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**Publication Date**

2013

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UNIVERSITY OF CALIFORNIA

Los Angeles

Minority Stress and HIV Risk Behavior among  
HIV-Positive Bisexual Black Men with Histories of Childhood Sexual Abuse

A Dissertation submitted in partial satisfaction of the  
requirements for the degree Doctor of Philosophy  
in Public Health

by

Kimberly Anne Kisler, M.P.H.

2013

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## ABSTRACT OF THE DISSERTATION

### Minority Stress and HIV Risk Behavior among HIV-Positive Bisexual Black Men with Histories of Childhood Sexual Abuse

by

Kimberly Anne Kisler

Doctor of Philosophy in Public Health

University of California, Los Angeles, 2013

Professor Deborah C. Glik, Chair

In the United States, significant disparities in HIV/AIDS exist among Black men who have sex with men (MSM). For instance, in 2006, Black MSM comprised 63% of new HIV infections among Black men, and 35% of new HIV infections among all MSM (Centers for Disease Control and Prevention [CDC], 2010a). Further, Black MSM were the only risk group in the United States to experience statistically significant increases in new HIV infections between 2006 and 2009 (CDC, 2012a). To address such disparities, HIV prevention efforts that focus on reducing the stress associated with sociocultural factors, such as experiences and perceptions of racism and homophobia, have been proposed. Utilizing the minority stress model and the theory of Intersectionality as guiding theoretical frameworks, this study examined: the relationship between indicators of minority stress (events of racial/ethnic discrimination, internalized racism, and internalized homophobia) and HIV risk behavior; whether psychological

distress and/or social support moderate this relationship; and whether a culturally congruent intervention was efficacious in reducing perceptions of internalized racism and internalized homophobia, and frequency of HIV risk behavior among a sample of HIV-positive non-gay identifying Black men who have sex with men and women and who have histories of childhood sexual abuse.

The full sample included 117 men who were administered a baseline survey, as well as a sub-sample of 88 men who were randomized into either the Enhanced Sexual Health Intervention for Men (ES-HIM) intervention or Health Promotion control condition as part of the ES-HIM Project. The original randomized control trial took place between 2007 and 2011.

Only perception of internalized racism was found to have a direct association with HIV risk behavior in this sample, though this relationship was negative meaning increased racial pride predicted more HIV risk behavior. The full model that included all indicators of minority stress, childhood sexual abuse, and social support explained HIV risk behavior better than each indicator of minority stress on its own. This supported the additive perspective of the theory of Intersectionality, but not the primary perspective of this theory. The interactionist perspective was also tested between internalized racism and internalized homophobia, but findings did not result in support for this perspective.

The role of psychological distress was inconclusive. While ample evidence supported the removal of psychological distress in order to test a direct relationship between indicators of minority stress and HIV risk behavior, some support for moderation was found.

Social support showed clear indication of a moderating effect between two indicators of minority stress and HIV risk behavior when controlling for other covariates. Further, the level of social support and the indicator of minority stress contributed to the overall effect of social

support on HIV risk behavior.

In terms of intervention effects, internalized racism did not decrease over the four time points for either the group as a whole (n=88), or by intervention condition. Internalized homophobia, however, significantly diminished over the four time points for the group as a whole, but no differences between the ES-HIM intervention and Health Promotion control condition were found. Finally, frequency of HIV risk behavior (i.e., intercourse without a condom) also decreased from baseline to post-intervention assessment for the group as a whole, but no intervention effects were found.

Indicators of minority stress, namely internalized racism and internalized homophobia, appear to play an important role in the HIV risk behavior of this population. However, the relationship is nuanced among this highly marginalized sample. Finally, while the ES-HIM intervention was unsuccessful in effecting changes in internalized racism, internalized homophobia, and frequency of HIV risk behavior over time, significant reductions in internalized homophobia and HIV risk behavior for the group as a whole were achieved.

The dissertation of Kimberly Anne Kisler is approved.

Carole Browner

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2013

This dissertation is dedicated to those infected with and affected by HIV/AIDS.

*It's bad enough that people are dying of AIDS, but no one should die of ignorance.*

-Elizabeth Taylor



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## ACKNOWLEDGEMENTS

My success as an academic, professional, and all-around decent human being can primarily be attributed to the incredible love, dedication, and support of the greatest family on earth. The sincerest and most heartfelt of “thank yous” to: my parents, Susan and Butch, for consistent encouragement, acceptance, and being my number one fans throughout this difficult process; my sister Morgan, who loved me unconditionally and never let me feel like anything but a deserving superstar; my brother-in-law Kaare, whose subtle humor made the process a bit more enjoyable; and to Nanny, Lamar, Poppy, the Edwards, and the Rothsteins for making me believe, since an early age, that I was capable of such accomplishments. And finally, I am forever indebted to my soul mate Nicholas, who has singlehandedly carried me through this dissertation process. Without his kind words, selflessness, and unending love, this dissertation would not have been possible. It is my intention to spend the rest of my life returning the favor.

I am also grateful to a number of important mentors who have inspired me along the way. First, to Dr. John K. Williams who has tended to my academic and professional career for many years, helping me blossom into a solid researcher. Instrumentally, I am grateful for the opportunity to have served as his Project Director, as well as to have used his data for this dissertation. Personally, I am grateful for his unwavering support and encouragement, and for serving as a role model for the kind of professional I strive to be. Second, I am thankful to my Chair, Dr. Deborah C. Glik, who for many years has pushed me toward the successful completion of my doctorate degree and a dissertation I am proud of. Third, I am grateful to the rest of my committee, Drs. Browner, Gipson, and Goldstein, for reading, revising, supporting, and encouraging me throughout the dissertation process.

Finally, I am appreciative of the mentoring I have received from Dr. Cathy J. Reback who has been grooming me for an exciting career that is yet to come.

A number of other important influences also deserve acknowledgement: Sean J. Lawrence for serving as my partner-in-crime and dedicated shoulder to cry on; Joe Izzo for his best friendship and appreciation of a budding “do-gooder;” Ross Mathews for happily cheering me along on this never-ending journey; Joshua Wiley for assisting me in conquering my fears of all things statistics; Joshua Rusow for his expert APA skills and sharp wit; Angie Denisse Otiniano-Verissimo for being the beautiful beacon of light expertly guiding me through this program; Angelina, Prudence, Jaime, and Cadence whose work not only inspires me, but whose support has helped me stay sane; and finally, to the many other friends and colleagues who have helped push, poke, pull, and prod me to the successful completion of my Ph.D.

Most importantly, I am incredibly thankful to the Enhanced Sexual Health Intervention for Men Project participants, who gave their time, sentiments, knowledge, and complete selves to this project. In return, I promise to dedicate the remainder of my career to helping improve the lives of those infected with HIV, as well as striving to make HIV/AIDS a disease of the history books.

Finally, funding to support this research study was provided from the National Institute of Mental Health (The ES-HIM Project [1 R34 MH077550] and the Center for Culture, Trauma, and Mental Health Disparities [5P50MH073453]). The ClinicalTrials.gov ID is NCT01641146.

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#### PUBLICATIONS & PRESENTATIONS

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Kisler KA, Williams JK. (2012). Image over risk reduction: perceptions of masculinity as HIV risk factors among non-gay identifying HIV-positive Black MSMW. *Journal of AIDS & Clinical Research*. S1:008.

Kisler KA, Williams JK. (October 2012). "Lessons learned: overcoming challenges to developing HIV interventions for Black MSMW with child sexual abuse histories." The American Public Health Association 140<sup>th</sup> Annual Meeting, San Francisco, CA.

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## Chapter 1: Introduction

### **Background of the Problem**

More than three decades have passed since the Centers for Disease Control and Prevention's (CDC) *Morbidity and Mortality Weekly Report* (MMWR) first published an article highlighting the first known cases of AIDS (2011b). During the early years of the epidemic, outcomes were grim, as the life expectancy of someone diagnosed with AIDS was short, and the quality of life with an HIV or AIDS diagnosis was poor. However, in the time since its initial discovery, the prevention and treatment of HIV and AIDS has made significant progress. For instance, since the height of the epidemic, the incidence of new HIV infections has dropped by at least two-thirds (Centers for Disease Control and Prevention [CDC], 2011b).

In terms of prevention, great strides have been made. It has been estimated that over 350,000 new HIV infections have been averted in the United States (U.S.) due to effective HIV prevention programming; furthermore, this has resulted in a potential savings of more than 125 billion dollars in treatment costs (CDC, 2011b). Traditional HIV prevention has included increasing condom use, reducing the sharing of injection drug equipment, and treating HIV-infected mothers before they give birth. These efforts have contributed to a drastic reduction in new HIV infections among both injection drug users and children who are born to HIV-positive mothers (CDC, 2011b).

The treatment of HIV/AIDS has also experienced significant progress over time. The first antiviral drug, azidothymidine (AZT), was approved by the U.S. Food and Drug Administration in 1986, and progress has continued with the development of several new classes of drugs since that initial medication (Shernoff & Smith, 2001). However, the most significant

discovery came with the shift from the early monotherapy drugs, which for many individuals had varied effectiveness and left them susceptible to drug resistance, to combination therapy or highly active antiretroviral therapy (HAART). HAART uses a combination of drugs to address the varying ways in which HIV attacks the immune system, and has become the standard of care for HIV-infected individuals since 1997 (Shernoff & Smith, 2001). With the advent of safe and effective HIV treatment, it is now possible for an HIV-infected individual to achieve viral load suppression or even an undetectable viral load. Viral load suppression is defined as 200 or less copies of the virus found in an HIV-infected person, while an undetectable viral load is considered 50 or less copies (CDC, 2012b). An undetectable viral load allows for both a higher quality of life for the HIV-infected individual, as well as reduces the infectivity and possible transmission of HIV to uninfected individuals (Granich, Gilks, Dye, De Cock, & Williams, 2009). Therefore, the potential to curb the spread of HIV via both primary prevention programs, as well as viral load suppression through effective treatment with HIV-infected individuals, is exceptionally high at this point in the epidemic.

However, at this time, HIV/AIDS continues to severely impact distinct populations within the United States, despite effective prevention and treatment efforts. Those who are most impacted primarily include men who have sex with men (MSM) and African Americans (CDC, 2010a; 2011b). For instance, although MSM comprise only 2% of the U.S. population, they account for more than half of all new HIV infections (53%), and just under half of all people living with HIV (48%) (CDC, 2011b). These HIV incidence and prevalence rates are comparable among African Americans as well; despite comprising only 14% of the U.S. population, African Americans account for just under half of all new HIV infections, as well as people living with HIV in the U.S. (46% and 45%, respectively) (CDC, 2011b). However, at the

intersection of these two most highly impacted populations lies one of the most severely affected groups in the U.S. - young Black MSM. According to the CDC, new HIV infections among Black MSM between the ages of 13 and 29 years are the highest of any age and racial group of MSM in the U.S. (CDC, 2011b).

It has been hypothesized that individual risk behaviors, such as unprotected anal intercourse and multiple sex partners, as well as substance use, are more prevalent among Black MSM than white MSM, thus explaining the higher rates of HIV among this population. However, much of the empirical evidence has simply not supported this hypothesis (Bing, Bingham, & Millett, 2008). A review and two meta-analyses, all conducted by Millett and colleagues, revealed that Black MSM engage in risky sexual behaviors at rates equal to or less than other MSM (Millett, Flores, Peterson, & Bakerman, 2007; Millett, Peterson, Wolitski, & Stall, 2006; Millett et al., 2012). Black MSM also showed lower rates of substance use for all substances except for crack cocaine, than their other MSM counterparts (Millett, Flores, Peterson, & Bakerman, 2007; Millett, Peterson, Wolitski, & Stall, 2006).

While Black MSM have not been found to report higher rates of risk behavior than white MSM, a higher prevalence of HIV within this population may increase the chances of transmission and acquisition, even if sexual risk behaviors are carried out at less or similar frequency (Harawa et al., 2004). It has also been postulated that the sexual partner selection of Black MSM may account for the higher incidence of HIV infection, despite lower rates of HIV risk behavior. For instance, it has been hypothesized that Black MSM may have older sexual partners, who because of age have a higher likelihood of being HIV-infected (Bingham et al., 2003). In addition, Black MSM may mainly engage in sexual activity with other Black MSM, where overall HIV prevalence is higher than other populations; therefore, both of these factors

may contribute to the higher incidence rates of HIV among Black MSM despite their engaging in HIV risk behaviors equal to or less frequently than other MSM populations (Bingham et al., 2003).

Although HIV risk behaviors are not higher among Black MSM than other MSM populations, the high prevalence of HIV in this population and the tendency for Black MSM to select other Black MSM as sexual partners may significantly increase the chances of transmission with each risky sexual incident. Therefore, HIV prevention efforts that specifically address the motivations for Black MSM to engage in HIV risk behavior are highly warranted. Among sexual minority men of color, sociocultural factors, such as experiences and perceptions of discrimination, have been proposed as especially salient factors that may be contributing to the HIV/AIDS disparities among Black MSM (Ayala & Diaz, 2001). More specifically, the stress associated with perceptions and experiences of racism and homophobia, known as minority stress, has been found to contribute to poor mental health (Fields et al., 2013; Herek, Gillis, & Cogan, 1999) and physical health outcomes (Denton, 2012), as well as increased HIV risk behavior (Fields et al., 2013; Hamilton & Mahalik, 2009; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Rosario, Rotheram-Borus, & Reid, 1996). Thus, further exploration of how perceptions of and experiences with indicators of minority stress, namely racism and homophobia, may impact HIV risk behavior among Black MSM, a population severely impacted by HIV/AIDS, is highly warranted.

## **Specific Aims and Significance**

### **Specific Aims**

This dissertation will focus on the social determinants of HIV risk behavior, particularly those linked to what has come to be known as the experience of minority stress. Specifically, I



will examine the relationship between perceptions of minority stress, assessed through both external and internal stress processes associated with racism and homophobia, on HIV risk behavior among a sample of HIV-positive non-gay identifying Black men who have sex with men and women and who have histories of childhood sexual abuse. In addition, psychological distress and social support, both of which may have an impact on the relationship between indicators of minority stress and HIV risk behavior, will be explored as moderators. Finally, this dissertation will also explore the efficacy of a psychosocial intervention that aims to reduce the negative consequences associated with experiences of minority stress, as well as reduce HIV risk behavior. The minority stress model and the theory of Intersectionality will serve as the theoretical frameworks through which the relationship between indicators of minority stress and HIV risk behavior is assessed.

Data used in this dissertation were collected as part of the Enhanced Sexual Health Intervention for Men (ES-HIM) Project (2007-2011), a randomized clinical trial aimed at reducing unprotected sexual intercourse and symptoms of depression and posttraumatic stress disorder among a sample of HIV-positive non-gay identifying Black men who have sex with men and women and who have histories of childhood sexual abuse. The baseline sample includes 117 men, and the intervention/control sample includes 88 men (44 per condition).

The aims of this dissertation are to: 1) explore the relationship between racism- and homophobia-induced minority stress and HIV risk behavior using the minority stress model and the theory of Intersectionality; and 2) test the intervention effects of the ES-HIM Project on indicators of minority stress (specifically, internalized racism and internalized homophobia) and HIV risk behavior. Through exploration of these study aims, a better understanding of how the experience of stress related specifically to multiple minority statuses (namely being a member of

both a racial/ethnic and sexual minority group) impacts HIV risk behavior among a sample of HIV-positive non-gay identifying Black men who have sex with men and women and who have histories of childhood sexual abuse will be generated. This is important, as the rates of HIV/AIDS are disproportionately high among this population, and little research has been done to both identify those factors which cause this disparity, as well as how to best address this disparity.

### **Significance**

We are well into the third decade of the HIV/AIDS epidemic, and while in the United States rates of HIV transmission are relatively low and treatment rates are relatively high compared to developing countries, there are still reservoirs of high-risk and high-need populations that are disproportionately impacted by this disease. These groups who live mainly in urban centers have HIV rates that rival and even surpass rates in developing countries (El-Sadr, Mayer, & Hodder, 2010). Traditional HIV prevention has been successful in curbing the spread of this disease in some populations; however, the growing disparity in HIV/AIDS rates, especially among Black MSM, warrants a new approach. This dissertation aims to explore sociocultural factors, namely experiences and perceptions of racism and homophobia, as factors that have heretofore not been well articulated in research, and that may be uniquely contributing to the significant HIV/AIDS disparity among Black MSM. In addition, psychological distress and social support, both of which may play a unique role in moderating the relationship between experiences of racism and homophobia and engaging in HIV risk behavior, will be explored. This is significant as HIV infection rates among Black MSM continue to grow, despite current prevention efforts. Furthermore, this dissertation will test whether a culturally-congruent HIV risk reduction intervention specifically designed for Black men who have sex with men and

women can successfully reduce internalized racism and internalized homophobia, as well as unprotected intercourse among a sample of HIV-positive non-gay identifying Black men who have sex with men and women and who have histories of childhood sexual abuse. This is also significant since identifying effective means by which to address this disparity is also greatly needed.

### **Dissertation Organization**

This dissertation is organized in the following manner: Chapter 1 describes the overall problem addressed and the approach of this research, the dissertation aims and significance, and provides an overview of the dissertation format and structure. Chapter 2 provides a thorough literature review on the historical background of HIV/AIDS, an epidemiologic profile of HIV/AIDS, specifically focusing on Black men who have sex with men, and the history and current efforts for HIV prevention interventions among Black men who have sex with men. Chapter 3 offers an in-depth exploration of how two theoretical frameworks, the minority stress model and the theory of Intersectionality, can help to understand the relationship between indicators of minority stress and HIV risk behavior. Chapter 4 describes the methods used to carry out this dissertation, including the characteristics of the data, research questions and hypotheses, and a plan for data analysis. Chapter 5 addresses the first research question by describing the results of the univariate analyses which highlight the sociodemographic characteristics and main variables of interest in the baseline sample. Chapter 6 provides the results for the bivariate analyses for the first research question, which tests the concepts from the minority stress model and the theory of Intersectionality. Chapter 7 presents the results of the multivariate regression analyses for the first research question, which also helps to test the concepts of the minority stress model and the theory of Intersectionality. Chapter 8 addresses the

second research question, and highlights the results of the analyses used to compare the sociodemographic characteristics and variables of interest between participants in the Enhanced Sexual Health Intervention for Men and the Health Promotion control conditions of the ES-HIM Project. Chapter 9 offers the results of the repeated measures analyses using latent growth models, which are used to test the efficacy of the ES-HIM Project on reducing internalized racism, internalized homophobia, and HIV risk behavior. Finally, Chapter 10 provides a thorough discussion on how the hypotheses and research questions and dissertation results relate to the existing scientific literature in the field. Further, study strengths and limitations, as well as implications for future research are also highlighted.

## Chapter 2: Literature Review

### **History and Epidemiology of HIV/AIDS in a U.S. Context**

Within the United States, it is estimated that 1.2 million people are living with HIV infection, and that of these cases, one in five are unaware that they are infected (Centers for Disease Control and Prevention [CDC], 2012). Furthermore, it is estimated that 50,000 new HIV infections occur each year; and in 2007, roughly 33,000 people were diagnosed with AIDS. Since the epidemic began, it is estimated that 619,400 people have died of AIDS in the U.S. (CDC, 2012a). Having such a profound effect on the health and well-being of the U.S. population, HIV/AIDS warrants continued efforts to improve and expand both prevention and treatment.

### **Historical Background of HIV/AIDS in the United States**

In July 1981, the *New York Times* released an article which highlighted the outbreak of a rare cancer they termed “gay cancer,” recognized by the medical community as Kaposi’s Sarcoma (KS). This “gay cancer” was reported exclusively among homosexual men in New York and California. At the same time, otherwise healthy men in New York City were presenting in emergency rooms with fevers and flu-like symptoms, and many were diagnosed with a rare form of pneumonia called *Pneumocystis Carinii*. Within a year, the Centers for Disease Control and Prevention (CDC) had linked these rare illnesses to a bloodborne pathogen, and had coined the term Acquired Immunodeficiency Virus, or AIDS. Within this first year, over 1,600 AIDS cases were diagnosed, and roughly 700 of those diagnosed died (Cichocki, 2007).

The scientific community scrambled to find a cause for AIDS, as certain people, primarily white gay men, were being diagnosed, getting severely ill, and then dying quickly from this new disease. In 1984, Dr. Luc Montagnier at the Institut Pasteur of France discovered a virus he deemed Human Immunodeficiency Virus, or HIV. However, it wasn't until a year later that an American scientist, Dr. Robert Gallo, at the National Cancer Institute confirmed that HIV was indeed the cause of AIDS (Cichocki, 2007).

By 1985, the first HIV test was approved, which increased rates of HIV diagnosis (Cichocki, 2007). During the first decade of the disease, HIV/AIDS was controlled primarily through primary prevention practices among those who were HIV-negative, and secondary prevention practices with those who were already infected. However, in December of 1995 the first protease inhibitor, saquinavir, was approved by the U.S. Food and Drug Administration and a safe treatment for HIV/AIDS was launched (Walensky et al., 2006). With the advent of combination antiretroviral therapy (ART), AIDS diagnoses and deaths in developed countries decreased dramatically through a combination of treatment and preventive practices. For instance, between 1995 and 1998, a 38% decrease in the number of new annual AIDS cases occurred, as well as a 63% decrease in AIDS-related deaths (CDC, 2001a; Janssen et al., 2003).

### **Epidemiology of HIV/AIDS in the United States**

Nearly three decades into the epidemic, HIV/AIDS continues to persist as a major public health concern in the United States and throughout the world. In the U.S., as of the end of 2008, an estimated 1,178,350 persons 13 years of age and older were living with HIV, with 20% of these individuals being undiagnosed (CDC, 2011a). Furthermore, the CDC estimates that there are approximately 50,000 new HIV infections each year in the U.S., with the majority of these new infections occurring among those 20-24 years of age (CDC, 2011a; Prejean et al., 2011).

**HIV risk groups.** Although it took years to put systems in place to accurately collect surveillance data on HIV and AIDS incidence rates and characteristics, trends in routes of transmission have been identified since the emergence of the epidemic. Extended back calculations of routes of transmission between 1977 and 2006 in the United States indicated that sexual transmission among men who have sex with men (MSM) was consistently the highest reported route of transmission during this period of time, followed by injection drug use (IDU), MSM/IDU, and finally heterosexual sexual transmission (Hall et al., 2008). In the late 1980s/early 1990s, IDU became the number one HIV transmission route in the U.S. However, by 2006, overall incidence of HIV transmission through IDU decreased by approximately 80%; this reduction can be attributed to the success of sterile syringe exchange programs and the availability of syringes in pharmacies, as well as a reduction in the sharing of needles among IDUs (Des Jarlais et al., 2005; Hall et al., 2008; Santibanez et al., 2006).

Currently, MSM are the risk group most severely affected by HIV/AIDS in the U.S. (CDC, 2012a). Despite making up only approximately 2% of the U.S. population, gay, bisexual, and other MSM represented 53% of new HIV infections in 2006 (CDC, 2010b). A study conducted by the CDC (2010b) in 2008 found that one in five (19%) MSM in 21 major U.S. cities were infected with HIV. Furthermore, in 2007, MSM were reported to be 44 to 86 times as likely to be diagnosed with HIV as other men (CDC, 2010b). Consistently having the highest number of AIDS diagnoses and AIDS-related deaths since the beginning of the epidemic, MSM have been and continue to be the hardest hit by the HIV/AIDS epidemic in the U.S. (CDC, 2010b).

***Childhood sexual abuse.*** Those who have been victims of childhood sexual abuse (CSA) may have an increased likelihood of engaging in HIV risk behaviors, and thus may be a

particularly salient group to address in HIV prevention efforts. Literature on childhood sexual abuse (CSA) among males has found that in comparison to non-abused men, abused men were more likely to engage in high-risk sexual behaviors, have more lifetime sexual partners, use condoms less frequently, have higher rates of sexually transmitted diseases, and have up to a two-fold increase in the rate of HIV (Burns et al., 2002; Holmes & Slap, 1998). More specifically, gay and bisexual men with a history of CSA were more likely to report unprotected anal intercourse, more sexual partners and events, and more sexual episodes under the influence of drugs, than their non-abused counterparts (Jinich et al., 1998; Mimiaga et al., 2009; Welles et al., 2009). Therefore, CSA may play an important role in the HIV risk behavior of sexual minority men whom have a history of such abuse.

***Race/ethnicity***<sup>1</sup>. During the early epidemic in the United States, AIDS was believed by most to be a disease that predominately affected gay white men. This perception was fueled by the fact that the largest proportion of reported AIDS cases were among non-Hispanic white homosexual males. For instance, between June of 1981 and January of 1988, the CDC received reports of 50,704 AIDS patients where race/ethnicity was identified by the reporting agency (Selik, Castro, & Pappaioanou, 1988). Of these reported cases, 60.9% were classified as white, 25.5% of these reported cases were classified as Black, and 12.9% were classified as Hispanic. While the proportion of reported AIDS cases was highest among whites, when comparing these percentages to overall population estimates for these racial/ethnic groups across the United States, a disparity became glaringly obvious. At the time of this initial reporting, 79.6% of the overall population in the United States was classified as white, while only 11.5% were Black and 6.4% were Hispanic. Therefore, the cumulative incidence or risk of AIDS among Blacks and

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<sup>1</sup> The terms African American and Black are used interchangeably in an attempt to accurately reflect the language presented in the literature cited. However, the original text in this dissertation will use the term Black in an attempt to be more inclusive of all who identify as Black, but may not have African roots (i.e., Caribbean, etc.).



Hispanics was almost three times as great as that in whites for the MSM risk group (Selik, Castro, & Pappaioanou, 1988).

Despite advances in prevention, detection, and treatment over the past thirty years, HIV/AIDS continues to disproportionately impact distinct racial/ethnic populations within the United States. This disparity is especially salient among Blacks. According to the Centers for Disease Control and Prevention: “While Blacks represent approximately 12 percent of the U.S. population, they continue to account for a higher proportion of cases at all stages of HIV/AIDS- from infection with HIV to death with AIDS- compared with members of other races and ethnicities” (CDC, 2010a, p. 1). More specifically, in 2006 Blacks accounted for nearly half (45%) of all new HIV infections in the U.S., and one year later, accounted for 46% of all people living with HIV/AIDS in the U.S. (CDC, 2010a). In terms of mortality, HIV served as the ninth leading cause of death for all Blacks, and the third leading cause of death for Black men and women, aged 35-44 years in 2007 (CDC, 2010a).

***Black men who have sex with men.*** Furthermore, the disparity in HIV/AIDS is magnified among Black men who have sex with men, where rates are substantially higher than within the general Black and MSM populations (Wilton, 2009; Wolitski, Valdiserri, Denning, & Levine, 2001). According to the CDC, Black MSM are the most severely affected by HIV/AIDS in comparison to other high-risk groups, such as injection drug users, high-risk heterosexuals, and white and Latino MSM (CDC, 2009b). In fact, prevalence and incidence of HIV is so high among Black MSM that rates rival those in the developing world (Millett, Flores, Peterson, & Bakerman, 2007; Al-Sadr, Mayer, & Hodder, 2010). For instance, in 2006, Black MSM comprised 63% of new HIV infections among Black men, and 35% of new HIV infections among all MSM (CDC, 2010a). In addition, a study conducted between 1994 and 2000 in six

major U.S. cities with 2,942 MSM between the ages of 23-29 found that Black MSM had the highest incidence rate of HIV (14.7%), as compared to white and Hispanic MSM (2.5% and 3.5%, respectively) (CDC, 2001b). Furthermore, between 2006 and 2009, Black MSM were the only risk group in the United States to experience statistically significant increases in new HIV infections (CDC, 2012a).

***Black men who have sex with men and women.*** A sub-population of MSM, men who have sex with men and women (MSMW), is another group that is highly impacted by HIV/AIDS, particularly among Blacks. Black MSM are more likely than MSM of other racial/ethnic groups to be bisexually active or identified, and less likely to disclose their bisexual or homosexual activities (Millett, Malebranche, Mason, & Spikes, 2005). In the Supplement to HIV/AIDS Surveillance (SHAS) project, Black MSM were nearly twice as likely as Hispanic MSM and more than three times as likely as White MSM to report sex with women (Montgomery, Mokotoff, Gentry, & Blair, 2003). Furthermore, research being carried out among patrons at non-MSM specific venues have found much higher levels (20-60%) of bisexual behavior and non-gay-identification among Black MSM than other racial/ethnic groups of MSM (Montgomery, Mokotoff, Gentry, & Blair, 2003; Pathela et al., 2006; Simon et al., 1999; Stokes, McKirnan, Doll, & Burzette, 1996; Wohl et al., 2002).

It has been proposed that MSMW of color are at even greater risk for HIV infection than their MSM and heterosexual counterparts (Brooks, Rotheram-Borus, Bing, Ayala, & Henry, 2003). In 2000, the Los Angeles County Department of Health Services (LACDHS) reported that 76% of all AIDS cases reported among MSMW were Hispanic/Latino and non-Hispanic Black. Furthermore, a study conducted among public Sexually Transmitted Disease (STD) clinics in Los Angeles found that non-Hispanic Black MSMW had odds of being infected with

HIV that were 30 times greater than exclusively heterosexual men (LACDHS, 2000 ). Aside from having higher rates of HIV/AIDS, nondisclosure of same-sex sexual activity by bisexual men may also exacerbate the HIV epidemic by contributing to delayed diagnosis and unprotected sex with female partners (Stokes, McKirnan, Doll, & Burzette, 1996).

This dissertation will aim to address the HIV/AIDS disparity among HIV-positive non-gay identifying Black MSMW who have histories of childhood sexual abuse through exploration of sociocultural factors, namely experiences and perceptions of racism and homophobia, and their impact on HIV risk behavior. Future chapters will elaborate on two theoretical perspectives, the minority stress model and the theory of Intersectionality, through which the relationship between indicators of minority stress and HIV risk behavior can be better understood among this sample.

### **HIV Prevention Efforts**

As the HIV epidemic has demographically changed and continued to evolve since it was initially identified in the early 1980s, so have efforts to prevent transmission and acquisition of the disease. Preventive and treatment interventions have been the primary tool in which public health workers have aimed to curb the spread of HIV. However, in the past few years, there has been a shift in the HIV prevention paradigm to better align with the first National HIV/AIDS Strategy (The White House Office of National AIDS Policy, 2010).

### **Interventions**

In developing HIV interventions, there has been a push from the Institute of Medicine to base all prevention efforts on a solid foundation of empirical evidence (Victora, Habicht, & Bryce, 2004). In response, the CDC listed all evidence-based HIV prevention interventions that

have proven to be efficacious in a compendium, which was last updated in 2009 (CDC, 2009a). While this compendium includes 69 evidence-based behavioral HIV prevention interventions, only nine target MSM, and only one targets Black MSM. None target Black MSMW. In addition, two systematic reviews of behavioral interventions for MSM found that HIV prevention efforts for MSM of color, specifically Black MSM, were not only lacking, but also in high need (Herbst et al., 2007; Johnson et al., 2008). This illuminates the fact that despite well-documented disparities in HIV among Black MSM and MSMW, effective, evidence-based intervention work has not been developed on par with the severity of the problem.

**Behavioral interventions.** Among existing HIV prevention interventions for Black MSM, the majority target risk behaviors. Previous research on HIV risk behaviors has shown that unprotected anal intercourse carries the greatest risk for both transmission and acquisition of HIV among MSM (Vittinghoff et al., 1999). Furthermore, engaging in unprotected anal intercourse with multiple partners also increases the chances of both transmission and acquisition of HIV (Wagstaff et al., 1995). Therefore, many behavioral interventions aim to decrease unprotected sex and thus increase condom use, as well as reduce the number of sexual partners as main outcomes.

Although only one evidence-based intervention for Black MSM has been identified in the CDC's compendium, additional interventions have shown promising results in terms of HIV risk reduction among MSM and MSMW of color. These behavioral interventions have been carried out at multiple levels, including individual, group, and community.

**Individual-level approaches.** Behavioral interventions that operate at the individual level attempt to change risk behavior through a one-on-one approach, where efforts target attitudes, beliefs, motivation, and self-efficacy through means such as individualized risk-reduction

counseling or motivational interviewing (Herbst et al., 2007). Because individual approaches entail individually-tailored efforts, they are often times carried out in clinical settings. HIV-positive individuals, who require regular clinical visits, are therefore a good population with whom to conduct individual behavior change interventions. HIV prevention with individuals who are HIV-infected has been called “prevention with positives;” the impetus behind such programs is that while most HIV-positive individuals modify their sexual practices so as to reduce transmission to uninfected partners, some continue to engage in high-risk behaviors (Marks, Burris, & Peterman, 1999). Unprotected sex can have deleterious effects for both the infected individual and his or her partner, as HIV-positive people risk the acquisition of new strains of the virus or other sexually transmitted infections (STIs), while the partner risks infection with HIV (Courtenay-Quirk, Wolitski, Hoff, & Parsons, 2003; Jost et al., 2002). Therefore, interventions that target HIV-positive individuals attempt to reduce the risk of transmission at a known source of potential infection, as well as protect the health of the infected individual.

An example of “prevention with positives” is an intervention called “Partnership for Health,” which was carried out with 585 HIV-positive patients within six clinics in California (Richardson et al., 2004). The majority of the sample was MSM (between 65.1% and 80.4% in the two treatment and two control conditions) and white or Latino. The intervention consisted of brief (three to five minute) clinician-provided safer sex counseling at each of the participants’ health care visits. One intervention counseling condition was provided through a gain-framed approach, which emphasized the positive consequences of safer sex, while the other utilized a loss-framed approach, whereby the negative consequences of unsafe sex were emphasized. Two control conditions that concentrated on medication adherence were also included in the study.

Among those participants who reported at least two sexual partners at baseline, unprotected vaginal or anal sex was reduced by 38% ( $p < 0.001$ ) among those who received the loss-framed approach, thus demonstrating that more fear-based approaches may work better with HIV-infected males, and that this individual-level behavioral intervention was effective.

In addition to the aforementioned “prevention with positives” intervention, another individual-level intervention with African American men who have sex with men and women was identified. “The Bruthas Project” aimed to reduce HIV risk behavior through individualized risk reduction counseling sessions, which covered the following topics: general risk reduction; sexual dynamics and risk behaviors with female and male sex partners; and motivations and situational triggers for unsafe sex (Operario, Smith, Arnold, & Kegeles, 2010). Assessments took place at baseline and three months post-baseline, and post-analyses showed statistically significant reductions in unprotected anal intercourse with male partners, the number of male and female sex partners, and the number of occurrences of sex while under the influence of drugs or alcohol (Operario, Smith, Arnold, & Kegeles, 2010).

Although two individual-level interventions that showed promising results are highlighted above, a systematic review of current behavioral HIV prevention interventions identified only four individual-level interventions for MSM that were executed with fair or good quality (Herbst et al., 2007). However, the overwhelming majority of each sample within these four interventions was white, thus indicating a dearth of effective individual-level interventions focusing on MSM of color, and specifically Black MSM.

***Group-level approaches.*** While individual-level approaches target one person at a time, group-level approaches attempt to modify behaviors and beliefs through group discussions, and often times incorporate the social support provided by groups to motivate change (Herbst et al.,

2007). The majority of HIV interventions with MSM, as well as Black MSM, are at the group-level (Herbst et al., 2007). In fact, the one evidence-based intervention listed in the CDC's compendium is a group-level intervention targeting Black MSM (CDC, 2009a). This intervention, entitled "Many Men, Many Voices" (3MV), was originally based on two evidence-based interventions designed for MSM and then modified for Black MSM through focus groups, key informant interviews, and pilot testing (Wilton et al., 2009). 3MV is a peer-led, group-level intervention that specifically addresses "the dual identity struggle of Black MSM as men who are Black and gay; the relationship between STIs and HIV infection; the effects of familial, cultural, and religious norms; the effects of racism and homophobia on HIV risk behaviors; and sexual relationship dynamics common to Black MSM" (Wilton et al., 2009, p. 533). Thus, this intervention addressed some of the issues in these men's lives that may exacerbate HIV risk behaviors, such as beliefs about discrimination and homophobia. The intervention showed promising results, as those in the intervention condition showed a 25% greater reduction in number of male sex partners at the three-month assessment, and a 66% greater reduction in any unprotected anal intercourse at the six-month assessment, relative to participants in the control condition. Furthermore, an increase in HIV testing was reported among intervention participants (Wilton et al., 2009).

Although 3MV has demonstrated efficacy among Black MSM, it was not carried out under the "gold standard" condition of a randomized controlled trial (RCT) (Persons & Silberschatz, 1998). To date, only two HIV prevention interventions have been carried out as RCTs, both of which were at the group-level (Carballo-Diequez et al., 2005; Peterson et al., 1996). One of these interventions was conducted with 318 African-American homosexual and bisexual men during the early 1990s; three conditions existed in this intervention- a three-session

group, a one-session group, and a control group (Carballo-Diequez et al., 2005; Peterson et al., 1996). The experimental conditions were carried out in a small group format and consisted of four components: self-identity and development of social support, AIDS risk education, assertiveness training, and behavioral commitment. Issues with the block randomization contributed to the control condition respondents being less likely to report risky sexual behavior at baseline. However, rates of unprotected anal intercourse among the three-session experimental condition had declined by 50% by the 12-month evaluation and remained below this level by the 18-month evaluation, in comparison to those in the one-group intervention. Although intervention impact may have been obscured by issues with the randomization, comparison between the two experimental conditions indicated that the three-session design did indeed reduce risky sexual behavior among participants (Peterson et al., 1996).

Additional group-level interventions have been developed that aim to address HIV prevention within specific sub-populations of Black MSM. For instance, Coleman, Jemmott, and Jemmott (2009) assessed the feasibility and acceptability of an HIV risk reduction intervention for older HIV-positive African American MSM. Although the main outcome of interest, consistent condom use during every instance of anal intercourse, was not found to be statistically significant, the men in the risk reduction group were five times more likely to report consistent condom use at the three-month follow-up than were those in the control condition (OR=5.18;  $p = 0.054$ ) (Coleman, Jemmott, Jemmott, 2009) .

