

Experiences of Homonegativity, Internalized Homonegativity, Self-Efficacy to Practice
Safe Sex, and Unprotected Anal Intercourse among Men Who Have Sex with Men
(MSM)

By Miguel A. Iracheta

B.S. in Liberal Arts and Sciences, December 2001, University of Illinois Urbana-
Champaign
M.Phil in Psychology, January 2009, The George Washington University

A Dissertation submitted to

The Faculty of
The Columbian College of Arts and Sciences
of The George Washington University
in partial fulfillment of the requirements
for the degree of Doctor of Philosophy

August 31, 2015

Dissertation directed by

Maria Cecilia Zea
Professor of Psychology

The Columbian College of Arts and Sciences of The George Washington University certifies that Miguel Augustine Iracheta has passed the Final Examination for the degree of Doctor of Philosophy as of June 24th, 2015. This is the final and approved form of the dissertation.

Experiences of Homonegativity, Internalized Homonegativity, Self-Efficacy to Practice Safe Sex, and Unprotected Anal Intercourse among Men Who Have Sex with Men (MSM)

Miguel Augustine Iracheta

Dissertation Research Committee:

Maria Cecilia Zea, Professor of Psychology, Dissertation Director

Paul John Poppen, Professor of Psychology, Committee Member

Sharon F. Lambert, Associate Professor of Psychology, Committee Member

© Copyright 2015 by Miguel Augustine Iracheta.
All rights reserved

Acknowledgments

I would like to thank the many people who made this possible. I am grateful to my chair and mentor Maria Cecilia Zea for her guidance and support.

I am thankful to my committee members for their feedback and help throughout this process.

My fellow classmates, I am lucky and grateful to have had you four to share this journey with as well as many happy hours.

Finally, I would like to acknowledge and thank my family for their encouragement, support, and constant reminder that I could do anything.

Abstract of Dissertation

Experiences of Homonegativity, Internalized Homonegativity, Self-Efficacy to Practice Safe Sex, and Unprotected Anal Intercourse among Men Who Have Sex with Men (MSM)

Using an ecological perspective, this dissertation examined experiences of homonegativity in different settings and its influence on internalized homonegativity. It also examined whether there were significant paths between internalized homonegativity and experiences of homonegativity and self-efficacy to practice safe sex. In addition, it examined paths between self-efficacy to practice safe sex and internalized homonegativity and unprotected anal intercourse at 3 month and last sexual encounters. Men who have sex with men (N = 136) completed an on-line survey designed to address these questions. A measure of experiences of homonegativity was adapted to include four specific settings: church, family, neighborhood, and friends. Participants reported experiences of homonegativity highest from church and the lowest from friends. Experiences of homonegativity from family, friends, and neighborhood were all significantly positively associated with internalized homonegativity. Results indicated significant paths between internalized homonegativity and experiences of homonegativity in different settings (i.e., friends, family, and neighborhood) and self-efficacy to practice safe sex. Significant paths between self-efficacy to practice safe sex and internalized homonegativity and unprotected anal intercourse at last sexual encounter and within the last three months were also found. Implications for future research and clinicians working with individuals who experience homonegativity are discussed.

Keywords: men who have sex with men, homonegativity, self-efficacy to practice safe sex, unprotected anal intercourse

Table of Contents

Acknowledgment	iv
Abstract of Dissertation	v
List of Figures	vii
List of Tables	viii
Chapter 1: Introduction	1
Chapter 2: Methods	24
Chapter 3: Results	34
Chapter 4: Discussion	47
References	57
Appendices	71

List of Figures

Figure 1	4
Figure 2	11
Figure 3	23
Figure 4	37
Figure 5	39
Figure 6	41
Figure 7	43
Figure 8	45

List of Tables

Table 1	27
Table 2	35
Table 3	38
Table 4	40
Table 5	42
Table 6	44
Table 7	46

Rates of human immunodeficiency virus (HIV) and other sexually transmitted infections (STI) are a major public health problem, both globally and in the United States (Centers for Disease Control and Prevention [CDC], 2011a). Among the U.S. population, men who have sex with men (MSM; i.e., men who have sex with men regardless of sexual orientation identification; Joint United Nations Programme on HIV/AIDS [UNAIDS], 2006) are the most disproportionately affected by HIV (CDC, 2014a). As of 2010, 56% of all people living with HIV were MSM (CDC, 2014a), which is high compared to other groups [16% of people living with HIV identified as injection drug users; 24% of people living with HIV identified as women (CDC, 2013)]. Even more alarming is the increasing number of people who continue to become infected with HIV. For example, the CDC (2013) reported a 12% increase in HIV infections from 2008 to 2010 among gay and bisexual men. According to that report (CDC, 2013), “in 2010, White MSM continued to account for the largest number of new HIV infections.” Among gay and bisexual men, White, Black, and Hispanic men account for 38%, 36%, and 22% of all new HIV infections, respectively (CDC, 2014a).

