process (Barro & Lee, 2013). Thus, using educational attainment as a proxy increases the odds of measurement error occurring.

In general, education changes how individuals see and interact with their environments (McGlynn, 2012). Research supports that obtaining advanced education can: (a) increase contact with diverse populations and ideas, and (b) increase critical and analytical thinking skills (McGlynn, 2012). It is believed that the benefit of obtaining education could moderate the sexual orientation-perceived discrimination relationship. Specifically, it is believed that the increased ability of critical and analytical thinking skills could enhance cognitive appraisal, which is often used in attributing meaning to

discriminatory events. Cognitive appraisal is defined as the evaluative lenses that individuals utilize to make meaning of events that include an assessment of resources needed to manage stressful situations (Yap & Tong, 2009; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, R. J., 1986). Thus, to better explore the possible moderation qualities of educational attainment, future research should focus on the following: (a) Use measures that examine how the appraisal process might differ based on educational attainment levels; in essence do appraisal abilities increase as educational attainment increases? (b) Continue to build up research that suggests that cognitive appraisal impacts the perception of discrimination (Mays, Cochran, & Barnes, 2007). And (c) as previously discussed, education is often used a proxy for the components of skills obtained during the education process (Barro & Lee, 2013). Thus, future studies are encouraged to measure and use the underlying skills and benefits obtained from education as variables, opposed to using education levels as a proxy. To obtain this information, it is suggested that an educational attainment variable be created that concurrently taps into appraisal abilities at each educational level.

Although education attainment was not a moderator in this study, a direct relationship between educational attainment and perceived discrimination was statistically significant. There are mixed findings on the relationship between educational attainment and perceived discrimination (Abramson, Hashemi, & Sánchez-Jankowski, 2015; Reilly et al., 2015). Results from the current study suggest that participants with the least amount of education perceived the most discrimination. This

result is congruent with findings about the association between perceived discrimination and educational attainment among African American and LGBT populations (Reilly et al., 2015; Hausmann, Leslie Jeong, Kwonho, Bost, Ibrahim, & Said, 2008). Other studies suggest as educational attainment increases, perceived discrimination increases (Abramson et al, 2015). It is believed that this incongruence in findings between the educational attainment-perceived discrimination relationship is still based on the possibility that educational attainment (increased appraisal ability) is moderating the identity-perceived (i.e., sexual orientation) discrimination relationship.

Hypothesis 3: Perceived Discrimination Will Mediate The Educational Attainment-Sexual Health Risk Behavior Relationship

Results showed that perceived discrimination mediated the relationship between educational attainment and sexual health-risk behavior. This result supports previous research that has demonstrated perceived discrimination's meditational proprieties in direct relationships within both racial and LGBT research (Fuller-Rowell, Curtis, El-Sheikh, Duke, Ryff, & Zgierska, 2017; Matthews, Li, Aranda, Torres, Vargas, & Conrad, 2014; Wagner, Bogart, Galvan, Banks, & Klein, 2012). One study found that perceived discrimination mediates the relationship between sexual orientation and depression for LGBT youth (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009). Another study suggests that perceived discrimination mediates the relationship between adult attachment style and depression for gay men (Zakalik &Wei, 2006).

On the basis of this finding, continued research is needed to determine how perceived discrimination might mediate the relationship between educational attainment

and specific health risk behaviors individually (i.e., having multiple sexual partners, having sex under the influence of substances, and being previously diagnosed with an STI).

Additionally, research is needed to explore if perceived discrimination still mediates the educational attainment-perceived discrimination relationship within the context of the biopsychosocial theory. The biopsychosocial theory is based on the idea that health and illness are determined by interactions between biological, psychological, and social factors (Engle, 1978; Borrell-Carrió, Suchman, & Epstein, 2004). The mediation effect observed in this study focuses primarily on social and psychological aspects of the biopsychosocial model. Thus, future research is encouraged to examine if the biological factors of perceived discrimination, such as increased cortisol (Zeiders, Doane, & Roosa, 2012) might also be impacting the educational attainment-sexual health risk relationship.

Hypothesis 4: Perceived Discrimination Will Be Positively Correlated With Sexual Health Risk Behaviors

The hypothesized positive relationship between perceived discrimination and sexual health risk behaviors was supported. This result supports previous research that indicates perceived discrimination impacts engagement in sexual health risk behaviors (Frye et al., 2014; Reilly et al., 2015). Meyer's minority stress model is useful in explaining the relationship between perceived discrimination and sexual health risk behaviors (Meyer, 2003). The model proposes that negative health outcomes faced by LGBQ populations can be explained as a result of chronic experiences of minority stress and distal and proximal experiences of discrimination (Meyer, 2003). Minority stress is

described as excess stress that individuals from stigmatized social groups are exposed to as a result of a hostile societal view toward that minority status (Meyer, 2003; Brooks, 1981; Meyer, 1995). Within the context of this study, experiences of minority stressors such as perceived discrimination can increase the likelihood of engaging in sexual health risk behaviors **(**Dentato, 2012; Diaz, Bein, & Ayala, 2006).