Furthermore, group-level interventions with Black men who have sex with men and women (MSMW) have garnered interest over the past several years, as it has been hypothesized that these populations may be significantly contributing to HIV infection among both men and women (CDC, 2009b). “The Men’s Health Project,” a small RCT carried out with 137 HIV-



positive African American and Latino MSM and MSMW who had histories of childhood sexual abuse, was conducted in the early 2000s (Williams et al., 2008). A standard health promotion control condition and an experimental intervention condition which focused on decreasing unprotected vaginal and anal sex, number of sexual partners, and psychological distress, were carried out. Both conditions consisted of six two-hour sessions and had follow-up assessments at post-group, three-months, and six-months. A statistically significant reduction in sexual risk behaviors between baseline and post-test was reported among the intervention participants, but no significant differences in depressive symptoms were reported between the two conditions (Williams, et al., 2008).

Although HIV prevention interventions for MSM and MSMW of color are lacking, the group-level approach includes the highest number of such behavioral interventions among these populations. However, the group-level interventions that have been developed for Black MSM have shown mixed results, with some of the intervention components only proving efficacious with small segments of the population, and other interventions showing no effectiveness in reducing HIV risk behaviors at all. Furthermore, many of these interventions were short-term. Therefore, while any HIV prevention efforts among Black MSM and MSMW are good, the inconsistent efficacy of these behavioral interventions indicates a high need for further development and testing.

***Community-level approaches.*** Behavioral interventions at the community level aim to change attitudes, norms, values, and the context where risk behaviors occur, all in a defined community setting (Johnson et al., 2008). Community-level approaches are rarer in HIV prevention, as they tend to take much longer to carry out and are harder to assess for success (Kelly, 1999). A relatively well-known community-level HIV prevention intervention for young

gay men is the “Mpowerment Project,” which was first carried out in Oregon and included: a peer outreach component, whereby young gay men visited venues frequented by other young gay men to diffuse safer sex messages and recruit new participants; peer-led one-time small group meetings that advocated for risk reduction behaviors; and a widespread publicity campaign, that advertised the components of the project, as well as encouraged risk reduction behaviors.

Although the project showed promising results through significant reductions in unprotected anal intercourse within the intervention community, the proportion of Black MSM within the project was very minimal (4%) (Kegeles, Hays, & Coates, 1996).

Despite being more difficult to carry-out, community-level approaches to HIV prevention have been touted as one of the most effective means for reducing sexual risk behaviors among large groups of high-risk individuals (Kelly et al., 1997). While community-level interventions have shown promising results within communities of MSM, few interventions following this approach have been carried out with MSM of color, and none have been carried out specifically with Black MSMW. Therefore, developing behavioral interventions that address the community norms of Black MSM and MSMW may be an effective means by which to reduce HIV transmission across this large group of highly infected and affected individuals.

**Structural interventions.** While behavioral interventions aim to reduce risk for HIV infection by facilitating behavior change, structural interventions take a broader, more up-stream approach. In terms of HIV, structural factors have been defined as “barriers to, or facilitators of, an individual’s HIV-prevention behaviors” (Sumartojo, 2000, p. S3). These barriers or facilitators are generally believed to be “part of the context or environment surrounding individuals, but outside their direct control” (Sumartojo, 2000, p. S6). Specifically, types of structural barriers or facilitators can include economic, policy, societal, and organizational, with

systems that implement or support these types of barriers including government, service organizations, businesses, faith-based agencies, justice systems, the media, and healthcare systems (Sumartojo, 2000).

Although structural HIV prevention interventions are relatively rare in the U.S., some policy-based systemic changes have been efficacious in reducing HIV infection domestically (Blankenship, Bray, & Merson, 2000). For instance, in 1988 the state of Nevada implemented a law that required female sex workers in brothels to use condoms with their clients (Albert, Warner, Hatcher, Trussell, & Bennett, 1995). Through a series of changes in the social and organizational environments, the sex workers had a very low incidence of condom refusal among clients (2.7%), and the state of Nevada experienced no negligible incidences of HIV or STI transmission after the law was passed (Albert, Warner, Hatcher, Trussell, & Bennett, 1995).

Another policy-based structural intervention that focused on the prevention of HIV included the implementation of anonymous HIV testing in several counties within the state of Oregon (Fehrs et al., 1988). Almost three times as many people were tested for HIV after anonymous testing became available, with 29% of all clients tested and 49% of MSM tested having reported that they would not have originally gotten tested if an anonymous option had not been made available (Fehrs et al., 1988).

These two policy-oriented interventions demonstrate the effectiveness of changing structures in the environment to facilitate HIV prevention in a larger, more far-reaching context. Despite a glaring absence of structural HIV prevention interventions, several authors have called for a transition to this approach, especially among MSM of color (Blankenship, Bray, & Merson, 2000; Malebranche, 2003; Millett, Peterson, Wolitski, & Stall, 2006; Sumartojo, 2000). More specifically, structural interventions that aim to increase access to and utilization of HIV and

other STI testing and treatment services has been hypothesized as being particularly beneficial to highly impacted groups, such as Black MSM (Millett, Peterson, Wolitski, & Stall, 2006).

**Broad-based versus targeted approaches.** A significant number of behavioral HIV prevention interventions have shown efficacy in reducing unprotected anal intercourse and decreasing the number of sexual partners among MSM (Herbst et al., 2007; Johnson et al., 2008), as well as African Americans in general (Johnson et al., 2009). However, as previously highlighted, HIV prevention interventions that specifically target Black MSM and MSMW have been largely neglected, despite drastically increasing rates of disease among these populations. Therefore, the question arises whether interventions aimed at reducing HIV transmission among broader populations, such as MSM or Blacks in general, can have the same efficacy among Black MSM.

It has been difficult to assess the efficacy of existing broad-based interventions among more specific sub-groups, such as Black MSM, because sufficient numbers of MSM are rarely included or identified in broader HIV prevention efforts with racial/ethnic minority populations, and studies with MSM rarely include ample numbers of racial/ethnic minorities. Empirical evidence could better evaluate the efficacy of broad-based approaches among sub-groups if studies with racial/ethnic minorities assessed sexual orientation, and studies with MSM were carried out with more racially/ethnically diverse samples.

However, much has been written over the past decade about the value of incorporating culture into HIV prevention efforts, thus implying the importance of a more targeted approach (Wilson & Miller, 2003). Although the construct of culture lacks a concise, agreed-upon definition, there seems to be consensus among HIV researchers that culture plays an important role in the feasibility, acceptability, and effectiveness of HIV prevention interventions (Wilson &

Miller, 2003). For instance, several studies with African Americans have claimed that interventions designed for white populations are not always appropriate for racial/ethnic minority populations, as the cultural and social realities of these marginalized groups are not addressed (Airhihenbuwa, DiClemente, Wingood, & Lowe, 1992; Jemmott, Catan, Nyamathi, & Anastasia, 1995). Furthermore, cultural insensitivity in research methods has been cited by racial minority groups as one of the most significant barriers to participation in HIV studies (Corbie-Smith, Thomas, Williams, & Moody-Ayers, 1999; Hatfield et al., 2010; Uybico, Pavel, & Gross, 2007).

Also, theoretical frameworks that have proven effective in some populations have not fared as well in the unique sub-populations within these groups. For instance, the use of Empowerment Theory in HIV prevention has been claimed to have resulted in HIV risk reduction among Latinos (Zimmerman, Ramirez-Valles, Suarez, de la Rosa, & Castro, 1997); however, an intervention designed on the premise of Empowerment Theory with a sub-population of Latinos, namely gay and bisexual Latinos, did not prove efficacious (Carballo-Diequez et al., 2005). While this intervention may have proved ineffective due to implementation failure, evidence seems to suggest that targeting interventions to address the specific cultural characteristics and theoretical considerations for specific sub-populations is more efficacious than a more broad-based approach for general populations.

While use of evidence-based interventions is expected, few evidence-based HIV prevention interventions exist. Furthermore, the interventions that are available are not targeted at specific, high-need populations, and new interventions take a huge amount of time and resources to develop and test (McKleroy et al., 2006). Therefore, one way to increase the number of highly needed, targeted, culturally-appropriate HIV prevention interventions is to adapt existing interventions.

Adapting an intervention basically entails “deletions or additions, modifications of existing components, changes in the manner of intensity of components, or cultural modifications required by local circumstances” (Becker, 2001; McKleroy et al., 2006, p. 60). Because adapting an intervention means modifying components that have proven to be effective as part of the comprehensive intervention, there has been debate around whether these changes decrease the effectiveness of an intervention (Kelly et al., 2000). However, Blakely and colleagues (1987) found that additions to interventions tended to increase effectiveness, and modifications that did not detract from the fidelity of the original intervention did not impact overall effectiveness.

In response to a lack of original evidence-based HIV prevention interventions for specific, high-risk populations, the CDC has developed a project called “Diffusing Effective Behavioral Interventions” (DEBI) (CDC, 2010c). Within this project, evidence-based HIV interventions that have shown efficacy among a certain population are packaged into “how to” toolboxes that describe, in detail, how to adapt the intervention for other populations (CDC, 2010c).

In light of the urgent need for HIV prevention interventions for Black MSM, the CDC also developed a guide on how to adapt evidence-based interventions specifically for Black MSM (CDC, 2010c). For example, the “Popular Opinion Leader” (POL) intervention, which was developed for primarily white men and is listed in the CDC’s “Compendium of Evidence-Based Interventions,” has been adapted by Jones and colleagues for a sample of Black MSM (Jones et al., 2008). This adapted intervention resulted in reductions in HIV risk behaviors among the targeted population of Black MSM. Therefore, this study provides evidence that adapting evidence-based interventions that have proven efficacious with certain populations is a

promising strategy for addressing the HIV/AIDS disparity among and lack of interventions for Black MSM.

**Cost-effectiveness.** Since developing and testing, as well as adapting HIV prevention interventions can be costly and timely, there has been a push to create programs that have the highest impact for the least amount of dollars (Ruiz, 2001). A way to determine if the return from an HIV prevention intervention is worth the costs associated with its implementation is through cost-effectiveness analyses (Cohen, Wu, & Farley, 2004). The main benefit associated with a highly cost-effective program is expressed in terms of how many HIV infections are prevented in the wake of the intervention; each prevented case of HIV infection results in a savings associated with the lifetime cost of HIV/AIDS, including antiretroviral drugs, medical costs, and techniques for monitoring disease progression (Cohen, Wu, & Farley, 2004). The most recent estimate of costs associated with treating a single HIV-infected individual, which is reflected in 2010 U.S. dollars, is \$23,000 a year (Gebo et al., 2010) or \$379,668 over the entire lifetime (Schackman et al., 2006).

In a cost-effectiveness analysis of 26 HIV prevention interventions, Cohen and colleagues (2004) discovered that the HIV prevalence within a population and the cost per person reached in that population are the strongest determining factors of program cost-effectiveness. More specifically, programs that have higher per-person costs, such as targeted individual approaches that aim for reductions in HIV risk behaviors, can still be considered cost-effective when the target population has a high prevalence of HIV infection. An example of a cost-effective HIV prevention intervention is the “Mpowerment Project,” which was carried out with primarily gay and bisexual MSM (Kegeles, Hays, & Coates, 1996). Through a retrospective cost-effectiveness analysis of this project, it was found that an estimated 5.0 to 6.2

HIV infections were averted over five years (n=1,100), which resulted in a reduction in societal costs between \$14,600 and \$18,300 during this same time frame (Kahn, Kegeles, Hays, & Beltzer, 2001). Overall, a net savings of between \$700,000 and \$900,000 was estimated over five years, which proved the “Mpowerment Project” to be a highly cost-effective HIV prevention program (Kahn, Kegeles, Hays, & Beltzer, 2001).

These findings are particularly salient for HIV prevention with Black MSM and MSMW, as the prevalence of HIV is particularly high within these populations. Therefore, developing targeted interventions that specifically address the unique needs of Black MSM and MSMW, as well as adapting evidence-based interventions like the “Mpowerment Project” can be considered cost-effective and worthwhile, despite the potential high costs associated with these processes.

### **National HIV/AIDS Strategy**

Released in July of 2010, the *National HIV/AIDS Strategy* is an organized effort put forth by the White House to strategize around efforts to address HIV/AIDS in the United States. This strategy includes three goals: 1) To reduce new HIV infections; 2) To increase access to care and improve health outcomes for people living with HIV; and 3) To reduce HIV-related health disparities (The White House Office of National AIDS Policy, 2010). The plan also urges a more coordinated effort to address HIV prevention and treatment across all levels of government. A number of objectives were set as part of the new strategy (e.g., reduce the number of new HIV infections by 25%), all of which are expected to be achieved by 2015 (The White House Office of National AIDS Policy, 2010).

This new strategy is the first of its kind to be developed in the United States. The strategies outlined in the document urge a paradigm shift in the way HIV prevention efforts have been carried out since the beginning of the epidemic. As highlighted earlier in this chapter, HIV



prevention efforts have primarily been carried out through interventions that aim to change HIV risk behavior, specifically among high-risk negatives. However, the emphasis in the *National HIV/AIDS Strategy* is placed on identifying undiagnosed cases of HIV and swiftly linking these cases into HIV medical care. This model has been touted as a “test-and-treat” approach to HIV prevention, as opposed to a more general prevention strategy. For the most part, the new strategy is more heavily focused on working with those who are already HIV-positive, rather than concentrating prevention efforts among those who are uninfected (The White House Office of National AIDS Policy, 2010).

The goal surrounding identification of new HIV cases urges a shift from the current standard of 79% of individuals infected with HIV to be made aware of their status to 90% by 2015 (The White House Office of National AIDS Policy, 2010). In addition, there is a call to identify individuals earlier in their infection. Current strategies for identifying HIV-infected individuals often times do not locate new cases until a person has progressed into the later stages of the disease course (CDC, 2008). Finally, emphasis is being placed on linking those who are HIV-positive and not in medical care or those who are newly diagnosed into HIV medical care, as well as working to retain these infected individuals in care (The White House Office of National AIDS Policy, 2010).

Getting more HIV-infected individuals identified and linked and retained in HIV medical care is a tried and true public health strategy that aims for individual and community viral load suppression. For individuals, a suppressed viral load contributes to better health outcomes, better management of HIV and AIDS-related illnesses, and an overall improved quality of life. Suppressed community viral load means that the infectivity of those who are HIV-positive is reduced if risky sex and drug behaviors occur between HIV sero-discordant partners (where one

person is HIV-positive and the other person is HIV-negative). Overall, it is believed that an emphasis on treating those who are already infected with HIV will benefit both HIV-positive and HIV-negative individuals alike.

The *National HIV/AIDS Strategy* is, for the first time in over thirty years, pushing for a new understanding of HIV prevention and treatment. Many members of the HIV/AIDS research community are urging the HIV prevention field to execute “combination prevention,” or “multilevel interventions that combine evidence-based individual social, behavioral, and biomedical approaches to produce a community-level impact on the HIV/AIDS epidemic” (Coates, Richter, & Caceres, 2008, p. 176; Morin et al., 2011; Vermund et al., 2010). While still in its infancy, the new strategy is presenting a new way of addressing the evolving epidemic.

However, despite new, creative national efforts to effectively address HIV/AIDS in the U.S., the fact remains that enormous disparities currently exist. Black MSM and MSMW exhibit some of the highest rates of HIV and AIDS in the United States, highlighting the importance of developing efficient and effective means by which to curb the transmission, acquisition, and deleterious effects of this illness among these highly impacted, vulnerable communities.

## **Conclusion**

In light of the significant disparity in HIV/AIDS among Black MSM and MSMW and the sheer lack of effective interventions to reduce HIV infection within these populations, especially in regards to addressing some of the personal social and cultural factors that increase HIV /AIDS risks in this population, innovative ways of both determining the causes of and the means to effectively address this disparity are warranted. In the next chapter, the sociocultural factors of racism and homophobia will be explored through two theoretical perspectives, minority stress

and the theory of Intersectionality, as potential contributors to HIV risk behaviors among Black MSM and MSMW.

## **Background Empirical Research**

Although researchers have succeeded in conducting epidemiologic studies to highlight the startlingly high rates of HIV/AIDS among Black MSM in the United States, little has been done in the way of developing and testing theoretical explanations for these disproportionate rates. In fact, only recently has the scientific community begun to generate empirical evidence to help explain this disparity. For the most part, public health studies have primarily focused on individual-level factors, such as risk behaviors, to explain the disproportionate rates of HIV among Black MSM. It has been hypothesized that individual risk behaviors, such as unprotected anal intercourse and multiple sex partners, as well as substance use, were more prevalent among Black MSM than other MSM, thus explaining the higher rates of HIV among this population. However, much of the empirical evidence has simply not supported this hypothesis (Bing, Bingham, & Millett, 2008). Specifically, Millett and colleagues revealed that Black MSM engage in risky sexual behaviors at rates equal to or less than other MSM (Millett, Flores, Peterson, & Bakerman, 2007; Millett et al., 2012; Millett, Peterson, Wolitski, & Stall, 2006), as well as showed lower rates of substance use for all substances except for crack cocaine than their other MSM counterparts (Millett & Peterson, 2007; Millett, Peterson, Wolitski, & Stall, 2006).

While empirical findings do not, for the most part, support the hypothesis that compromised safer sex practices and substance use account for the higher rates of HIV among Black MSM, these data have been helpful in contributing to a basic understanding of how HIV manifests itself through individual behavioral factors. However, the vast majority of HIV prevention theories, interventions, and research have been individual in nature, behaviorally-focused, and person-centered, which has its limitations (Ayala & Diaz, 2001; Fisher & Fisher, 2000). Mays, Cochran, and Zamudio (2004) highlight the problems with following an individual

approach to understanding HIV among minority, and specifically African American MSM, and they urge a paradigm shift in how this research is carried out. More specifically, these authors believe that “research focused on social and interpersonal factors is clearly needed...research [that] captures elements of behaviors that are a function of the individual in concert with others or their environment” (p. 82).

As a means to move beyond the individual-level behavioral focus of much previous work in HIV, many researchers have called for a sociocultural approach or one that understands the contextual factors that influence individual risk behaviors among racial/ethnic minority MSM populations (Ayala & Diaz, 2001; Bing, Bingham, & Millett, 2008; Cargill & Stone, 2005; Gonzalez, Hendriksen, Collins, Duran, & Safrem, 2009; Malebranche, 2003; Mays, Cochran, & Zamudio, 2004 ; Millett, Malebranche, & Peterson, 2007; Millett & Peterson, 2007; Millett, Peterson, Wolitsky, & Stall, 2006; Organista, Carrillo, & Ayala, 2004; Peterson & Jones, 2009). Ayala and Diaz (2001) elaborate on this by explaining that sociocultural factors, such as race and class, “organize social life and shape sexual practice, and that individuals not only experience discrimination but also actively make choices, construct meaning, and shape situations (influenced by and according to racial and class-biased inequalities) in ways which create enhanced risk for HIV infection” (p. 61). Among racial/ethnic sexual minorities, experiences and perceptions of discrimination related to racism and homophobia have been suggested as particularly salient sociocultural factors that influence HIV risk (Brooks, Rotheram-Borus, Bing, Ayala, & Henry, 2003; Cargill & Stone, 2005).

## Discrimination

### Racism

Racism is defined by Krieger (2003) as “institutional and individual practices that create and reinforce oppressive systems of race relations whereby people and institutions engaging in discrimination adversely restrict, by judgment and action, the lives of those against whom they discriminate” (p. 195). Based on the philosophy of social epidemiologic research, it is vital that *racism* and not *race* be considered the contributor to poorer health outcomes among racial/ethnic minority MSM. In other words, being Black does not have some inherent biological quality that predisposes the individual to higher rates of HIV; instead, the consequences of perceptions and experiences of racism, such as less economic opportunity and access to resources which are associated with being a racial/ethnic minority in the U.S., are some of the true culprits for this disparity.

To aid in identifying racism and assist in understanding how racism manifests itself, Jones (2000) created a theoretical framework, which consists of three levels: 1) institutionalized racism, where access to goods, services, and opportunities are differentially distributed by race; 2) personally mediated racism, where prejudice and discrimination result in differential assumptions about the “abilities, motives, and intentions” of and actions toward people based on their race, respectively; and 3) internalized racism, where members of the stigmatized minority group take on the negative beliefs and stereotypes about their racial group, resulting in a lack of self-worth and negative feelings toward the group as a whole.

There has been a growing body of empirical evidence that supports the hypothesis that perceptions and experiences of racism can have negative health affects for racial/ethnic minorities, especially African Americans (Sellers, Caldwell, Schmeelk-Cone, & Zimmerman,

2003). For instance, subjective experiences of racist events among racial/ethnic minorities have been shown to adversely affect both mental and physical health outcomes (Williams, 1999). Furthermore, a study by Ries (1990) showed that even after education and income level were held constant, Blacks still had higher levels of ill-health than whites, thus indicating a racism effect. In terms of sexual health, lifetime experiences with racial discrimination was found to be significantly associated with a host of sexual problems among gay and bisexual African American men, including dissatisfaction with frequency of sex, problems maintaining affection toward a partner, and being unable to orgasm (Zamboni & Crawford, 2007).

### **Homophobia**

Much like perceptions and experiences of racism functions as an independent contributor to poorer health outcomes, perceptions and experiences of homophobia also has its adverse consequences. Homophobia was originally defined by Weinberg (1972) as the discomfort or fear of being near lesbians or gay men. In the following decades, several researchers have attempted to elaborate on this definition, moving toward use of the term “heterosexism,” which highlights the privileges enjoyed by those who are heterosexual (Herek, 1990; Lingardi, Falanga, & D’Augelli, 2005).

Although Jones’ (2000) theoretical framework was developed specifically to describe the three levels of racism in society, it could be suggested that additional forms of social oppression, such as homophobia, could also fit within the theoretical confines. In other words, homophobia can also manifest itself at the institutional, personally mediated, and internalized levels. Perceptions and experiences of homophobia has been found to negatively impact health among gay and bisexual men, with especially serious effects on gay and bisexual men of color (Ramirez-Valles, 2002). For instance, self-reported experiences of homophobic events were

found to be significantly associated with substance use and higher sexual risk among Latino gay men (Diaz & Ayala, 2001).

Perceptions and experiences of homophobia may have a particularly unique impact on Black MSM and MSMW, as conceptions of sexual orientation and sexual identity can be far more complex within this population. Whereas the vast majority of white MSM identify as “gay,” a much smaller proportion of Black MSM identify with the “gay” label (Blair, Fleming, & Karon, 2002; Heckman, Kelly, Bogart, Kalichman, & Rompa, 1999). Instead, some Black MSM identify as heterosexual, bisexual, or with less specific or no labels at all (Goldbaum, Perdue, & Higgins, 1996; Myrick, 1999). Some Black MSM have identified rejecting the label “gay” because of the term’s historical and cultural associations (Shilts, 1987). In other words, these men associate “gay” culture with a set of practices, values, and norms that are largely white and often quite different from those of Black MSM (Trebay, 2000).

Further, Black MSMW are a heterogeneous group and include several distinct subgroups such as situational homosexuals, including those practicing survival sex or sex during incarceration; men who identify with other labels for homosexuality such as “same gender loving;” bisexually identified men who are attracted to both men and women; and men who have sex with male-to-female transgender individuals (Goldbaum, Perdue, & Higgins, 1996; Lichtenstein, 2000; Manago, 2003; Mays, Cochran, & Zamudio, 2004). Stigma surrounding homosexuality and gay labels may contribute to “other” identifications and same-sex practices being clandestine activities among Black MSM and MSMW (Miller, Serner, & Wagner, 2005). Understanding the importance of labels and their impact on sexual behaviors is critical when exploring the impact of perceptions and experiences of homophobia on Black MSM and MSMW.



## **Discrimination and HIV Risk Behaviors**

Although many HIV researchers have called for a more thorough exploration of racism and homophobia as influences on HIV risk behaviors, there is a dearth of theoretical or empirical work focused on these sociocultural factors, especially among sexual minorities of color. As previously mentioned, much of the current public health literature on HIV has focused on risk factors utilizing behavior change theories (Ayala & Diaz, 2001). While these popular models have contributed much to the scientific literature, it is necessary to step outside of the traditional public health perspective in order to develop new theoretical understandings of the racial/ethnic and sexual minority disparities in HIV.

## **Theories of Minority Stress**

### **General Stress Theory**

Stress has been considered an important factor that contributes to health in a multitude of ways. On the most basic level, general stress can be defined as any external event or situation (chronic or episodic) that causes an individual to feel taxed in a way that they have a difficult time enduring, and of which may cause mental suffering or somatic illness (Dohrenwend, 2000; Meyer, 2003; Quick, Horn, & Quick, 1987). Minimizing the stress experience may be important, as stress can contribute to a multitude of negative health behaviors and health outcomes. For instance, one of the first signs of increased stress is changes in risk behavior, with evidence linking stress to an increase in cigarette smoking, alcohol and drug use, accident proneness, and violence (Quick, Horn, & Quick, 1987). Stress sequelae can also present through negative psychological outcomes, such as family problems, sleep disturbances, sexual dysfunction, depression, and even suicide (Dohrenwend, 2000; Feskanich et al., 2002; Quick, Horn, & Quick,

1987; Turner & Lloyd, 1999). Stress has also been linked to an increased risk for a number of negative physical health outcomes, such as low birth weight, the reactivation of latent viruses such as herpes simplex, and coronary heart disease incidence and mortality (Greenwood, Muir, Packham, & Madeley, 1996;. McKinnon, Weisse, Reynolds, Bowles, & Baum, 1989; Sable & Wilkinson, 2000).

Stress also has a very distinct physiological impact on the body. When the body is shocked with an initial stress response, such as an acute or chronic stressor, it attempts to return to its regular state of homeostasis through neural and hormonal adaptations (Kelly, Hertzman, & Daniels, 1997); this adjustment is called allostasis (McEwen & Seeman, 1999). The way to enumerate and measure cycles of allostasis is through allostatic load, which refers to the “wear and tear” on the body’s stress response systems, including the neural, neuroendocrine, and immune systems (Lantz, House, Mero, & Williams, 2005). The higher a person’s allostatic load, the more changes within the person’s physiologic system, which can lead to an increase in susceptibility to disease (Kelly et al., 1997). Direct health repercussions can result from these physiological responses to consistent stress. For instance, a higher state of allostasis can impact blood pressure; consistent fluctuations in blood pressure can cause an acceleration in atherosclerosis, which synergizes with metabolic hormones that contribute to Type II diabetes (McEwen, 1998; McEwen & Seeman, 1999). Connections between increased stress, higher allostasis, and other health issues, including hypertension (Brindley & Rolland, 1989) and autoimmune and inflammatory disorders (Sternberg, 1997), have also been noted in the scientific literature.

## **Minority Stress and the Minority Stress Model**

General stress tends to be conceptualized as occurring within the general population through environmental events that are either acute (i.e., divorce, a death) or chronic (i.e., financial strains, relationship problems) (Lantz, House, Mero, & Williams, 2005). However, an extension of the original stress theory called social stress, posits that much like external environmental events can cause stress, so can conditions in the social environment, such as low socioeconomic status (Meyer, 2003; Mirowsky & Ross, 2003). Social stress follows the same pathways to negative health repercussions as general stress, but is viewed to have an additive quality, by which additional stress related to social conditions is added to the other general stressors experienced by the general population.

Carving out an even more defined sub-section of social stress, the concept of minority stress emphasizes that individuals who are members of minority groups are exposed to stress specifically caused by stigma associated with membership in a marginalized minority social category (Brooks, 1981; Meyer, 2003). Drawing from elements within several social psychological theories, Meyer (1995; 2003) developed a theory of minority stress, as well as applied these concepts to create a minority stress model. Meyer claims that the root cause of minority stress comes from “the incongruence between the minority person’s culture, needs, and experience, and societal structures” (1995, p. 39). Assumptions that underlie this theory are that minority stress is: 1) unique, in that it is additive to other more generic stressors that are experienced by the general population, and therefore stigmatized minority people must develop mechanisms to adapt to stress that is above and beyond the average stress experience; 2) chronic, in that the stress associated with minority status is the result of social and cultural structures that are stable; and 3) socially based, in that it stems not from conditions that create general stress or

from genetic, biological or other characteristics, but rather from social processes, institutions, and structures that are outside of the individual (Meyer, 2003).

Meyer originally conceptualized his minority stress model as a means by which to understand the unique stress associated with being a member of a sexual minority group (Meyer, 1995; 2003). More specifically, Meyer has applied the minority stress model to examine the unique contributions minority stress makes in the psychological distress among gay men. While Meyer primarily focuses on members of the lesbian, gay, and bisexual community, the concept of minority stress can and has been used by scholars to understand the unique contributions of stress associated with an array of minority group memberships, such as being a racial/ethnic minority (Williams, 1986) or being female in a male-dominated society (Schwartz, 1991).

In addition, while Meyer's original minority stress model was formulated to understand how experiences and perceptions of minority stress impact psychological distress, it can and has also been applied to understand a myriad of other health outcomes. In fact, more current research on minority stress and the minority stress model has begun to explore new outcomes because the link between minority stress and psychological distress has been so well-documented (Fields et al., 2013; Herek, Gillis, & Cogan, 1999). For instance, recent work has looked at the impact of minority stress on physical health (Denton, 2012), substance use (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008), and HIV risk behavior (Fields et al., 2013; Hamilton & Mahalik, 2009; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Rosario, Rotheram-Borus, & Reid, 1996).

Furthermore, while HIV risk behavior has garnered interest as an important outcome of minority stress, its relationship to minority stress has been conceptualized in two distinct ways. The first and more traditional conceptualization is that psychological distress is somehow related

to (i.e., through moderation or mediation) the relationship between indicators of minority stress and HIV risk behavior (Rosario, Hunter, Maguen, Gwadz, & Smith, 2001; Diaz & Ayala, 2001; Gold & Skinner, 1992; Stall, Hays, Waldo, Ekstrand, & McFarland, 2000). For instance, in a study with young MSM (ages 13-21), a direct negative relationship was found between comfort with homosexuality and anxiety, and a direct positive relationship was found between anxiety and unprotected anal intercourse, thus implying that those with higher anxiety may also engage in more HIV risk behaviors (Rosario, Hunter, Maguen, Gwadz, & Smith, 2001). Also, in a large three-city study with Latino gay men, self-esteem, one common measure of psychological well-being, was found to mediate the relationship between experiences of racism and homophobia and engagement in high risk behavior (Diaz & Ayala, 2001).

The other conceptualization is that indicators of minority stress have a direct relationship to HIV risk behavior, and that unprotected intercourse may serve as a coping response to experiences and perceptions of minority-related stress (Calzavara et al., 2012; Fields, et al., 2013). For instance, Fields and colleagues (2013) found that among a sample of HIV-positive African American MSM, those who had experienced a discrimination-related personal trauma during their lifetime were more likely to have had unprotected anal intercourse with any male partner and/or an HIV-positive male partner in the last three months, than those who had not experienced such trauma. It was further hypothesized that because these MSM had experienced social discrimination, a potentially potent stressor, they may be engaging in HIV risk behavior as a maladaptive coping response to the stressor.

**Minority stress processes.** The general minority stress theory posits that minority stress “gets under the skin” of minority populations through experiences and perceptions of discrimination and oppression based on minority status. For instance, a sexual minority would

experience minority stress through homophobia, whereas a racial/ethnic minority would experience minority stress through racism. Furthermore, this minority-based discrimination operates through stress processes that are both distal and proximal in nature. Distal stressors can be understood as being objective events and conditions, whereas proximal stressors are personal processes that involve the subjective appraisal of individual perceptions of experiences (Meyer, 2003). Specifically in terms of Meyer's minority stress model, three main stress processes are identified that contribute to minority stress on a spectrum ranging from distal to proximal factors, which are: 1) actual prejudicial events, 2) perceived stigma, and 3) internalized oppression (Meyer, 1995; 2003).

Staying true to Meyer's original formulation of the minority stress model, further discussion on the three stress processes will focus primarily on the operationalization of minority stress through homophobia and its impact on the psychological distress of sexual minorities. In addition, the ways in which indicators of minority stress, both through experiences and perceptions of racism and homophobia impact HIV risk behavior are also highlighted when possible. However, literature that explores the impact of indicators of minority stress on HIV risk behavior is limited, thus fewer examples can be highlighted throughout this discussion. This poignantly highlights the need for further research on the impact of indicators of minority stress on other important non-mental health outcomes, such as HIV risk behavior.

***Actual prejudicial events.*** Discrimination against lesbian, gay, and bisexual (LGB) people can come in the form of institutionalized homophobia, such as enforcement of sodomy laws (Adam, 1995), or through direct discrimination or violence (Meyer, 2003). Mays and Cochran (2001) found that in their probability sample of over 2,000 adults in the U.S., those respondents who reported an LGB identity were twice as likely as their heterosexual counterparts

to have experienced a life event related to prejudice. These prejudicial events are associated with LGB people being victimized because of their sexual orientation (Meyer, 2003). Victimization, which takes away an individual's sense of security and heightens his or her sense of vulnerability, can have an acute impact on health through an increase in sleep disturbances, agitation and restlessness, use of drugs, and deterioration of personal relationships (Garnets, Herek, & Levy, 1990), as well as a more chronic impact on mental health, such as the development of posttraumatic stress disorder (Herek, Gillis, & Cogan, 1999).

In an exploration of minority stress among LGB persons in the workplace, Waldo (1999) found that those participants who reported higher levels of heterosexism in their workplace also exhibited higher levels of psychological distress and health-related problems. Also, Mays and Cochran (2001) found a rather robust association between experiences with discrimination and psychiatric morbidity, with the odds of having any psychiatric disorder significantly increased if an individual reported any lifetime discriminatory event (OR=1.60) or any day-to-day experiences with discrimination (OR=2.13), after adjusting for demographic confounders other than sexual orientation.

Self-reported experiences of homophobic events have also been found to be significantly associated with substance use and higher sexual risk among Latino gay men (Diaz & Ayala, 2001). Furthermore, experiences with social discrimination, including homophobia, have been found to decrease self-esteem among MSM of color; decreases in self-esteem can play a mediating role between discrimination and psychological distress, which has been shown to be predictive of HIV risk behavior (Brooks, Rotheram-Borus, Bing, Ayala, & Henry, 2003; Diaz & Ayala, 2001; Stokes & Peterson, 1998). Two studies found that experiences of homophobia were directly associated with increased rates of unprotected anal intercourse among Black MSM

(Jeffries, Marks, Lauby, Murrill, & Millett, 2012; Stokes & Peterson, 1998). In fact, one study indicated that men who experienced homophobic events were more likely to engage in unprotected anal intercourse than those who did not experience homophobic events; and furthermore, among those with previously diagnosed HIV infection, all types of reported homophobic events, ranging from being called names to being physically assaulted, independently predicted increased odds of HIV transmission risk behavior (Jeffries, Marks, Lauby, Murrill, & Millett; 2012). Therefore, evidence indicates that Black MSM may be at increased risk for acquiring or transmitting HIV in part because of experiences with discrimination based on their minority status(es).

*Perceived stigma.* Because LGB people fall outside of the hegemonic norm in regards to sexual orientation, LGB identity has become stigmatized; those who are stigmatized tend to approach interactions with the dominant society with caution, insecurity, and anxiety (Goffman, 1963). This means that interactions with the broader culture, despite their actual degree of discrimination, are carried out by LGB persons with a certain amount of perceived stigma. In order to cope with a stigmatized identity, it has been hypothesized that “a high level of perceived stigma would lead minority group members to maintain a high degree of vigilance- expectations of rejection, discrimination, and violence- with regard to minority components of their identity in interactions with dominant group members” (Allport, 1979; Williams, 1986, p. 41). This hyper-vigilance brought on by perceived stigma based on sexual orientation can cause extreme amounts of stress, as the LGB person must exert energy and resources to adapt to continual expectations of negative interactions (Allport, 1979).

In a study conducted with 339 homosexually-identified males, Ross (1985) found that anticipated social rejection based on sexual orientation was more predictive of psychological



distress than actual experiences with discrimination. Also, stigma consciousness was found to be associated with depressive symptoms among a sample of LGB persons (Lewis, Derlega, Griffin, & Krowinski, 2003). The real or perceived stigma associated with membership in marginalized social categories may lead to lower self-esteem, which has been associated with psychological distress and risky sexual behavior (Stokes & Peterson, 1998).

In terms of establishing a connection between perceived stigma and HIV risk behavior, one study with rural MSM found that perceptions of stigma related to HIV status and sexual orientation from family members was directly related to high-risk sexual behavior (Preston et al., 2004). In other words, those who perceived a higher degree of stigma from family members engaged in more sexual risk behavior. This tenet of the minority stress model, perceived stigma, has been explored less in the scientific literature, both in terms of psychological distress and other health outcomes. Therefore, research on this relationship is highly needed, especially in terms of its impact on HIV risk behavior among Black MSM.

***Internalized oppression.*** LGB persons grow up in a society that generally devalues and stigmatizes homosexuality; therefore, LGB identity can be developed within a discourse of homophobia and heterosexism. Because of this, LGB people may internalize some of the negative attitudes and beliefs about homosexuality that are held by the dominant society. This process of attributing negative, anti-homosexual attitudes to the self is called internalized homophobia (Meyer, 1995; 2003).

Internalized homophobia has been found to be associated with a number of mental health conditions, including substance use disorders (Meyer & Dean, 1998), eating disorders (Williamson & Hartley, 1998), and suicide ideation (Rofes, 1983). It has been suggested that self-blame attributions, such as internalized homophobia or internalized racism, may have more

deleterious effects on mental health outcomes than other forms of more external discrimination (Brewin, 1985; Jones et al., 1984; Meyer, 1995). Meyer and Dean (1998) found a small sample of MSM within their study that showed high levels of internalized homophobia, increased substance use, and participation in AIDS-related-risk-taking behaviors. Furthermore, a slight increase in HIV risk behavior was found to be associated with a higher level of internalized homophobia in a meta-analysis on internalized homophobia (Newcomb & Mustanski, 2011). Also, internalized homophobia was found to be associated with unprotected anal intercourse in a sample of bereaved gay men (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008). LGB African Americans have been found to be more likely to score highly on internalized homophobia scales than their non-African American LGB counterparts, potentially indicating increased potential for engaging in HIV risk behaviors among this population (Herek, Gillis, & Cogan, 2009).