The ongoing increase in HIV infections makes it particularly important to understand the processes that may lead to unprotected anal intercourse among MSM to inform preventative strategies to reduce the infection rates of HIV and prevent further transmission of HIV. One of the most common causes of transmission of HIV is unprotected anal intercourse (UAI; CDC, 2011b). Although high risk sexual behavior is a complicated problem (UNAIDS, 2006), experiences of homonegativity, internalized homonegativity, and self-efficacy to practice safe sex have been identified as factors that may affect sexual risk behaviors (e.g., UAI) of MSM. Research on UAI among MSM is

needed to help determine factors that influence risky sexual behaviors and how interventions can reduce these behaviors.

Researchers have identified both experiences and internalization of discrimination, stigma, and violence as significant factors for risky sexual behavior among MSM (Jeffries, Marks, Lauby, Murrill, & Millett, 2013; Ratti, Bakeman, & Peterson, 2000). Gay, bisexual, and transgender (GBT) individuals in the United States and around the world are regularly exposed to these stigmas (AVERTing HIV and AIDS [AVERT], 1986-2014; CDC, 2011b). This study, uses stigma based on sexual orientation, also known as homonegativity/homophobia¹ which is defined as actual or perceived prejudices or stigma due to an individual's perceived homosexuality or bisexuality (Alden & Parker, 2005). Experiences of homonegativity can lead to negative mental health outcomes (Crawford, Allison, Zamboni, & Soto, 2002; Zakalik & Wei, 2006) and behavioral health outcomes, such as unprotected anal intercourse (Diaz, Ayala, & Bein, 2004; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Ratti et al., 2000).

Research on experiences of homonegativity in different contexts (e.g., family, religious community, social circle) is scarce. Vincke, DeRycke, and Bolton (1999) postulated that individuals are a part of multiple contexts. Interactions and perceptions of the individual within those contexts contribute to an individual's sense of self (Vincke, DeRycke, & Bolton, 1999). Experiences within multiple contexts could be positive or negative. Negative interactions (i.e., experiences of homonegativity) within multiple contexts could have negative effects on the individual. Understanding experiences of homonegativity in different contexts may be helpful to understand the effects of

¹ Per the most recent research (Ward, 2005), homonegativity and homophobia are often used interchangeably. For the purposes of this study, the term *homonegativity* will be used throughout.

homonegativity. Individuals who experience homonegativity may incorporate these experiences into their self-identity (Meyer, 2003), and thus the experiences become internalized homonegativity (i.e., negative views of the self attributed to homosexual orientation or behavior; Hamilton & Mahalik, 2009; Meyer, 2003; Ross, Rosser, Neumaier, & the Positive Connections Team, 2008). Conversely, experience of homonegativity may contribute to an individual accepting his homosexuality and solidifying a sense of membership within the gay community (Meyer, 2003).

This dissertation uses Bronfenbrenner's (1977) Ecological Model to examine experiences of homonegativity in different microsystems, internalized homonegativity, and self-efficacy to practice safe sex at the individual level (see blue lines in Figure 1). This dissertation examined whether internalized homonegativity mediates the relationship between each microsystem and self-efficacy to practice safe sex. In addition, this dissertation examined whether self-efficacy for safe sex mediates the relationship between internalized homonegativity and UAI (see red lines in Figure 1).