Future research is encouraged in utilizing a SEM latent growth model that is based on the minority stress model. Latent growth models are used to estimate growth over time (Kline, 2015). Previous research has suggested that years of chronic minority stress have a direct correlation on the perception of discrimination and subsequent sexual health risk behaviors (Dentato, 2012). Thus, using latent growth modeling would allow for additional exploration of how minority stress and discrimination could impact sexual health risk behaviors over time. This modeling would allow examination of how perceived discrimination might also be predictive of individual sexual health risk factors (i.e., having multiple sexual partners, having sex under the influence of substances, and being previously diagnosed with an STI) over time.

Hypothesis 5: Engagement in HIV Preventive Practices Will Modify The Perceived Discrimination-Sexual Health Risk Behaviors Relationship

Hypothesis five proposed that engagement in HIV preventive practices would modify the perceived discrimination-sexual health risk behavior relationship. Results supported this hypothesis, with engagement in HIV preventive practices weakening the association between perceived discrimination and sexual health risk behaviors. This finding supports previous research that indicates discrimination and social biases can

impact HIV prevention and subsequent engagement in sexual health risk behaviors (Brooks, Etzel, Hinojos, Henry, & Mario Perez, 2005).

However, as previously discussed, while there are mixed results, research has demonstrated that knowledge of HIV preventive practices alone does not decrease sexual risk behaviors (Hoehn, FitzGerald, Bhatt, Robinson, Lippe, & Reed, 2016; Noroozinejad, et al., 2013; Salgado et al., 1996). One particular study examined if high levels of HIV preventive knowledge decreased partaking in sexual risk behaviors (Hoehn et al., 2016). The results suggested that knowledge of HIV preventive practices alone was not sufficient in changing sexual practices (Hoehn et al., 2016). Best Practices in HIV Prevention (2014), a document created by the National LGBT Health and Education Center, suggests that HIV prevention programs that focus on increasing preventive knowledge *without* including psychosocial factors are likely less effective.

The literature also presents several other factors that are needed in conjunction with knowledge of HIV preventive practices to decrease engagement in sexual health risk behaviors. Some of these factors include (a) focusing on the resilience of minority populations; (b) including the impact of life-long psychosocial stressors such as discrimination, homophobia and stigma; (c) helping individuals tackle environmental barriers that hinder the utilization of HIV prevention; (c) empowering and equipping communities to support healthy sexual discussions; and (e) helping individuals evaluate the risk of making assumptions about their partner(s) HIV status (Melendez, Zepeda, Samaniego, Chakravarty, & Alaniz, 2013; Mustanski, Garofalo, Herrick, & Donenberg,

2007; Rotheram-Borus, Swendeman, Flannery, Rice, Adamson & Ingram, 2009; Brooks, et al., 2005).

As previously discussed, HIV preventive efforts often focus on increasing knowledge and decreasing behavior. However, based on the findings of this study, it is important to continue exploring how the internal processes underlying discrimination and utilization of HIV preventive practices together could decrease sexual health risk behaviors. Adapting this perspective means attempting to help individuals make meaningful changes to the internal process that affect engagement in sexual health behaviors. Therefore, future research is encouraged to continue exploring how HIV preventive practices are impacting the internal processes affecting the perceived discrimination-sexual health risk behavior relationship. Additionally, future research is encouraged to continue exploring if HIV preventive practices moderate the relationship between other psychosocial factors (i.e., stigma, internalized homophobia, and resiliency) and sexual health risk behaviors.

It is also interesting to note that age impacted the utilization of HIV preventive practices. Specifically, utilization of HIV preventive practices are most associated with participants ages 20-44 in this study. Participants who are between 18-24 are less likely to engage in HIV preventive practices compared to participants ages 20-44. However, the 18-24 group is still more likely to engage in HIV preventive practices than participants who are above age 50. These findings are congruent with previous research findings (CDC, 2017b). The CDC presents that older individuals encounter the same risk of HIV infection as younger individuals (CDC, 2017b). However, older individuals may

believe they are no longer at risk for HIV and could mistake HIV symptoms for those of normal aging, not considering HIV as a possible cause (CDC, 2017b).

Results also indicated bisexual participants reported less engagement in HIV preventive practices. There are few studies that examine HIV preventive practices and sexual health risk behaviors of bisexual men. However, one study examining risk factors among heterosexual and LGB youth found that bisexual males were more likely to report a higher number of sexual partners, and earlier ages of sexual debut (Everett, Schnarrs, Rosario, Garofalo, & Mustanski, 2013). Added to the complexity of this finding is the possible correlation between HIV preventive practices used by bisexual men with men and women. Previous research suggests that (a) the frequencies of HIV preventive practices are different with male and female partners and (b) HIV preventive practices and unsafe sexual behaviors with female partners might also be correlated to bisexual men practices with male partners (Friedman, Wei, Klem, Silvestre, Markovic, 2014; Harawa et al., 2014; Greco, Silca, Merchan-hamann, Jeronymo, Andrade, & Greco, 2007). Therefore, the diversity of behavior among bisexual participants could be impacting the measurement and reports of engagement in HIV preventive practices.