**Minority stress and social support.** Social support has received an increased amount of attention in the HIV prevention and discrimination literatures. Broadly, social support has been defined as having access to friends, family, or other network members who can provide love, concern, and care, as well as direct assistance in coping with stressful and/or difficult situations (Sarason, Levine, Basham, & Sarason, 1983). Although broadly understood, social support continues to be a multi-faceted and complex construct that can be defined in a number of ways. For instance, social support has been conceptualized in ways such as instrumental support (e.g., receiving assistance with a problem), tangible support (e.g., receiving resources such as money or goods), informational support (e.g., receiving advice), and emotional support (e.g., receiving reassurance) (Schwarzer, Dunkel-Schetter, & Kemeny, 1994).

Because social support has inhabited a number of diverse meanings, it is difficult to determine how social support, in its many varying forms, may impact HIV risk behavior, especially among racial/ethnic and sexual minorities. On the one hand, substantial evidence has shown that social support can be beneficial for psychological and physical health (Allgower, Wardle, & Steptoe, 2001; Symister & Friend, 2003). Furthermore, social support has been defined as a resiliency factor that helps to buffer some of the negative impact of homophobia and racism on Black MSM (Peterson & Jones, 2009).

On the other hand, several counterintuitive associations between social support and sexual risk behavior among Black MSM have been reported (Peterson & Jones, 2009). For instance, among a sample of Black MSM, those who exhibited lower levels of social support also reported lower levels of HIV risk behaviors (Ostrow et al, 1991); however, in this same study, the White MSM who also reported lower levels of social support, reported higher levels of HIV risk behaviors. This difference was attributed to variations in the social support systems of Black and White MSM, as well as potential deficiencies in the measures of social support (Ostrow et al., 1991).

Social support, like psychological distress, may play an important role in how indicators of minority stress may impact HIV risk behavior. Because there is insufficient evidence on how social support affects the HIV risk behavior of Black MSM, further research is warranted.

## **Conclusion**

In testing his minority stress model among a sample of 741 gay men in New York City, Meyer (1995) found that prejudicial events, perceived stigma, and internalized homophobia significantly predicted five different psychological distress outcomes when considered simultaneously. In addition, a significant main effect of minority stress on HIV risk behavior, as

well as substance use and symptoms of depression, was found among a sample of bereaved gay men (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008). This evidence supports the minority stress model as one means by which to understand how experiences and perceptions of minority stress associated with sexual orientation contributes to poor psychological health, as well as HIV risk behavior.

However, much of the research that supports the utility of the minority stress model has included psychological distress as the main health outcome and has been carried out primarily with white gay men. In order to better understand how minority stress impacts HIV risk behaviors, other than through a connection with psychological distress, further application of the model using HIV risk behavior as an outcome is warranted. This includes examining the direct relationship between experiences and perceptions of indicators of minority stress and HIV risk behavior, as well as the role social support may play in moderating this relationship.

Furthermore, the unique experiences of Black MSM, who claim membership in at least two minority groups, needs to be explored. Contributions of minority stress related to racism *and* homophobia may be more complex than originally anticipated and may lead to a better understanding of the disproportionate rates of HIV among populations with multiple minority statuses. Thus, this dissertation aims to explore how the minority stress model may explain how the stress associated with being both a sexual and racial/ethnic minority may contribute to HIV risk behavior among a sample of HIV-positive non-gay identifying Black MSMW with histories of childhood sexual abuse.

### **Theory of Intersectionality**

While the minority stress model provides a theoretical framework to help understand how social oppressions such as racism and homophobia “get under the skin” of racial/ethnic minority

MSM, the theory of Intersectionality serves a different purpose. Rather than delineating pathways through which stigma and stress impact HIV risk behavior among Black MSM, the theory of Intersectionality serves as a philosophy or perspective which highlights the profound importance of examining the complex ways in which multiple oppressions contribute to poor health outcomes.

As previously highlighted, the literature on minority stress and its impact on health is relatively sparse. However, theoretical and empirical studies that explore the intersections of multiple sociocultural identities are almost nonexistent, thus rendering those with multiple minority statuses nearly invisible (Fukuyama & Ferguson, 2000). For instance, separate bodies of literature have examined experiences and perceptions of racism and homophobia, while little research has explored the combined effects of experiences and perceptions of racism and homophobia on health and health behaviors (Szymanski & Gupta, 2009a; 2009b). The minority stress model specifically demonstrates that experiences and perceptions of homophobia can increase stress among sexual minorities, and that high amounts of stress can result in a host of negative psychological and physical health outcomes, as well as risk behaviors. Therefore, it can be hypothesized that a combination of racial/ethnic and sexual minority statuses can amplify the impact of racism and homophobia on risk behaviors and health outcomes. As Mays and colleagues (2004) put it: “African American gay men and MSM are likely to experience prejudice, discrimination, or even threats of physical violence based both on their status as African Americans within the gay White community and as gay or MSM in the Black community” (p. 85).

Rooted in early feminist thought and first coined by law professor Kimberlé Crenshaw in 1989, the idea of intersectionality brings to light the complex overlap of multiple minority

statuses and how those who inhabit these multiple minority statuses have been ignored in the dominant framework that guides specifically, feminist theory and antiracist law. Crenshaw's major claim is that only the most privileged members of a marginalized group are represented when issues of discrimination based on sex and race are brought to light. For instance, the voice of the traditional feminist movement has generally been from the perspective of white women. This is problematic because when white women speak on behalf of all women and describe what they consider the general experience of all women, they overlook the fact that white women share many of the same "cultural, economic, and social characteristics" of those most in power-white men (Crenshaw, 1989, p. 154).

Although Crenshaw's intentions in developing the theory of Intersectionality were to explore the intersections of race and gender, or more specifically the unique experiences of Black women, intersectionality can also contribute to an understanding of racial/ethnic minority MSM. In reviewing the literature on MSM, the overwhelming representation of white MSM becomes abundantly clear. In fact, reviews of available literature on LGB populations have highlighted that articles specifically including LGB people of color are in the extreme minority (Boehmer, 2002; Huang et al., 2010). For instance, a review of all English scientific literature located in MEDLINE between 1980 and 1999 revealed that only 0.1% of the articles focused on lesbian, gay, bisexual, and/or transgender (LGBT) persons, and that 85% of these citations did not report on race/ethnicity (Boehmer, 2002). A more recent review, conducted by Huang and colleagues (2010), searched the PsycINFO database for English articles published between 1998 and 2007 that specifically address the experiences of lesbian, gay, and bisexual people of color. This review resulted in a total of 442 publications, which represented a mere 4% of the sexual orientation-related, and 1% of the race/ethnicity-related psychological literature over the past

decade (Huang et al., 2010). More specifically, even the literature describing and testing the minority stress model includes almost exclusively white samples. Therefore, the assumptions and generalizations that are made about MSM are based on the experiences of white MSM, which may not be representative of the experiences of Black MSM or MSMW.

Overall, Crenshaw argues that the single-issue framework used to explore and advocate against sexism and racism is too limiting and does not fully realize the experiences of those who are the most marginalized within each minority status. Instead of considering discrimination based on sex and race as mutually exclusive issues, Crenshaw urges an acknowledgement of the intersectionality of multiple minority statuses (Collins, 2000; 2009).

Patricia Hill Collins, a Black feminist scholar, goes further to explain how minority statuses are organized and maintained by highlighting that each individual and/or group occupies a social position, which is located within a system of “interlocking oppressions” (Dhamoon, 2010). Collins uses the term “‘matrix of domination’ to refer to how intersecting oppressions are actually organized through structural, discriminatory, hegemonic, and interpersonal domains of power” (Collins, 2000; Dhamoon, 2010, p. 2). This ‘matrix of domination’ is a more detailed explanation of how all forms of oppression, including those related to race and sexual orientation, occur at the sociopolitical and personal levels and can manifest themselves through external and internalized forms (i.e., institutionalized, personally mediated, internalized).

### **Multicultural Feminist Theoretical Perspectives on Multiple Minority Statuses**

Although the theory of Intersectionality helps to highlight the importance of examining the overlap of multiple indicators of minority stress, it does not provide a firm theoretical explanation for how stress associated with multiple minority statuses coalesces and thus contributes to poorer health. Methodology issues related to intersectionality research have been

a major topic of discussion among scholars from a multitude of disciplines (Bowleg, 2008; Bredstrom, 2006; Cole, 2009; Dworkin, 2005; Hancock, 2007; Moradi & Subich, 2003). Within the multicultural feminist literature, several perspectives have been developed to explain how multiple indicators of minority stress may interact and affect personal difficulties among those who inhabit multiple minority statuses (Szymanski & Gupta, 2009a; 2009b). Multicultural Feminist Theory posits that experiences of both external oppression (i.e., rejection and harassment) and internalized oppression (i.e., internalized homophobia) must be considered when examining the effects of perceptions and experiences of discrimination on health outcomes (Brown 1994; Szymanski & Gupta, 2009a; 2009b).

Four multicultural feminist theoretical perspectives have been developed to better understand how multiple indicators of minority stress may impact health (Moradi & Subich, 2003). The first perspective, primary oppression, suggests that even if an individual inhabits more than one minority status (i.e., Black MSM), only the stress from one of the minority statuses is the most important and has the most significant impact on health. The second perspective, additive, posits that the stress accompanying each individual minority status (i.e., experiences and perceptions of racism and homophobia) combines in an additive fashion, which then has a direct negative effect on health. This perspective was supported by a study conducted by Szymanski and Gupta (2009a), where both perceptions of internalized racism and internalized homophobia emerged as unique predictors of self-esteem. The third perspective, interactionist, builds on the additive perspective but also posits that the stress associated with one indicator of minority stress (i.e., experiences and perceptions of racism) may interact with and intensify the another indicator of minority stress (i.e., experiences and perceptions of homophobia) within an individual who has membership in multiple minority groups, thus resulting in worse health



outcomes. This perspective has been supported in work by Greene with African American women (Greene, 1994). The fourth perspective, intersectionality, suggests that the unique point where the multiple indicators of minority stress come together (i.e., the unique combination of experiences and perceptions of racism and homophobia) is what has the highest impact on health and well-being (Moradi & Subich, 2003; Szymanski & Gupta, 2009a; Szymanski, Kashubeck-West & Meyer, 2008).

Szymanski and Gupta (2009b) tested some of these theoretical perspectives among a sample of 178 Asian American men and women who identified as LGB. They found that while higher levels of racist events, heterosexist events, and perceptions of internalized racism and internalized heterosexism were all unique predictors of psychological distress, only racist events and perceptions of internalized heterosexism emerged as unique predictors of psychological distress when examined concomitantly. These findings highlighted that not only do different indicators of minority stress (i.e., experiences and perceptions of racism and heterosexism) impact psychological distress, but also the different routes in which indicators of stress operates (i.e., externally and internally) makes a difference in the psychological well-being among populations with multiple minority statuses (Szymanski & Gupta, 2009b).

Again, much of the scientific literature exploring intersectionality has been done in the field of psychology. Therefore, the preponderance of empirical evidence, though sparse, explores psychological distress as the main outcome of interest. This, again, highlights the need to explore how the overlap of multiple indicators of minority stress impacts non-mental health outcomes, such as HIV risk behavior. This is especially important since rates of HIV/AIDS are high in populations that inhabit multiple stigmatized identities and thus may be impacted by multiple indicators of minority stress, such as Black MSM and MSMW.

## **Conclusion**

The theory of Intersectionality brings to light how important it is to acknowledge overlapping indicators of minority stress in research, especially when the stress associated with each marginalized identity may contribute in unique ways to the HIV risk profiles of racial/ethnic minority MSM. The dearth of public health research on intersectionality, as well as the debate that surrounds the measurement of the impact of multiple minority stress indicators, further illuminates the need to consider not only perceptions and experiences of racism and homophobia as sociocultural factors that may contribute to disparities in HIV among Black MSM and MSMW, but also what the combined impact of the intersection of these two powerful indicators of minority stress may be. In the spirit of the theory of Intersectionality, this dissertation will explore how the stress associated with experiences and perceptions of various forms of both racism and homophobia contribute to engaging in HIV risk behavior among a sample of HIV-positive non-gay identifying Black MSMW with histories of childhood sexual abuse.

## **Application of Theory in Dissertation**

In this dissertation, indicators of minority stress highlighted in the minority stress model will be tested. Traditionally, Meyer's minority stress model has been used specifically to help understand how minority stress through sexual orientation-based discrimination directly impacts the psychological distress of white gay men. However, in this dissertation, the model will be expanded in several ways. First, the model will be tested among a sample of HIV-positive non-gay identifying Black MSMW with histories of childhood sexual abuse. This is important, as minority stress may impact the health and well-being of Black MSMW differently than has been previously documented among white gay men.

Second, a behavioral outcome, HIV risk behavior, will be explored in addition to examining the relationship between indicators of minority stress, psychological distress, and HIV risk behavior. HIV risk behavior will be operationalized through engagement in unprotected vaginal and/or anal intercourse (receptive and/or insertive) in the prior three months. It has been proposed that exploring the direct association between indicators of minority stress and HIV risk behavior is an important undertaking, as the utilization of non-mental health risk behaviors as outcomes has been sparse (Fields et al., 2013). Furthermore, while a relationship between indicators of minority stress, psychological distress, and HIV risk behavior has been documented (Diaz & Ayala, 2001; Gold & Skinner, 1992; Rosario, Hunter, Maguen, Gwadz, & Smith, 2001; Stall, Hays, Waldo, Ekstrand, & McFarland, 2000), it has been posited that a direct association between indicators of minority stress and HIV risk behavior may also exist. More specifically, HIV risk behavior may serve as a maladaptive coping strategy used to deal with the stress associated with inhabiting multiple stigmatized minority statuses (Fields, et al., 2013; Calzavara et al., 2012). This perspective expands on the current body of scientific literature that explores minority stress and psychological distress. In addition, it attempts to shed new light on the ways in which indicators of minority stress may be contributing to HIV risk behavior among a population that is disproportionately impacted by HIV/AIDS.

Third, minority stress, operationalized through experiences and perceptions of discrimination based on race/ethnicity and sexual orientation, will be explored. More specifically, this will be done by examining the independent and combined impact of actual events of racial/ethnic discrimination, internalized racism, internalized homophobia, and other covariates (psychological distress, social support, and childhood sexual abuse) on HIV risk behavior. Furthermore, psychological distress and social support, both of which may impact the

relationship between indicators of minority stress and HIV risk behavior, will be tested as moderators between these two constructs.

Further, the theory of Intersectionality will be used to expand on the complex relationship between indicators of minority stress, caused by experiences and perceptions of racial/ethnic and sexual orientation-based discrimination, and HIV risk behavior. The minority stress model aligns with the theory of Intersectionality in that it essentially tests the primary and additive perspectives employed under this theory. However, the theory of Intersectionality expands on the minority stress model by understanding that multiple indicators of minority stress operate in a much more complex way than simply having a primary or additive effect on HIV risk behavior. Therefore, the interactionist perspective, part of the theory of Intersectionality, will be tested to see if an interaction between internalized racism and internalized homophobia has a unique impact on HIV risk behavior.

Finally, perceptions of internalized racism and internalized homophobia, as well as frequency of HIV risk behavior will be measured across participants in both an intervention and control condition of the Enhanced Sexual Health Intervention for Men Project at baseline; furthermore, intervention effects will be measured across four time points to see if the intervention was successful in reducing perceptions of indicators of minority stress and HIV risk behavior among this sample, as well as whether indicators of minority stress mediate the intervention effectiveness.

Further detail on the research questions, hypotheses, and analytic plans are discussed in the following chapter.

## Chapter 4: Methodology

### **Study Design**

To accomplish the study aims of this dissertation, primary data collected as part of the Enhanced Sexual Health Intervention for Men (ES-HIM) Project, a four-year randomized controlled trial conducted between 2007 and 2011 within the Department of Psychiatry and Biobehavioral Sciences at the University of California, Los Angeles (UCLA), were used. ES-HIM aimed to reduce unprotected sexual intercourse and symptoms of depression and posttraumatic stress disorder among a sample of HIV-positive non-gay identifying Black men who have sex with men and women and who have histories of childhood sexual abuse. The ES-HIM Project was comprised of two study arms, namely the ES-HIM intervention condition and the Health Promotion (HP) control condition. The baseline sample included 117 men, and the intervention/control sample included 88 men (44 per condition). Participants were recruited from local community-based organizations in Los Angeles, California that serve Black MSM and HIV-positive Black men, and via recruitment fliers and in-person through study recruitment staff. The intervention and control conditions each took place over three weeks, with two 120-minute sessions occurring twice per week. ES-HIM and Health Promotion consisted of group discussions led by an ethnically matched, trained male facilitator, with ES-HIM covering topics related to reducing HIV risk behavior and symptoms of depression and posttraumatic stress, and HP covering topics related to general health and medication adherence. Further information on the study procedures, as well as the ES-HIM Project intervention and control condition are described in further detail below.

## **Study Procedures**

### **Recruitment**

Recruitment for the study was carried out in a number of ways and was ongoing throughout the duration of the enrollment period of the study. Recruitment fliers were mainly posted at three local community-based organizations (CBOs) in Los Angeles that had established a prior Memorandum of Understanding with the study. These agencies (AmASSI Health & Cultural Center, JWCH Institute, Inc., and Palms Residential Treatment Facility) were selected as official recruitment sites because they had a long history of working with HIV-positive Black men in Los Angeles. In addition, active recruitment at locations known to have gay, bisexual, and other MSM clientele was carried out at places such as barber shops, bath houses, clubs, and bars. Condom packs, which included a condom, small lubricant pack, and a mini flier, were also left in “fishbowls” at these venues, as well as distributed at locations where cruising is known to occur, such as parks, malls, freeways, and rest areas. Recruitment also included posting advertisements on a variety of internet websites known to attract the target population, such as craigslist.com, adam4adam.com, and Blackplanet.com.

### **Screening**

Once recruited, a potential participant was screened either on-site at a recruitment location or over the phone. An ineligible participant was asked to provide his first and last name, so that he was not re-recruited and enrolled at a later date during the ongoing recruitment process. If the potential participant was deemed both eligible and interested in the project, he was asked to make an appointment for the baseline survey.

A total of 295 men were screened, with 117 men meeting eligibility criteria for the study.

Eligibility criteria included the following:

- 1) Black or African American;
- 2) English-speaking;
- 3) 18 years or older;
- 4) HIV-positive for at least two months, which was verified by presenting a copy of HIV test results, latest CD4 count or viral load, an HIV diagnosis form, or presenting HIV medications with the participant's name on the prescription;
- 5) A sexually active man with both male and female partners in the previous three months;
- 6) Have had a sexual experience before the age of 18 years old that was unwanted or coerced, or with someone at least five years older than the participant (CSA was defined as having experienced any unwanted or forced sexual contact [ranging from touching and fondling to intercourse] and/or having had sexual experiences with someone at least five years older when they were under the age of 18);
- 7) Did not use a condom during oral, vaginal, or anal sex at least once in the past three months<sup>2</sup>;
- 8) Does not identify as *gay*.

Eligibility was determined through the use of an eight-item screener, which was administered by a study staff person prior to enrollment.

Once screened, the interested and eligible participant was asked to complete the Informed Consent. During the informed consent process, the study was explained in full detail, including

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<sup>2</sup> Although engagement in oral intercourse without a condom in the past three months was an eligibility criterion for inclusion in the ES-HIM study, those who reported only engaging in unprotected oral sex in the baseline survey were excluded from the analyses for Research Question 1. However, those who reported not using a condom during oral, vaginal, and/or anal intercourse at least once in the past three months at baseline were included in the analyses for Research Question 2. Further information on the exclusion and inclusion processes are detailed in later sections.

the purpose, risks, benefits, and procedures, and the potential participant was given the opportunity to ask questions. After reading the Informed Consent or having the Informed Consent read to him, the potential participant was asked to explain the study in his own words to ensure that he had a clear understanding of the purpose of the study and the procedures. Once a participant had signed the Informed Consent, he was considered an enrolled participant in the study and was administered the baseline survey.

### **Data Collection**

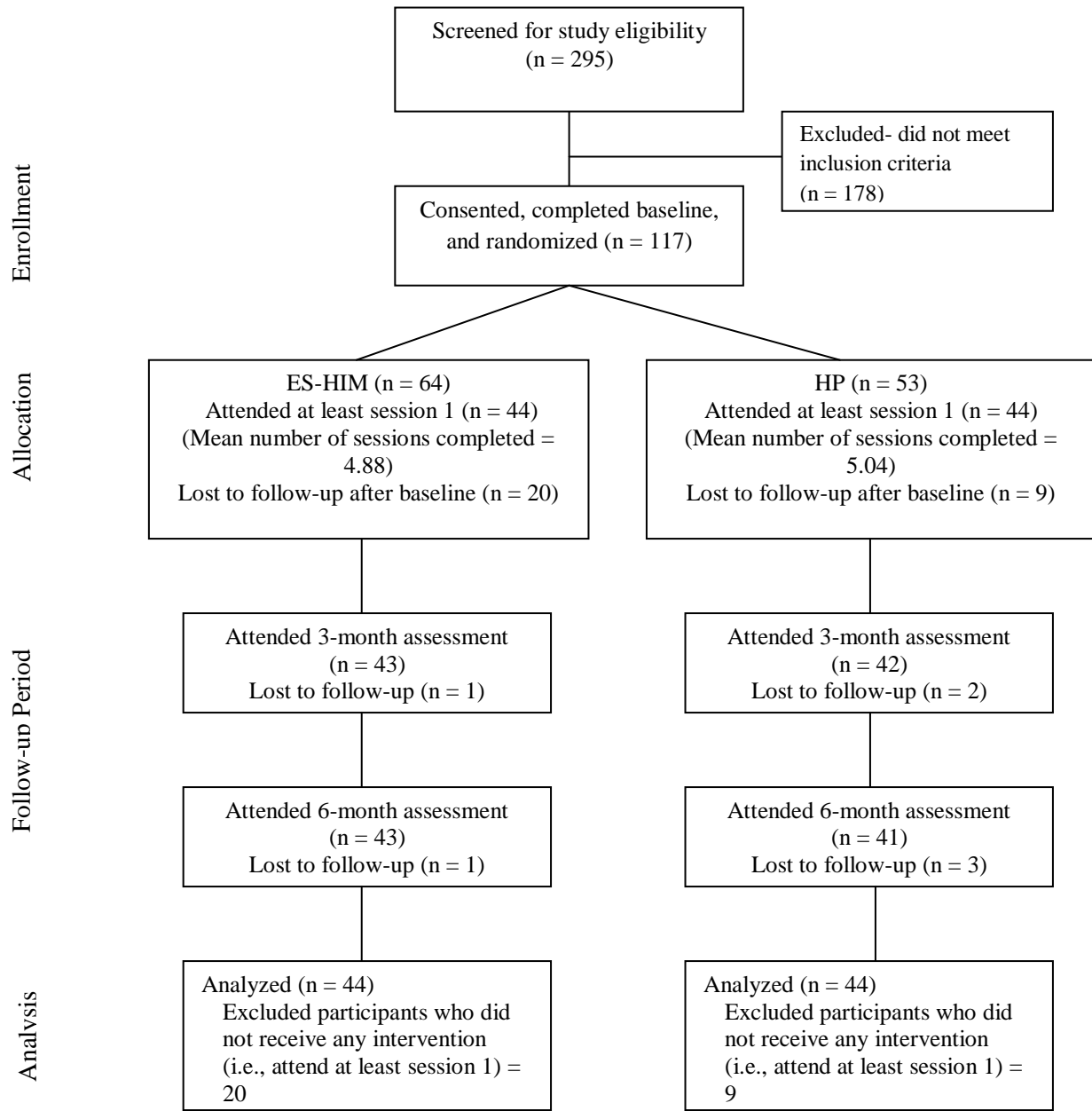
Data were collected at multiple time points to both assess the efficacy of the intervention, as well as to gather information on a highly vulnerable yet severely understudied population. Prior to implementation, the study obtained Institutional Review Board (IRB) approval for the protection of human subjects in research at the University of California, Los Angeles. In addition, a Certificate of Confidentiality was obtained from the National Institutes of Health (NIH) to ensure the privacy and protection of sex- and drug-related information collected through the survey instrument. Project staff were trained by the Principal Investigator and Project Director on all study procedures and quality assurance mechanisms were put in place to ensure protocol fidelity.

Data collection occurred at four time points: baseline, post-intervention, three-months post-intervention, and six-months post-intervention, with randomization into either the ES-HIM or HP condition occurring directly after the baseline survey. Please see Figure 4-1, the Participant CONSORT Diagram, for a more detailed account of how a participant moved through the ES-HIM Project and where data collection occurred. In addition, further detail describing the flow of participation in the ES-HIM Project is highlighted below.



It is also important to point out that for the purposes of this dissertation, the first research question only examines those participants who participated in the baseline survey just after enrollment (n=117). Research Question 2, however, utilizes only those enrolled participants who participated in either the ES-HIM condition or the Health Promotion control condition (n=88, with 44 per condition).

Figure 4-1. Participant CONSORT Diagram



**Baseline survey and randomization.** The baseline survey took place at UCLA or one of the participating community-based organizations. The baseline survey took approximately 60-90 minutes to complete and was administered via Audio Computer Assisted Self Interview (A-CASI), which allowed the participant to either read all items on a laptop computer or have the computer read the questions through headphones. A-CASI has been shown to be very effective in addressing literacy issues and in asking sensitive questions, such as sexual activity and alcohol and substance use. The survey asked about a myriad of topics, including but not limited to African American/Black culture, sexual behaviors (i.e., condom use, multiple partners), sexual health and sexuality (i.e., having sex with men, having sex with women, sexual experiences before and after the age of 18), gender roles and racial expectations (i.e., what it means to be: a man, Black, and a Black man), alcohol and drug use, and feelings and emotions (i.e., feeling depressed, anxious, stressed out).

Upon completion of the baseline survey, a participant was randomized into either the ES-HIM or HP condition using a randomization table created by a Biostatistician at UCLA. After successfully completing the six sessions over a three week time frame, the participant was then administered the survey via A-CASI again post-intervention. This survey was nearly identical to the baseline survey except language referencing time frames were adjusted to reflect the time since the baseline survey was administered. For instance, in the baseline survey a question may have asked whether a participant had engaged in unprotected anal intercourse within the previous three months; however, in the post-intervention survey, the participant would be asked if he had engaged in unprotected anal intercourse in the previous three weeks or since the baseline survey had been administered. This same survey was also administered at three-months and six-months post-intervention, with the content of the survey remaining the same except for the shift in

language to accurately reflect the amount of time that had passed since the previous survey administration.

In addition to a survey administered at four separate time points, the study also collected biomarker samples to test the theory of allostatic load. This included collecting both twelve-hour and one-time urine specimens at baseline, and three-months and six-months post-intervention. These specimens were assessed for levels of the stress hormones cortisol, dopamine, epinephrine, and norepinephrine, as well as neopterin, a marker for HIV disease progression. In addition, non-urine biomarker measurements were also taken at these same time points to aid in establishing allostatic load (height and weight to calculate body mass index [BMI], heart rate, blood pressure, and waist-to-hip ratio). While the collection of biomarker data and the assessment of allostatic load were incorporated into the original research design, the exploration of these data is outside the scope of this dissertation.

Participants received incentives upon the completion of each of the major study components, resulting in a possibility of earning up to \$220. Please see Table 4-1 for a detailed breakdown of study incentives.

Table 4-1. ES-HIM Project Incentive Structure

Program/Evaluation Component	Payment
Baseline Survey	\$25
ES-HIM or HP Sessions	\$15/session = \$90 total
Post-Intervention Survey	\$15
3-Month Post-Intervention Survey	\$25
6-Month Post-Intervention Survey	\$25
Baseline Urine Sample	\$10
3-Month Post-Intervention Urine Sample	\$15
6-Month Post-Intervention Urine Sample	\$15
<b>Total</b>	<b>\$220</b>

**Study attrition.** A total of 295 men were screened with 117 men meeting eligibility criteria. Please see Figure 4-1, the Participant CONSORT Diagram, for a more detailed overview of study flow and attrition. The ineligible men were provided referrals to other research studies, community-based organizations, and men’s groups. Of the 117 eligible men, only 88 participated in either the ES-HIM or the HP conditions (i.e., attended at least session 1). Reasons for attrition included being lost to follow-up after the baseline assessment (n = 20), being incarcerated (n=3), entering substance abuse treatment (n=2), moving out of town (n=2), obtaining employment (n = 1), and being “unavailable” (n=1).

### **Intervention Conditions**

As previously mentioned, two conditions comprised the ES-HIM Project: 1) the ES-HIM intervention, which focused on the reduction of HIV risk and stress, and 2) the Health Promotion (HP) comparison condition, which focused on general health issues. The main study aims of the ES-HIM Project were:

- 1) To determine the impact of the ES-HIM intervention on HIV sexual risk behaviors among non-gay identifying HIV-positive Black men who have sex with men and women and who have histories of childhood sexual abuse. It was hypothesized that compared to the Health Promotion comparison condition, the ES-HIM intervention condition would be more efficacious in decreasing unprotected anal and vaginal intercourse (i.e., increase condom use) at immediate post-intervention and at three-months and six-months post-intervention.
- 2) To determine the impact of the ES-HIM intervention on negative psychological symptoms over time among this same target population. It was hypothesized that compared to the Health Promotion condition, ES-HIM would be more efficacious in decreasing depressive and posttraumatic stress symptoms at immediate post-intervention and at three-months and six-months post-intervention.

Both ES-HIM and Health Promotion were group-level interventions that met twice a week (two hours each session) for three consecutive weeks, for a total of six sessions. For example, the first week of sessions would meet on Monday evening from 6:00-8:00 P.M. and then Wednesday evening from 6:00-8:00 P.M. Then, the following week, the sessions would meet at the same times for the same amount of time. This would occur for a total of three weeks, with two sessions per week (six sessions total). An enrolled participant needed to attend the first session of the ES-HIM or HP group in order to take part in that particular group of enrolled participants. Once an enrolled participant had attended the first ES-HIM or HP session, he was considered a member of that specific group and could not switch to another group at that time.

**Enhanced Sexual Health Intervention for Men (ES-HIM).** ES-HIM was adapted from the evidence-based Sexual Health Intervention for Men (S-HIM), a six-session group

intervention for HIV-positive African American and Latino men with histories of childhood sexual abuse (CSA), and the Women's Enhanced Sexual Health Intervention (ESHI), an 11-session group intervention for HIV-positive women with histories of CSA (Williams et al., 2008; Wyatt et al., 2004, respectively). Guided by cognitive behavioral approaches and an ecological framework that addressed individual, interpersonal, social, and cultural factors, ES-HIM proposed to effect sexual behavior change and psychological health improvement (Bandura, 1986; Bronfenbrenner, 1977). The conceptual model supported adaptation over time and contextualized the interactions of overlapping ecosystems with the individual being at the core. The concept that previous experiences, both individually and cumulatively, could impact current sexual decision-making was underscored.

In the ES-HIM group intervention, sexual risk reduction was framed from the perspective of being a triple minority (i.e., being an HIV-positive racial and sexual minority). Issues of stigma and social isolation were discussed in regard to these identities. Sexual ownership focusing on individual responsibility for one's health and well-being was prioritized along with caring for sexual partners, family, and community (Chin, Wyatt, Carmona, Loeb, & Myers, 2004). Cultural and religious messages that could possibly contradict HIV prevention efforts were acknowledged. Since ES-HIM targeted bisexual men, discussions on sexual behaviors with both primary and secondary male and female partners were included. Decisions regarding sexual behaviors and consequences were framed within a culturally congruent social context. Topics included: 1) the influence of gender and ethnicity (i.e., the meaning of being a Black man); 2) early socialization regarding gender and culture, as well as adult experiences (i.e., being bisexual versus heterosexual within Black communities); 3) HIV stigma; and, 4) recognizing stressors,

including histories of personal trauma, and using learned strategies of coping and affective regulation to improve health outcomes.

Because trauma histories, particularly childhood sexual abuse, may diminish self-worth and interest in self-preservation, ES-HIM addressed cognitive distortions and negative thoughts and emotions associated with having a history of childhood sexual abuse. The impact of childhood sexual abuse on personal decision-making was framed as an important link between past experiences and current cognitive, affective, and behavioral patterns including sexual behaviors and HIV infection. Participants were taught how to identify stress triggers and how these triggers could lead to unhealthy decisions and high-risk behaviors. Participants also learned effective communication skills, concentrating on negotiation and assertiveness training, which could be used to establish safer sex boundaries and to garner social support.

While the ES-HIM Project emphasized past histories of childhood sexual abuse and how these histories contribute to HIV risk behavior, this dissertation will be limited in its exploration of childhood sexual trauma. Additional research on the link between childhood sexual abuse, mental health outcomes, HIV risk behavior, and a myriad of other variables are being studied by other researchers associated with the ES-HIM Project. Therefore, while childhood sexual abuse will be acknowledged as an important variable for participant eligibility and intervention development, and it will be included as part of the analysis for the first research question, it will not be the main topic of interest within this dissertation.

**Health Promotion (HP) control condition.** A Health Promotion intervention, called Health Promotion or HP, was used to control for the Hawthorne effect and reduce the likelihood that effects of ES-HIM could be attributed to special attention and group interaction. Participants in both conditions received a valuable intervention that extended beyond “usual



care.” HP addressed health issues, including certain cancers, hypertension, diabetes, and heart disease, all of which are common among Black men, but did not focus on sexual behavior or CSA. Participants were taught that these diseases could be prevented by changing personal behaviors (e.g., increasing physical activity and healthy dietary practices, ceasing cigarette smoking and alcohol and drug abuse), or managed with early detection and screening behaviors.

The main study team consisted of a Principal Investigator (Dr. John K. Williams); a Project Director who oversaw the day-to-day operations of study implementation and evaluation (myself, Kimberly Kisler); two Research Assistants who served as the Facilitators for each of the intervention conditions, as well as the Interviewers for the survey data collection and the recruiters for study enrollment; and a Recruiter who was responsible for conducting targeted outreach to bring in new potential participants. Both ES-HIM and HP were led by Facilitators who were matched on race/ethnicity to the participants, as well as trained on intervention delivery and research techniques. One Facilitator was solely responsible for all ES-HIM participants and matters related to that intervention, while another Facilitator was solely responsible for HP participants and intervention delivery.

### **Study Variables and Measures**

The analysis for this dissertation is broken up into two separate research questions with a number of associated hypotheses. Although all study variables and measures to be used in this dissertation are described below, not all variables or measures are utilized to address both research questions. Whether each variable or study measure is used in the analysis for Research Question 1, for Research Question 2, or for both research questions, will be noted in the descriptions below. Please see Table 4-2 for a list of all variables, along with information on each measure.

Table 4-2. List of Variables, Measures, and Measure Characteristics

Variable	Measure	Number of Items	Level of Measurement	Cronbach's Alpha
HIV risk behavior	Wyatt Sex History Questionnaire (WSHQ-R)	3	Ratio	--
Actual events of racial/ethnic discrimination	Racism and Life Experiences Scale (RaLES)	20	Ordinal	.97
Internalized racism	Brief Scale of Racial Pride	7	Ordinal	.91
Internalized homophobia	Internalized Homophobia Scale (IHP)	13	Ordinal	.86
Psychological distress	Beck Depression Inventory-II (BDI-II)	21	Ordinal	.95
Social Support	Multidimensional Scale of Perceived Social Support	10	Ordinal	.96
Childhood sexual abuse	Revised Wyatt Sex History Questionnaire (WSHQ-R),	2	Nominal	--

### Dependent Variable

The main outcome of interest is HIV risk behavior, which is operationalized through the number of reported instances of unprotected intercourse (vaginal and/or anal) within the past three months. Previous research on HIV risk behavior has shown that unprotected anal intercourse carries the greatest risk for both transmission and acquisition of HIV among MSM (Vittinghoff et al., 1999). Since the participants in the sample were behaviorally bisexual, unprotected vaginal intercourse was also included as an HIV risk behavior since it also carries a high risk of transmission.

Although eligibility criteria for entry into the larger ES-HIM Project study required that a participant have engaged in “high-risk” sexual intercourse over the past three months, “high-risk” sexual intercourse was defined by the overarching ES-HIM Project study as oral, vaginal, and/or anal intercourse without a condom. However, oral intercourse without a condom is considered a low-risk activity for HIV transmission/acquisition and thus does not fit the eligibility for inclusion in this dissertation, which is looking at frequency of HIV risk behavior among “high-risk” Black MSMW. Therefore, those who had only engaged in oral intercourse without a condom in the past three months were not included in the analysis for Research Question 1, and those who had engaged in vaginal and/or anal intercourse within the past three months were included. Further, whether engaging in unprotected receptive or insertive anal intercourse or unprotected insertive vaginal intercourse, each of these sexual behaviors was considered inherently “high-risk” since all participants in the sample were HIV-positive.

For the purposes of Research Question 1, both unprotected vaginal and anal intercourse were first assessed with three items from the Wyatt Sex History Questionnaire (WSHQ-R) (Wyatt, 1984). These items asked whether the participant had engaged in insertive anal intercourse, receptive anal intercourse, and/or vaginal intercourse without a condom in the past three months. An example of an item is *“Have you engaged in anal intercourse (your partner’s penis in your butt or rectum) without a condom in the past three months?”* Answers were provided using a yes (1)/ no (0) response format, where participants were asked to choose one of two response options. Then, if a participant indicated that he had engaged in a type of unprotected anal or vaginal intercourse, he was then asked the frequency, in the previous three months, of that type of unprotected sexual act. For example, if a participant responded “yes” to having unprotected receptive anal intercourse in the previous three months, he was then asked

how many times he had engaged in unprotected receptive anal intercourse in the previous three months. Participants recorded an actual number of times for this response option. Therefore, the final dependent variable included the total number of times a participant had engaged in vaginal, anal receptive, and/or anal insertive sexual intercourse without a condom in the past three months.

In addition to persons who had engaged only in unprotected oral sex being excluded, an additional participant was excluded from the analysis for Research Question 1 because he appeared to be an outlier. This participant reported a total of 80 separate instances of unprotected intercourse over the past three months. The range on the dependent variable, HIV risk behavior, for the entire sample was 1-80, and the range with this outlier excluded was 1-55; it was concluded that the overall pattern in the frequency of anal and vaginal intercourse without a condom over the past three months within the total sample was drastically different than the response of this particular participant, which implies that he may be qualitatively different than the remainder of the sample.

Therefore, the final possible analytic sample for the dependent variable used in Research Question 1, HIV risk behavior, included 93 participants, all of whom had engaged in anal insertive, anal receptive, and/or vaginal intercourse without a condom in the past three months.