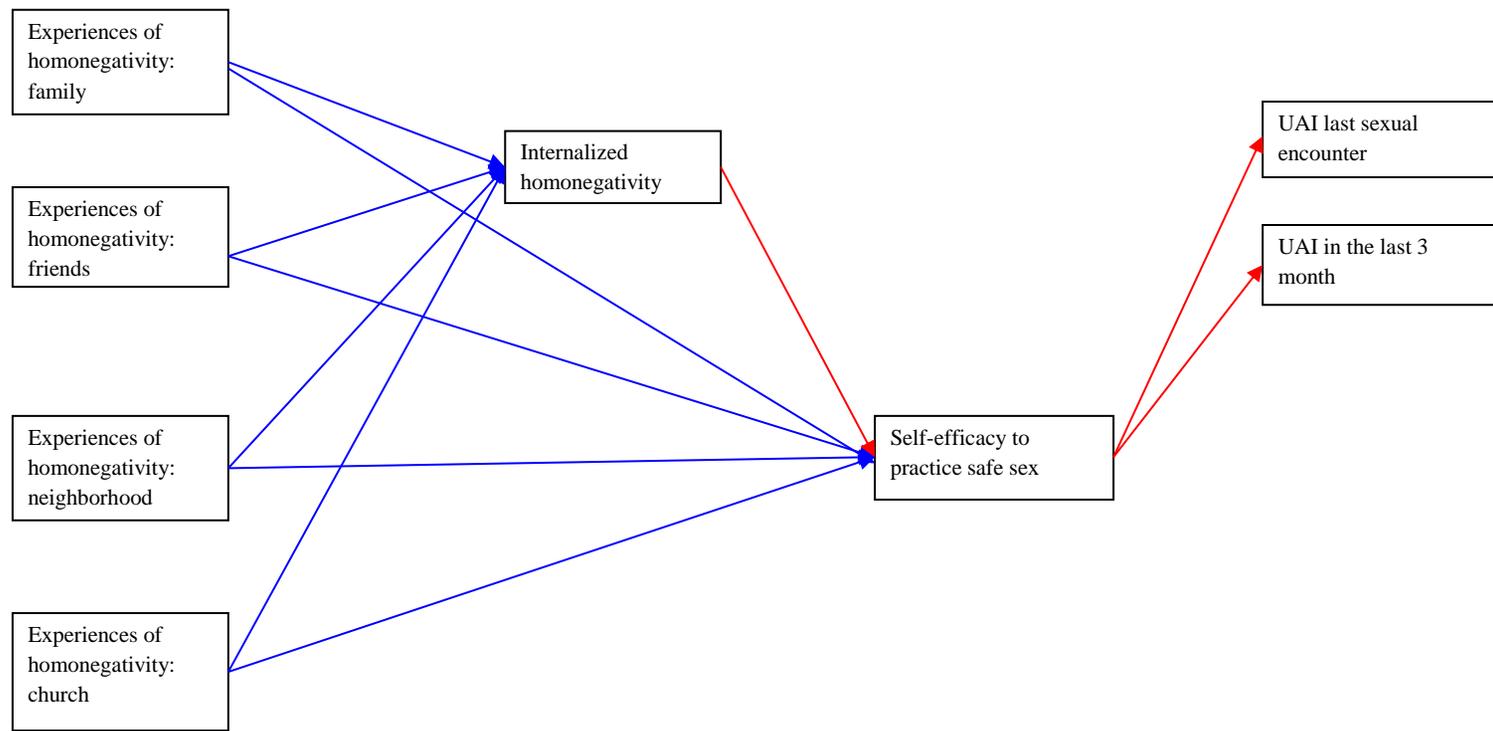


Figure 1. Model of associations among experiences of homonegativity, internalized homonegativity, self-efficacy to practice safe sex, and UAI

This study aims to contribute to the literature by examining the associations between experiences of homonegativity in different environments and internalized homonegativity and self-efficacy to practice safe sex (Figure 1). To add to and expand on the limited available research, potential mediation effects of internalized homonegativity between experiences of homonegativity and self-efficacy to practice safe sex will be explored (Figure 1). Furthermore, the mediation effect of self-efficacy to practice safe sex on internalized homonegativity and UAI will be explored (Figure 1). The literature on MSM, specifically on the variables of interest here, remains inconsistent. Expanded research in this area is necessary to continue to inform public health as well as individual-level interventions to reduce negative health outcomes in this population.