In addition, results suggested that there is a correlation between HIV status and the perception of discrimination. Particularly, having an HIV-positive status is associated with increased perception of discrimination. Two factors are believed to influence this finding. As previously stated in this study, identity and identity-salience impacts how individuals view themselves, other identity roles, and others within their environments (Hogg, Terry, & White, 1995). Salience of an identity also determines

how probable identities will be activated across a variety of situations (Hogg et al., 1995). A diagnosis of HIV can lead to the formation of a stigmatized chronic illness identity that can become salient. According to Baumgartner and Niemi (2013), being diagnosed with HIV becomes a part of that individual's self-identity. This newly formed identity, in turn, is believed to shape the perception of discrimination. Research suggests that African Americans who are HIV-positive experience frequent stigma, discrimination, and social stress related to how others perceive their HIV status. These negative experiences increase the perception of subsequent stigmatization (Williamson, Mahmood, Kuhn, Thames, & Health, 2017). These findings, in turn, support an increased perception of discrimination because of the identity salience or impact of an HIV-positive diagnosis for participants who are HIV positive.

A second factor is also believed to impact the perception of discrimination for African American HIV-positive gay and bisexual men. Continuing with the previous rationale that having an HIV-positive status can become a chronic illness identity, it is believed that HIV status interacts with other marginalized identities (Baumgartner & Niemi, 2013). This interaction or intersectionality between race, sexual orientation, and positive HIV status could also impact the perception of discrimination. African American HIV-positive gay and bisexual men could encounter discrimination and homophobia from the larger African American community, because of skewed societal pairing of sexual orientation and HIV infection. Historically, within the African American community, HIV infection was attributed to African American gay and bisexual men. During the late 1900s and early 2000s, the belief persisted that gay,

bisexual men, or “down low men” were responsible for high rates of HIV infection among African American heterosexual women (Millett, Malebranche, Mason, & Spikes, 2005). While this stereotypical belief has been disproven (Millett et al., 2005), these skewed negative beliefs could still impact the perception of discrimination and stigma by participants in this study.

Previous research suggests that individuals who are HIV positive are more likely to engage in HIV preventive practices than individuals who a HIV negative (Moskowitz & Seal, 2001; Kalichman et al., 2016). This study presents similar finding: There is a relationship between being HIV positive and engaging in HIV preventive practices. One possible factor underlying this finding is that participants who are HIV positive face different consequences when they do not engage in HIV preventive practices. For example, there can be legal ramifications for not informing sexual partners of their HIV status (Kalichman, et al., 2016). Thus, the risks of engaging in sexual health risk behaviors that can lead to HIV infection are greater for participants who are HIV positive.

As previously discussed, receiving an HIV-positive diagnosis can create an HIV-related chronic illness identity. Research proposes that having this identity can impact sexual behaviors, partner selection, and interpersonal communication about HIV status (Kalichman et al., 2016). Within the present study, it is believed that this chronic illness identity also underlies an increased likelihood of engaging in HIV preventive practices.

Future research is needed to explore if knowledge of higher rates of HIV infection, among African American gay and bisexual men, could be negatively impacting engagement in HIV preventive practices. As previously mentioned, recent

statistics published by the CDC (2017a) reported that if HIV diagnosis persists, the lifetime risk for HIV infection among African American gay and bisexual men is one in two. This report presents a possible bleak outcome for African American gay and bisexual men. Research also indicates that African American gay and bisexual men are more likely to have Black sexual partners (Koblin et al., 2013). Therefore, this possible bleak outcome paired with (a) individuals living longer with HIV (CDC, 2016) and (b) the smaller exclusive dating selection could decrease engagement in HIV preventive practices for African American gay and bisexual men who are HIV negative. This could be based on an assumed probability that HIV infection is likely. Thus, future research is needed to explore these complex relationships.

Limitations

Before discussing the implications of the study, it is important to recognize the limitations. One limitation of this study is that the data was collected cross-sectional. With cross-sectional data, only associated relationships can be obtained, but casual inferences cannot be made. Future longitudinal cohort research, that measures discrimination as a predictor of sexual health risk behavior, could provide further understanding of this topic. A longitudinal study can determine if continued perceived discrimination still impacts or increases sexual health risk behaviors consistently. Research studies also suggest that longitudinal research is needed to understand the impact of lifetime discrimination, psychosocial, stressors on subsequent health outcomes (Noh & Kaspar, 2003).