For Research Question 2, the same variable coding process was used to create the HIV risk behavior variable, but no respondents were excluded from the analysis based on engaging only in oral sexual intercourse without a condom. The analysis for this research question aimed to look at change in HIV risk behavior over time, so those who reported only instances of unprotected oral intercourse, or conversely, no instances of unprotected vaginal and/or anal intercourse, remained in the sample. In addition, the participant who reported 80 instances of

unprotected sexual intercourse was not excluded from this analysis. The total analytic sample for this research question was 88 (n=44 per condition), as only those who participated in the ES-HIM intervention or HP control conditions were considered for the analysis.

### **Independent Variables**

Indicators of minority stress based on both race/ethnicity and sexual orientation were used as key independent variables. To adhere to the minority stress model's identified distal and proximal stress processes, experiences and perceptions of actual events of racial/ethnic discrimination, as well as internalized racism and internalized homophobia were measured. While it would have been ideal to incorporate measures of all forms of the minority stress processes for both experiences and perceptions of racism and homophobia, unfortunately, only a measure of internalized homophobia was available for discrimination based on sexual orientation.

**Actual events of racial/ethnic discrimination.** The Racism and Life Experiences scale (RaLES) was used to measure experiences and perceptions of events of discrimination based on race/ethnicity (Harrell, 1997; Harrell, Merchant, & Young, 1997). The RaLES is comprised of five primary scales and one overview scale, all of which assess the perceived frequency, intensity, and overall stressfulness of multiple dimensions of racism-related experiences (CDC, 2007). To measure experiences and perceptions of events of racial/ethnic discrimination, only the Daily Life Experiences Scale (DLE) of the RaLES was used. This 20-item scale assesses the daily hassles, or what are deemed "microaggressions," attributed to being a member of a racial/ethnic minority group (CDC, 2007). While the scale can incorporate any amount of time, this measure was used specifically to assess lifetime experiences and perceptions of events of racial/ethnic discrimination. Sample items include "*During your lifetime, how often have you*

*experienced being ignored, overlooked, or not given service in a restaurant, store, etc., because of your race/ethnicity?” and “During your lifetime, how often have you experienced being observed or followed while in public places?”* The response categories measure perceived frequency of each event occurring over the lifetime, ranging from zero (*never happened to me*) to six (*once a week or more*) on a Likert scale. A higher score on the scale indicates that a person has perceived to experience more events of racial/ethnic discrimination; it is posited that a higher score on the scale is associated with more negative outcomes.

The RaLES has been deemed most appropriate for use with historically disadvantaged populations, such as Blacks, and its psychometric properties were tested in six samples between 1993 and 1996 (CDC, 2007). The Daily Life Experiences scale has shown excellent internal consistency ( $\alpha = .89$ ) among both a sample of racially/ethnically diverse undergraduate and graduate students in Los Angeles County, and a sample of racially/ethnically diverse students in a large west coast university (Harrell, Merchant, & Young, 1997). Additionally, it has also shown good test-re-test reliability ( $r = .79$ ) (Harrell, Merchant, & Young; 1997). Among this sample of non-gay identifying HIV-positive Black behaviorally bisexual men with histories of childhood sexual abuse, the RaLES showed excellent internal consistency ( $\alpha = .97$ ).

Experiences and perceptions of actual events of racial/ethnic discrimination were only assessed in the analysis for Research Question 1.

**Internalized racism.** A validated measure of internalized racism was not available, so a proxy measure was used. It was believed that a higher sense of racial pride could indicate a lower level of internalized racism; and conversely, that a lower sense of racial pride could indicate a higher level of internalized racism. Therefore, a measure that assesses racial pride, namely, the Brief Scale of Racial Pride, was used. The Brief Scale of Racial Pride was originally

designed to assess racial identity, pride, self-consciousness, and Afrocentricity among African American women (Lukwago, Kreuter, Bucholtz, Holt, & Clark, 2001). The original measure included seven statements appraising attitudes toward racial affiliation and asked participants to indicate the degree to which she agreed with each statement using a scale of one (*strongly disagree*) to four (*strongly agree*). The original measure had moderate-to-high internal consistency ( $\alpha = .84$ ) and test-re-test reliability ( $r = .52$ ) (Lukwago, Kreuter, Bucholtz, Holt, & Clark, 2001).

However, since this study population was comprised of Black men, the measure was adjusted to reflect the language and experiences of this population. Therefore, some of the wording that focused on the Black female experience was adjusted to reflect the Black male experience. For instance, an item in the original scale asked “*I feel a strong connection to other Black women.*” In order to reflect the experience of Black men, the item was re-worded as such: “*I feel a strong connection to other Black men.*” Therefore, the scale used to measure perceptions of internalized racism in this study contained the same original seven statements, but the wording was adjusted to reflect the Black male experience. A higher score on this scale indicates higher racial pride, and thus lower internalized racism. Conversely, a lower score on this scale reflects lower racial pride, but higher internalized racism. Among this sample of HIV-positive non-gay identifying Black men who have sex with men and women and who have histories of childhood sexual abuse, the scale was found to have excellent internal consistency ( $\alpha = .91$ ).

The variable of internalized racism, measured with the Brief Scale of Racial Pride, was assessed in both Research Question 1 and Research Question 2.

**Internalized homophobia.** The Internalized Homophobia Scale (IHP) is a nine-item measure used to determine the internalization of negative attitudes toward homosexuality (Meyer, 1995). Participants responded to items about their thoughts toward their same-sex desires (e.g. *“I have tried to stop being attracted to men”*) using a five-point Likert scale ranging from one (*strongly disagree*) to five (*strongly agree*). Cronbach’s alpha for the IHP has been found to be .79 in a previous study (Meyer, 1995). For the ES-HIM study, the scale was revised to include references to bisexuality not included in the scale’s original form. This resulted in some items being revised (e.g., *“I would not worry about being strictly heterosexual if I could be loved and accepted as a [bisexual or] homosexual man”*), and four additional items being added. The final IHP for this study consisted of 13 items. For this sample of HIV-positive non-gay identifying Black MSMW with histories of childhood sexual abuse, internal consistency was found to be good ( $\alpha = .86$ ).

Internalized homophobia was assessed in both Research Question 1 and Research Question 2.

### **Covariates**

Because of a small sample size, the proposed covariates were each tested for appropriateness for inclusion in the final model and within further analysis in general. If a variable seemed inappropriate for inclusion in the final model or in additional analyses, it was excluded in addition analyses. Details on how these decisions were made are outlined in the “Results” section.



**Psychological distress**<sup>3</sup>. Rates of depression, a key indicator of psychological distress, have been found to be higher among MSM than the general population (Reisner et al., 2009). Furthermore, depression has been linked to indicators of minority stress, CSA, and HIV risk behavior. For instance, higher perceptions of minority stress have been directly linked to five indicators of psychological distress, including depression (Meyer, 1995; 2003). In addition, depression, in combination with Posttraumatic Stress Disorder, has been shown to serve as both a moderator and a mediator on the relationship between CSA and the total number of lifetime sexual partners (Holmes, Foa, & Sammel, 2005; Chartier, Walker, & Naimark, 2009, respectively). Also, among a sample of Black MSM, those who were moderately depressed were more likely to engage in behaviors that put them at increased risk for HIV and other sexually transmitted diseases (Reisner et al., 2009). Therefore, psychological distress will be considered as a potential moderator in Research Question 1, as it may have an impact on the relationship between indicators of minority stress and HIV risk behavior.

Psychological distress will be operationalized through assessment of symptoms of depression, which is common in the psychological literature on minority stress (Meyer, 1995; 2003). To assess symptoms of depression, the Beck Depression Inventory-II (BDI-II), a 21-item multiple-choice assessment which measures the presence and degree of depressive symptoms on a four-point scale, was used (Beck, Steers, & Brown, 1996). Sum scores are calculated with the possible range being 0-63. A sample item from this measure is “*For the past week, including today...*” with the response options including zero (*I do not feel sad*), and ranging from one (*I feel sad much of the time*) to three (*I am so sad or unhappy that I can't stand it*). The BDI-II has

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<sup>3</sup> The term psychological distress is used as an umbrella term throughout this dissertation to reflect the generic language used in both the literature on the minority stress model, as well as the general psychology literature. When citing the literature, the term(s) used reflect the original term(s) used by the author(s). When using the term psychological distress in regards to the analyses carried out in this dissertation, it is specifically referring to the psychological distress disorder, symptoms of depression.

been extensively used, especially among African American populations (Joe, Woolley, Brown, Ghahramanlou-Holloway, & Beck, 2008). Among this sample of non-gay identifying Black HIV-positive behaviorally bisexual men with histories of childhood sexual abuse, this scale had excellent internal consistency ( $\alpha = .95$ ). Psychological distress will only be assessed in Research Question 1.

**Social support.** Social support is defined as “emotional, informational, or practical assistance from significant others, such as family members, friends, or co-workers” (Thoits, 2010). Social support has been considered a protective factor, as it has been found to buffer the negative effects of stress on health and well-being (Thoits, 2010). Because levels of social support may impact the effects of minority stress on HIV risk behavior, social support will be considered in the overall model in Research Question 1, and as a potential moderator between indicators of minority stress and HIV risk behavior.

To measure social support, the Multidimensional Scale of Perceived Social Support was used (Zimet, Dahlem, Zimet, & Farley, 1988). The original scale included 12 items and measured three types of social support: family, friends, and significant other. The scale showed very good internal reliability when tested across three samples: pregnant women ( $\alpha = .92$ ), adolescents ( $\alpha = .84$ ), and pediatric residents ( $\alpha = .90$ ) (Zimet, Powell, Farley, Werkman, & Berkoff, 1990). However, for the purposes of this study, only the items related to social support from family and friends were included. In addition, items that were written to measure the support from significant others in the original measure were re-written to measure family and friend social support. The measure used in this study included ten items. An example of an item is “*My family really tries to help me*” with the response options being presented on a Likert scale ranging from one (*strongly disagree*) to six (*strongly agree*). Within this sample of HIV-positive

non-gay identifying Black MSMW with histories of childhood sexual abuse, excellent internal consistency was found ( $\alpha = .96$ ).

**Childhood sexual abuse.** Evidence suggests that men who have experienced childhood sexual abuse (CSA) may be more likely to engage in high-risk sexual behaviors, have more lifetime sexual partners, use condoms less frequently, have higher rates of sexually transmitted diseases, and have up to a two-fold increase in the rate of HIV, when compared to non-abused men (Burns-Loeb et al., 2002; Holmes & Slap, 1998). Furthermore, gay and bisexual men with a history of CSA were more likely to report unprotected anal intercourse, more sexual partners and events, and more sexual episodes under the influence of drugs, than their non-abused counterparts (Jinich et al., 1998; Mimiaga et al., 2009; Welles et al., 2009). Therefore, CSA may play an important role in the HIV risk behavior of Black MSMW who have a history of CSA.

Furthermore, the type of CSA may be as important or more important than simply having a history of CSA when examining negative health outcomes associated with trauma. In a study conducted with a community sample of 835 women, a composite score that assessed CSA severity by taking into account a number of abuse-specific characteristics explained the data better in terms of predicting negative sexual health experiences and revictimization than a binary measure of CSA history (Loeb, Gaines, Wyatt, Zhang, & Liu, 2011).

Because the eligibility criteria required a history of CSA for entry into the ES-HIM Project, it would not make sense to include CSA as a covariate in the analysis. However, the type of and/or severity of CSA may influence the variables in the analysis, specifically internalized homophobia and HIV risk behavior. Therefore, CSA type will be controlled for in the analysis for Research Question 1.

Initially, CSA was measured with eight questions from the Revised Wyatt Sex History Questionnaire (WSHQ-R), which assessed for incidents of fondling, frottage, and attempted and/or completed intercourse prior to the age of 18 (Wyatt, 1984). The WSHQ-R has been found to be reliable with African American MSM (Williams et al., 2008; Wyatt, 1984). Age of experience, gender and relationship of perpetrator, number of incidences, and use of force or threat of force were also assessed.

For the purposes of this dissertation, the type of CSA experiences were divided into “penetration” (1) and “no penetration” (0), with “penetration” being defined as having been orally or anally penetrated with force (recipient of penetration). To create this specific variable, the following coding process was used: first, six out of the eight items on the WSHQ-R were excluded from the analysis. The first excluded item asked specifically whether the participant had engaged in a sexual experience with someone who was at least five years older than him when he was under the age of 18; although this item captures one way in which CSA is assessed, it does not provide sufficient evidence on whether penetration was a part of the sexual experience. The second excluded item assessed only for instances of fondling, which does not include penetration. Next, the fourth item and the eighth items were both excluded because they asked whether the participant had been forced to receive oral sex and perform insertive anal sex on another person, respectively; although these items include a form of penetration, it is believed that being forced to penetrate another is fundamentally different than being forcefully penetrated by another. Finally, the fifth and sixth items were excluded because they asked if the participant had ever had someone *try* to penetrate him or *try* to get him to penetrate another against his will. Because the attempt at penetration is different than actual penetration, these items were considered inappropriate for this analysis using CSA penetration. The remaining two items of

the WSHQ-R, each of which asks about experiences of being forced to perform oral intercourse and receive anal intercourse, were used in the creation of the final CSA penetration variable.

To create the final CSA variable for this analysis, the two items were summed, and all participants who endorsed at least one incident of forced receptive penetration were assigned a (1), while those who did not endorse a single experience of forced receptive penetration were assigned a (0). This resulted in the creation of a variable with a binary response option: yes, forced receptive penetration had been experienced as part of his CSA (1) and no, forced receptive penetration had not been experienced as part of his CSA (0).

### **Research Questions and Study Hypotheses**

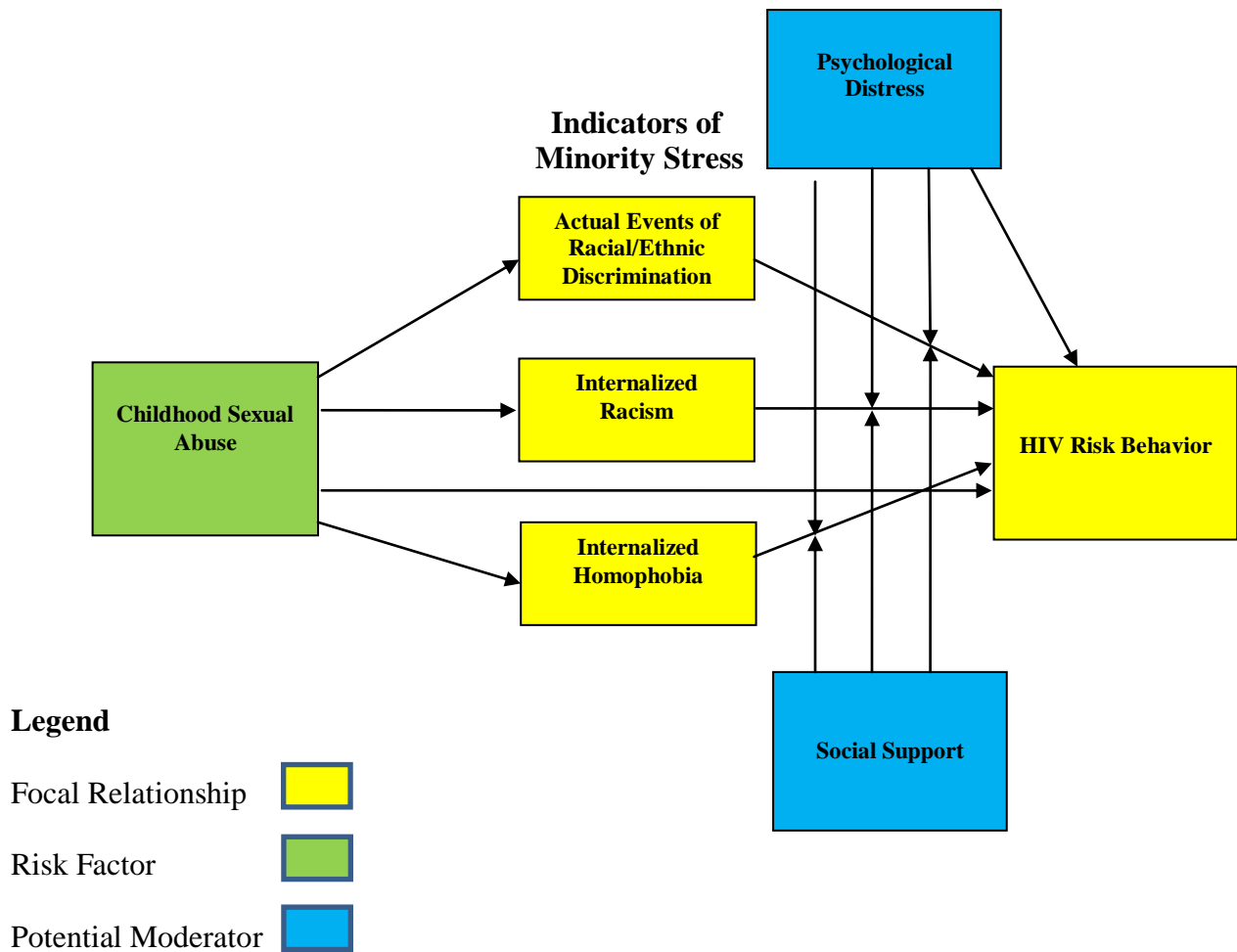
The research questions and study hypotheses are divided into two sections: 1) testing the minority stress model and theory of Intersectionality within the baseline sample (n=117), and 2) examining the efficacy of the Enhanced Sexual Health Intervention for Men Project over time among those who participated in either the ES-HIM intervention or HP control conditions (N=88, with 44 per condition). First, the conceptual model for Research Question 1 is presented (see Figure 4-2: Conceptual Model for Research Question 1) and its associated hypotheses are described. Then, the conceptual model for Research Question 2, as well as the associated research question and study hypotheses, are described.

Prior to testing both research questions and their associated hypotheses, descriptive and exploratory data analyses to test for multivariate distribution, as well as the reliability of measures, will be carried out.

## Research Question 1

The following conceptual model (see Figure 4-2) illuminates the proposed relationships between variables for Research Question 1. The research question and hypotheses associated with Research Question 1 are discussed in detail below.

Figure 4-2. Conceptual Model for Research Question 1



**Research Question 1** (testing the minority stress model and theory of Intersectionality):

What is the relationship between indicators of minority stress and HIV risk behavior among a sample of HIV-positive non-gay identifying Black men who have sex with men and women and who have histories of childhood sexual abuse?

*1a. Hypothesis:* Indicators of minority stress will be independently positively associated with HIV risk behavior, as well as childhood sexual abuse and psychological distress.

*1a.1.* Actual events of racial/ethnic discrimination will be positively associated with increased HIV risk behavior.

*1b.1.* Internalized racism will be positively associated with increased HIV risk behavior.

*1c.1.* Internalized homophobia will be positively associated with increased HIV risk behavior.

*1d.1.* Childhood sexual abuse will be positively associated with increased HIV risk behavior.

*1e.1.* Psychological distress will be positively associated with increased HIV risk behavior.

*2a. Hypothesis:* Psychological distress will moderate the relationship between each independent indicator of minority stress and HIV risk behavior.

*2a.1.* Psychological distress will moderate the relationship between actual events of racial/ethnic discrimination and HIV risk behavior.

*2b.1.* Psychological distress will moderate the relationship between internalized racism and HIV risk behavior.

*2c.1* Psychological distress will moderate the relationship between internalized homophobia and HIV risk behavior.

*3a. Hypothesis:* In the full model, psychological distress will moderate the relationship between indicators of minority stress and HIV risk behavior, when controlling for childhood sexual abuse and social support.

*3a.1.* In the full model, psychological distress will moderate the relationship between actual events of racial/ethnic discrimination and HIV risk behavior, controlling for other indicators of minority stress (internalized racism and internalized homophobia), childhood sexual abuse, and social support.

*3b.1.* In the full model, psychological distress will moderate the relationship between internalized racism and HIV risk behavior, controlling for other indicators of minority stress (actual events of racial/ethnic discrimination and internalized homophobia), childhood sexual abuse, and social support.

*3c.1.* In the full model, psychological distress will moderate the relationship between internalized homophobia and HIV risk behavior, controlling for other indicators of minority stress (actual events of racial/ethnic discrimination and internalized racism), childhood sexual abuse, and social support.

*3d.1.* In the full model, psychological distress will moderate the relationship between all indicators of minority stress (actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia) and HIV risk behavior, controlling for all indicators of minority stress, all interactions between psychological distress and each indicator of minority stress, childhood sexual abuse, and social support.



*4a. Hypothesis:* When all indicators of minority stress are combined in one model, each will maintain an independent effect on HIV risk behavior adjusting for childhood sexual abuse and social support, so that their combined effects are greater than their independent effects (minority stress model and primary and additive perspectives of the theory of Intersectionality).

*4a.1.* When combined in one model, only one indicator of minority stress (actual events of racial/ethnic discrimination, internalized racism, or internalized homophobia) will be independently positively associated with increased HIV risk behavior, adjusting for childhood sexual abuse and social support.

*4b.1.* The combined effects of actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia on HIV risk behavior will be greater than the independent effects, when adjusting for childhood sexual abuse and social support.

*5a. Hypothesis:* Social support will moderate the relationship between each independent indicator of minority stress (actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia) and HIV risk behavior.

*5a.1.* Social support will moderate the relationship between actual events of racial/ethnic discrimination and HIV risk behavior.

*5b.1* Social support will moderate the relationship between internalized racism and HIV risk behavior.

*5c.1* Social support will moderate the relationship between internalized homophobia and HIV risk behavior.

*6a. Hypothesis:* In the full model, social support will moderate the relationship between indicators of minority stress (actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia) and HIV risk behavior, controlling for other indicators of minority stress and childhood sexual abuse.

*6a.1.* In the full model, social support will moderate the relationship between actual events of racial/ethnic discrimination and HIV risk behavior, controlling for other indicators of minority stress (internalized racism and internalized homophobia) and childhood sexual abuse.

*6b.1.* In the full model, social support will moderate the relationship between internalized racism and HIV risk behavior, controlling for other indicators of minority stress (actual events of racial/ethnic discrimination and internalized homophobia) and childhood sexual abuse.

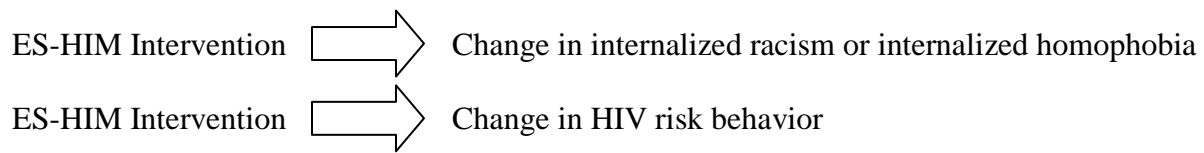
*6c.1.* In the full model, social support will moderate the relationship between internalized homophobia and HIV risk behavior, controlling for other indicators of minority stress (actual events of racial/ethnic discrimination and internalized racism) and childhood sexual abuse.

*7a. Hypothesis:* The interaction of internalized racism and internalized homophobia will account for variance in HIV risk behavior beyond that accounted for by each of their independent effects (interactionist perspective).

## **Research Question 2**

The following conceptual model (see Figure 4-3) illuminates the proposed relationships between the variables assessed for Research Question 2. The research question and hypotheses associated with Research Question 2 are discussed in detail below.

Figure 4-3. Conceptual Model for Research Question 2, Hypotheses 8a, 8b., 8c.



**Research Question 2** (testing intervention effects): What is the relationship between both internalized racism and internalized homophobia and HIV risk behavior over time among ES-HIM intervention and Health Promotion control participants?

*8a. Hypothesis:* The slope (change) of the decrease over time in internalized racism for ES-HIM intervention condition participants will be lower (more negative) than for the Health Promotion control condition participants.

*8b. Hypothesis:* The slope (change) of the decrease over time in internalized homophobia for ES-HIM intervention condition participants will be lower (more negative) than for the Health Promotion control condition participants.

*8c. Hypothesis:* The slope (change) of the decrease over time in HIV risk behavior for ES-HIM intervention condition participants will be lower (more negative) than for the Health Promotion control condition participants.

*8d. Hypothesis:* The change in internalized racism will mediate the ES-HIM intervention's effect on change over time in HIV risk behavior.

*8e. Hypothesis:* The change in internalized homophobia will mediate the ES-HIM intervention's effect on change over time in HIV risk behavior.

### **Data Analysis**

For the first research question, all analysis was conducted on unweighted data using the IBM Statistical Package for the Social Sciences (SPSS) software, version 20 (Armonk, NY). For

the second research question, Mplus statistical software (sixth edition) was used (Muthén & Muthén, 2011). An alpha level of .05 was set for determining statistical significance.

### **Power Analysis**

In the initial development of the original ES-HIM study, power analysis was based on the comparison of HIV risk behavior (e.g., incidence of unprotected anal and/or vaginal intercourse) between the study arms of ES-HIM and HP conditions. Since the study originally proposed a repeated measures design, the underlying statistical power of the study came from two dimensions of observations: the number of unique subjects and the number of repeated measurements within a subject. Based on sample size and the power analysis method proposed by Diggle and colleagues (1994) for repeated measures analysis, using a type I error of .05, type II error of 0.2 (or equivalent as power of 80%), four data points for each subject (baseline, post-intervention, and three- and six-months post-intervention) and an intra-class correlation 0.3 level, the 44 participants in each condition would enable the detection of an effect size for outcome measures (such as mean number of unprotected sex acts) as small as 0.3 standard deviation units. Also, based on literature, about 45.5% of men reported engaging in unprotected anal intercourse (Halkitis et al., 2005). Again with a type I error of .05, type II error of 0.2 (or power 80%), intra-class correlation of 0.3 and the number of repeated measures of 4, the 44 subjects in each group or 88 in total would enable the detection of a difference in prevalence of unprotected intercourse between ES-HIM and HP arms as low as 16.5%. Even with a repeated measures design, it is recognized that due to the nature of this being a pilot study, the sample size is not large, thus only the strongest relationships will be significant. Therefore, to save degrees of freedom, parsimonious models will be used in model fitting. Thus, the planned sample size of 88 should be sufficient for analyses, specifically for Research Question 2.

## **Missing Data**

In order to identify whether missing data was a problem in this dataset, the patterns of missing data across all variables under examination were explored prior to analysis. Since the sample is small and power is a concern, it was decided not to create a single analytic sample, which would include only those participants who had data for every single variable in the analysis. Instead, listwise deletion was used to handle missing data. In other words, if less than 20% of the data were missing for a variable, the participants who have the missing data were excluded from that particular analysis.

To address each of the proposed research questions and associated hypotheses, the data analysis for this dissertation was divided into two sections. First, Research Question 1, or testing the minority stress model and theory of Intersectionality, was explored through the following sets of analyses: a) univariate analyses, b) bivariate analyses, and c) multivariate Poisson regression analyses. Second, Research Question 2 was explored in order to assess intervention effects across time and included the following analyses: d) analyses comparing intervention groups; e) latent growth models to examine the change over time in each condition; and if subsequent analyses indicate that it is appropriate to proceed, e) parallel latent growth models to see if the change over time on internalized racism or internalized homophobia mediate the ES-HIM intervention's effect on HIV risk behavior.

## **Analysis Plan for Research Question 1**

The following analysis plan describes the process for evaluating Research Question 1 and its associated hypotheses.

**Univariate analyses.** In order to better understand the characteristics of the baseline sample as a whole (n=117), univariate analyses were conducted across the study independent,

dependent, and covariate variables. To summarize the data across the sample, the means, medians, standard deviations, percents, and/or frequency distributions were found for the following data (as appropriate): a) sociodemographic characteristics, b) HIV risk behavior, c) indicators of minority stress (actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia), and d) additional covariate measures (childhood sexual abuse, psychological distress, and social support). In order to identify the distribution of each variable in the study, histogram plots were used.

**Bivariate analyses.** To test the first hypothesis under Research Question 1, simple bivariate associations were calculated between each independent variable (e.g., indicators of minority stress) and the dependent variable (HIV risk behavior), using Poisson regressions.

$$\ln(dv) = b_0 + b_1 * iv$$

Or, on the original scale:

$$dv = e^{(b_0 + b_1 * iv)}$$

In addition, bivariate models were calculated between childhood sexual abuse and HIV risk behavior, as well as psychological distress and HIV risk behavior.

**Multivariate regression analyses.** Because this dissertation is primarily interested in examining the direct relationship between indicators of minority stress and HIV risk behavior as opposed to the relationship between indicators of minority stress, psychological distress, and HIV risk behavior, psychological distress will only be included in all analyses if deemed appropriate and important. The second and third hypotheses are aimed at testing whether exploration of a direct relationship between indicators of minority stress and HIV risk behavior is feasible without also taking psychological distress into consideration. Therefore, if psychological distress does not provide sufficient evidence for inclusion in additional analyses, it

will not be considered in the remaining analyses for Research Question 1.

Therefore, the second and third hypotheses under Research Question 1, which seek to find if psychological distress moderates the relationship between indicators of minority stress and HIV risk behavior, were first tested by creating an interaction term and then testing the interaction between each indicator of minority stress (actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia) on HIV risk behavior only (second hypothesis). Then, each interaction term was tested on HIV risk behavior within the full model with all indicators of minority stress, CSA, social support, and psychological distress (third hypothesis). In addition, all three interaction terms (psychological distress x each indicator of minority stress) were included in one full model, which included all indicators of minority stress, CSA, social support, and psychological distress.

The equations below depict the full models with each interaction term, as well as the full model with all three interaction terms; the equations for the subsequent models with each interaction term on HIV risk behavior only mimic these equations, yet without the additional independent and covariate variables.

$$\text{Ln(HIV risk behavior)} = b_0 + b_1*\text{actual events of racial/ethnic discrimination} + b_2*\text{internalized racism} + b_3*\text{internalized homophobia} + b_4*\text{social support} + b_5*\text{CSA} + b_6*\text{psychological distress} + b_7*(\text{psychological distress}*\text{actual events of racial/ethnic discrimination})$$

$$\text{Ln(HIV risk behavior)} = b_0 + b_1*\text{actual events of racial/ethnic discrimination} + b_2*\text{internalized racism} + b_3*\text{internalized homophobia} + b_4*\text{social support} + b_5*\text{CSA} + b_6*\text{psychological distress} + b_7*(\text{psychological distress}*\text{internalized racism})$$

$$\text{Ln(HIV risk behavior)} = b_0 + b_1*\text{actual events of racial/ethnic discrimination} + b_2*\text{internalized racism} + b_3*\text{internalized homophobia} + b_4*\text{social support} + b_5*\text{CSA} + b_6*\text{psychological distress} + b_7*(\text{psychological distress}*\text{internalized homophobia})$$

$$\text{Ln}(\text{HIV risk behavior}) = b_0 + b_1 * \text{actual events of racial/ethnic discrimination} + b_2 * \text{internalized racism} + b_3 * \text{internalized homophobia} + b_4 * \text{social support} + b_5 * \text{CSA} + b_6 * \text{psychological distress} + b_7 * (\text{psychological distress} * \text{actual events of racial/ethnic discrimination}) + b_8 * (\text{psychological distress} * \text{internalized racism}) + b_9 * (\text{psychological distress} * \text{internalized homophobia})$$

To test the fourth hypothesis of the first research question, first the bivariate model of actual events of racial/ethnic discrimination on HIV risk behavior was assessed. Then, each additional independent variable and covariate was added to the model to examine the unique contribution each makes to HIV risk behavior. In addition to running Poisson regressions, model assumptions were checked. The following equation depicts the full model; the equations for subsequent models only include the variables of interest for that particular model. Please note that if psychological distress is deemed unnecessary for all future analyses based on subsequent analyses, it will be removed from this analysis (and thus this equation).

$$\text{Ln}(\text{HIV risk behavior}) = b_0 + b_1 * \text{actual events of racial/ethnic discrimination} + b_2 * \text{internalized racism} + b_3 * \text{internalized homophobia} + b_4 * \text{social support} + b_5 * \text{CSA} + b_6 * \text{psychological distress}$$

The fifth and sixth hypotheses under Research Question 1, which seek to find if social support moderates the relationship between indicators of minority stress and HIV risk behavior, were first tested by creating an interaction term and then testing the interaction in two-way models between each indicator of minority stress (actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia) on HIV risk behavior only (fifth hypothesis). Then, each interaction was tested on HIV risk behavior within the full model (sixth hypothesis). The equations below depict the full models with each interaction term; the equations for the subsequent two-way models with each interaction term on only HIV risk behavior mimic these equations, yet without the additional independent and covariate variables. Again, please note



that if psychological distress is deemed unnecessary for all future analyses in subsequent analyses, it will be removed from this analysis (and thus these equations).

$$\ln(\text{HIV risk behavior}) = b_0 + b_1 * \text{actual events of racial/ethnic discrimination} + b_2 * \text{internalized racism} + b_3 * \text{internalized homophobia} + b_4 * \text{social support} + b_5 * \text{CSA} + b_6 * \text{psychological distress} + b_7 * (\text{social support} * \text{actual events of racial/ethnic discrimination})$$

$$\ln(\text{HIV risk behavior}) = b_0 + b_1 * \text{actual events of racial/ethnic discrimination} + b_2 * \text{internalized racism} + b_3 * \text{internalized homophobia} + b_4 * \text{social support} + b_5 * \text{CSA} + b_6 * \text{psychological distress} + b_7 * (\text{social support} * \text{internalized racism})$$

$$\ln(\text{HIV risk behavior}) = b_0 + b_1 * \text{actual events of racial/ethnic discrimination} + b_2 * \text{internalized racism} + b_3 * \text{internalized homophobia} + b_4 * \text{social support} + b_5 * \text{CSA} + b_6 * \text{psychological distress} + b_7 * (\text{social support} * \text{internalized homophobia})$$

The seventh hypothesis under Research Question 1 was tested by creating an interaction term (internalized racism x internalized homophobia) and then testing the interaction in a two-way model on HIV risk behavior only, and then in the full model. The following equation only depicts the full model with the interaction term. Again, please note that if psychological distress is deemed unnecessary for all future analyses based on subsequent analyses, it will be removed from this analysis (and thus this equation).

$$\ln(\text{HIV risk behavior}) = b_0 + b_1 * \text{actual events of racial/ethnic discrimination} + b_2 * \text{internalized racism} + b_3 * \text{internalized homophobia} + b_4 * \text{social support} + b_5 * \text{CSA} + b_6 * \text{psychological distress} + b_7 * (\text{internalized racism} * \text{internalized homophobia})$$

## **Analysis Plan for Research Question 2**

The following analysis plan describes the process for evaluating Research Question 2 and its associated hypotheses.

**Analyses comparing intervention groups.** To test Research Question 2, first, descriptive statistics were run on the 88 participants who participated in the ES-HIM or Health Promotion conditions of the ES-HIM Project, as well as each arm of the intervention. To

summarize the data across the sample, the means, medians, standard deviations, percents, and/or frequency distributions were found for the following data (as appropriate): a) sociodemographic characteristics, b) HIV risk behavior, and c) measures of internalized racism and internalized homophobia. Then, differences between the participants randomized into the ES-HIM intervention group and the Health Promotion control group were assessed using t-tests and chi-square tests.

**Repeated measures analyses.** For hypotheses 8a, 8b, and 8c, the individual change over time on scores of internalized racism, internalized homophobia, and HIV risk behavior were calculated using latent growth models. Then, to test for significant differences between the ES-HIM intervention and the Health Promotion control conditions, the intervention's effect on the slopes were tested.

If the results from the subsequent analyses indicate that an intervention effect is present, then the following hypotheses will be tested. If no indication of an intervention effect on internalized racism, internalized homophobia, and HIV risk behavior is present, then the following analyses will not be possible to conduct. Therefore, if appropriate to test hypotheses 8d and 8e, or the mediating effects of internalized racism and internalized homophobia on HIV risk behavior across both the intervention and control conditions, parallel latent growth modeling will be used. The intervention will predict change over time in internalized racism or homophobia, which in turn will predict change over time in HIV risk behavior. If the indirect effect of the intervention on HIV risk behavior via change in internalized racism or internalized homophobia is statistically significantly different from zero, this will be evidence for mediation.

## Chapter 5: Research Question 1 - Univariate Results

This chapter explores the first research question, to test the minority stress model and theory of Intersectionality, among a sample of HIV-positive non-gay identifying Black behaviorally bisexual men with histories of childhood sexual abuse. Specifically, this chapter will highlight the results from the univariate descriptives of all study variables in the baseline dataset (n=117).

### Univariate Descriptives of Study Variables

For analysis of the first research question, missing data was minimal in the overall baseline sample (please see Table 5-3 for an overview of missing data per variable).

Table 5-3. Missing Data by Variable (n=117)

Variable	Missing	Valid N
HIV risk behavior <sup>a</sup>	--	93
Actual events of racial/ethnic discrimination	4	113
Internalized racism	5	112
Internalized homophobia	5	112
Psychological distress	0	117
Social support	2	115
CSA	2	115

<sup>a</sup>For HIV risk behavior, 23 participants were excluded from the analysis because they only engaged in oral sex without a condom in the past 3 months, and reported no vaginal or anal intercourse without a condom within the past 3 months. An additional participant was also excluded because he appeared to be an outlier in terms of the number of unprotected sexual encounters he reported in the past 3 months.

The dependent variable, HIV risk behavior, was coded to only include those in the total sample who had engaged in unprotected “high-risk” sexual intercourse in the previous three months (defined as insertive or receptive anal intercourse or insertive vaginal intercourse without a condom). This was because those who had engaged in “low-risk” sexual intercourse, namely oral sex without a condom or dental dam, had been eligible for the original ES-HIM Project. However, the first research question is only interested in frequency of “high-risk” sexual behavior (vaginal or anal intercourse without a condom), and thus those who had not engaged in high-risk sexual behavior were excluded from the analysis. Therefore, 24 participants were excluded from the analysis since they only reported unprotected oral intercourse in the previous three months. For the remaining independent variables and covariates, the variables had up to four missing cases at most.

In order to increase power, it was decided not to create a single analytic sample, which would include only those participants who had data for every single variable in the analysis. Instead, it was decided to run each analysis with all data available; this resulted in a slightly different analytic sample size per analysis, but maintained overall power. Because the number of missing data was minimal, the variation in each analytic sample is not purported to impact the overall analysis or results.

### **Sociodemographic Characteristics**

Sociodemographic characteristics were assessed for Research Question 1 using the data from the baseline questionnaire. Using an analytic sample of 117, these sociodemographic characteristics are presented in Table 5-4.

Table 5-4. Sociodemographic Characteristics (n=117)

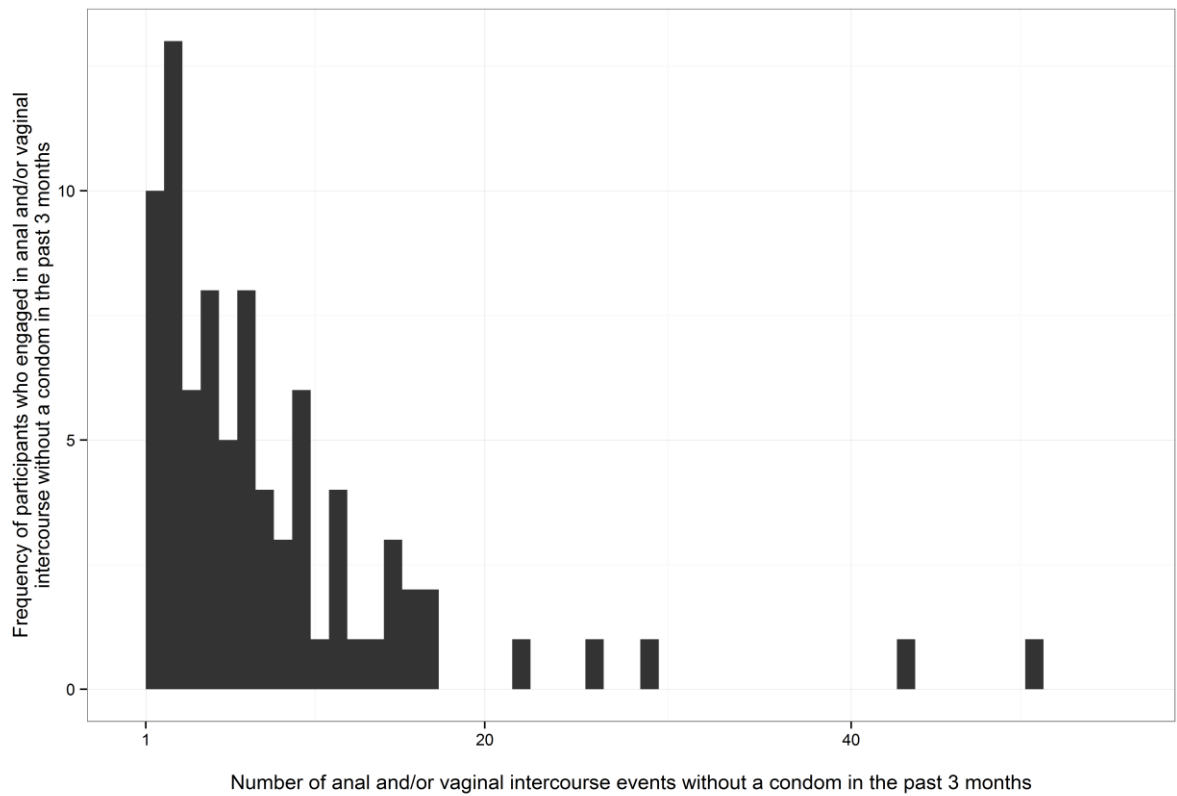
Sociodemographics	Mean (SD) Range or Percentage
Age (years)	45.77 (8.81) 24-67
Highest Degree Received (%)	
None	29.1
High school diploma	35.9
G.E.D.	11.1
Vocational/Technical degree	13.7
Associates degree	7.7
B.A. or B.S.	1.7
Graduate degree	0.9
Employment (%)	
Working full-time	5.2
Working part-time	9.5
Keeping house (homemaker)	0.9
Unable to work or disabled	55.2
In school	4.3
Unemployed	20.7
Retired	4.3
Monthly Income (%)	
\$200 or less	15.0
\$201-\$416	10.6
\$417-\$625	0.9
\$626-\$832	12.4
\$833-\$1,042	38.9
\$1,043-\$1,249	12.4
\$1,250-\$1,458	4.4
\$1,459-\$1,666	0.9
\$1,667-\$2,083	2.7
\$2,084 or more	1.8
Marital Status (%)	
Married, living with wife	1.7
Married, not living with wife	1.7
Separated	6.0
Divorced	12.9
Widowed	2.6
Never married	75.0
Relationship Status (%)	
Live with a partner	8.5
See/date one person regularly	11.3
See/date more than one person regularly	15.1
Date occasionally	41.5
Have not had a relationship in the past 3 months	23.6

Demographically, the entire sample was homogenous in terms of several characteristics, including all participants identified as Black/African American males, were HIV-positive, were behaviorally bisexual, and had histories of childhood sexual abuse. The mean age of participants was 45.77 years (SD=8.81), with ages ranging from 24 to 67 years old. The vast majority of the participants had a high school education or less (76.1%), and three-quarters of the sample were either unemployed or unable to work due to disability (20.7% and 55.2%, respectively). The sample overall was very low income with nearly 78% of the sample earning below \$12,500 annually. In terms of relationships with partners, the majority had never been married (75.0%), and dating occasionally and not having a relationship in the past three months were the two most common relationship statuses (41.5% and 23.6%, respectively).

### **Dependent Variable**

Univariate analysis, namely the histogram, indicated that the distribution of “high-risk” sexual intercourse without a condom in the past three months was non-normally distributed for receptive and insertive anal intercourse, and insertive vaginal intercourse. All histograms showed a long tail to the right, including the dependent variable HIV risk behavior (see Figure 5-4). This distribution is common among count variables and most closely represented a Poisson distribution. Therefore, statistical tests that account for the Poisson distribution were used within the analyses.

Figure 5-4. Histogram of Dependent Variable, HIV Risk Behavior



Descriptive characteristics of individual HIV risk behaviors, as well as the dependent variable, HIV risk behavior, were assessed among the sample (n=117). The results from this analysis can be seen in Table 5-5.

Table 5-5. Descriptives of Sample HIV Risk Behavior<sup>a</sup> (n=117) & Dependent Variable, HIV Risk Behavior<sup>b</sup> (n=93)

HIV Risk Behavior	Statistics
Vaginal intercourse without a condom in past 3months (%)	69.2
# times, median, range	3.00, 1-43
Receptive anal intercourse without a condom in past 3 months (%)	43.6
# times, median, range	2.00, 1-43
Insertive anal intercourse without a condom in past 3months (%)	45.3
# times, median, range	3.00, 1-80
Vaginal, receptive anal and/or insertive anal intercourse without a condom in past 3months <sup>b</sup>	
# times, median, range	5.00, 1-55

<sup>a</sup>Percentage represents those in the overall sample who had engaged in the specified HIV risk behavior. Numbers of times, medians, and ranges include only those who answered “yes” to having engaged in the HIV risk behavior. Median is reported instead of mean and standard deviation since the Poisson distribution is non-normal and is best characterized by median as the best measure of central tendency.

<sup>b</sup>Dependent variable, HIV risk behavior, only includes those who engaged in vaginal and/or anal (receptive and/or insertive) intercourse in past 3 months.

In terms of the overall sample (n=117), 69.2% had engaged in vaginal intercourse without a condom in the past three months, with the median number of times being three. Unprotected receptive anal intercourse was reported by 43.6% of the sample, and the median number of times was two. For unprotected insertive anal intercourse, 45.3% of the sample engaged in this HIV risk behavior with the median number of times being three.

For the dependent variable (n=93), HIV risk behavior, the median number of times participants engaged in vaginal, anal receptive, and/or anal insertive intercourse without a condom in the past three months, was five. The range in the number of times “high-risk” unprotected intercourse occurred over the previous three months was 1-55 times.



## Independent Variables

The descriptive characteristics of all independent variables, namely each indicator of minority stress, psychological distress, social support, and childhood sexual abuse, were also assessed. The results from this analysis can be seen in Table 5-6.

Table 5-6. Descriptives of Independent Variables

Independent Variables	Mean (SD)	Possible Range	%	Cronbach's Alpha
Actual events of racial/ethnic discrimination	26.21 (22.35)	0-100	--	.97
Internalized racism <sup>a</sup>	23.15 (4.89)	7-28	--	.91
Internalized homophobia	33.93 (10.22)	13-65	--	.86
Psychological distress	6.70 (9.47)	0-63	--	.95
Social support	46.41 (13.74)	10-60	--	.96
Childhood sexual abuse <sup>b</sup>	--	--	49.6	--

<sup>a</sup>The Brief Scale of Racial Pride was used to assess internalized racism. While a higher score on the scale implies higher racial pride, conversely a higher score on the scale implies lower internalized racism.

<sup>b</sup>The childhood sexual abuse variable represents those who experienced forced penetration as part of their sexual abuse experience(s) as a child.

**Actual events of racial/ethnic discrimination.** To assess the utility of the Racism and Life Experiences scale (RaLES) in measuring actual events of racial/ethnic discrimination, first the appropriateness of the instrument was examined. After computing a Cronbach's alpha of .97, which is considered to be excellent in terms of internal consistency, it was determined an appropriate measure to use.

The RaLES, a 20-item measure used to assess lifetime experiences with racial/ethnic discrimination, had a range in scores from 0-100 within the sample, with higher scores on the scale indicating higher levels of experiences related to lifetime racial/ethnic discrimination. The mean score on the scale was 26.21 (SD=22.35).

**Internalized racism.** The appropriateness of the measure of internalized racism, the Brief Scale of Racial Pride, was also found to have high internal consistency ( $\alpha = .91$ ). The participant mean score on this scale was 23.15 (SD=4.89), with a range of 7-28 within the sample. For the Brief Scale of Racial Pride, a higher score on the scale indicates higher racial pride and thus lower internalized racism; conversely, a lower score on the scale represents lower racial pride and thus higher internalized racism.

**Internalized homophobia.** The Cronbach's alpha for the measure of internalized homophobia, the Internalized Homophobia Scale (IHP), was .86, which is considered good internal consistency. The range of scores within this sample on the IHP was 13-60, with a mean score of 33.92 (SD=10.22). On the IHP, a higher score on the scale indicates higher internalized homophobia.

**Psychological distress.** Psychological distress, operationalized through the assessment of symptoms of depression, was measured using the Beck Depression Inventory-II, and had an excellent internal consistency ( $\alpha = .95$ ). The mean score on this scale was 6.70 (SD=9.47), with a range in scores within the sample from 0-49.

**Social support.** Using the Multidimensional Scale of Perceived Social Support, the Cronbach's alpha was .96. This scale, therefore, showed excellent internal consistency. The range in scores within the sample was 10-60, with a mean sample score of 46.41 (SD=13.74). A higher score on this scale indicates higher social support.

**Childhood sexual abuse.** The childhood sexual abuse measure was a binary variable, which measured those who had and had not experienced forced receptive penetration as part of their sexual abuse during childhood. Of this sample, 49.6% had experienced some form of forced receptive penetration, either oral or anal, during their childhood sexual abuse

experience(s).

**Correlations among independent variables.** Correlations between all proposed independent variables were conducted before further analysis was carried out. The correlation matrix can be seen in Table 5-7.

Table 5-7. Correlation Matrix of Independent Variables

Measure	1.	2.	3.	4.	5.	6.
1. Actual events of racial/ethnic discrimination (RaLES)	-					
2. Internalized racism (Brief Scale of Racial Pride)	-.09	-				
3. Internalized homophobia (IHS)	.15	-.09	-			
4. Psychological distress (BDI-II)	.38**	-.43**	.21*	-		
5. Social support (Multidimensional Scale of Perceived Social Support)	-.11	.25**	-.28**	-.38**	-	
6. CSA (penetration) (WSHQ-R)	.24*	-.26**	.15	.23*	-.07	-

\*  $p < .05$ , \*\*  $p < .01$  (2-tailed)

As seen in Table 5-7, the measure of psychological distress, namely an assessment of symptoms of depression on the BDI-II, was highly correlated with the measure of internalized racism ( $\rho = -.43$ ,  $p \leq .001$ ), and moderately correlated with actual events of racial/ethnic discrimination ( $\rho = .38$ ,  $p \leq .001$ ). Furthermore, this measure was statistically significantly correlated with internalized homophobia, though the strength of the association was weak ( $\rho = .21$ ,  $p \leq .05$ ). Psychological distress is highly and moderately correlated with two of the three indicators of minority stress, suggesting that there is overlap between what the variables are

measuring; this may indicate that it may not be necessary to include indicators of minority stress and psychological distress in the same model. However, this cannot be determined until bivariate and multivariate analyses are conducted between psychological distress and HIV risk behavior, as well as indicators of minority stress, psychological distress, and HIV risk behavior controlling for other covariates.

The other independent variables were found to have minimal correlation, and thus it was concluded that all were appropriate to include in further analysis.

## Chapter 6: Research Question 1- Bivariate Results

In order to test the first hypothesis of Research Question 1, namely that indicators of minority stress (independent variables) will be associated with HIV risk behavior (dependent variable), and that childhood sexual abuse and psychological distress (both covariates) will be associated with HIV risk behavior, bivariate analyses were conducted between HIV risk behavior and each of the three indicators of minority stress, as well as HIV risk behavior and the additional covariates, childhood sexual abuse and psychological distress. To account for the Poisson distribution of HIV risk behavior, bivariate Poisson regressions using the Generalized Linear Model (GENLIN) function in SPSS were run between the dependent variable and each of the independent variables. Further, to test the significance of the parameter estimates, the Likelihood Ratio Test (LRT) was used.

Results of these bivariate analyses can be seen in Table 6-8.

Table 6-8. Bivariate Models Predicting HIV Risk Behavior

Predictor	B	SE	95% CI	AIC	BIC
Actual events of racial/ethnic discrimination	0.00	.002	[-.003, .003]	977.13	982.13
Internalized racism	.03**	.01	[.01, .04]	968.03	973.03
Internalized homophobia	0.00	.004	[-.004, .01]	954.80	959.75
CSA	.37**	.07	[.22, .51]	964.41	969.43
Psychological distress	-.01	.04	[-.02, .00]	1000.46	1005.52

\*  $p \leq .05$ , \*\*  $p \leq .01$

### **Actual Events of Racial/Ethnic Discrimination**

The effect of events of racial/ethnic discrimination on HIV risk behavior was not statistically significant ( $b=0.00$ ,  $p=.99$ ). Therefore, there was not sufficient evidence to support the first hypothesis (1a.1.), that actual events of racial/ethnic discrimination would be independently positively associated with HIV risk behavior among this sample of HIV-positive non-gay identifying Black behaviorally bisexual men with histories of childhood sexual abuse. Although statistical significance did not emerge in bivariate analysis, it is possible that experiencing racial/ethnic discrimination throughout the lifetime may become statistically significant once other independent variables are entered into the full model. Because of this reasoning and since experiencing events of racial/ethnic discrimination is a key component of the minority stress model, this item will be included in further analysis despite it not being statistically significantly associated to HIV risk behavior in the bivariate analysis.

### **Internalized Racism**

The expected increase in log count of HIV risk behavior for a one-unit increase in the Brief Scale of Racial Pride score is .03 ( $p\leq.001$ ). In other words, there is a 3% [95% CI (1%, 4%)] increase in HIV risk behavior for every one-unit increase in the Brief Scale of Racial Pride score. Another way to understand this result is that a one standard deviation unit increase in the Brief Scale of Racial Pride score is associated with a 13% increase in HIV risk behavior ( $SD=4.62$ ).

Therefore, the first hypothesis (1.b1.), that internalized racism would be independently positively associated with HIV risk behavior among this sample of HIV-positive non-gay identifying Black MSMW with childhood sexual abuse histories, was only partially supported. While the relationship was statistically significant, the direction of this association was negative,

which is counter to the hypothesized relationship. Because a higher score on this scale implies higher racial pride but lower internalized racism, and conversely a lower score indicates lower racial pride but higher internalized racism, this result is essentially saying that lower internalized racism is associated with higher HIV risk behavior, or conversely that more risk accrues for those who demonstrate higher racial pride.

### **Internalized Homophobia**

For internalized homophobia, the expected increase in log count of HIV risk behavior for a one-unit increase in the internalized homophobia score is minimal at .003, and not statistically significant ( $p=.36$ ). In other words, a one standard deviation unit increase in the internalized homophobia score is associated with a 3% increase in HIV risk behavior ( $SD=10.68$ ). Therefore, the first hypothesis (1c.1.) that internalized homophobia would be independently positively associated with HIV risk behavior among this sample of HIV-positive non-gay identifying Black men who have sex with men and women and who have histories of childhood sexual abuse, was not supported. Again, even though internalized homophobia was not statistically significantly related to HIV risk behavior in a bivariate model, it may become statistically significant once added into a full model with other variables. Therefore, internalized homophobia will be used for further analysis, as it is a vital component of the minority stress model.

### **Childhood Sexual Abuse**

In terms of the parameter estimates for those men who experienced forced penetration as part of their sexual abuse as children, the expected log count of HIV risk behavior is .37 ( $p\leq.001$ ) higher than those who did not have penetration as part of their childhood sexual abuse, and the finding is statistically significant. In other words, there is a 44.4% [95% CI (25%, 67%)]

increase in HIV risk behavior for men who were forcefully penetrated during their CSA versus men who were not. Therefore, hypothesis 1d.1. was sufficiently supported.

### **Psychological Distress**

The expected decrease in log count of HIV risk behavior for a one-unit decrease in the BDI-II score is .01 ( $p=.06$ ). However, the effect of psychological distress on HIV risk behavior was not statistically significant ( $b=-.01$ ,  $p=.06$ ). Therefore, there was not sufficient evidence to support hypothesis 1e.1., that psychological distress would be independently positively associated with HIV risk behavior among this sample of HIV-positive non-gay identifying Black behaviorally bisexual men with histories of childhood sexual abuse.

Overall, the first hypothesis (1a.1.), that each indicator of minority stress (actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia) would be positively independently associated with HIV risk behavior, was not supported. Both actual events of racial/ethnic discrimination and internalized homophobia were not statistically significantly associated with HIV risk behavior. However, internalized racism was statistically significantly associated with HIV risk behavior.

In terms of the direction of the association, internalized racism proved to have a negative relationship with HIV risk behavior, which does not support the original hypothesis. The scale used to assess internalized racism was the Brief Scale of Racial Pride, on which a higher score indicates higher racial pride and conversely lower internalized racism. Therefore, while higher scores of racial pride were positively associated with higher scores of HIV risk behavior, the opposite was true for internalized racism. In other words, as the internalized racism score decreased, HIV risk behavior increased.

In terms of the final two hypotheses (1d.1. and 1e.1.), which assessed the relationship



between HIV risk behavior and both childhood sexual abuse and psychological distress, the findings were mixed. In terms of childhood sexual abuse, or among those who experienced forced penetration as part of their childhood sexual abuse experiences, HIV risk behavior was found to be statistically significantly positively associated. Therefore, hypothesis 1d.1. was supported. However, hypothesis 1e.1. was not supported as psychological distress was not found to be statistically significantly positively associated with HIV risk behavior. Although further analysis is needed, this finding provides some evidence that the inclusion of psychological distress may not be warranted in the full model.

**Testing Psychological Distress as a Moderator between Indicators of Minority Stress  
and HIV Risk Behavior**

In order to test the second and third hypotheses (2a and 3a) of Research Question 1 (psychological distress as a moderator between indicators of minority stress and HIV risk behavior), interaction terms of psychological distress and each indicator of minority stress (actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia) were created. In order to account for the different scales of each variable and make the effects easier to compare, the scores were standardized by centering each measure at mean zero and dividing by its standard deviation to create a z score. Thus a one unit change of the z scored variable is a one standard deviation unit change. These z scored variables were used for all interaction models. The equation for this transformation is as follows:

$$z = (X - M_x) / SD_x$$

Once standardized, each interaction term was tested in a two-way model with HIV risk behavior only, and then each interaction term was introduced into the full model with other indicators of minority stress, social support, CSA, and psychological distress. Finally, all three interaction terms (psychological distress x each indicator of minority stress) were introduced into the full model with all indicators of minority stress and other covariates.

This section focuses specifically on determining whether psychological distress acts as a moderator between indicators of minority stress and HIV risk behavior, controlling for additional covariates. This preliminary analysis is important in determining whether it is logical and justified to pursue exploration of a direct relationship between indicators of minority stress and

HIV risk behavior, or if the relationship between indicators of minority stress, psychological distress, and HIV risk behavior better explains HIV risk behavior in this sample. Therefore, only the results directly related to the potential interaction effects will be highlighted, and a description of the results of the full, final model with appropriate variables will be presented in a later section. If psychological distress proves to play an important role in explaining HIV risk behavior among this sample, it will be included in further analysis as a moderator between indicators of minority stress and HIV risk behavior. However, if it does not, psychological distress will be dropped from further analysis and the analyses that assess the direct relationship between indicators of minority stress and HIV risk behavior without controlling for psychological distress will be pursued. Table 7-9 summarizes the results from the two-way models, and Table 7-10 summarizes the results from the full models with all variables included in the analysis with the interaction terms, and the full model with all three interaction terms and additional covariates.

Table 7-9. Predicting HIV Risk Behavior from Interactions of Psychological Distress with Indicators of Minority Stress

	Actual Events of Racial/Ethnic Discrimination	Internalized Racism	Internalized Homophobia
	B (SE)	B (SE)	B (SE)
Intercept	2.10** (.04)	2.05* (.04)	2.12** (.04)
Actual events of racial/ethnic discrimination	.03 (.04)	--	--
Internalized racism	--	.11* (.05)	--
Internalized homophobia	--	--	.04 (.04)
Psychological distress	-.14* (.04)	-.09 (.04)	-.07 (.04)
Psychological distress x Indicator of minority stress	.07* (.03)	-.12* (.04)	-.02 (.06)
AIC	972.31	965.02	954.80
BIC	982.31	975.02	964.71
Overall Model $\chi^2$ (df)	8.82* (3)	17.58** (3)	4.83 (3)

\*  $p \leq .05$ , \*\*  $p \leq .01$

Table 7-10. Predicting HIV Risk Behavior from Interactions of Psychological Distress with Indicators of Minority Stress in Models with Individual Interaction Terms and All Interaction Terms

	Models with Individual Interaction Terms			Model with All Interaction Terms
	Actual Events of Racial/Ethnic Discrimination	Internalized Racism	Internalized Homophobia	
	B (SE)	B (SE)	B (SE)	B (SE)
Intercept	1.76** (.07)	1.74** (.07)	1.77** (.07)	1.71** (.08)
Actual Events of racial/ethnic discrimination	-.04 (.04)	-.04 (.04)	-.05 (.04)	-.04 (.04)
Internalized racism	.24** (.05)	.25** (.05)	.25** (.05)	.24** (.05)
Internalized homophobia	.10* (.04)	.09* (.04)	.12* (.05)	.13* (.05)
Social support	.28** (.05)	.23** (.05)	.27** (.05)	.26** (.06)
CSA	.47** (.09)	.49** (.08)	.48** (.08)	.49** (.09)
Psychological distress	.07 (.06)	.05 (.07)	.10 (.06)	.01 (.07)
Psychological distress x Actual events of racial/ethnic discrimination	.08* (.04)	--	--	.07 (.04)
Psychological distress x Internalized racism	--	-.10 (.05)	--	-.07 (.05)
Psychological distress x Internalized homophobia	--	--	.06 (.06)	.06 (.06)
AIC	852.91	853.01	855.89	853.97
BIC	872.26	872.36	875.24	878.16
Overall Model $\chi^2$ (df)	80.81** (7)	80.70** (7)	77.83** (7)	83.74** (9)

\* $p \leq .05$ , \*\* $p \leq .01$

When the interaction between psychological distress and actual events of racial/ethnic discrimination was introduced into a model with just HIV risk behavior (as highlighted in Table 7-9), the psychological distress effect was  $-.14$  ( $p \leq .05$ ), holding actual events of racial/ethnic discrimination constant at its mean. Conversely, the actual events of racial/ethnic discrimination effect was  $.03$  ( $p = .34$ ), holding psychological distress constant at its mean. Therefore, only the simple main effect of psychological distress was statistically significant. The interaction term itself was also statistically significant ( $b = .07$ ,  $p \leq .05$ ).

Next, when the interaction term between psychological distress and internalized racism was introduced into a model with HIV risk behavior, the psychological distress effect was  $-.09$  but not statistically significant ( $p = .12$ ), holding internalized racism constant at its mean (see Table 7-9). The internalized racism effect was  $.11$  and was statistically significant ( $p \leq .05$ ), holding psychological distress constant at its mean. The interaction term between psychological distress and internalized racism was also statistically significant ( $b = -.12$ ,  $p \leq .05$ ).

Finally, when an interaction term between psychological distress and HIV risk behavior was tested in a model with HIV risk behavior only, the psychological distress effect was  $-.07$  and was not statistically significant ( $p = .14$ ), holding internalized homophobia constant at its mean (see Table 7-9). The internalized homophobia effect was  $.04$  and was also not statistically significant ( $p = .29$ ), holding psychological distress constant at its mean. Lastly, the interaction between psychological distress and internalized homophobia when entered into a model with HIV risk behavior was also not statistically significant ( $b = -.02$ ,  $p = .75$ ).

Next, the effect of each interaction term (between psychological distress and each indicator of minority stress) was tested in the full model with all indicators of minority stress, social support, CSA, and psychological distress (see Table 7-10). When introducing the

interaction term of psychological distress and actual events of racial/ethnic discrimination into the full model, the interaction term was marginally significant ( $b=.08$ ,  $p=.052$ ). The interaction term between psychological distress and internalized racism was not statistically significant when entered into the full model controlling for all other variables ( $b=-.10$ ,  $p=.06$ ). And, the interaction between psychological distress and internalized homophobia was also not statistically significant when introduced into the full model and controlling for all other variables ( $b=.06$ ,  $p=.38$ ). The final model, which included all three interaction terms concurrently (psychological distress x each indicator of minority stress), as well as indicators of minority stress and other covariates, did not produce statistical significance for any of the interactions either.

Thus, hypothesis 2a, that psychological distress would moderate the relationship between indicators of minority stress and HIV risk behavior, was only partially supported. A statistically significant interaction was found between both actual events of racial/ethnic discrimination and internalized racism, and psychological distress. However, the interaction between psychological distress and internalized homophobia was not supported.

For hypothesis 3a, when the interaction term between psychological distress and actual events of racial/ethnic discrimination was entered into the full model with all other variables, the interaction was marginally significant. However, when entered into the full model controlling for all additional variables, the other two interaction terms, between psychological distress and internalized racism and psychological distress and internalized homophobia, were not statistically significant. Finally, the full model covered in hypothesis 3c.1., which included all three interaction terms (psychological distress x each indicator of minority stress), as well as all indicators of minority stress and other covariates, was also not statistically significant. Therefore, there was minimal support for hypothesis 3a.

The purpose of this analysis was to determine the appropriateness of removing psychological distress from further analyses in order to assess the impact of a direct relationship between indicators of minority stress and HIV risk behavior. Several pieces of information lead to the conclusion that it is logical to assess for a direct relationship between indicators of minority stress and HIV risk behavior, one that is not fully explained by a moderation effect of psychological distress as posited in most of the literature on minority stress. First, psychological distress was highly correlated with internalized racism ( $\rho = -.43$ ,  $p \leq .001$ ), and in a manner that would be expected with higher racial pride being associated with less symptoms of depression. Moreover, psychological distress was moderately correlated with actual events of racial/ethnic discrimination ( $.38$ ,  $p \leq .001$ ). Because psychological distress is highly and moderately correlated with two of the three indicators of minority stress, this suggests that there is overlap between variables, and thus it may not be necessary to include indicators of minority stress and psychological distress in the same model.

Second, psychological distress was not statistically significantly associated with HIV risk behavior ( $b = -.01$ ,  $p = .06$ ). Since much of the scientific literature on minority stress posits that indicators of minority stress impact psychological distress, and then psychological distress impacts HIV risk behavior, there needs to be a direct relationship between psychological distress and HIV risk behavior, which does not appear to be present in this sample.

Finally, psychological distress was assessed as a potential moderator between indicators of minority stress and HIV risk behavior. Although some interactions in the two-way models between indicators of minority stress and HIV risk behavior were significant, in the full models which included one interaction term, as well as all indicators of minority stress, social support, CSA, and psychological distress, only one interaction term was statistically significant.



However, this interaction term, between psychological distress and actual events of racial/ethnic discrimination was only marginally significant with a p-value of .052. In addition, when all three interaction terms were included in a full model with other indicators of minority stress and additional covariates, none of the interactions were statistically significant, thus implying that no particular interaction is uniquely predictive of HIV risk behavior when all interactions are combined in one model.

Therefore, it was concluded that ample evidence existed to justify removing psychological distress from future analyses. In the following sections, a direct relationship between indicators of minority stress and HIV risk behavior, without accounting for psychological distress, will be carried out.

### **Testing the Minority Stress Model and the Primary and Additive Perspectives of the Theory of Intersectionality**

In order to test the fourth hypothesis (4a) of Research Question 1 (when all indicators of minority stress are combined in one model, each will maintain an independent effect on HIV risk behavior, so that their combined effects are greater than their independent effects), stepwise Poisson regression models were run in a sequential fashion. These results can be seen in Table 7-11.

Table 7-11. Generalized Linear Regression Predicting HIV Risk Behavior from Indicators of Minority Stress and Covariates

	Model 1	Model 2	Model 3	Model 4	Model 5
	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)
Intercept	2.13** (.05)	1.49** (.21)	1.18** (.26)	.36 (.30)	-.19 (.32)
Actual events of racial/ethnic discrimination	0.00 (.00)	0.00 (.00)	0.00 (.00)	0.00 (.00)	-0.00 (.00)
Internalized racism		.03* (.01)	.03** (.01)	.03* (.01)	.04** (.01)
Internalized homophobia			.01 (.00)	.01* (.00)	.04** (.01)
Social support				.02** (.00)	.02** (.00)
CSA					.47** (.08)
AIC	977.13	955.01	923.64	887.06	856.98
BIC	982.13	962.44	933.41	899.15	871.49
Overall Model $\chi^2$ (df)	.00 (1)	10.38* (2)	14.89* (3)	40.66** (4)	72.74** (5)

\*  $p \leq .05$ , \*\*  $p \leq .01$

### Model 1

In the first model, the relationship between actual events of racial/ethnic discrimination and HIV risk behavior mimicked what was previously found in the bivariate analysis. The effect of experiencing events of racial/ethnic discrimination on HIV risk behavior was not statistically significant ( $b=0$ ,  $p=.99$ ).

### Model 2

In the second model, internalized racism was added as a second predictor of HIV risk behavior along with events of racial/ethnic discrimination. When added into one model, events

of racial/ethnic discrimination maintained statistical non-significance ( $b=0.00$ ,  $p=.64$ ). The coefficient for the measure of internalized racism was .03, which means that the expected increase in log count for a one-unit increase in HIV risk behavior was .03 over and above the effect of events of racial/ethnic discrimination. In other words, there was a 3% [95% CI (1%, 4%)] increase in HIV risk behavior for every one-unit increase in the Brief Scale of Racial Pride score. More specifically in terms of internalized racism, there was a 3% increase in HIV risk behavior for every one-unit decrease in the internalized racism score. This finding was statistically significant ( $p \leq .05$ ).

In terms of the Poisson model fit to the data, the Goodness of Fit table indicated that the ratio of deviance to degrees of freedom was 7.46. Also, this model proved to be a better fit than the first model since both fit indices, Akaike's Information Criterion (AIC) and Bayesian Information Criterion (BIC), improved from Model 1 to Model 2. In terms of the AIC, Model 1 had a value of 977.13, while this second model showed an AIC of 955.00, with a change in value of 22.13. As for the BIC, the first model showed a value of 982.13 while the second model showed a BIC value of 962.44. The change in BIC from Model 1 to Model 2 was 19.69. According to the Strength of Evidence for the Goodness of Fit guidelines, a change in the absolute value of the BIC from 0-2 indicates a "weak" improvement, 2-6 indicates a "positive" improvement, a 6-10 change indicates a "strong" improvement, and a change that is above 10 indicates a "conclusive" improvement (Raftery, 1996). Because the absolute value of the change between Model 1 and Model 2 was above 10 (19.69), it can be concluded that Model 2 is a significant improvement in model fit from Model 1.

Finally, to test if all estimated coefficients were equal to zero or rather if the model as a whole fit the data, the Omnibus Test was used. For Model 2, the data appeared to fit the model

significantly better than chance ( $\chi^2_{(df=2)} = 10.38, p \leq .05$ ).

### **Model 3**

In the third model, internalized homophobia was added to the model alongside events of racial/ethnic discrimination and internalized racism. Events of racial/ethnic discrimination continued to be statistically non-significant ( $b=0.00, p=.58$ ). Internalized racism maintained its statistical significance ( $p \leq .001$ ). In addition, the coefficient indicated that there was a 3% [95% CI (1%, 5%)] increase in HIV risk behavior for every one-unit decrease in the internalized racism score. For internalized homophobia, the coefficient was .01, which means that the expected increase in log count for a one-unit increase in HIV risk behavior is .01 ( $p=.12$ ), controlling for actual events of racial/ethnic discrimination and internalized racism. However, this finding was not statistically significant ( $p=.12$ ).

The Goodness of Fit table indicated that the ratio of deviance to degrees of freedom was 7.55. In addition, the AIC and BIC both improved (from 955.01 to 923.64 for the AIC, and from 962.44 to 933.41 for the BIC). According to the BIC Strength of Evidence for the Goodness of Fit guidelines, the change in absolute value of the BIC was 29.03, which is more than 10 and can thus be considered a conclusively improved model fit.

Finally, the Omnibus Test was used to determine the overall fit of the model to the data. For Model 3, the data appeared to fit the model significantly better than chance ( $\chi^2_{(df=3)} = 14.89, p \leq .05$ ).

### **Model 4**

In the fourth model, social support was added to a model that included events of racial/ethnic discrimination, internalized racism, and internalized homophobia. As in the previous models, events of racial/ethnic discrimination and internalized racism maintained their

effects from earlier models. However, internalized homophobia became statistically significant ( $p \leq .05$ ), indicating a 1% [95% CI (0%, 2%)] increase in HIV risk behavior for every one-unit increase in the internalized homophobia score. In terms of social support, the coefficient was .02, which means that the expected increase in log count for a one-unit increase in HIV risk behavior was .02 ( $p \leq .001$ ), controlling for actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia. More specifically, there was a 2% [95% CI (1%, 2%)] increase in HIV risk behavior for every one-unit increase in the social support score, or a one standard deviation unit increase in the social support score being associated with a 3% increase in HIV risk behavior ( $SD=13.85$ ).

The ratio of deviance to degrees of freedom was 7.43 on the Goodness of Fit table. In addition, the AIC and BIC both improved (from 923.64 to 887.06 for the AIC, and from 933.41 to 899.15 for the BIC). According to the BIC Strength of Evidence for the Goodness of Fit guidelines, the change in absolute value of the BIC was 34.26, which is more than 10 and can thus be considered a conclusively better model fit.

Finally, the overall fit of the model to the data was determined using the Omnibus Test. For this fourth model, the data appeared to fit the model significantly better than chance ( $\chi^2_{(df=4)} = 40.66, p \leq .001$ ).

### **Model 5**

In the fifth and final model, a measure of CSA (penetration versus non-penetration) was added to the model along with the aforementioned variables (events of racial/ethnic discrimination, internalized racism, internalized homophobia, and social support). As in each subsequent model, events of racial/ethnic discrimination remained non-significant ( $b=0.00, p=.59$ ). In addition, internalized racism, internalized homophobia, and social support maintained

their effects from the previous model, including retaining their statistical significance. In terms of the parameter estimates for those men who experienced penetration as part of their sexual abuse as children, the expected log count of HIV risk behavior was .47 ( $p \leq .001$ ) higher than those who did not have penetration as part of their childhood sexual abuse, when controlling for actual events of racial/ethnic discrimination, internalized racism, internalized homophobia, and social support.

On the Goodness of Fit table, the ratio of deviance to degrees of freedom was 7.11. As seen in the subsequent models, the AIC and BIC improved (from 887.06 to 856.98 for the AIC, and from 899.15 to 871.49 for the BIC). This was a decrease in the BIC of 27.66 from Model 4 to Model 5, which translates to a “conclusive” improvement in model fit on the BIC Strength of Evidence for the Goodness of Fit guidelines. Since the BIC and AIC decrease, the addition of CSA penetration as a predictor does indeed help in predicting HIV risk behavior.

In terms of the overall fit of the model to the data, the Omnibus Test showed statistical significance ( $\chi^2_{(df=5)} = 72.74, p \leq .001$ ). Therefore, the model as a whole with all predictors included does statistically significantly better than chance. In conclusion, based on the decrease in AIC and BIC, as well as the statistical significance in the overall model fit, it is reasonable to conclude that Model 5 is the best fit to the data in comparison to subsequent models.

The fourth hypothesis (4a.1.) for Research Question 1 posited that when combined in one model, events of racial/ethnic discrimination, internalized racism, and internalized homophobia would be independently positively associated with increased HIV risk behavior controlling for other indicators of minority stress, social support, and CSA. This hypothesis, which tested three indicators of minority stress in the minority stress model on HIV risk behavior, as well as the primary perspective of the theory of Intersectionality, was not supported. Actual events of

racial/ethnic discrimination did not maintain statistical significance when added to any of the models. This finding highlights that within this sample of HIV-positive non-gay identifying Black MSMW with histories of childhood sexual abuse, one main indicator of minority stress in the minority stress model, namely actual events of racial/ethnic discrimination, was not statistically significantly associated with HIV risk behavior when controlling for other indicators of minority stress and other covariates. Thus, in this sample, all established indicators of minority stress posited in the minority stress model do not make independent contributions to HIV risk behavior when controlling for other covariates among this very unique population.

However, internalized racism maintained statistical significance in all models, and internalized homophobia became statistically significant in Model 4 and retained statistical significance in the full model, even when controlling for all other variables. In terms of the direction of the association, internalized racism proved to have a negative relationship with HIV risk behavior, which is contrary to the hypothesized direction. The scale used to assess internalized racism was the Brief Scale of Racial Pride, on which a higher score indicates higher racial pride and conversely lower internalized racism. Therefore, while higher scores of racial pride were positively associated with higher scores of HIV risk behavior, the opposite was true for internalized racism. In other words, as the internalized racism score decreased, HIV risk behavior increased. Or conversely, as the racial pride score increased, HIV risk behavior also increased.