Another limitation is limited generalizability. This study is not generalizable to

African American gay and bisexual men who live in rural areas, as the data was collected in metropolitan cities. The literature presents several differences among urban and rural gay and bisexual men (Peterson & Jones, 2009). Other factors that narrow generalizability are that the sample is comprised of more educated participants and that a large number of the participants identified as gay. Additionally, the majority of the sample reported being tested for HIV. This limits the generalization to African American gay and bisexual men who have been previously tested for HIV.

An additional limitation centers on the face validity of the engagement in HIV preventive practices. According to the theory on planned behavior there are distinct differences between having knowledge and engaging in preventive behavior (Ajzen, 1985). Therefore, based on the theory of planned behavior, removing the following items from the original five-item engagement in HIV Preventive practices variable: (a) "having participated in an HIV preventive session in a one-on-one setting; and (b) "having participated in an HIV preventive session in a group setting", potentially changed the variable from an engagement-based variable to a knowledge-based variable. These two items were removed due to low reliability of the original five item variable. Thus, future research is needed in constructing an engagement-based HIV preventive practices variable. Another limitation for the engagement in HIV preventive practices is the low Cronbach's alpha. Cronbach's alpha is a reliability measurement. Cronbach's alpha measures internal consistency, essentially how closely related questions are in measuring an overall construct. Scores close to or higher than .80 indicate good internal consistency (Garson, 2013; Tavakol & Dennick, 2011). Scores .70 or higher are considered

acceptable (Garson, 2013; Tavakol & Dennick, 2011). The engagement in HIV preventive practices obtained a Cronbach's alpha of .42, indicating low internal consistency. However, this can be attributed to the fact that alpha is sensitive to the number of questions and the type of questions utilized. Garson (2013) indicates that low alpha can occur when there are few items describing a scale or factor. Low alpha can also occur when items are dichotomous, compared to Likert-scale or continuous items. Thus, the low alpha obtained by the engagement in HIV preventive practice could have occurred because of the low number of questions and dichotomous questions used. Future research constructing an HIV preventive construct with good internal consistency is needed.

The perceived discrimination construct received an alpha of .60, which is closer to the acceptable range. The measurement of discrimination omits possible perceived discrimination occurring due to other minority status, thus possibly impacting the internal consistency of the item. Only sexual orientation discrimination was measured in this study. However, racial discrimination, and gender expression based discrimination could also impact the perception of sexual orientation discrimination. Future research is needed in how QPOC intersecting identities and gender expression impact the perception of discrimination. Other researchers have noted the need for utilizing intersectionality in measuring discrimination constructs (Seaton et al.,2010; Dentato, 2012).

Additionally, having path coefficient greater than one suggest that there could be multicollinearity (Jöreskog, 1999). There are mixed findings on how multicollinearity may impact SEM, as some studies have found legitimate times that multicollinearity has

occurred and not biased estimated coefficients (Grewal et al., 2004; Deegan, 1978; Jöreskog, 1999;). Grewal et al., (2004) suggest that multicollinearity can be affected by (a) sample size, with smaller sample sizes being more likely to encounter multicollinearity, and (b) and when variable composite reliability is low. Thus, it is believed that the composite reliability of perceived discrimination and engagement in HIV preventive practices could be impacting multicollinearity. As previously stated, future research is needed in creating perceived discrimination and engagement in HIV preventive practices variables with greater internal consistency.

Finally, due to the complex inclusion and exclusion criteria of the NHBS interview survey, other factors included in the NHBS survey that are believed to increase the risk of HIV among gay and bisexual men were not included in this study. As mentioned before, the NHBS utilizes a structure interview formation. Some questions had inclusion/exclusion criteria for additional questions (therefore, participants who answer "no" to the original pre-request questions are directed to another set of questions). Sexual health risk behaviors that are not easily assessed without the inclusion of causal and or main partners include condomless anal sex, having hepatitis B (HBV), and hepatitis C (HCV). These factors are important because the literature suggests they increase the risk of HIV infection. Findings suggest that gay and bisexual men often acquire HIV through condomless anal sex (CDC, 2015b) and HBV/HCV infections are similarly transmitted as HIV (CDC, 2015b). Therefore, future research is needed to construct a latent sexual health risk behavior variable that includes additional risk factors. Moreover, future research is encouraged to create a multidimensional latent sexual health risk variable for African American gay and bisexual men. The suggested

dimensions include (a) risk behaviors, (b) biological risk, such as inflammation caused by other STIs that increases susceptibility to HIV infection, and (c) psychosocial risk, such as age of sexual debut. Risk behaviors, such as condomless anal sex and those included in this study, are frequently used in the literature to measure sexual health risk behaviors. However, there are biological and psychosocial factors that also increase risk of HIV infection that are not rooted in behavior (Peterman, Newman, Maddox, Schmitt, &, Shiver, 2014).