Internalized homophobia, once included in the fourth and fifth models (adding social support and CSA, respectively), proved to have a positive relationship with HIV risk behavior when controlling for all other variables in the models. In other words, as there is an increase in the internalized homophobia score, there is also an expected increase in HIV risk behavior.

Since both internalized racism and internalized homophobia each were independently associated with HIV risk behavior when controlling for all other indicators of minority stress, social support, and CSA, the third tenet of the minority stress model, internalized oppression, was supported. However, since the direction of the association for internalized racism was negative, this did not support the hypothesis that all relationships would be positively associated with HIV risk behavior.

Finally, because one single indicator of minority stress did not independently explain HIV risk behavior better than the other indicators of minority stress when combined in one model and when controlling for other variables, the primary perspective of the theory of Intersectionality was not supported.

The second part of the fourth hypothesis (4b.1.) for Research Question 1 posited that the combined effects of actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia on HIV risk behavior would be greater than the independent effects. This hypothesis tested the combined indicators of minority stress in the minority stress model, and the additive perspective of the theory of Intersectionality. When comparing the AIC and the BIC of each initial bivariate model (each indicator of minority stress on HIV risk behavior), the AIC and the BIC were lower for the full model than for any of the bivariate models. Therefore, it can be concluded that when actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia are combined in one model, this explains more of HIV risk behavior than any individual indicator of minority stress, when controlling for other covariates. In summary, this hypothesis, testing the complete minority stress model and the additive perspective of the theory of Intersectionality, was fully supported.



**Testing Social Support as a Moderator between Indicators of Minority Stress  
and HIV Risk Behavior**

In order to test the fifth and sixth hypotheses (5a and 6a) of Research Question 1 (social support as a moderator between each indicator of minority stress and HIV risk behavior only, and social support as a moderator between each indicator of minority stress and HIV risk behavior in separate full models), interaction terms of social support and each indicator of minority stress (actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia) were created. First, each interaction term was tested in a two-way model with HIV risk behavior only, and then each interaction term was introduced into the full model with other indicators of minority stress, as well as CSA. Please see Tables 7-12 and 7-13 for a summary of these results.

Table 7-12. Predicting HIV Risk Behavior from Interactions of Social Support with Each Indicator of Minority Stress

	Actual Events of Racial/Ethnic Discrimination	Internalized Racism	Internalized Homophobia
	B (SE)	B (SE)	B (SE)
Intercept	2.11** (.04)	2.05** (.04)	2.12** (.04)
Actual events of racial/ethnic discrimination	.02 (.04)	--	--
Internalized racism	--	.08 (.04)	--
Internalized homophobia	--	--	.05 (.04)
Social support	.17** (.04)	.15** (.04)	.22** (.04)
Social support x indicator of minority stress	.01 (.04)	.15** (.04)	.17** (.04)
AIC	947.05	928.36	893.87
BIC	956.95	928.27	903.69
Overall Model $\chi^2$ (df)	21.35** (3)	41.57** (3)	53.27** (3)

\* $p \leq .05$ , \*\* $p \leq .01$

Table 7-13. Predicting HIV Risk Behavior from Interactions of Social Support with Each Indicator of Minority Stress in the Model Controlling for Other Indicators of Minority Stress and Other Covariates

	Models With Interaction Term Between Social Support and One Indicator of Minority Stress		
	Actual Events of Racial/Ethnic Discrimination	Internalized Racism	Internalized Homophobia
	B (SE)	B (SE)	B (SE)
Intercept	1.79** (.07)	1.77** (.07)	1.85** (.07)
Actual events of racial/ethnic discrimination	-.01 (.04)	-.02 (.04)	-.02 (.04)
Internalized racism	.21** (.05)	.18** (.05)	.21** (.05)
Internalized homophobia	.10* (.04)	.10* (.04)	.04 (.04)
Social support	.22** (.05)	.19** (.05)	.20** (.04)
CSA	.49** (.08)	.49** (.08)	.46** (.08)
Social support x indicator of minority stress	-.07 (.04)	.14* (.05)	.16** (.04)
AIC	856.69	850.76	841.12
BIC	873.62	867.69	858.05
Overall Model $\chi^2$ (df)	75.02** (6)	80.96** (6)	90.59** (6)

\*  $p \leq .05$ , \*\*  $p \leq .01$

Again, to be able to make more meaningful interpretations of the interactions and the scores for each indicator of minority stress and social support, the scores were standardized. For each variable, the score was centered at a mean of zero and standard deviation of one. To better understand results from significant interactions, graphs were created between the indicator of

minority stress being used and HIV risk behavior, holding social support at its mean and plus and minus one standard deviation.

### **Social Support and Actual Events of Racial/Ethnic Discrimination**

As indicated in Table 7-12, when the interaction between social support and actual events of racial/ethnic discrimination was introduced into a two-way model with just HIV risk behavior, the social support effect was .17 ( $p \leq .001$ ), holding actual events of racial/ethnic discrimination constant at its mean. Conversely, the actual events of racial/ethnic discrimination effect was .02 ( $p = .67$ ) holding social support constant at its mean. Therefore, only the simple main effect of social support was statistically significant. Also, the interaction term itself was not statistically significant ( $b = .01$ ,  $p = .81$ ), thus indicating no interaction effect.

Next, as indicated in Table 7-13, the interaction term of social support and actual events of racial/ethnic discrimination was entered into the full model with internalized racism, internalized homophobia, and CSA. Mimicking the findings from the final, full model presented in the previous section, all original effects were maintained despite the addition of an interaction term comprised of social support and actual events of racial/ethnic discrimination. For instance, the direction of each relationship was preserved, and the statistical significance of all variables stayed the same. This included actual events of racial/ethnic discrimination maintaining non-significance, and all additional variables retaining statistical significance when controlling for each additional variable in the model. However, the interaction term was not statistically significant ( $b = -.07$ ,  $p = .13$ ), which implies that social support does not seem to moderate the relationship between actual events of racial/ethnic discrimination and HIV risk behavior when controlling for additional variables in the model.

## **Social Support and Internalized Racism**

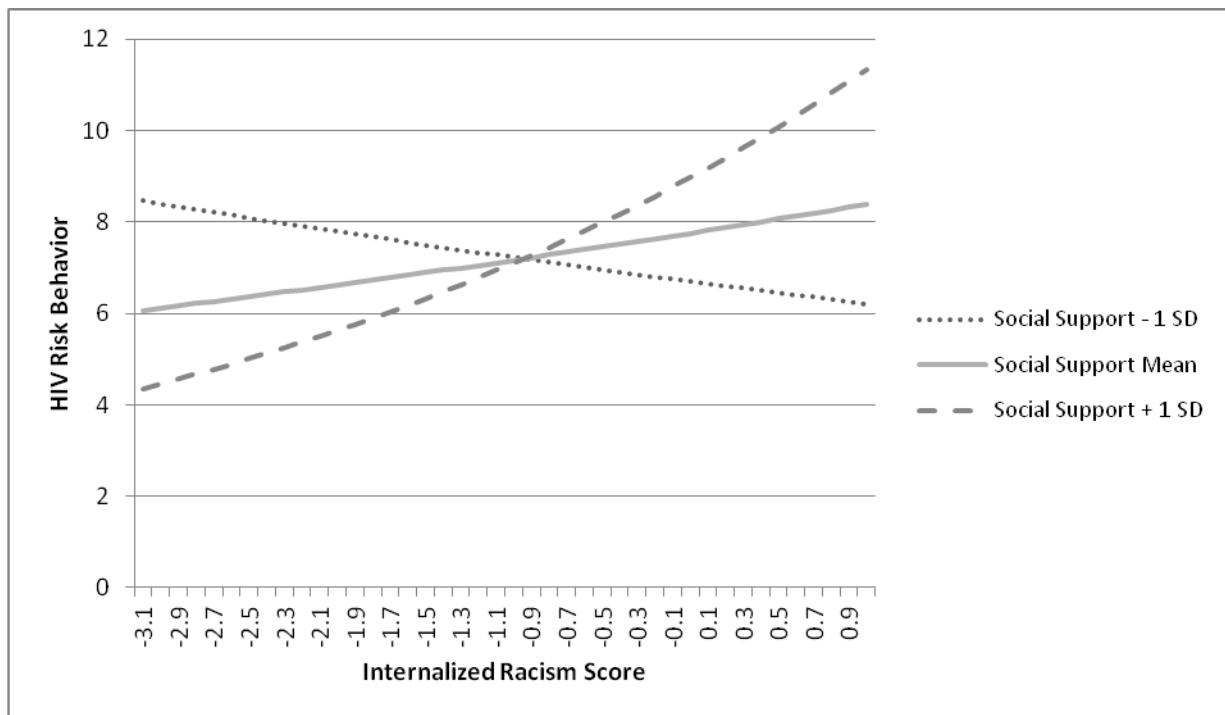
Next, an interaction term between social support and internalized racism was created. As evidenced in Table 7-12, when this interaction term was introduced into a two-way model with just HIV risk behavior, the social support effect was .15 ( $p \leq .001$ ) holding internalized racism constant at its mean. The effect of internalized racism on HIV risk behavior was .08 ( $p = .08$ ), holding social support constant at its mean. Therefore, the simple main effect for social support was statistically significant, while the simple main effect for internalized racism was not significant. The interaction term, comprised of social support and internalized racism, was also statistically significant ( $b = .15$ ,  $p \leq .001$ ), thus indicating an interaction effect. These findings indicate that social support moderates the relationship between internalized racism and HIV risk behavior.

When introducing the interaction term of social support and internalized racism into the full model with actual events of racial/ethnic discrimination (see Table 7-13), internalized homophobia, and CSA, all original effects were maintained. For instance, the direction of each relationship was preserved, and the statistical significance of all variables stayed the same. This included actual events of racial/ethnic discrimination maintaining non-significance, and all additional variables retaining statistical significance when controlling for each additional variable in the model. Furthermore, the interaction term was statistically significant ( $b = .14$ ,  $p \leq .05$ ), which implies that social support moderates the relationship between internalized racism and HIV risk behavior when controlling for additional variables in the model.

To better understand the nature of this statistically significant moderating effect, the interaction between social support and internalized racism on HIV risk behavior was graphed. In this graph, the x-axis represents the possible range in internalized racism scores in standard

deviation units, while the y-axis represents the total number of HIV risk behaviors. In terms of the lines on the graph, the dotted line represents those who have a score of social support that is one standard deviation below the mean score (low social support). In addition, the solid line represents those who have a social support score at the mean (average social support), while the dashed line represents those who have a social support score one standard deviation above the mean score (high social support). These findings are highlighted in Figure 7-5.

Figure 7-5. Interaction between Social Support and Internalized Racism on HIV Risk Behavior



The Brief Scale of Racial Pride was used to assess internalized racism. While a higher score on the scale implies higher racial pride, conversely a higher score on the scale implies lower internalized racism.

SD=Standard Deviation

Social Support - 1 SD represents those who had a social support score 1 standard deviation below the mean.

Social Support Mean represents those who had a mean social support score.

Social Support + 1 SD represents those who had a social support score 1 standard deviation above the mean.

As seen in Figure 7-5, for those who report lower than average social support scores and who have a higher internalized racism score (and conversely, lower racial pride score), the

reported number of HIV risk behaviors is higher. Therefore, those with the lowest social support score and the highest internalized racism/lowest racial pride score are engaging in higher HIV risk behavior. However, as the internalized racism score decreases/racial pride score increases for this group with a lower social support score, the amount of HIV risk behavior decreases. In other words, those with lower social support scores tend to report less HIV risk behavior as their internalized racism score decreases/racial pride score increases.

For those with an average social support score (at the mean score for social support for the sample), having a higher internalized racism score (and thus a lower racial pride score) results in lower HIV risk behavior than those with lower social support scores. However, as the internalized racism score decreases (and thus the racial pride score increases), there is an increase in HIV risk behavior. In other words, those who report an average social support score tend to engage in more HIV risk behavior as they report lower internalized racism scores (but higher racial pride scores).

Finally, for those who report higher than average social support scores, those with higher internalized racism scores (and thus lower racial pride scores) report the fewest HIV risk behaviors across the three groups. However, as those with higher than average social support scores report lower internalized racism scores (and higher scores on the racial pride scale), the amount of HIV risk behavior drastically increases. In summary, those who reported the highest scores on the social support scale and the highest scores of internalized racism (or lowest scores on the racial pride scale) tended to engage in the lowest levels of HIV risk behavior across all three groups. Conversely, this same group who reports high scores on the social support scale also reports an increase in HIV risk behavior when the internalized racism score decreases (and the racial pride score increases).

## **Social Support and Internalized Homophobia**

As evidenced in Table 7-12, the interaction between social support and internalized homophobia was introduced into a two-way model with just HIV risk behavior; in this model the social support effect was .22 ( $p \leq .001$ ) holding internalized homophobia constant at its mean. Also, the internalized homophobia effect was .05 ( $p = .18$ ) holding social support constant at its mean. These findings indicate that while the simple main effect of social support was statistically significant, the simple main effect of internalized homophobia was not statistically significant. However, the interaction term between social support and internalized homophobia was found to be statistically significant ( $b = .17$ ,  $p \leq .001$ ), thus indicating an interaction effect.

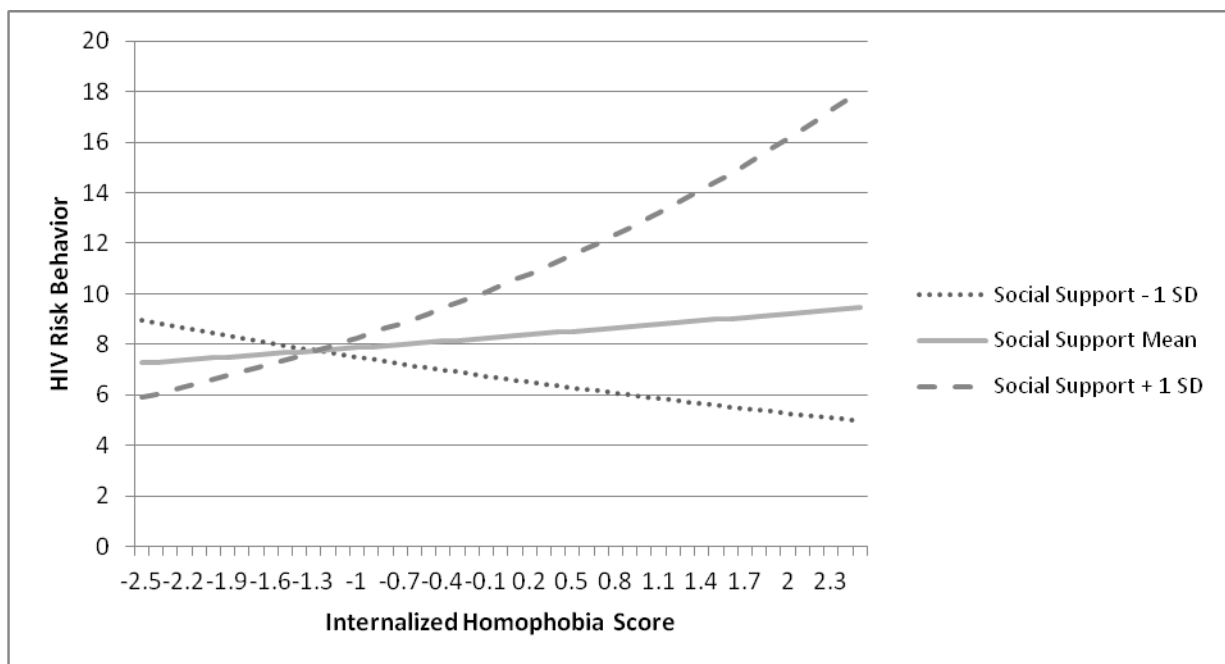
When the interaction term comprised of social support and internalized homophobia was introduced into the full model with actual events of racial/ethnic discrimination, internalized racism, and CSA, most of the effects from the original model stayed the same (see Table 7-13). For instance, the direction of all relationships and the statistical significance of most relationships were preserved from the original full model without the interaction term. However, internalized homophobia became non-significant ( $b = .04$ ,  $p = .28$ ), which implies that the interaction between social support and internalized homophobia when controlling for all other variables may be explaining HIV risk behavior better than internalized homophobia alone. Furthermore, the interaction term between social support and internalized homophobia was statistically significant ( $b = .16$ ,  $p \leq .001$ ) when controlling for additional variables. This provides further evidence that social support plays a moderating role between internalized homophobia and HIV risk behavior.

To better understand the nature of this moderating effect, the interaction between social support and internalized homophobia on HIV risk behavior was graphed. As highlighted in the



previous figure, the x-axis represents the possible range in standardized internalized homophobia scores, and the y-axis represents the total HIV risk behavior. The dotted line on the graph represents those with lower social support, the solid line represents those with a mean reported level of social support, and the dashed line represents those with higher social support. The results can be seen below in Figure 7-6.

Figure 7-6. Interaction between Social Support and Internalized Homophobia on HIV Risk Behavior



*SD=Standard Deviation*  
*Social Support – 1 SD represents those who had a social support score 1 standard deviation below the mean.*  
*Social Support Mean represents those who had a mean social support score.*  
*Social Support + 1 SD represents those who had a social support score 1 standard deviation above the mean.*

As seen in Figure 7-6, for those who report a lower than average score on the social support scale and a lower score on the internalized homophobia scale, the amount of HIV risk behavior is higher. However, as this group reports higher scores on the internalized homophobia scale, the amount of HIV risk behavior decreases. It appears that among this group with the

lowest scores on the social support scale, an increase in the internalized homophobia score results in the most significant decrease in HIV risk behavior.

Among those who report a mean score on the social support scale, the relationship between internalized homophobia and HIV risk behavior is less pronounced. Although those who report higher scores on the internalized homophobia scale also report a higher level of HIV risk behavior, there does not appear to be much of a difference in HIV risk behavior between those who report lower versus higher scores on the internalized homophobia scale for those with average scores on the social support scale.

However, among those who report higher than average scores on the social support scale, internalized homophobia appears to play a much stronger role in engagement in HIV risk behavior. Those with the highest scores on the social support scale yet the lowest scores on the internalized homophobia scale appear to have the lowest HIV risk behavior across all three social support groups. Furthermore, among this group with higher scores on the social support scale, as the internalized homophobia score increases, so does reported HIV risk behavior. In fact, among those with higher than average scores on the social support scale, the highest HIV risk behavior across all levels of social support is reported as the internalized homophobia score increases.

In summary, these findings indicate that social support moderates the relationship between indicators of minority stress and HIV risk behavior in a number of complex ways, thus providing support for both hypotheses 5a and 6a. The indicator that represents the more distal process of minority stress, namely actual events of racial/ethnic discrimination, does not appear to be related to HIV risk behavior and social support does not play a role in its relationship to HIV risk behavior. However, the relationship of the indicators that represent the more proximal

processes of minority stress, internalized racism and internalized homophobia, and HIV risk behavior both appear to be moderated by social support.

### **Testing the Interactionist Perspective of the Theory of Intersectionality**

In order to test the seventh hypothesis (7a) of Research Question 1 (that the interactions of internalized racism and internalized homophobia will account for variance in HIV risk behavior beyond that accounted for by each of their independent effects), an interaction term of internalized racism and internalized homophobia was created. First, the interaction term was tested in a two-way model with HIV risk behavior only, and then the interaction term was introduced into the full model. Table 7-14 provides an overview of these results.

Table 7-14. Predicting HIV Risk Behavior from Interactions of Internalized Racism and Internalized Homophobia on HIV Risk Behavior

	Internalized Racism	Internalized Homophobia	Full Model
	B (SE)	B (SE)	B (SE)
Intercept	2.10** (.04)	2.10** (.04)	1.09** (.18)
Actual events of racial/ethnic discrimination	--	--	-.00 (.00)
Internalized racism	.15** (.04)	.15** (.04)	.21** (.05)
Internalized homophobia	.06 (.04)	.06 (.04)	.10* (.04)
Social support	--	--	.02** (.00)
CSA	--	--	.47** (.08)
Internalized racism x internalized homophobia	-.03 (.05)	-.03 (.05)	-.02 (.05)
AIC	932.34	932.34	858.76
BIC	942.15	942.15	875.69
Overall Model $\chi^2$ (df)	13.77* (3)	13.77* (3)	72.95** (6)

\*  $p \leq .05$ , \*\*  $p \leq .01$

As previously noted, all scales needed to be standardized in order to make interpretation of the interaction easier. In order to account for the different scales of each variable and make the effects easier to compare, the scores were standardized by centering each measure at mean zero and dividing by its standard deviation to create a z score. Thus a one-unit change of the z scored variable is a one standard deviation unit change. These z scored variables were used for all interaction models.

When the interaction between internalized racism and internalized homophobia was introduced into a two-way model with just HIV risk behavior, the internalized racism effect was .15 ( $p \leq .05$ ) holding internalized homophobia constant at its mean. Conversely, the internalized homophobia effect was .06 ( $p = .14$ ) holding internalized racism constant at its mean. Only the simple main effect for internalized racism was statistically significant. Also, the interaction term itself was not statistically significant ( $p = .62$ ), thus indicating no interaction effect.

When the interaction term was introduced into the full model with actual events of racial/ethnic discrimination, internalized racism, internalized homophobia, social support, and CSA, both simple main effects became statistically significant (internalized racism,  $p \leq .001$ ; internalized homophobia,  $p \leq .05$ ). This indicates that despite the interaction term being included in the model, the effects of internalized racism/racial pride and internalized homophobia continue to contribute to HIV risk behavior when controlling for other variables, as they did in the original full and final model presented previously. Furthermore, the interaction term maintained its non-significance, which indicates that an interaction effect was not present. These two findings do not provide sufficient evidence to support hypothesis 7a.

## Chapter 8: Research Question 2- Results of Analyses Comparing Intervention Groups

For Research Question 2, comparative analyses were conducted between groups to determine whether randomization of participants into the ES-HIM intervention and the Health Promotion control condition was successful, and that no significant differences existed between the groups in terms of sociodemographic characteristics and other variables of interest.

In addition, the only variables of interest in Research Question 2 are HIV risk behavior, as well as internalized racism and internalized homophobia. Because Research Question 2 is only concerned with variables that are amenable to change over time due to an intervention, only HIV risk behavior, as well as perceptions of internalized racism and internalized homophobia, are examined.

### **Sociodemographic Characteristics**

An overview of sociodemographic characteristics by full group (including those in both the ES-HIM and HP conditions), as well as each group (ES-HIM or HP), are highlighted below in Table 8-15. In addition, group differences between the ES-HIM intervention and Health Promotion control conditions are also noted.

Table 8-15. Sociodemographic Characteristics by Intervention Group (n=88)

Sociodemographics	Full Group (n=88)	ES-HIM Intervention Group (n=44)	Health Promotion Control Group (n=44)	Group Differences Statistic <sup>a</sup> [CI] or (df) P-value
<sup>b</sup> Age Mean (SD)	46.6 (8.3)	46.7 (7.4)	46.6 (9.1)	-.022
Range	26-65	26-61	27-65	[-3.55, 3.50] .99
Highest degree received (%)				
None	19.3	27.3	11.4	7.91
High school diploma/ G.E.D.	51.1	38.6	63.6	(3) .05*
Vocational/Technical degree	17.0	15.9	18.2	
Associates/ B.A. or B.S./Graduate degree	12.5	18.2	6.8	
Employment (%)				
Employed	16.1	16.3	15.9	.002
Unemployed or unable to work	83.9	83.7	84.1	(1) .96
Monthly Income (%)				
\$15,000 or less	90.6	92.9	88.4	.50
More than \$15,000	9.4	7.1	11.6	(1) .48
Marital Status (%)				
Ever married	27.6	18.2	37.2	3.94
Never married	72.4	81.8	62.8	(1) .05*
Relationship Status (%)				
Live with/see/date one person	19.0	12.2	26.3	2.86 (3)
See/date more than one person regularly	15.2	14.6	15.8	.41
Date occasionally	40.5	43.9	36.8	
Have not had a relationship in the past 3 months	25.3	29.3	21.1	

<sup>a</sup>For the continuous variable, age, an independent sample t-test with equal variances assumed was used and the mean difference and confidence interval are reported. For categorical variables, such as highest degree received, a chi-square test was used and the chi-square statistic and degrees of freedom are reported. Because of an overall cell count size of less than 5, some categories were collapsed.

<sup>b</sup>Age in years.

\*  $p \leq 05$

As seen in Table 8-15, the total sample consisted of 88 participants, with 44 participants per condition. The overall sample (n=88) was predominantly middle-aged (mean= 46.6 years, SD = 8.3), had a minimum of a high school degree or GED (70.4%), was unemployed or unable to work/disabled (83.9%), with the majority of the sample having an annual income of less than or equal to \$15,000 or being at 125% of the Federal Poverty Level (90.6%) (United States Department of Health and Human Services, 2013).

When looking at group differences in terms of sociodemographics, two characteristics were found to be statistically significantly different between the ES-HIM and HP conditions. First, the level of educational degree received appeared to differ between the groups at baseline ( $\chi^2_{(df=3)}=7.91, p\leq.05$ ). The HP control condition was less educated with a higher proportion having attained less than a high school diploma or GED than the ES-HIM intervention condition (75% for HP versus 66% for ES-HIM). Also, there seemed to be a difference between groups in terms of marital status ( $\chi^2_{(df=1)}=3.94, p\leq.05$ ); more HP control condition participants had ever been married (37.2%) as compared to ES-HIM intervention participants (18.2%). There were no other significant differences between groups on sociodemographics, as well as mean number of intervention sessions attended (total sessions n=6) (ES-HIM=4.88; HP=5.04).

### **HIV Risk Behavior**

To determine if differences in HIV risk behavior existed between intervention conditions, analyses were run for the full group (both ES-HIM and HP conditions), as well as each individual condition (ES-HIM or HP). Furthermore, differences on individual HIV risk behaviors (vaginal, anal receptive, and anal insertive intercourse without a condom), as well as the main HIV risk behavior variable (vaginal, anal receptive, and/or anal insertive intercourse without a condom), are also highlighted. These results are highlighted below in Table 8-16.



Table 8-16. Descriptives of Sample HIV Risk Behavior & HIV Risk Behavior by Intervention Group

HIV Risk Behavior	Full Group (n=88)	ES-HIM Intervention Group (n=44)	Health Promotion Control Group (n=44)	Group Differences Statistic <sup>a</sup> [CI] or (df) p-value
Vaginal intercourse without a condom in past 3months (%)	70.5	68.2	72.7	.22 (1) .64
# times, median, range <sup>b</sup>	3.0, 1-43	2.0, 1-30	4.0, 1-43	1.59 [-1.72, 4.89] .34
Receptive anal intercourse without a condom in past 3 months (%)	45.5	54.5	36.4	2.93 (1) .09
# times, median, range <sup>b</sup>	2.0, 1-28	2.0, 1-28	2.5, 1-25	.23 [-3.96, 4.42] .91
Insertive anal intercourse without a condom in past 3months (%)	44.3	50.0	38.6	1.15 (1) .28
# times, median, range <sup>b</sup>	3.0, 1-80	3.0, 1-80	3.0, 1-20	-4.55 [-13.11, 4.01] .29
Vaginal, receptive anal and/or insertive anal intercourse without a condom in past 3months <sup>c</sup>	4.0, 0-80	5.0, 0-80	4.0, 0-50	-2.18 [-7.54, 3.18] .42
# times, median, range				

*Median is reported instead of mean and standard deviation since the Poisson distribution is non-normal and is best characterized by median as the best measure of central tendency.*

*<sup>a</sup>For the continuous variables, independent sample t-tests were used and the mean differences and confidence intervals are reported. For categorical variables, a chi-square test was used and the chi-square statistic and degrees of freedom are reported. For t-tests, equal variances are assumed.*

*<sup>b</sup>For vaginal, anal receptive, and anal insertive intercourse without a condom, data is only reported for those who had engaged in intercourse without a condom in the past 3 months. Thus, the number of times, medians, and ranges do not include 0 or those who did not engage in the behaviors.*

*<sup>c</sup>HIV risk behavior variable; number of times, median, and range include those who reported no instances of vaginal and/or anal intercourse without a condom.*

As seen in Table 8-16, in the full group (n=88), 70.5% had engaged in vaginal intercourse without a condom in the past three months. In terms of unprotected anal intercourse, just under half of the total sample had engaged in anal receptive and/or anal insertive intercourse without a condom in the past three months (45.5% and 43.3%, respectively). For the HIV risk behavior variable in the full group, which included the total number of times a participant had engaged in vaginal and/or anal intercourse without a condom in the past three months, the median number of times was four with a range from 0-80 (n=88).

In terms of group differences between ES-HIM and Health Promotion at baseline, no statistically significant differences were identified in terms of vaginal, anal receptive, or anal insertive intercourse, as well as the summed HIV risk behavior variable.

### **Internalized Racism**

The full group, which included both ES-HIM intervention and Health Promotion control condition participants, had a mean score on the internalized racism scale of 22.93 (SD=4.88) (n=84). Table 8-17 provides an overview of the scores across all groups. Since a higher score on the scale used to assess internalized racism, the Brief Scale of Racial Pride, indicates a higher sense of racial pride, a lower score indicates higher internalized racism. In terms of the baseline scores between the ES-HIM and HP groups, there was not a statistically significant difference in mean scores between the two groups at baseline (p=.53).

Table 8-17. Descriptive Statistics of Minority Stress Measures

Variables	Full Group	ES-HIM Intervention Group	Health Promotion Control Group	Group Differences
	Mean (SD) Range	Mean (SD) Range	Mean (SD) Range	Mean Difference [CI] p-value
Internalized racism <sup>a</sup>	22.93 (4.88) 8-28	22.59 (4.21) 14-28	23.36 (5.46) 8-28	.67 [-1.45, 2.80] .53
Internalized homophobia <sup>b</sup>	34.38 (10.17) 13-60	32.90 (11.29) 13-60	35.81 (8.84) 21-57	2.91 [-1.46, 7.28] .19

*Equal variances are assumed.*

<sup>a</sup>Full Group n=84; ES-HIM Group n=41; HP Group n=43

<sup>b</sup>Full Group n=85; ES-HIM Group n=42; HP Group n=43

### Internalized Homophobia

Across the full group, the mean score of internalized homophobia was 34.38 (SD=10.17) at baseline (please see Table 8-17 for details on internalized homophobia across intervention groups). A higher score on this scale indicates higher internalized homophobia. When comparing the ES-HIM intervention condition and the Health Promotion control condition, the scores of internalized homophobia were not statistically significantly different (p=.19) at baseline.

## Chapter 9: Research Question 2- Results of Repeated Measures Analyses

The second research question, determining the relationship between internalized racism and internalized homophobia and HIV risk behavior over time among the ES-HIM intervention and Health Promotion control condition participants, was examined next. First, the hypotheses (8a, 8b, 8c) that the slope of the decrease over time in both internalized racism and internalized homophobia, as well as HIV risk behavior would be lower for ES-HIM participants than for HP control condition participants, were tested. In order to test these hypotheses, latent growth models were fit to scores of internalized racism and internalized homophobia, as well as frequency of HIV risk behavior over four time points (baseline, post-intervention, and 3-months and 6-months post-intervention). Then, to test for significant differences between the ES-HIM intervention and the Health Promotion control conditions, the intervention's effect on the slopes of internalized racism, internalized homophobia, and HIV risk behavior were tested. In other words, two models were tested for each outcome; the first model was change over time by itself for the group as a whole, and the second model predicted change over time by intervention condition (ES-HIM versus HP).

For internalized racism and internalized homophobia, model fit was evaluated using several criteria following the suggestions of Hu and Bentler (1999). Comparative Fit Index (CFI) indicates good model fit if it is  $\geq .95$ , with a possible range of 0-1. For the Root Mean Square Error of Approximation (RMSEA), another model fit index, a lower RMSEA is preferred with a possible range of 0-1 and a desired value of  $\leq .06$ . The final model fit index is the Standardized Root Mean Square Residual (SRMR), which indicates how far off the model is from the data in terms of correlations. A possible range of 0-1 exists for this index, with a lower

score indicating better fit and a preferred value  $\leq .08$ . The chi square test of model fit, which compares the model estimates to the data, will also be examined. A non-significant chi square test statistic suggests the model is not significantly different from the data, thus indicating good fit.

Since HIV risk behavior is a count variable, fewer fit indices are available for the latent growth models for number of HIV risk behaviors. Only the Akaike's Information Criteria (AIC) and Bayesian Information Criteria (BIC) are reported.

For internalized racism and internalized homophobia, a good fit was obtained for models with a simple linear time effect. However, for HIV risk behavior, because it was a primary outcome from the intervention, and one would hypothesize a plateau effect following the intervention, a piecewise model allowing one effect from baseline to post-intervention, and a second effect for the follow-up periods (post-intervention to 6-months post-intervention), was used.

### **Internalized Racism**

In testing the slope of internalized racism, one case was dropped from the analysis due to missing data on all time points (n=87). Please see Table 9-18 for details on parameter estimates and model fit for testing the slope of internalized racism.

Table 9-18. Change in Slope of Internalized Racism Only and by Intervention Condition

	<b>IR Only B (SE)</b>	<b>IR + Condition B (SE)</b>
<b>Parameter Estimates</b>		
Intercept	22.45** (.53)	22.80** (.78)
Slope	0.16 (.24)	0.16 (.38)
Intercept x Condition	-	-0.70 (1.02)
Slope x Condition	-	-0.004 (.44)
$\sigma^2_{\text{intercept}}$	3.18	3.02
$\sigma^2_{\text{slope}}$	-	-
Covariance T1 & T2	6.72* (3.19)	6.92* (3.15)
Covariance T2 & T4	8.88 (4.89)	9.21 (4.98)
Residual Variance T1	20.18	20.21
Residual Variance T2	23.56	24.00
Residual Variance T3	31.55	31.10
Residual Variance T4	20.42	20.69
<b>Model Fit</b>		
CFI	0.92	0.86
RMSEA	0.07	0.08
SRMR	0.06	0.07
$\chi^2$ (df)	6.87 (5)	10.77 (7)
p-value	0.23	0.15

*IR = Internalized Racism, T1 = Time 1 or baseline, T2 = Time 2 or post-intervention, T3 = Time 3 or 3-months post-intervention, T4 = Time 4 or 6-months post-intervention*

*$\sigma^2_{\text{slope}}$  was fixed at zero in the model.*

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

In terms of model fit for the unconditional model, the CFI was .92, which is greater than the desired .90 cut-point. The RMSEA value was .07, which is slightly above the desired .06 cut-point, but can still be considered a good fit. The SRMR was .06, which is less than the desired .08 cut-point. When examining the chi-square test of model fit, the unconditional model was not statistically significant, which is desirable as it implies that the model was not statistically significantly different than the data ( $\chi^2=6.87$ ,  $df=5$ ,  $p=.23$ ). Overall, all fit indices indicated that the model is a good fit to the data.

When looking at the internalized racism score for the full sample ( $n=87$ ) across the four time points, the intercept was 22.45 and was statistically significant ( $p \leq .01$ ). This means that the

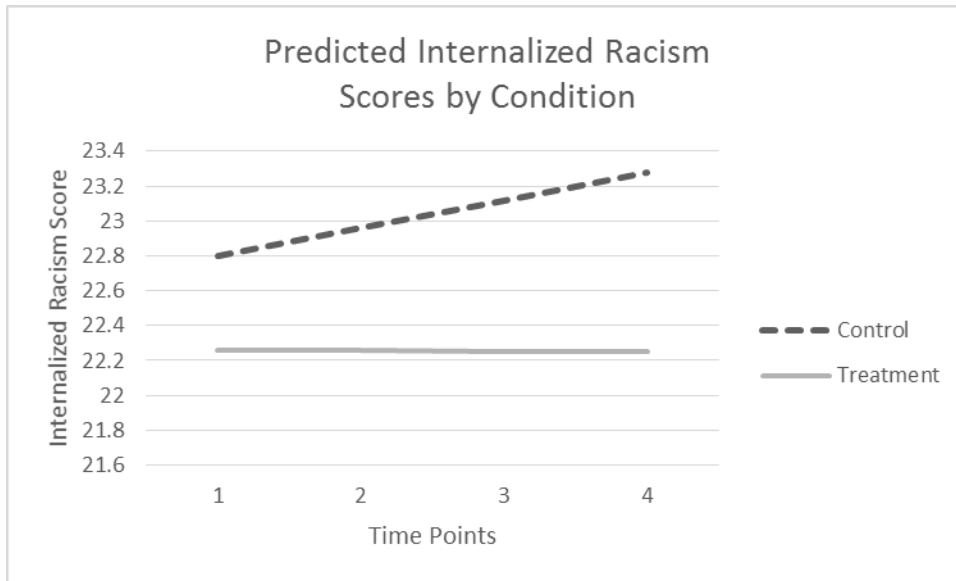
full sample started, on average, with an internalized racism score of 22.45 and that it was statistically significantly different than zero. The slope was .16, which means that the internalized racism score appears to increase by .16 across each additional time point; however, this was not found to be statistically significant.

Next, the intervention's effect on the slopes of the internalized racism scores was tested to see if they were statistically significantly different. In terms of the model fit, the CFI was .86, the RMSEA was .08, the SRMR was .07, and the chi-square test of model fit was not statistically significant ( $\chi^2=10.77$ ,  $df=7$ ,  $p=.15$ ); these fit values indicate that the model was indeed a good fit to the data.

The intercept by condition value was  $-.70$ , which indicates that those in the ES-HIM intervention condition appeared to start out, on average, about .7 units lower on the internalized racism score at baseline than HP control condition participants. However, this value was not statistically significant.

Next, the findings were graphed for easier interpretation. Please see Figure 9-7 for changes in the slope of internalized racism scores over time by intervention condition.