For example, research suggests that syphilis biologically facilitates the acquisition and transmission of HIV infection (Mehta, Ghanem, Rompalo, & Erbelding, 2006; Pathela, Braunstein, Schillinger, Shepard, Sweeney, & Blank, 2011). In terms of psychosocial risk factors, things like age of sexual debut, depression, concurrent partners, low self-esteem, and low social support have all been examined as factors possibly leading to increased HIV infection (Gerbi, Habtemariam, Robnett, Nganwa, & Tameru, 2012; Ramiro, Teva, Bermúdez, & Buela-Casal, 2013; Beyrer, Baral, Walker, Wirtz, Johns, & Sifakis, 2010; Pettifor, Straten, Dunbar, Shiboski, & Padian, 2004). Overall, each of three factors are associated with HIV infection; however, all uniquely attributable to HIV infection. Thus, warranting specific factors within a latent sexual health risk variable is important.

Recommendations and Implications

Based on the results of this study and previous research, the following implications are suggested. There is a necessity for psychological and health scholars who are exploring predictors of sexual health behaviors to take into account psychosocial factors like perceived discrimination. The following research recommendations are made

for those who are exploring the impact of perceived discrimination on sexual health risk behaviors, for African American gay and bisexual men.

Based on the insignificant relationship between perceived discrimination and sexual orientation found in this study, the following recommendations are made. First, The perceived discrimination construct, in this study, measures only sexual orientation discrimination. However, intersecting minority group membership and identity salience can impact the perception of discrimination; thus, both concepts should be included in the exploration of perceived discrimination (Meyer, 2003; Seaton et al., 2010; Dentato, 2012). This approach is also suggested over viewing perceived discrimination as a byproduct of behaviors, which is an underlying assumption when the term MSM is used in conjunction with discrimination (Wilson & Miyashita, 2016).

Second, in the psychological field constructs, scales, and theoretical models are created to provide in-depth understanding of a phenomenon. The process of creating a construct or a scale is tedious, but the end result aids in the ability to bring insight to complex internal processes underlying behavior. Thus, additional recommendations based on this study include continuing to examine sexual health risk behaviors as a latent construct, as well as utilizing structure equation modeling in examining and comparing theoretical models aiming to explain complex relationships that can lead to HIV infection (Noar & Zimmerman, 2005).

The results of this study also have the potential to impact prevention and intervention work for mental health providers and health promoters. This study suggests that there are multiple ways for practitioners working with African American gay and

bisexual men to intervene on the perceived discrimination-sexual health risk behavior relationship. It is important to first acknowledge ways that mental health providers can address perceived discrimination in counseling.

Given that the study found a relationship between perceived discrimination and sexual health risk behaviors, mental health and health providers can intervene in this detrimental relationship by (a) assessing the client's history for discriminatory victimization and perceptions of discrimination by utilizing the Every Day discrimination scale (Clark et al., 2004) or other discrimination scales (Atkins, 2014), and (b) assessing for the impact of perceived discrimination on sexual health risk behaviors. Specifically, by seeking to understand how internalized perceived discrimination could be impacting engagement in sexual health risk behaviors.

No overall significant difference was found in the perception of sexual orientation discrimination between African American gay and bisexual men. However, previous literature still suggests that bisexual individuals may perceive the source and types of discrimination differently than their gay male counterparts (Klesse, 2011). For example, research suggests that bisexual individuals may be faced with challenges of the validity of bisexuality as a sexual orientation (Klesse, 2011; Mulick & Wright, 2002; Kollen, 2013). Previous research also suggests that bisexual individuals are less likely to feel included in the LGBT community (Mulick & Wright, 2007). Additionally, the sources of discrimination can be different for African American bisexual men than for their gay counterparts. Therefore, it is encouraged that mental health and health

providers validate bisexuality as a sexual orientation, and explore the unique perception of discrimination that African American bisexual men can have.

Given that participants reported perceived discrimination due to their sexual orientation and that the perception of discrimination also impacts the perception of safety, mental health and health providers should acknowledge ways that safety might be threatened in the provider-client relationship. Practitioner biases toward African American gay and bisexual men can interfere with clients' perceived safety. These biases limit the successfulness of weakening the perceived discrimination-sexual health risk behavior relationship. In the LGB counseling guidelines published by the American Psychological Association, it states, "psychologists need to acknowledge the prevalence and impact of HIV among LGB populations" (2011, p. 23). Additionally, the guidelines state that mental health providers should "avoid any assumptions pertaining to a client's HIV status based on sexual orientation or other demographic characteristics" (2011, p. 24). Thus, for practitioners working with this population, automatically assuming that African American gay and bisexual men are HIV positive can increase their perception of discrimination. In addition, this practitioner assumption decreases the perception of interpersonal safety within the therapeutic relationship. Finally, negative implicit and explicit biases about African American gay and bisexual men can also undermine the effectiveness of the provider-client relationship. Therefore, mental health and health providers are encouraged to engage in self-exploration of biases. The providers should challenge their negative implicit and explicit biases that can detrimentally decease opportunities to engage in meaningful conversations about HIV prevention.

Related specifically to HIV prevention efforts, the following implications are made. It is encouraged that future behavioral health HIV prevention programs include ways of decreasing discrimination and other detrimental psychosocial factors, while also increasing knowledge of HIV preventive practices. One of the findings of this study suggests that the interaction between perceived discrimination and engagement in HIV preventive practices could be related to a decrease in sexual health risk behaviors. Therefore, it is suggested that HIV prevention programs include intervention strategies that help participants change the psychosocial-based internal process that impacts sexual health risk behaviors.

Previous research has demonstrated consistent support for the effectiveness of decreasing sexual health risk behaviors utilizing group and community-level interventions among gay and bisexual men (Lorimer, Kidd, Lawrence, McPherson, Cayless, & Cornish, 2013). Additionally, research determined that interventions are most effective when delivered by trained professionals who utilize theory-based interventions (Lorimer, 2013; Crepaz et al., 2006). Building upon these research findings, it is suggested that HIV prevention programs create group interventions that are led by interdisciplinary care teams. Utilizing a care team, treatment models would allow for holistic-focused interventions needed in decreasing the impact of discrimination on sexual health risk behaviors. Finally, based on previously discussed findings, African American bisexual men need HIV prevention interventions addressing their specific risk needs.

CHAPTER V

SUMMARY AND CONCLUSIONS

This study examined if psychosocial variables like perceived discrimination, educational attainment, and HIV preventive practices impact engagement in sexual health risk behaviors for African American gay and bisexual men. The study explored how sexual orientation discrimination might be different for African American gay men, compared to their bisexual counterparts. Major findings of the originally proposed hypothesis indicated that perceived discrimination mediated the educational attainment-sexual health risk behavior relationship, while controlling for age. Findings also indicated that perceived discrimination increased the likelihood of engaging in sexual health risk behaviors. Additionally, it was found that engaging in HIV preventive practices weakened the association between perceived discrimination and sexual health risk behaviors.

Several limitations existed in the study. First, the study was cross sectional; thus, inferences about causality are not possible. Second, generalizability is limited. Generalizability is limited to African American gay and bisexual men who live in metropolitan cities. Third, the engagement in HIV preventive practices construct obtained a low Cronbach's alpha (.43). However, this is believed to be impacted by having a small number of dichotomous questions. Alpha is a better source of reliability when there are more questions, using Likert scale measurements. Fourth, sexual orientation discrimination is measured in this study. However, other marginalized

identities could be impacting the perception of discrimination for participants. The finial limitation discussed is that other factors associated with HIV infection among gay and bisexual men were not included, due to the complex nature of the NHBS interview.

Overall, this research study highlights the importance of exploring how psychosocial factors impact the perception of discrimination and the possible subsequent engagement in sexual health risk behaviors. Acknowledgement of how perceived discrimination impacts engagement in sexual health risk behaviors is important in developing future research studies. The results of this study also have practical implications for developing new HIV preventive efforts and mental health interventions.

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APPENDIX FIGURES AND TABLES

Figure 1

Theoretical Model

Red arrows indicate modifiers. Blue arrows indicate the mediation. Green arrows indicate controlling for age and HIV Status.