Figure 9-7. Predicted Internalized Racism Scores by Condition



When looking at the internalized racism scores by each condition, internalized racism scores increase over time for the HP control condition participants, yet stay the same across time for the ES-HIM intervention condition participants. This implies that for the control participants, their racial pride was increasing and conversely, their internalized racism was decreasing over time. However, when looking at the numbers in Table 9-18, the slope for the control condition (.16) was not statistically significant ( $p=.68$ ). Additionally, the slope by condition was  $-.004$ , which implies a decrease in the internalized racism score by  $.004$  across each time point for the ES-HIM intervention participants. However, this slope was also not statistically significant ( $p=.99$ ). Overall, there appears to be no intervention effect on the internalized racism score across time.



## Internalized Homophobia

In testing the slope of internalized homophobia, one case was dropped from the analysis due to missing data (n=87). Please see Table 9-19 for details on parameter estimates and model fit for testing the slope of internalized homophobia.

Table 9-19. Change in Slope of Internalized Homophobia Only and by Intervention Condition

	<b>IH Only</b>	<b>IH + Condition</b>
	<b>B (SE)</b>	<b>B (SE)</b>
<b>Parameter Estimates</b>		
Intercept	34.20** (1.01)	35.99** (1.32)
Slope	-0.94* (0.40)	-0.879 (.56)
Intercept x Condition	-	-3.64 (2)
Slope x Condition	-	-0.14 (.80)
$\sigma^2_{\text{intercept}}$	42.95	39.17
$\sigma^2_{\text{slope}}$	1.42	1.19
Covariance Intercept, Slope	0.44 (5.28)	0.70 (5.27)
Residual Variance T1	62.87	64.01
Residual Variance T2	62.64	62.56
Residual Variance T3	49.26	48.07
Residual Variance T4	51.37	52.79
<b>Model Fit</b>		
CFI	1	1
RMSEA	0	0
SRMR	0.05	0.05
$\chi^2$ (df)	2.75 (5)	3.52 (7)
p-value	0.74	0.83

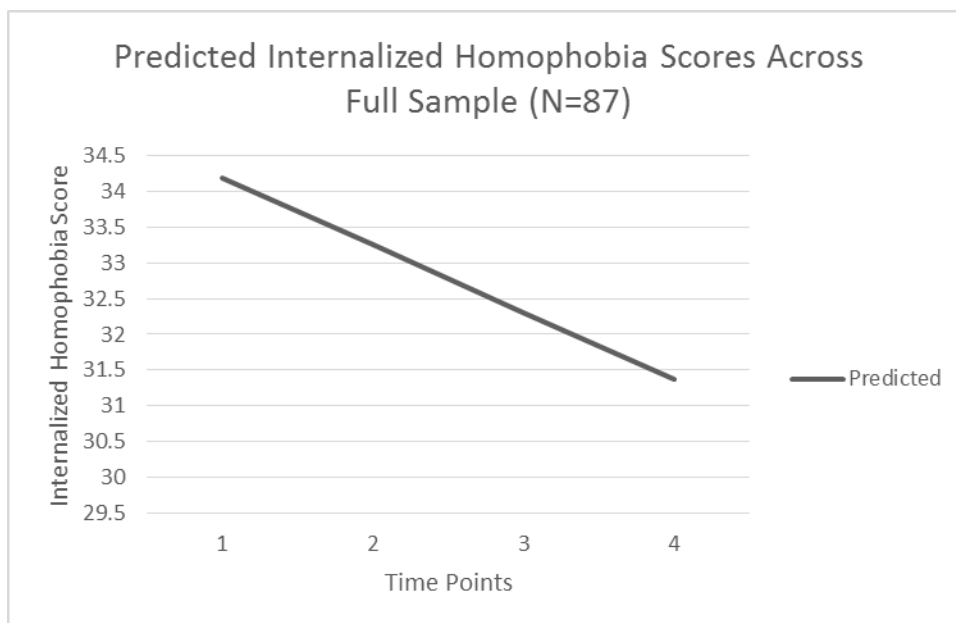
*IH = Internalized Homophobia, T1 = Time 1, T2 = Time 2, T3 = Time 3, T4 = Time 4. \* p < .05, \*\* p < .01*

For internalized homophobia, the CFI value was 1, the RMSEA value was 0, and the SRMR was .05, all indicating that the model is a good fit to the data. In addition, the chi-square test of model fit in the unconditional model was not statistically significant; this is desirable as it

implies that the model was not statistically significantly different than the data ( $\chi^2=2.75$ ,  $df=5$ ,  $p=.74$ ).

When looking at internalized homophobia for the full sample ( $n=87$ ) across the four time points, the intercept was 34.20 and was statistically significant ( $p\leq.01$ ). This means that the full sample started, on average, with an internalized homophobia score of 34.20 and that it was statistically significantly different than zero. More importantly, the slope was  $-.94$  and was also statistically significant ( $p\leq.05$ ). This means that the score decreases by  $.94$  across each additional time point, thus showing a statistically significant decrease in internalized homophobia for the group as a whole from baseline to the six-month post-intervention follow-up. Figure 9-8 provides a graphical representation of this statistically significant decrease in internalized homophobia over time.

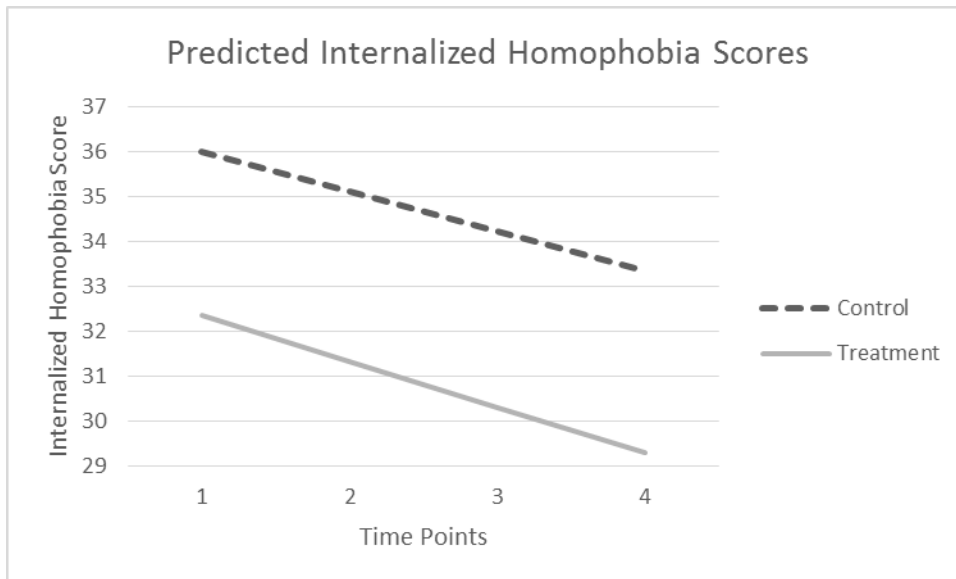
Figure 9-8. Predicted Internalized Homophobia Scores Across Full Sample



Next, the intervention's effect on the slopes of the internalized homophobia scores was tested to see if they were statistically significantly different. In terms of the model fit, the CFI was 1, the RMSEA was 0, the SRMR was .05, and the chi-square test of model fit was not statistically significant ( $\chi^2=3.52$ ,  $df=7$ ,  $p=.83$ ); these fit values indicate that the model was indeed a good fit to the data.

Levels of internalized homophobia across groups and the effects of the ES-HIM intervention on internalized homophobia over time, were then explored (please see Figure 9-9).

Figure 9-9. Predicted Internalized Homophobia Scores By Condition



First, the group effect on the intercept (baseline) internalized homophobia level was assessed. The value was -3.64, which means that the ES-HIM intervention group was 3.64 units lower on the internalized homophobia score at baseline in comparison to the Health Promotion control group ( $p=.07$ ). In other words, the ES-HIM intervention group appeared to have a lower level of internalized homophobia than the HP control group at baseline, but the finding was not statistically significant.

The intervention effect on the slope (or change over time) was examined next. On average, those participants in the ES-HIM intervention group had a decrease in the internalized homophobia score of .14 units more than those who were in the HP control group ( $p=.86$ ). While a decrease in internalized homophobia seems to have occurred in the intervention group, the finding was not statistically significant.

Finally, the covariance between the intercept and the slope was explored to determine if there was a difference between those who started with higher internalized homophobia at baseline. This value was not statistically significant ( $p=.90$ ), which implies that there does not appear to be a difference in a change in internalized homophobia over time between those who started with a higher internalized homophobia score and those who did not.

### **HIV Risk Behavior**

For HIV risk behavior, the total sample was 88, as there was no missing data. Please see Table 9-20 for details on parameter estimates and model fit for testing the slope of HIV risk behavior.

Table 9-20. Change in Slope of HIV Risk Behavior Only and by Intervention Condition

	<b>HIV Only B (SE)</b>	<b>HIV + Condition B (SE)</b>
<b>Parameter Estimates</b>		
Intercept	1.17** (.22)	1.08** (.30)
Slope 1	-1.56** (.39)	-1.03* (.49)
Slope 2	0.21 (.24)	-0.33 (.30)
Intercept x Condition	-	0.13 (.41)
Slope 1 x Condition	-	-1.15 (.71)
Slope 2 x Condition	-	1.11** (.41)
$\sigma^2_{\text{intercept}}$	2.26	2.29
<b>Model Fit</b>		
AIC	2288.44	2190.79
BIC	2298.35	2208.13

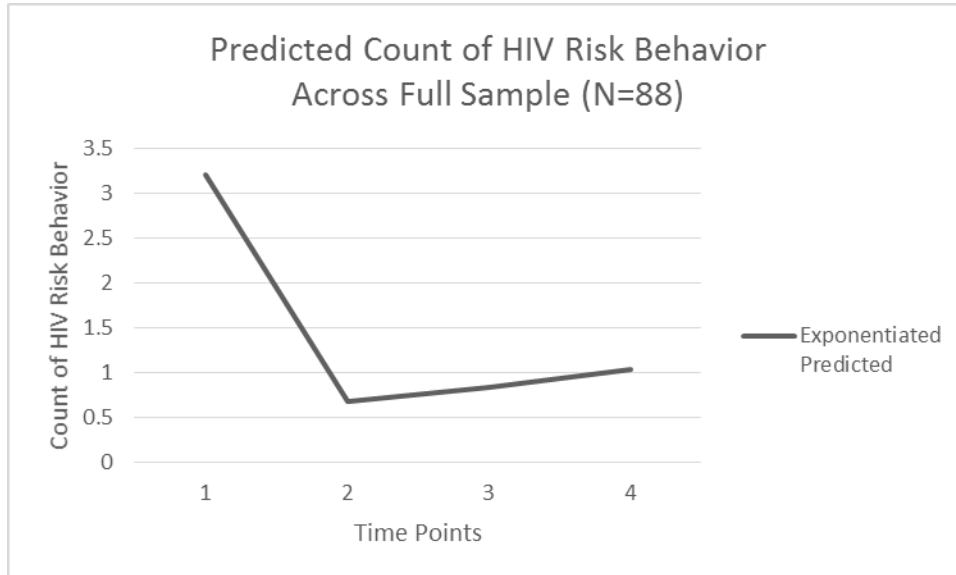
*HIV = HIV risk behavior or vaginal, anal receptive, and/or anal insertive intercourse without a condom in the past three months, T1 = Time 1 or baseline, T2 = Time 2 or post-intervention, T3 = Time 3 or 3-months post-intervention, T4 = Time 4 or 6-months post-intervention.*

*Because the outcome was count data, the parameters are on the log scale (i.e., log of the count, not the actual count). See Figure 9-10 for predicted counts on the original scale based on the model.*

*\* p < .05, \*\* p < .01*

When looking at HIV risk behavior for the full sample (n=88) across the four time points, the intercept was 1.17 and was statistically significant ( $p \leq .01$ ). This means that the full sample reported at baseline that they engaged in 1.17 vaginal, anal receptive, and/or anal insertive sexual log acts without a condom in the past three months, and that this number was statistically significantly different than zero. In Figure 9-10, the values on the original HIV risk behavior scale (counts) are reported for easier interpretation.

Figure 9-10. Predicted Count of HIV Risk Behavior Across Full Sample



*Predicted counts of HIV risk behavior are presented on the original scale.*

As seen in Figure 9-10, the estimated baseline value is a little over 3, indicating that the full sample reported an average of about 3 unprotected sexual acts within the past three months at baseline. More importantly, slope 1, which assesses log behavior change between baseline and post-intervention, was -1.56 and was statistically significant ( $p \leq .01$ ). Again, when looking at Figure 9-10, this translates to a decrease from a little over three unprotected sexual acts at baseline to less than 1 unprotected sexual act at post-intervention. This means that the number of HIV risk behaviors decreases by roughly 2.5 vaginal and/or anal sexual acts without a condom between baseline and post-intervention, thus showing a statistically significant decrease in HIV risk behavior for the group as a whole from baseline to the post-intervention follow-up.

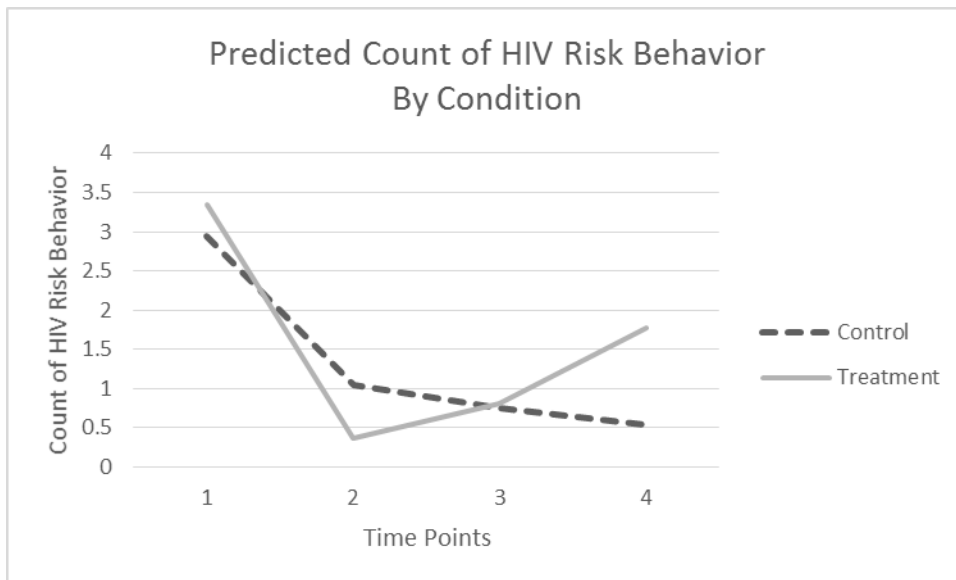
While a statistically significant reduction in HIV risk behavior occurs between baseline and post-intervention follow-up, there was not a statistically significant reduction from post-intervention to the six-month post-intervention follow-up. However, when examining the original scale in Figure 9-10, which indicates counts (instead of log counts) of HIV risk behavior

that are easier to interpret, participants reported, on average, less than one vaginal and/or anal sexual act without a condom at post-intervention. Therefore, there does not appear to be much room for improvement in the reduction of HIV risk behavior after post-intervention.

Next, the intervention's effect on the slopes of HIV risk behavior was tested to see if they were statistically significantly different. Because HIV risk behavior was a count variable with a Poisson distribution, the AIC and BIC are used as indicators of model fit. In terms of the model fit, both the AIC and BIC decreased (AIC=2190.79, BIC=2208.13). Because both decreases were greater than 10 (97.65 for AIC and 90.22 for BIC, respectively), this indicates a strong improvement in model fit according to the Strength of Evidence for the Goodness of Fit guidelines (Raftery, 1996).

Next, counts of HIV risk behavior across groups, and the effects of the ES-HIM intervention on HIV risk behavior over time, were explored (please see Figure 9-11).

Figure 9-11. Predicted Count of HIV Risk Behavior By Condition



*Predicted counts of HIV risk behavior are presented on the original scale.*

First, the group effect on the intercept (baseline) number of HIV risk behaviors was assessed. The value was .13, which means that the ES-HIM intervention group started about .13 log units higher in HIV risk behavior at baseline in comparison to the Health Promotion control group ( $p=.78$ ). In other words, the ES-HIM intervention group appeared to report a higher number of HIV risk behaviors than the HP control group at baseline, but the finding was not statistically significant.

The intervention effect on the slope (or change over time) was examined next. For slope 1, baseline to post-intervention, those participants in the ES-HIM intervention group appeared to have a decrease in their HIV risk behavior by 1.15 log units more than those who were in the HP control group ( $p=.10$ ). While a decrease in HIV risk behavior seems to have occurred in the intervention group, the finding was not statistically significant.

However, the intervention effect on slope 2, from post-intervention to six-month post-intervention follow-up, did show a statistically significant change. For slope 2, those in the ES-HIM intervention group show a 1.11 log unit increase ( $p\leq.01$ ) in HIV risk behavior post-intervention when compared to HP control condition participants. In other words, when looking at the count of HIV risk behavior on the original scale in Figure 9-11, those in ES-HIM appear to increase from less than one unprotected sexual act at post-intervention to just under two vaginal and/or anal sexual acts without use of a condom at the 6-months post-intervention follow-up. However, this statistically significant change may also be interpreted as those in the ES-HIM intervention group leveling off post-intervention and maintaining this initial decrease in HIV risk behavior.



## **Conclusion**

In terms of the second research question, determining the relationship between internalized racism and internalized homophobia and HIV risk behavior over time among the ES-HIM intervention and Health Promotion control condition participants, none of the hypotheses were supported. First, the hypotheses (8a, 8b, 8c) that the slope of the decrease over time in both internalized racism and internalized homophobia, as well as HIV risk behavior, would be lower for ES-HIM participants than for HP control condition participants, were tested. For internalized racism, there was neither a statistically significant reduction in the internalized racism score for the entire group across time, nor was there indication of an intervention effect on internalized racism across time. Therefore, hypothesis 8a was not supported.

For internalized homophobia, however, there was a statistically significant reduction in the internalized homophobia score across the four time points for the group as a whole. However, this reduction in internalized homophobia did not appear to differ by group, thus not providing indication of an intervention effect. Hypothesis 8b, therefore, was also not supported.

For HIV risk behavior, the group as a whole showed a statistically significant reduction in HIV risk behavior from baseline to post-intervention, but this reduction did not continue from post-intervention to the six-month post-intervention follow-up. In terms of an intervention effect, there did not appear to be a statistically significant difference in change in HIV risk behavior from baseline to post-intervention by intervention group. However, HIV risk behavior among those in the ES-HIM intervention group appeared to level off from post-intervention to the six-month post-intervention follow-up when compared to the HP control condition group, and this finding was statistically significant. Therefore, hypothesis 8c was also not supported.

Two final hypotheses (8d, 8e), to test the mediating effects of internalized racism and internalized homophobia on HIV risk behavior across both the intervention and control conditions, were initially proposed. Parallel latent growth modeling was suggested to test these hypotheses, as it was postulated that the intervention would predict change over time in internalized racism or homophobia, which in turn would predict change over time in HIV risk behavior. However, these analyses were not conducted after all. The prior latent growth modeling analyses indicated that participation in the ES-HIM intervention did not consistently result in a statistically significant change in internalized racism, internalized homophobia, or HIV risk behavior over time, above and beyond that of the HP control condition group. In fact, the statistically significant changes in internalized homophobia and HIV risk behavior occurred for the group as a whole, not within one intervention condition. Therefore, it would not be appropriate to test the mediating effects of these forms of internalized oppression on HIV risk behavior across the conditions because intervention effects did not exist. Because of this, the final two hypotheses (8d and 8e) were not tested.

## Chapter 10: Discussion

The following section discusses the results from two separate research questions and their associated hypotheses. The first portion elaborates on the results for the first research question, which are covered in chapters 6 and 7. The second portion discusses the results for the second research question, which are highlighted in chapter 9.

### **Research Question 1: Testing the Minority Stress Model and Theory of Intersectionality**

#### **Minority Stress Model**

The concept of minority stress posits that individuals who are members of minority groups are exposed to and impacted by stress specifically caused by stigma associated with membership in a minority social category (Brooks, 1981; Meyer, 2003). More specifically, the minority stress model proposes that experiences of actual prejudicial events, perceived stigma, and internalized oppression can significantly impact major health outcomes (Meyer, 1995; 2003) including psychological distress (Meyer, 1995), and risk behaviors such as unprotected intercourse and substance use (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008).

The first research question for this dissertation aimed to explore the relationship between indicators of minority stress and HIV risk behavior among a sample of HIV-positive non-gay identifying Black men who have sex with men and women and who have histories of childhood sexual abuse. Hypotheses were posed to test components of the minority stress model, as well as several concepts associated with the theory of Intersectionality, and their direct relationship with HIV risk behavior. In short, research hypotheses asked whether increased stress was associated with increased risk behavior. In addition, the roles psychological distress and social support play

in the relationship between indicators of minority stress and HIV risk behavior were also explored.

Overall, the first hypothesis (1a), that each indicator of minority stress associated with the minority stress model (actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia) would be positively independently associated with HIV risk behavior, was not supported. Both actual events of racial/ethnic discrimination and internalized homophobia were not statistically significantly associated with HIV risk behavior; however, internalized racism was.

### **Actual Events of Racial/Ethnic Discrimination**

First and foremost, the lack of a relationship between actual events of racial/ethnic discrimination and HIV risk behavior may be due to the unique nature of this study population. While experiencing events of racial/ethnic discrimination may increase minority stress and thus contribute to participation in HIV risk behavior among some groups, this relationship did not appear to be present among this sample.

However, two additional explanations may also help to understand the lack of a relationship between experiencing events of racial/ethnic discrimination and HIV risk behavior among this sample. First, the amount of perceived events of racial/ethnic discrimination among this sample was relatively low (mean=26.21 with a range of 0-100). The low overall score on this measure may be impacted by the age of the sample, which was slightly older (mean=46 years). The link between age and perceptions of racism was highlighted in a systematic review on perceptions of racism and health; in this review, evidence suggested that as people age, they tend to report lower levels of perceived racism (Paradies, 2006).

Second, the timing of this intervention and the overall cultural shift in perceptions of race

may have impacted participant views on racism, and thus reduced the number of reported experiences of racial discrimination. The study took place between 2007 and 2011; at this time, President Barack Obama was elected, which marked the first time a Black man had taken office in the U.S. Although empirical evidence supporting this claim is beyond the scope of this dissertation, it is posited that such a monumental and historical achievement for Blacks in the U.S. may have influenced the overall perceptions and experiences of racially-motivated discrimination among this sample.

While this indicator of minority stress, actual events of racial/ethnic discrimination, was not associated with HIV risk behavior among this sample, future research should consider accounting for differences between age groups, as well as exploring how historical race- and ethnicity-related milestones impact indicators of minority stress and in turn, HIV risk behavior.

### **Internalized Homophobia**

In terms of internalized homophobia, the lack of a direct relationship with HIV risk behavior may be, again, due to the fact that this indicator of minority stress simply may not play an important role in HIV risk behavior among this sample of HIV-positive Black non-gay identifying MSMW with histories of childhood sexual abuse. However, the findings from this dissertation also indicate that social support plays a strong role in the relationship between internalized homophobia and HIV risk behavior, possibly rendering the direct relationship between these two variables less important. The salience of social support was highlighted in several ways: first, internalized homophobia was not significant when added to the full model with all indicators of minority stress. However, once social support was added to the model, internalized homophobia became significant. Second, the interaction between internalized homophobia and social support was significant, and when this interaction term was added to a

full model with other indicators of minority stress, social support, and childhood sexual abuse, the simple main effect of internalized homophobia became non-significant. These results imply that the role of social support may be especially important when trying to understand the impact of internalized homophobia on HIV risk behavior; though relevant here, a detailed discussion on the moderating effect of social support on the relationship between internalized homophobia and HIV risk behavior is provided in a later section.

### **Internalized Racism**

While a direct relationship did not exist between HIV risk behavior and actual events of racial/ethnic discrimination or internalized homophobia, the finding that internalized racism was associated with HIV risk behavior is both unique and interesting. First, scarce literature has explored the direct impact of internalized racism specifically on HIV risk behavior. However, support for a direct association between internalized racism and other health outcomes have been identified among African American women, including positive associations with alcohol consumption (Taylor & Jackson, 1990) and psychological distress (Taylor, Henderson, & Jackson, 1991; Taylor & Jackson, 1991). In terms of Black MSM, qualitative data have provided some anecdotal support for a link between internalized racism and HIV risk behavior. For instance, in a study by Wilson and Moore (2009), a major theme that arose from a series of semi-structured one-on-one and small group interviews with AIDS program directors, health department staff members and community-based organization leaders who work with Black MSM was the idea that stigma, especially racism, appears to be something many Black MSM internalize, which prevents them from engaging in health-seeking behaviors, such as HIV testing.

However, while it was interesting that internalized racism was associated with HIV risk

behavior, it was very unexpected that it had a negative relationship, which does not support the original hypothesis. More specifically, as the internalized racism score decreased, HIV risk behavior increased among this sample; or conversely, as the racial pride score increased, HIV risk behavior also increased. Because this sample was highly marginalized in a number of different ways, it could be that internalized racism/racial pride simply played out differently in the relationship between this indicator of minority stress and HIV risk behavior within this group. However, there are also three additional potential explanations for this finding.

The first and possibly most important potential explanation for the negative relationship between higher racial pride scores/lower internalized racism scores and HIV risk behavior is that the scale used to assess internalized racism in this study, The Brief Scale of Racial Pride, is a measure of racial pride, not of internalized racism. There has been considerable debate on how to conceptualize, as well as measure the various elements of Black identity and perceptions and experiences of racism. Racial identity and the discrimination associated with it are multidimensional, and thus it has been highlighted that different measures can identify very different results (Brand, Ruiz, & Padilla, 1974). Therefore, it has been suggested that researchers attempt to pick the measure that best answers the research question (Burlew & Smith, 1991). For the purposes of this dissertation, it was believed that a lack of racial pride could be a result of an endorsement of negative beliefs about Black people, and thus could be an indication of internalized racism. However, this measure may be assessing only racial pride (and conversely, a lack of racial pride), and not necessarily tapping into the participants' internalized racism. While it is was believed that the measure of racial pride would be a decent proxy for assessing internalized racism, it is acknowledged now that this scale is an inadequate measure of internalized racism. Overall, the lack of a validated measure of internalized racism in this study

is a significant limitation and may have impacted the interpretation of these findings. Therefore, since the findings related to racial pride and HIV risk behavior within this dissertation are particularly interesting, further publications that utilize this dataset will need to depart from the minority stress model framework, which explores internalized oppression, and instead focus specifically on the unique relationship between racial pride and HIV risk behavior among this sample.

Because the measure used to assess internalized racism was not deemed appropriate, further discussion on this variable, for the most part, will be framed as an assessment of the relationship between racial pride and HIV risk behavior. Therefore, the second potential explanation for why an association between higher racial pride scores and increased HIV risk behavior was found may be partially explained by the sexual networks and sexual partner selection of Black MSM. For instance, Black MSM have been posited to engage in sexual activity primarily with other Black MSM (Berry, Raymond, & McFarland, 2007; Bingham et al., 2003). Because Black MSM tend to partner with other Black MSM, this may indicate that these men have a higher sense of racial pride, preferring to engage in sexual activity with members of their own racial group.

Furthermore, Black MSM may have a perception that members of their own racial group are lower risk, and thus the desire to utilize safer sex practices may be minimized. Although research on the perceived HIV risk among Black MSM has yet to be carried out, a study that explored the sexual practices among resident physicians and nonmedical graduate students found that despite the medical residents having a high knowledge of HIV risk, they engaged in unsafe sex at rates equal to the nonmedical graduate students (Williams & Goebert, 2003). It was postulated that despite knowledge of HIV risk being high among the resident physicians, they



may have perceived their peers to be lower risk and thus engaged in high-risk sexual behaviors. Although HIV knowledge may vary among Black MSM, this study indicates that when HIV risk is perceived to be low amongst peers, there may be a higher likelihood of engagement in HIV risk behaviors.

Further, and specifically in terms of Black MSM, a study on partner selection based on HIV sero-sorting found that HIV-negative Black MSM were more likely than HIV-negative White MSM to report having unprotected anal intercourse with partners whose status was unknown (Eaton, Kalichman, & Cherry, 2010). Therefore, the finding in this dissertation may be explained by the fact that Black MSM who have a higher sense of racial pride may feel more comfortable engaging in sexual intercourse with other Black MSM, may perceive the HIV risk of other Black MSM to be low, and thus may be more willing to engage in HIV risk behaviors with Black partners of unknown HIV status.

The third potential explanation for the association between higher racial pride and increased HIV risk behavior is that an increased sense of racial pride may be associated with nuanced perceptions of masculinity among Black MSM and MSMW; further, these perceptions of masculinity may in turn be associated with engagement in HIV risk behavior. Traditionally, “masculinity” has been associated with acting aggressive, rejecting “feminine characteristics,” exhibiting stoicism, having a preoccupation with sex, demonstrating an increased sex drive, serving as an economic provider, and providing protection to the home and family (O’Neil, 1990; Pitt, 2009; Rasheed & Rasheed, 1999). However, because of a history of oppression, many Black men do not have access to some of the more traditional assets that characterize a successful and masculine man, such as money, status, and power (Franklin, 1986; 1994). Therefore, endorsing masculine traits that are accessible may be particularly important to Black

men (Bush, 1999; Majors & Billson, 1992; Reese, 2004). For instance, a qualitative study found that the Black MSM and MSMW in the study's focus groups characterized masculinity through the following traits: acting "hard," exhibiting aggression, showing little emotion, and engaging in sex, especially with women (Kisler & Williams, 2012). Further, Pleck, Sonenstein, and Ku (1993) found that among a sample of Black, Latino, and White youth, those who endorsed more traditional ideas of masculinity were more likely to engage in HIV risk behaviors, such as having more sexual partners and using condoms with less consistency. Therefore, valuing masculinity may indicate a high sense of racial pride among Black men; and if Black MSM and MSMW highly value masculinity, they may be more likely to engage in HIV risk behavior, as this characteristic of masculinity is more accessible to this marginalized population.

### **Psychological Distress**

As highlighted throughout this dissertation, much of the previous literature has established a strong relationship between indicators of minority stress and psychological distress (Newcomb & Mustanski, 2011; Paradies, 2006), as well as a strong link between psychological distress and HIV risk behavior (Reisner et al., 2009; Rosario, Hunter, Maguen, Gwadz, & Smith, 2001). Because of this, preliminary analyses were carried out in an attempt to rule out psychological distress as a moderator, so as to examine, with confidence, a direct relationship between indicators of minority stress and HIV risk behavior, which was the overarching purpose of this dissertation.

Overall, the results from the preliminary analyses regarding the role psychological distress plays in understanding the impact of indicators of minority stress on HIV risk behavior (hypotheses 1e.1., 2a., and 3a.), were varied and inconclusive. However, given the complexity of psychological distress and its many possible relationships to indicators of minority stress and

HIV risk behavior, it was decided to remove psychological distress from the overall model so as to explore a direct relationship between indicators of minority stress and HIV risk behavior. The decision to remove psychological distress from the final model was based on the results from several preliminary analyses: first, psychological distress was highly and moderately correlated with two of the three indicators of minority stress (namely actual events of racial/ethnic discrimination and internalized racism, respectively); second, psychological distress did not prove to have a statistically significant direct relationship with HIV risk behavior; and third, moderation was only moderately supported between the indicators of minority stress, psychological distress, and HIV risk behavior.

However, it is important to also highlight that evidence of moderation did exist between psychological distress and both actual events of racial/ethnic discrimination and internalized racism. Specifically, the interaction terms between psychological distress and the two aforementioned indicators of minority stress were significant, and in the full models, which included all indicators of minority stress, as well as social support, CSA, and psychological distress, the actual events of racial/ethnic discrimination interaction term was also found to be marginally significant ( $p=.052$ ).

Therefore, while the focus of this dissertation was to examine the direct relationship between indicators of minority stress and HIV risk behavior, the findings supported both theories related to the relationship between indicators of minority stress, psychological distress, and HIV risk behavior. The first and more traditional conceptualization, that psychological distress would serve as a moderator in the relationship between experiences and perceptions of minority stress and HIV risk behavior was partially supported, as evidence of moderation existed between psychological distress and both actual events of racial/ethnic discrimination and internalized

racism. This hypothesized relationship dominates the majority of the early literature on minority stress, and assumes that engagement in HIV risk behavior is magnified as a consequence of poor mental health status, which results from increased perceptions of minority stress, rather than a direct consequence of minority stress itself (Diaz & Ayala, 2001; Gold & Skinner, 1992; Rosario, Hunter, Maguen, Gwadz, & Smith, 2001; Stall, Hays, Waldo, Ekstrand, & McFarland, 2000).

The other conceptualization, however, posits that indicators of minority stress have a direct relationship with HIV risk behavior, and that unprotected intercourse may be serving as a maladaptive coping response to these experiences of minority-related stress (Calzavara et al., 2012; Fields, et al., 2013). This conceptualization was only supported in terms of the relationship between internalized racism/racial pride and HIV risk behavior. Evidence in support of this theory was highlighted by Fields and colleagues (2013) who found that among a sample of HIV-positive African American MSM, those who had experienced a discrimination-related personal trauma during their lifetime were more likely to have had unprotected anal intercourse with any male partner and/or an HIV-positive male partner in the last three months, than those who had not experienced such trauma.

It is also important to highlight that exposure to indicators of minority stress may serve in a mediating capacity between marginalized social status and psychological distress (Meyer, 2003). Hatzenbuehler (2009) proposes a psychological mediation framework to extend this idea; basically, this framework highlights a number of psychological processes (i.e., coping/emotion regulation, social/interpersonal, and cognitive factors) that are activated by indicators of minority stress, which in turn lead to adverse mental health outcomes such as psychological distress. Although Hatzenbuehler (2009) elaborates on mediation, he also underscores the importance of

considering additional important moderators, namely race/ethnicity, sex, age/developmental influence, and identity-specific processes (i.e., having a fully integrated identity). However, Hatzenbuehler's work focused on understanding the relationship, specifically, between indicators of minority stress and psychological distress, not between indicators of minority stress and HIV risk behavior, which was the focus of this dissertation. Therefore, while it is beyond the scope of this dissertation, it is suggested that future research consider the complex role psychological distress may play (e.g., mediation, moderation) in terms of minority stress, as well as its relationship to additional outcomes such as HIV risk behavior.

Finally, it is important to point out that psychological distress in this dissertation was conceptualized through symptoms of depression; however, additional manifestations of psychological distress such as anxiety and posttraumatic stress disorder may play an important role in understanding the relationship between indicators of minority stress and HIV risk behavior, especially among this unique population. Therefore, further research exploring the role psychological distress, in its many forms, may play in the relationship between indicators of minority stress and HIV risk behavior, especially among diverse and highly marginalized populations, is highly warranted.

Again, the focus of this dissertation was to explore the direct relationship between indicators of minority stress and HIV risk behavior. While it is acknowledged that psychological distress is an important variable of interest when examining such relationships, a detailed exploration of the role psychological distress plays in the relationship between indicators of minority stress and HIV risk behavior was beyond the scope of this dissertation. However, for future publications utilizing this data, psychological distress will be operationalized in more

comprehensive and explicit ways, as well as explored and included in analyses as deemed appropriate.

### **Theory of Intersectionality**

While the minority stress model assists in delineating pathways by which stigma and stress impact HIV risk behavior among Black MSM and MSMW, the theory of Intersectionality serves as a philosophy or perspective which highlights the profound importance of examining the complex ways in which multiple indicators of minority stress stemming from multiple marginalized identities contribute to poor health outcomes. To better understand how multiple indicators of minority stress can impact HIV risk behavior, three multicultural feminist theoretical perspectives were explored among this sample of HIV-positive Black men who have sex with men and women and who have histories of childhood sexual abuse: primary oppression, additive, and interactionist.

**Primary oppression perspective.** The first perspective, primary oppression, suggests that even if an individual inhabits more than one minority status (i.e., Black MSM), only the stress associated with one of the minority statuses is the most important and has the most significant impact on health outcomes (Moradi & Subich, 2003). To test this perspective, the fourth hypothesis (4a.1) for Research Question 1 posited that when combined in one model, only one of the indicators of minority stress (events of racial/ethnic discrimination, internalized racism, or internalized homophobia) would be positively associated with increased HIV risk behavior, while the other two indicators would not be statistically significantly associated with HIV risk behavior. This hypothesis was not supported. While actual events of racial/ethnic discrimination did not maintain statistical significance when added to any of the models, internalized racism maintained statistical significance in all models, and internalized

homophobia became statistically significant in Model 4 and maintained statistical significance in the full model, even when controlling for all other variables. These findings highlight that one indicator of minority stress was not necessarily the most important determinant of HIV risk behavior among this sample. Instead, both internalized racism and internalized homophobia contributed to HIV risk behavior, controlling for other variables, in some unique way.

The negative association between internalized racism/racial pride and HIV risk behavior was unexpected both in the bivariate analysis and in the full model, and has been discussed previously in this chapter. However, it was not surprising to find a positive link between internalized homophobia and HIV risk behavior when this indicator of minority stress was added to the full model controlling for other covariates. Specifically within the Black community, it has been found that African Americans tend to have more negative views on homosexuality than their white counterparts. Specific groups within the Black community, such as low-income women and highly religious men, have been found to be the most intolerant (Lemelle & Battle, 2004). Previous studies have posited that African American women have negative attitudes toward African American MSM because they see themselves as competing for a limited number of male partners (Lemelle & Battle, 2004). Also, the Black church, which can be a very important component of the Black community, tends to perpetuate anti-gay sentiments. While the Black church serves as a protective environment from the racial discrimination experienced in the broader community, it can also be a highly heterosexist institution that devalues African American MSM and reinforces homophobia (Lemelle & Battle, 2004).

By receiving messages from the broader Black community that homosexuality is looked down upon, it is easy to understand why some Black MSM may internalize some of the negative beliefs about their same-sex sexual behavior. In fact, Black MSM have been found to report

higher levels of internalized homophobia in comparison to MSM of other racial/ethnic groups (Kenamer, Honnold, Bradford, & Hendricks, 2000; Montgomery, Mokotoff, Gentry, & Blair, 2003; Stokes & Peterson, 1998). Furthermore, increased internalized homophobia has been linked to a lower awareness of available HIV prevention services, as well as fewer changes in a person's beliefs about their ability to use condoms (Huebner, Davis, Nemeroff, & Aiken, 2002). Although a direct link between internalized homophobia and HIV risk behavior was not found, internalized homophobia, in combination with other indicators of minority stress, social support, and CSA, did appear to impact HIV risk behavior among this sample.

**Additive perspective.** While the primary oppression perspective was not supported in this study, the second perspective, additive, was fully supported (hypothesis 4b.1.). An additive relationship posits that the minority stress accompanying each individual stigmatized minority status (i.e., perceptions or experiences of racism and homophobia) combines in an additive fashion, which then has a direct negative effect on health (Moradi & Subich, 2003). Among this sample, when actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia were combined in one model with social support and CSA, more of HIV risk behavior was explained when the indicators of minority stress were together than any individual indicator of minority stress on its own.

The fact that the primary oppression perspective of the theory of Intersectionality was not supported, but the additive perspective was, illuminates the complexity of how the stress associated with multiple minority statuses may impact HIV risk behavior in this population. Among this sample of men who are both racial/ethnic and sexual minorities, the combination of internalized racism and internalized homophobia, controlling for other factors, explained more of HIV risk behavior than just one indicator of minority stress alone. These findings counter other



studies that have examined multiple indicators of minority stress specifically on mental health outcomes among racial/ethnic and sexual minorities. For example, three studies found support only for the primary oppression perspective when internalized homophobia and internalized racism were combined in one model predicting mental health outcomes; in all three studies, one with an African American LGBTQ sample (Szymanski & Gupta, 2009a), one with a sample of African American sexual minority women (Szymanski & Meyer, 2008), and one with a sample of Asian American LGBTQs (Szymanski & Gupta, 2009b), only internalized homophobia was found to be statistically significant when included in a full model with internalized racism predicting mental health outcomes. However, among the very unique sample in this study, a group of Black behaviorally bisexual men who are HIV-positive and have histories of CSA, the combination of both internalized racism and homophobia together were better at explaining HIV risk behavior than a single indicator of minority stress.

The complexity of multiple stigmatized identities and the perceived discrimination that may accompany these identities is especially illuminated among this study population. Black LGBTQ people have reported a sense of invisibility in the broader white gay community, as well as a lack of support from the general Black heterosexual community (Greene, 1997; Loiacano, 1989). As Mays and colleagues put it: “African American gay men and MSM are likely to experience prejudice, discrimination, or even threats of physical violence based both on their status as African Americans within the gay White community and as gay or MSM in the Black community” (2004, p. 85). Therefore, seeking comfort and support in either community may carry with it the potential for perceived discrimination based on one’s additional stigmatized identity. Because these men must navigate multiple indicators of minority stress based on

membership in at least two stigmatized communities, it is easier to understand how the additive perspective may better suit the experiences of this study population than the primary perspective.

**Interactionist perspective.** The third perspective of the theory of Intersectionality, interactionist, builds on the additive perspective but also posits that one indicator of minority stress (i.e., perceptions of racism) may interact with and intensify another indicator of minority stress (i.e., perceptions of homophobia) within an individual who has membership in multiple minority groups, thus resulting in worse health outcomes. In order to test the seventh hypothesis (7a) of Research Question 1, whether the interaction between internalized racism and internalized homophobia would account for variance in HIV risk behavior beyond that accounted for by each of their independent effects, an interaction term of internalized racism and internalized homophobia was created. First, the interaction term was tested in a two-way model with HIV risk behavior only, and then the interaction term was introduced into the full, final model with all indicators of minority stress, social support, and CSA.

When the interaction term was introduced into the full model, both simple main effects became statistically significant. This indicates that despite the interaction term being included in the model, the effects of internalized racism and internalized homophobia continue to contribute to HIV risk behavior when controlling for other variables, as they did in the original full and final model. Furthermore, the interaction term maintained its non-significance, which indicates that an interaction effect was not present.

In previous work with samples of people who inhabit multiple stigmatized identities, the interactionist perspective has also not been supported; namely, an interaction between internalized racism and internalized homophobia on mental health outcomes was not found to be statistically significant in a sample of African American LGBTQs (Szymanski & Gupta, 2009a), a

sample of African American sexual minority women (Szymanski & Meyer, 2008), a sample of Asian American LGBTQ persons (Szymanski & Gupta, 2009b), and a sample of primarily white sexual minority women (Szymanski & Kashubeck-West, 2008). Therefore, this finding is not surprising. It may be that although perceptions and experiences of both internalized racism and internalized homophobia seem to impact HIV risk behavior in this sample, these two indicators of minority stress may operate very differently and thus not have much of an impact on each other.

Also, it is important to note that sample restrictions and limitations in methodology may have contributed to insufficient support of the interactionist perspective. First, the small sample size may have made it difficult to detect an interaction between perceptions of internalized racism and internalized homophobia. Second, the complex relationship between these two indicators of minority stress and their relationship to HIV risk behavior may be better teased apart and explored through other means of analysis, such as qualitative or comparative methods (Szymanski & Gupta, 2009a).

### **Childhood Sexual Abuse**

Although a history of CSA was an eligibility criterion for entry into the study, there seemed to be a difference between those who had experienced forced receptive oral or anal penetration versus those who had not. In this sample, just under half (49.6%) had experienced forced receptive penetration as part of their sexual abuse as children. Also, forced receptive penetration as part of the CSA experience was directly statistically significantly associated with HIV risk behavior, thus supporting hypothesis 1d.1. Further, there was a 44.4% [95% CI (25%, 67%)] increase in HIV risk behavior for men in this sample who were forcefully penetrated during their CSA versus men who were not. Finally, once CSA was added to the full model with

all indicators of minority stress and social support, it was statistically significant as well as helped explain HIV risk behavior, when controlling for all other variables, better than all subsequent models without CSA incorporated in.

This finding was not surprising, as a well-established link already exists between having a history of CSA and engagement in high-risk sexual behaviors. For instance, previous studies have found that in comparison to non-abused men, abused men were more likely to engage in high-risk sexual behaviors, have more lifetime sexual partners, use condoms less frequently, have higher rates of sexually transmitted diseases, and have up to a two-fold increase in the rate of HIV (Burns-Loeb et al., 2002; Holmes & Slap, 1998). More specifically, gay and bisexual men with a history of CSA have been more likely to report unprotected anal intercourse, more sexual partners and events, and more sexual episodes under the influence of drugs, than their non-abused counterparts (Jinich et al., 1998; Mimiaga et al., 2009; Welles et al., 2009).

While much of the literature has explored the impact of a history of CSA on adult sexual risk behaviors, less has been done in terms of exploring the impact of specific abuse characteristics on HIV risk behavior. It has been proposed that abuse that is more severe or occurs over a longer period of time may have a more destructive impact on a number of health outcomes (Liu et al., 2006; Myers et al., 2006). In a study conducted with a community sample of 835 women, a composite score that assessed CSA severity by taking into account a number of abuse-specific characteristics explained the data better in terms of predicting negative sexual health experiences and revictimization than a binary measure of CSA history (Loeb, Gaines, Wyatt, Zhang, & Liu, 2011).

In this sample, those men who had experienced forced receptive penetration during their CSA were more likely to engage in HIV risk behavior than those who had not. Forced

penetration, as opposed to other experiences of CSA such as fondling, attempted penetration, or intercourse with significantly older partners where “consent” was given by the victim, appears to have a differential impact on HIV risk behavior among this sample. It is possible that the forced nature of the sexual act may contribute to an overall loss of a sense of control and feelings of helplessness, and thus may be more traumatizing. A history of trauma, such as physical or sexual abuse during childhood, has been found to be a key risk factor for HIV acquisition among a sample of women of color (Wyatt et al., 2002).

In addition, the receptive nature of the forced penetration may contribute to emasculating the victim, which may impact HIV risk behavior. As previously discussed, among a population with a higher overall sense of both racial pride and internalized homophobia and a rejection of the “gay” label, the desire to maintain a masculine and “heterosexual” identity may be of the utmost importance (Kisler & Williams, 2012). According to Malebranche and colleagues, “Black MSM may not see same-sex behaviors as ‘homosexual’ as long as one maintains the insertive role during anal and oral sex” (2009). In other words, the fact that a man is engaging in sexual activity with another man is less important than both the type of sexual activity and by whom the sexual activity is being carried out. Being penetrated has been historically associated with being feminine or a woman, both qualities which can be stereotypically associated with homosexuality and a lack of masculinity. For a population that is non-gay identifying and tends to exhibit higher rates of internalized homophobia, having been sexually abused as a child coupled with having experienced forced penetration as part of that abuse, may result in increased psychological distress or even increased HIV risk behavior. As previously noted, increased psychological distress, including moderate depression and anxiety, has been linked to increased

HIV risk behavior, especially among gay and bisexual men (Reisner et al., 2009; Rosario, Hunter, Maguen, Gwadz, & Smith, 2001).

Finally, it is important to point out the men in this sample may have experienced a number of other traumas, both in childhood and as adults; however, only the distal trauma of childhood sexual abuse was explored in this dissertation. Because additional distal traumas and more proximal traumas, such as violence and other forms of abuse, may also play a significant role in the relationship between perceptions and experiences of minority stress and HIV risk behavior, future research, especially with highly traumatized populations, is warranted.

### **Social Support**

To better understand the role social support plays between indicators of minority stress and HIV risk behavior among this sample of HIV-positive Black non-gay identifying MSMW with histories of CSA, social support was both included in the multivariate analyses and explored as a moderator. In this sample, a one standard deviation unit increase in the social support score was associated with a 19% increase in HIV risk behavior ( $SD=14.40$ ). In other words, those who reported higher social support scores also tended to report the highest HIV risk behavior. Furthermore, when added into a full model with multiple indicators of minority stress and CSA, social support maintained statistical significance implying some sort of importance in understanding the link between indicators of minority stress, social support, and HIV risk behavior among this sample.

The role social support plays in the overall health and risk behaviors of Black MSM has been inconclusive, yet deemed important for further exploration. On the one hand, substantial evidence has shown that social support can be beneficial for psychological and physical health (Allgower, Wardle, & Steptoe, 2001; Symister & Friend, 2003). Further, social support has been

defined as a resiliency factor that helps to buffer some of the negative impact homophobia and racism may have on Black MSM (Peterson & Jones, 2009).

On the other hand, and as was the case for this sample, social support has also been shown to contribute to negative health outcomes and risk behaviors, especially among Black MSM. In terms of the findings from this dissertation, those men who endorsed higher scores on the social support scale also reported higher levels of HIV risk behavior. These counterintuitive associations between social support and sexual risk behavior among Black MSM have also been reported elsewhere (Peterson & Jones, 2009). For instance, among a sample of Black and White MSM, the Black MSM who exhibited lower levels of social support also reported lower levels of HIV risk behaviors; however, the White MSM who reported lower levels of social support reported higher levels of HIV risk behaviors. Though unexpected, this difference was attributed to variations in the social support systems of Black and White MSM, as well as potential deficiencies in the measures of social support used in the study (Ostrow et al., 1991).

Further, a selective review on coping with racism concluded that there is minimal support in the quantitative literature for social support buffering the impact of perceptions of racism on psychological health; furthermore, there has been mixed support for a buffering effect on indices of physical health as well (Brondolo, Brady, Pencille, Beatty, & Contrada, 2009). More importantly, the authors concluded that social support may be beneficial for instances where a lower level of stress exists; however, social support may actually exacerbate psychological and physical health-related issues with higher levels of stress (Brondolo, Brady, Pencille, Beatty, & Contrada, 2009).

In this population where stress in general is high, both from experiences with racism and homophobia, as well as overall life circumstances (e.g., being HIV-positive, low-income, having

a history of CSA, etc.), the presence of social support may actually be increasing engagement in risk behaviors. Therefore, among this sample of HIV-positive Black MSMW who have histories of childhood sexual abuse, increased amounts of social support may actually be more harmful, despite general beliefs about social support serving as a resiliency factor.

In addition, the kinds of social support these men are receiving, as well as who this social support is coming from, may be particularly important factors to consider. Broadly, social support has been defined as having access to friends, family, or other network members who can provide love, concern, and care, as well as direct assistance in coping with stressful and/or difficult situations (Sarason, Levine, Basham, & Sarason, 1983). Although broadly understood, social support continues to be a multi-faceted and complex construct that can be defined in a number of ways. For instance, social support has been conceptualized in ways such as instrumental support (e.g., receiving assistance with a problem), tangible support (e.g., receiving resources such as money or goods), informational support (e.g., receiving advice), and emotional support (e.g., receiving reassurance) (Schwarzer, Dunkel-Schetter, & Kemeny, 1994).

In this dissertation, the measure used to assess social support, the Multidimensional Scale of Perceived Social Support, was adjusted to only assess social support received directly from friends and family. This sample had a mean score of 46.41, with an overall range of 10-60, which demonstrates a relatively high overall sense of social support among this sample. The vast majority of participants for this study were drawn from local community-based organizations that work with very high-risk populations. Therefore, it is possible that the men in this sample perceived high amounts of social support from friends, most of whom may have come from these community-based organizations and who may have also been engaging in high amounts of risk behavior themselves, including HIV risk behavior. If the norms of the men from whom the



participants in this study were receiving social support endorsed HIV risk behavior, then the increased social support may actually encourage HIV risk behavior, as was evidenced through these findings.

In addition, the specific social support needs were not assessed among this population; in other words, while an individual may score high on the social support scale used in this dissertation, the types of social support assessed may not be the types of social support actually needed by the participant. For instance, if an individual reports that they have high emotional support but are most in need of tangible support, then a score reflecting high emotional support would not adequately reflect the overarching social support needs of that individual. Therefore, the slightly counterintuitive findings that higher scores on the social support scale were associated with increased HIV risk behavior may be partially attributed to the lack of a specific and nuanced assessment of the comprehensive social support needs of the sample.

Because social support is traditionally considered protective, and more recent research as well as the findings in this dissertation found a positive relationship between social support and HIV risk behavior among Black MSM, it was decided to further tease apart the role social support may play in the relationship between indicators of minority stress and HIV risk behavior in this sample.

### **Social Support as a Moderator between Discrimination and HIV Risk Behavior**

In order to test the fifth and sixth hypotheses (5a and 6a) of Research Question 1 (social support as a moderator between minority stress and HIV risk behavior), interaction terms of social support and each indicator of minority stress (actual events of racial/ethnic discrimination, internalized racism/racial pride, and internalized homophobia) were created. First, each

interaction term was tested in a two-way model predicting HIV risk behavior only, and then each interaction term was introduced into the full, final model with additional covariates.

Both hypotheses 5a and 6a were not supported, as social support did not moderate the relationship between each indicator of minority stress and HIV risk behavior. The indicator that represented the more distal process of minority stress, namely actual events of racial/ethnic discrimination, did not appear to be related to HIV risk behavior and thus social support did not play a role in its relationship to HIV risk behavior. However, the relationships between HIV risk behavior and the indicators that represented the more proximal processes of minority stress, internalized racism/racial pride and internalized homophobia, appeared to be moderated by social support. Because evidence of moderation existed for two of the three indicators of minority stress, it was deemed important to further explore these relationships.

**Internalized racism/racial pride.** Among this sample of Black HIV-positive non-gay identifying MSMW who have histories of CSA, social support was not only an important moderator between HIV risk behavior and both internalized racism/racial pride and internalized homophobia, but these relationships behaved in slightly counterintuitive ways. Specifically in terms of internalized racism/racial pride, those who reported the lowest social support scores and the highest scores on internalized racism (or lowest scores on the racial pride scale), were engaging in higher HIV risk behavior. This finding tends to better match the patterns reported for White MSM in the previously mentioned study, where White MSM with lower social support also engaged in the highest levels of HIV risk behavior (Ostrow et al., 1991). This sub-group may best match the more traditional perspective that increased social support buffers the stress associated with higher levels of internalized racism (Peterson & Jones, 2009), and thus contributes to better overall health (Allgower, Wardle, & Steptoe, 2001; Symister & Friend,

2003); or in this case, that due to low levels of social support, the participants were not buffered from the negative impact of internalized racism (or lower levels of racial pride) and thus were engaging in higher HIV risk behavior.

However, for those who reported higher levels of social support and lower internalized racism scores (or higher racial pride scores), the HIV risk behavior was the highest for all groups of reported levels of social support. Although much of the literature has suggested that social support should be protective and enhance engagement in positive health behaviors, this finding shows that social support may play out differently than expected among this unique population, especially if the sense of racial pride is high.

**Internalized homophobia.** Findings on the relationships between social support, internalized homophobia, and HIV risk behavior also presented interesting and unique patterns. Among the group with the lowest scores on the social support scale, an increase in the internalized homophobia score resulted in the most significant decrease in HIV risk behavior. This finding makes logical sense, as those who have high internalized homophobia may not feel comfortable building a social support network out of fear of disclosure of sexual orientation, thus resulting in lower levels of reported social support, especially among other gay individuals (Nungesser, 1983). As previously stated, levels of internalized homophobia have been found to be higher among Black MSM than MSM of other racial groups (Kennamer, Honnold, Bradford, & Hendricks, 2000; Montgomery, Mokotoff, Gentry, & Blair, 2003; Stokes & Peterson, 1998). Furthermore, having a higher sense of internalized homophobia may result in lower levels of sexual activity overall, as discomfort with one's own sexuality can impact engagement in same-sex sexual relationships. Therefore, lower levels of HIV risk behavior among those Black MSM

who report lower social support scores and higher internalized homophobia scores is a logical finding.

However, among those who reported higher than average social support scores, internalized homophobia appeared to play a much stronger role in engagement in HIV risk behavior. More specifically, among those with higher than average scores on the social support scale, the highest HIV risk behavior across all levels of social support was reported as the internalized homophobia score increased.

It has been suggested that a higher level of internalized homophobia is most likely accompanied by more negative attitudes toward gay people (Gonsiorek, 1988). Furthermore, a higher level of internalized homophobia has been found to be associated with being less “out” (Shidlo, 1994), and having a lower degree of social support from other gay people (Nungesser, 1983). Therefore, exhibiting a higher amount of social support may mean that an individual has increased support from non-gay individuals, or those who do not know about the individual’s same-sex sexual behavior. This may be especially true among those who do not identify as “gay,” such as the men in this sample. Furthermore, if a non-gay identifying MSMW has a higher degree of internalized homophobia and thus fewer gay friends from which to receive social support, he may not be receiving support and advice around issues related to sexual identity and sexual behaviors. In other words, he may have a high degree of social support from friends and family, none of whom are gay, supportive of homosexuality, or aware of his same-sex behavior, which means he may not have an outlet with whom to discuss sex-related issues such as negotiating condom use.

However, a higher degree of internalized homophobia and potentially less social interactions with other gay men does not necessarily imply that an individual engages in less

*sexual* activity with other men (Huebner, Davis, Nemeroff, & Aiken, 2002). In fact, when an MSM or MSMW has limited social interactions with other gay men, potentially fueled by a higher degree of internalized homophobia, but has the need to satisfy same-sex sexual desires with other men, an individual may have the reduced ability to negotiate safer sex. In fact, a lack of access to other men for sex within the social network may increase sexual behavior with anonymous partners, where condom use is often times not discussed due to limited social interaction (Huebner, Davis, Nemeroff, & Aiken, 2002).

Therefore, a higher level of perceived social support that comes from a network of people who are unaware of a person's same-sex sexual behavior may reduce that individual's ability to have frank and supportive conversations around sexuality and sexual behavior. Furthermore, higher internalized homophobia may keep the same individual from developing a social network with other gay men, thus increasing the chances that this individual will seek out sex from those with whom he has limited interaction, such as anonymous partners. In these instances, the individual may feel less comfortable discussing safer sex and thus be less inclined to negotiate condom use.

## **Conclusion**

Through these results, it becomes apparent that the role of indicators of minority stress and their impact on HIV risk behavior in this sample is both complicated and unique. The minority stress model proved to be helpful in understanding the presence and role of some indicators of minority stress in this group, but not all. Actual events of racial/ethnic discrimination was not found to explain HIV risk behavior among this sample, which may indicate that this specific indicator of minority stress is not as influential in terms of HIV risk behavior among this highly marginalized group. Internalized racism/racial pride, however, was

found to be particularly important in explaining HIV risk behavior among this sample, though the direction of that relationship was unexpected. Internalized homophobia, though not directly associated with HIV risk behavior, proved to play an important part in understanding HIV risk behavior among this group when considered with other indicators of minority stress, social support, and CSA. Further, it was concluded that the role psychological distress plays in the relationship between indicators of minority stress and HIV risk behavior is important, yet not well-defined. And finally, social support appears to moderate the relationship between HIV risk behavior and both internalized racism/racial pride and internalized homophobia in a number of interesting ways.

Furthermore, these findings not only illuminate the impact some individual indicators of minority stress have on HIV risk behavior, but also demonstrated that not one, but a combination of these indicators of minority stress, explain HIV risk behavior the best among this population. This finding supports the utility of the theory of Intersectionality, which acknowledges the differential impact stress that is associated with membership in multiple stigmatized identities may have on health behavior. Among this sample, who were racial/ethnic minorities and sexual minorities, the contributions of stress related to perceptions of both racism and homophobia best explained the HIV risk behavior, when controlling for other covariates. Therefore, overlapping identities and the stress associated with each must not be considered in a mutually exclusive manner; instead, multiple indicators of minority stress should be examined as factors that, in an overlapping and additive fashion, contribute to HIV risk behavior and poor health outcomes. Furthermore, the men in this sample inhabited a number of marginalized identities in addition to being a racial/ethnic and sexual minority. The additional impact of being, for instance, a victim

of childhood sexual abuse, HIV-positive, and/or low-income, may complicate even further the interplay between the many identities these men inhabited.

This dissertation only begins to scrape the surface of fully understanding how social determinants of health, such as perceptions of racism and homophobia, interact with each other, as well as other important factors, such as CSA, social support, and psychological distress, to impact HIV risk behavior among a sample of HIV-positive non-gay identifying Black MSMW with histories of childhood sexual abuse. Furthermore, the impact of various indicators of minority stress must be examined in concert, as stigma from racism and homophobia, appear to be inextricably linked and may be harmful to health in both unique and combined ways. While the minority stress model and perspectives of the theory of Intersectionality shed some light on how indicators of minority stress that are associated with multiple minority statuses may impact HIV risk behavior among this very unique sample, further research is warranted, especially among such a stigmatized and marginalized group where such drastic HIV/AIDS disparities exist.

## **Research Question 2: Testing Intervention Effects on Internalized Racism, Internalized Homophobia, and HIV Risk Behavior**

While the first research question examined the relationship between minority stress and HIV risk behavior, the second research question aimed to test the intervention effects of the ES-HIM Project on reducing perceptions of internalized racism and internalized homophobia, as well as reducing HIV risk behavior over time. To test whether the ES-HIM intervention, in comparison to the Health Promotion control condition, was effective among this sample of HIV-positive Black non-gay identifying MSMW with histories of childhood sexual abuse, latent growth models were fit to scores of both internalized racism/racial pride and internalized

homophobia, as well as frequency of HIV risk behavior. In terms of the second research question, none of the hypotheses related to intervention effects were supported.

First, the hypotheses (8a, 8b, 8c) that the slope of the decrease over time in both internalized racism/racial pride and internalized homophobia, as well as HIV risk behavior would be lower for ES-HIM participants than for HP control condition participants, were tested. For internalized racism/racial pride, there was neither a statistically significant reduction in the internalized racism score (or conversely, an increase in the racial pride score) for the entire group across time, nor was there indication of an intervention effect on the internalized racism/racial pride score across time. Therefore, hypothesis 8a was not supported.

While it is possible that the ES-HIM intervention was not successful in reducing internalized racism (or conversely, increasing racial pride) due to flaws in the intervention design and implementation, the lack of an intervention effect on reducing internalized racism scores (or increasing racial pride scores) may also be explained by the low overall amount of perceived internalized racism (or the high overall amount of racial pride) among the sample at baseline. The overall mean score on the Brief Scale of Racial Pride at baseline was 23.15 (range=7-28), which indicates relatively high racial pride, and potentially low internalized racism. If the overall internalized racism scores were already low at baseline and thus conversely the overall scores for racial pride were high, it is fair to assume that an intervention aimed at reducing internalized racism or increasing racial pride may not have much of an effect.

For internalized homophobia, however, there was a statistically significant reduction in the internalized homophobia score across the four time points for the group as a whole. However, this reduction in the internalized homophobia score did not appear to differ by group,



thus not providing indication of an intervention effect. Hypothesis 8b, therefore, was also not supported.

The reduction in perceptions of internalized homophobia across the larger group, but not by each intervention group, indicates that the change may be due less to the ES-HIM intervention curriculum, and more to the opportunity to be around similar men. Because these Black MSMW may experience racism in the broader gay community, and homophobia in the broader Black community (Mays, Cochran, & Zamudio, 2004), the chance to socialize, as well as engage in deeper, more personal discussions with other men who inhabit these multiple marginalized identities (including being HIV-positive) may have effectively reduced their overall internalized homophobia.

This finding is important, as high perceptions of internalized homophobia have been linked to a number of mental health conditions, including substance use disorders (Meyer & Dean, 1998), eating disorders (Williamson & Hartley, 1998), and suicide ideation (Rofes, 1983). In addition, increased internalized homophobia has been found to be associated with increased HIV risk behavior among gay men (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Meyer & Dean, 1998; Newcomb & Mustanski, 2009). Addressing internalized homophobia in MSM may therefore improve mental health and well-being, as well as reduce HIV risk-taking behavior. Therefore, providing a safe space for Black MSM to congregate and develop a sense of camaraderie and support, regardless of whether a sexuality-based curriculum is delivered, appears to be an effective HIV prevention strategy for this population, even if the reduction was not due to the ES-HIM intervention curriculum.

For HIV risk behavior, the group as a whole showed a statistically significant reduction in HIV risk behavior from baseline to post-intervention, but this reduction did not continue from

post-intervention to the six-month post-intervention follow-up for the group as a whole. A lack of evidence for continued reduction in HIV risk behavior beyond the intervention could be due to the fact that the mean number of unprotected vaginal and/or anal sexual acts at post-intervention was below one and thus could not reduce much further.

In terms of an intervention effect, there did not appear to be a statistically significant change in HIV risk behavior from baseline to post-intervention by group. Therefore, hypothesis 8c was also not supported. The most logical explanation for the lack of an intervention effect may be attributed to the short duration and/or low dose of the intervention administered to participants, or an overall flaw in the design and implementation of the ES-HIM Project. However, the fact that a reduction in HIV risk behavior was achieved across all who participated in the ES-HIM Project, regardless of which intervention condition they were in, is interesting and warrants further discussion. This finding could be due in part to the Hawthorne effect, which is when the sheer knowledge of participation in an intervention effects behavior change (Fox, Brennan, & Chasen, 2008; McCarney et al., 2007). In addition, although the men were not told specifically that HIV risk reduction was an aim of the ES-HIM intervention, they were told that the groups could focus on physical, mental, and sexual health. Furthermore, the community-based organizations from which these men were recruited all provide HIV prevention services. Therefore, in addition to the Hawthorne effect, the participants may have also anticipated that HIV risk reduction was expected as part of the intervention, despite which condition they were randomized into.

This finding, that frequency of HIV risk behavior reduced for the group as a whole, is important in HIV prevention intervention design as it demonstrates that initiating HIV risk behavior change in this population may result, temporarily, from providing any type of health

intervention where a supportive space is created. However, it is also important to mention that in order to sustain such “intervention” effects, it may be necessary to provide “booster sessions” to remind and reinforce the information learned in the ES-HIM and HP curricula. In the current economic environment where funding for HIV prevention is limited, this type of information is valuable in planning cost-effective interventions among populations that are hardest hit by the HIV epidemic.

In a community where HIV/AIDS incidence and prevalence are disproportionately high, any method that successfully reduces HIV risk behaviors can be considered important and worth further exploration. At this time, almost no interventions bring together Black MSM, never mind HIV-positive Black non-gay identifying MSMW with histories of childhood sexual abuse.

While this population appears to be narrow and specific in focus, these men represent a cross-section of highly traumatized men- men who also experience incarceration, crime, and violence. Therefore, findings from this intervention can start the conversation on how to most (and least) effectively address HIV risk behavior among a population that experiences a myriad of stressors and traumas.

### **Strengths and Limitations**

**Strengths.** This dissertation attempted to understand how stress associated with sociocultural factors, namely experiences and perceptions of racism and homophobia, impact HIV risk behavior among a sample of HIV-positive non-gay identifying Black MSMW with histories of childhood sexual abuse. This is important since sociocultural factors, such as perceptions of discrimination, have been identified as potentially salient contributors to the HIV/AIDS disparity among MSM of color, yet little research has been carried out to examine their impact on negative health outcomes. Specifically in this dissertation, elements of the

minority stress model were tested. Traditionally, Meyer's minority stress model has been used to help understand how minority stress through sexual orientation-based discrimination directly impacts the psychological distress of white gay men. However, in this dissertation, the model was expanded in several ways. First, the model was tested among a sample of HIV-positive non-gay identifying Black MSMW with histories of childhood sexual abuse. This is important, as the findings in this dissertation demonstrated that minority stress may impact the health and well-being of Black MSMW differently than has been previously been documented among white gay men.

Second, a behavioral outcome, HIV risk behavior, was explored in addition to examining the relationship between experiences and perceptions of minority stress, psychological distress, and HIV risk behavior. It has been proposed that exploring the direct association between indicators of minority stress and HIV risk behavior is an important undertaking, as the utilization of non-mental health risk behaviors as outcomes of the minority stress model has been sparse (Fields et al., 2013). Furthermore, while a relationship between indicators of minority stress, psychological distress, and HIV risk behavior has been documented (Diaz & Ayala, 2001; Gold & Skinner, 1992; Rosario, Hunter, Maguen, Gwadz, & Smith, 2001; Stall, Hays, Waldo, Ekstrand, & McFarland, 2000), it has been posited that a direct association between indicators of minority stress and HIV risk behavior may exist. More specifically, HIV risk behavior has been theorized to serve as a maladaptive coping strategy used to deal with the stress associated with inhabiting multiple stigmatized minority statuses (Calzavara et al., 2012; Fields, et al., 2013). Therefore, the use of HIV risk behavior as the main outcome of the minority stress model expanded on the current body of scientific literature that has already explored minority stress and psychological distress. In addition, it attempted to shed new light on the ways in which

indicators of minority stress may be contributing to HIV risk behavior among a population that is unique, highly marginalized, and disproportionately impacted by HIV/AIDS.

Third, minority stress, operationalized through experiences and perceptions of discrimination based on race/ethnicity and sexual orientation, was explored. Indicators of minority stress have been suggested as potentially potent contributors to HIV risk behavior, yet research on this topic has been limited. Therefore, this dissertation added to an otherwise disparate conversation on explaining how sociocultural factors, such as perceptions and experiences of racism and homophobia, may or may not be driving the epidemic among Black MSM and MSMW.

Fourth, the theory of Intersectionality was used to expand on the complex relationship between indicators of minority stress and HIV risk behavior. The minority stress model aligns with the theory of Intersectionality in that it essentially tests the primary and additive perspectives employed under this theory. However, the theory of Intersectionality expands on the minority stress model by understanding that multiple indicators of minority stress operate in a much more complex way, and that their unique and combined effects may differentially impact HIV risk behavior, especially among this unique population.

Finally, this dissertation attempted to test the efficacy of a culturally congruent intervention for this population on reducing internalized forms of racism and homophobia, as well as overall HIV risk behavior. A sheer absence of such interventions has been highlighted throughout the scientific literature. Therefore, despite a lack of findings for significant intervention effects, contributing additional information on how to best address the HIV/AIDS disparity among Black MSMW, arguably the hardest hit population in the U.S., is a considerable strength of this dissertation.

**Limitations.** First and foremost, although the highly specific population represented in this dataset is unique and highly impacted by HIV/AIDS, exploration of such a specific group limits the generalizability of the findings, especially since it was a convenience sample. Further, each nuanced identity of the men in this study, including being a racial and sexual minority, being non-gay identifying, being HIV-positive, being low-income, and having a history of CSA, may play an important role in understanding HIV risk behavior. However, a thorough exploration of how each of these attributes individually and collectively contributes to HIV risk behavior was beyond the scope of this dissertation. It is suggested that future research explore the impact of additional co-factors on HIV risk behavior, such as socio-economic status, HIV stigma, and other childhood and adult traumas, both independently and in concert with each other.

Furthermore, the small sample size was a serious limitation. The small sample size made it difficult to carry out more complex analyses, which may have contributed to a deeper or more thorough understanding of indicators of minority stress and HIV risk behavior among this population.

Also, the lack of a strong measure for internalized racism was a limitation. While an argument was made for the use of a scale of racial pride as a proxy for internalized racism, a validated measure of internalized racism would have been more appropriate. Future publication of this data will require that the minority stress model framework be dropped in terms of assessing internalized racism, and that instead, the relationship between racial pride and HIV risk behavior be highlighted.

Further, the absence of measures to assess additional indicators of minority stress and components of the minority stress model, such as perceived stigma, was a significant limitation

in this study. To truly capture the impact of both distal and proximal processes of diverse indicators of minority stress would have allowed for a stronger articulation of the concept of minority stress.

In addition, the removal of psychological distress after inconclusive justification for doing so was a limitation of analyses carried out in this dissertation. Further analysis of this data for future publication will require that psychological distress be more clearly defined and analyzed in terms of the role it plays between indicators of minority stress and HIV risk behavior.

And, of course, the fact that the data were self-report was a limitation, especially since objective measures of stress assessed through urine specimens were collected as part of this study. While analysis of stress hormones, such as dopamine, cortisol, epinephrine, and norepinephrine, would have been a more reliable measure of stress than the self-reported measures alone, this was simply beyond the scope of this dissertation.

### **Future Directions**

Although this study contributes to a better understanding of the complex ways in which indicators of minority stress do and do not impact the HIV risk behavior of HIV-positive Black non-gay identifying MSMW, there is still much work to be done. Further research on indicators of minority stress beyond actual events of racial/ethnic discrimination, internalized racism, and internalized homophobia, must be examined.

Furthermore, future research must begin to acknowledge that people inhabit multiple identities, and that the stress associated with each minority status or stigmatized identity may uniquely and collectively contribute to HIV risk behavior. In this dissertation, only minority stress associated with being a racial and sexual minority was explored. However, the stress

associated with the stigma of being HIV-positive and low-income may also be important factors to consider, both individually and in concert with other indicators of minority stress. In addition, important factors other than indicators of minority stress, such as social support, psychological distress, and a history of childhood sexual abuse, must be considered in conjunction with sociocultural factors, as it is believed that a combination of these factors may be contributing to higher rates of HIV among this population.

In addition to expanding the exploration of the many possible contributors to HIV risk behavior among Black MSM and MSMW, it is also important to assess the most efficient and effective means for curbing HIV among this population. The most prominent limitation of existing HIV prevention interventions for Black MSM is the sheer lack of such interventions. With such startlingly high rates of HIV infection among this group, it is surprising that so little intervention work has attempted to specifically address the needs of this disproportionately impacted population. It is hoped that as the third decade of the HIV/AIDS epidemic unfolds, the CDC, as well as research efforts through the National Institutes of Health (NIH) will increase its number of efficacious evidence-based HIV prevention interventions for MSM of color, specifically Black MSM and Black MSMW, from one to several, as well as include interventions that serve the needs of the many unique sub-populations among Black MSM.

Furthermore, while addressing the impact of sociocultural factors, such as indicators of minority stress, has been highlighted as one important component of HIV prevention, future intervention work must also consider additional risk factors that have been identified in the empirical literature as unique contributors to the disparity in HIV among Black MSM and MSMW. For instance, Black MSM have been shown to report higher rates of past or current infection with a sexually transmitted infection (STI) than their other MSM counterparts (Millet,



Peterson, Wolitski, & Stall, 2006). Most existing interventions among Black MSM concentrate solely on reducing transmission of HIV, despite these concurrent high rates of sexually transmitted infections. Since prior research has demonstrated that the presence of an existing STI, such as syphilis or gonorrhea, can facilitate acquisition and transmission of HIV (Wasserheit, 1992), it has been suggested that behavioral interventions for Black MSM also target sexually transmitted infection testing behaviors (Millett, Peterson, Wolitski, & Stall, 2006).

Also, as mentioned briefly throughout this dissertation, Black MSM tend to have sexual networks that are comprised primarily of other Black MSM (Peterson & Jones, 2009). Since the prevalence of HIV is disproportionately higher among Black MSM, this means the chances of infection are magnified, despite rates of sexual risk behaviors being comparable or lower to other populations of MSM (Bing, Bingham, & Millett, 2008; Harawa et al., 2004). Furthermore, Black MSM are less likely than other MSM to know their HIV status or to be tested early in their disease trajectory (Millett, Peterson, Wolitski, & Stall, 2006). Therefore, the chances of infection are exacerbated by the fact that social networks of Black MSM are more tightly bound and fewer of the men know about their HIV infection. Future intervention work should therefore concentrate on increasing early and frequent HIV testing among Black MSM, as well as exploring the ways in which the sexual networks of Black MSM impact partner selection and HIV risk.

### **Conclusion**

We are well into the third decade of the HIV/AIDS epidemic, and while in the United States rates of HIV transmission are relatively low and treatment rates are relatively high compared to developing countries, there are still reservoirs of high-risk and high-need

populations that are disproportionately impacted by this disease. Traditional HIV prevention has been successful in curbing the spread of this disease in some populations; however, the growing disparity in HIV/AIDS rates, especially among Black MSM, warrants an updated approach.

This dissertation aimed to explore sociocultural factors, namely experiences and perceptions of racism and homophobia, as factors that have heretofore not been well articulated in research, but that appear to be uniquely contributing to the significant HIV/AIDS disparity among Black MSM and MSMW. Although the relationship between indicators of minority stress and HIV risk behavior was not fully explained in this dissertation, findings did illuminate the potential importance of such factors, as well as underscored the importance of examining both the independent as well as the combined effects of these indicators of minority stress on HIV risk behavior among a unique and highly marginalized population. In addition, the need to consider factors that have either provided mixed results in previous research (e.g., psychological distress, social support) or have been understudied altogether (e.g., severe childhood sexual abuse), was highlighted.

Hopefully, this dissertation is just the first in many studies attempting to better understand, as well as address, the HIV/AIDS disparity among Black MSM and MSMW. With advances in HIV prevention and treatment that speak to the cultural beliefs and experiences of this population, it is hoped that the significant disparity in HIV/AIDS among Black MSM and MSMW can finally be fully addressed, and eventually, eliminated.

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