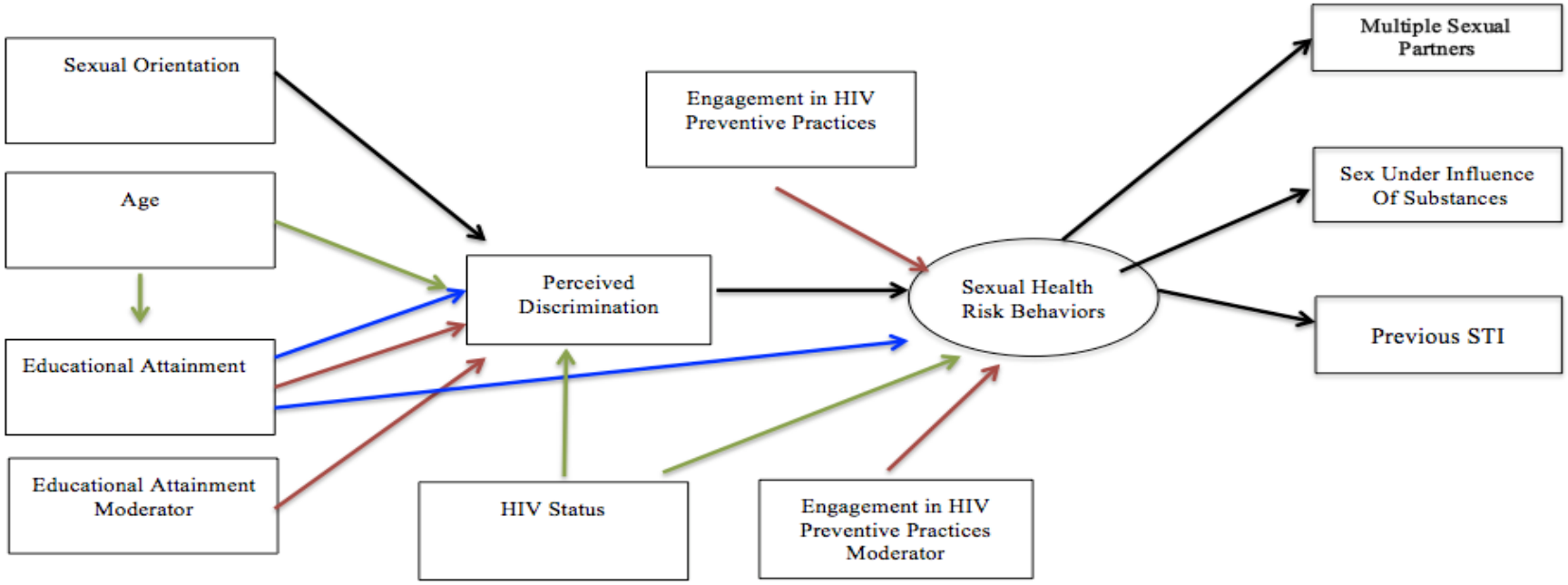

Figure 2

Final Model with Significant Paths Indicated

Note: Significant relationships indicated with solid bold line; non-bolded solid lines indicate non-significance at $p < .05$ level; Paths representing new modified indices are highlighted with dotted lines.

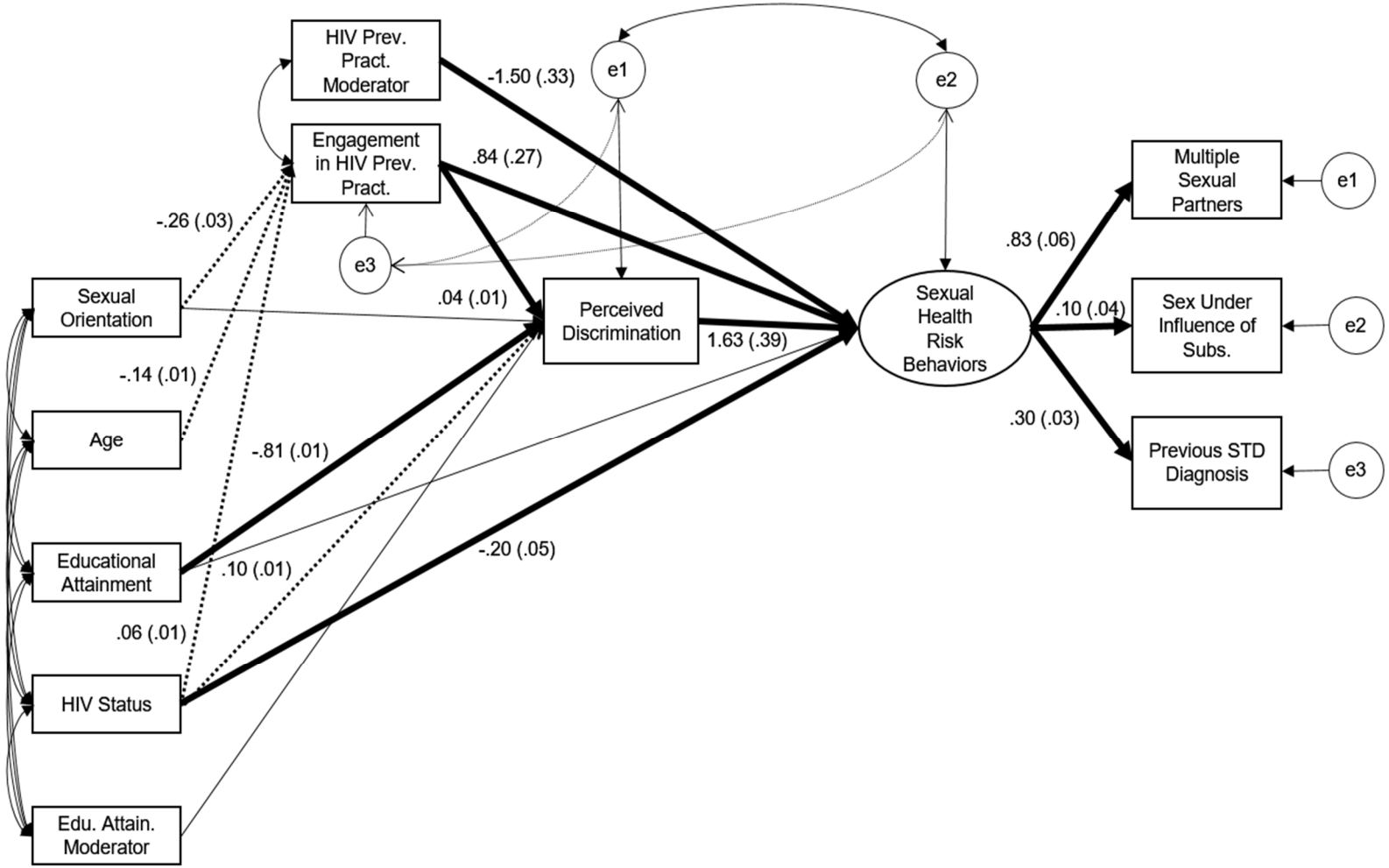

Table 1

Correlation Table with All Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Sexual Orientation	---																
2. Age	0.00	---															
3. Educational Attainment	0.92**	0.09***	---														
4. Multiple Sexual Partners	0.01	-0.01	0.00	---													
5. Substance Use Before Sex	0.00	0.18***	0.02	0.21***	---												
6. Verbal Discrimination	0.03*	-0.41*	0.00	0.00	-0.01	---											
7. Poor Services Discrimination	0.02	-0.01	0.00	0.00	-0.01	0.15***	---										
8. Work Discrimination	0.05***	0.02	0.00	0.00	-0.01	0.22***	0.13***	---									
9. Health Discrimination	0.06***	0.00	-0.02	0.00	0.02	0.17***	0.10***	0.14***	---								
10. Physical Discrimination	-0.01	0.02	0.01	0.00	0.02	0.00	0.00	0.00	0.00	---							
11. Tested for HIV	0.00	0.00	0.01	0.00	-0.01	0.00	0.01	0.00	0.00	0.01	---						
12. Knowledge of Partner Status	0.13***	0.18***	-0.02	-0.21***	0.99***	0.01	0.01	0.01	0.02	0.01	0.01	---					
13. Gonorrhea	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---				
14. Chlamydia	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.04*	0.61***	---			
15. Syphilis	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00***	0.63***	0.77***	---		
16. Any Other STD	0.01	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01*	0.40***	0.66*	0.51***	---	
17. HIV Status	-0.11***	0.07***	0.69***	0.00	-0.04**	0.01	0.01	-0.05**	0.01	0.01	-0.43**	-0.43**	0.01	0.01	0.1	0.00	---

Note. * Indicates significant paths at $p < .05$; ** = $p < .01$; and *** = $p < .001$.

Table 2

Sample Characteristics Total Sample (N=3,916)

Characteristic	N	%
Sexual Orientation		
Gay	3422	87.4%
Bisexual	494	12.6%
Education		
Less than high school graduate	671	17.14%
High school diploma or equivalent	1088	27.79%
Some college or technical degree	1301	33.23%
College degree or postgraduate education	855	21.84%
Age		
18-24	461	11.77%
25-29	701	17.90%
30-34	541	13.82%
35-39	437	11.16%
40-44	383	9.78%
45-49	425	10.85%
50-54	406	10.37%
55-59	243	6.21%
60 and older	319	8.15%
Previous Diagnosis of Sexually Transmitted Infection (STI)		
No	3,418	87.51%
Yes	488	12.49%
Having Multiple Sexual Partners		
1 partner	977	25.08%
2 or more partners	2,919	74.92%
Having Sex While Under the Influence of Controlled Substances		
No (Neither Alcohol and Drugs)	1,930	53.46%
Yes (Alcohol, Drugs, or Both Alcohol and Drugs)	1,680	46.54%

Table 3

Standardized Direct Path Coefficient Estimates and Standard Errors

Direct Paths	*B*	S.E.	*p*
Sexual Orientation → Perceived Discrimination	0.01	.35	.73
Education Attainment → Perceived Discrimination*	-0.81	.01	.00
Perceived Discrimination → Sexual Health Risk Behavior*	1.63	.39	.00
Age → Engagement in HIV Preventive Practices *	-0.14	.01	.00
Sexual Orientation → Engagement in HIV Preventive Practices*	-0.26	.03	.00
HIV Status → Perceived Discrimination*	0.10	.01	.00
HIV Status → Engagement in HIV Preventive Practices*	0.06	.01	.00

Note. * Indicates significant paths at the $p < .05$

Table 4

Moderation and Mediation Standardized Direct Path Coefficient Estimates and Standard Errors

Moderated and Indirect Paths	*B*	S.E.	*p*
Educational Attainment → Perceived Discrimination*	-0.81	.01	.00
Education Attainment Moderator→ Perceived Discrimination	-0.03	.02	.12
Engagement in HIV Preventive Practices → Sexual Health Risk Behaviors*	0.84	.27	.00
Engagement in HIV Preventive Practices Moderator → Sexual Health Risk Behaviors*	-1.50	.33	.00
Education Attainment → Perceived Discrimination → Sexual HRB*	-0.13	.04	.00

Note. * Indicates significant paths at the $p < .05$