Experiences of Homonegativity

As described above, experiences of homonegativity are defined as actual or perceived prejudice or stigma due to an individual's perceived homosexuality or bisexuality (Alden & Parker, 2005). Homonegativity can be experienced in many different forms, from passive ignoring of an individual because of his/her perceived sexual orientation to outright violence (CDC, 2011b). There are frequent examples of homonegativity in current events. In Uganda, LGBT individuals can still be imprisoned for homosexual behavior (Channel NewsAsia, 2014). Additionally, violence against MSM is still found in the United States (AVERT, 2003; CDC, 2011a). For instance, on June 8, 2014, a gay man was beaten in Detroit, Michigan, while an LGBT Pride festival was taking place nearby (Vaughn, 2014).

Experiences of homonegativity are a pervasive problem in the United States. In a probability sample of 405 lesbian, gay, and bisexual participants (71% White, 12%

Black, and 12% Latino), 74% of the sample reported experiencing verbal abuse due to sexual orientation (Kaiser Family Foundation, 2001). Among participants of that study, 32% reported having their property damaged or being physically attacked due to their sexual orientation. Herek (2009) studied the prevalence of reported discrimination toward 662 lesbians, gays, and bisexuals (65% White, 16% Black, and 13% Latino). Participants of that study reported frequency (i.e., never, once, or two or more times) of lifetime experiences of discrimination going back to age 18 (Herek, 2009). Of the men in the sample, 241 identified as gay and 110 identified as bisexual. Among the gay men, 63% reported verbal abuse (17% once and 46% twice or more), 35% reported threats of violence (14% once and 21% twice or more), and 39% reported some sort of actual “violence, property crime, or attempted crime” (Herek, 2009, p. 65). Among bisexual men, 41% reported verbal abuse (8% once and 34% twice or more), 19% reported threats of violence (6% once and 13% twice or more), and 20% reported some sort of “violence, property crime, or attempted crime” (Herek, 2009, p. 65). Experiences of homonegativity are still common within the United States and can affect the individual who experiences this type of discrimination.

Internalized Homonegativity

MSM of all ethnic and racial backgrounds regularly confront the stress of internalized homophobia/homonegativity,² described by Herek and Garnets (2007) as “the individual’s self-stigmatization as a consequence of accepting society’s negative attitudes toward nonheterosexuals” (p. 361). In his review of the literature, Meyer (2003)

² Per the most recent research (Ross, Rosser, & Smolenski, 2010), the terms *internalized homonegativity* and *internalized homophobia* are often used interchangeably. For the purposes of this study, the term *homonegativity* will be used throughout.

stated that gay and bisexual men who have experienced discrimination due to sexual orientation have had difficulty accepting their sexual identity. Ethnic and geographic groups have different experiences of homonegativity (Herek, 2009; Kaiser Family Foundation, 2001) and may internalize these experiences differently. For example, African American MSM scored significantly higher on a measure of internalized homonegativity than did White or Latino MSM among a sample of HIV-positive MSM from New York and San Francisco (O’Leary, Fisher, Purcell, Spikes, & Gomez, 2007). Furthermore, among a diverse sample from six cities across the United States, Ross and colleagues (2008) found that African American men had the highest rates of internalized homonegativity, followed by Latinos.

Experiences of homonegativity appear to be common occurrences for MSM, and these experiences are likely to be internalized by MSM regardless of ethnicity. Moreover, these experiences can have negative consequences. Ross et al. (2008) found an indirect association between internalized homonegativity and condom use self-efficacy, via sexual comfort. Individuals with high internalized homonegativity were less likely to use condoms (Ross et al., 2008). Ross, Kajubi, Mandel, McFarland, and Raymond (2013) found that internalized homonegativity was associated with UAI and having sex while intoxicated. Further research on the mental and behavioral outcomes of internalized homonegativity is important to understand the sexual behavior of MSM.

Self-Efficacy to Practice Safe Sex

An important factor that may contribute to rates of HIV transmission is lack of self-efficacy to practice safe sex (Klein, 2013). Self-efficacy to practice safe sex has been defined as an individual’s belief in his ability to engage in safe sexual practices (e.g. take

the time to put a condom on; Murphy, Stein, Schlenger, Maibach, & National Institute of Mental Multisite HIV Prevention Trial Group, 2001). Several studies have found negative associations between self-efficacy to practice safe sex and unprotected anal intercourse among gay and bisexual men (e.g., Klein, 2013; Tucker et al., 2014). Among immigrant Latino MSM, self-efficacy for safe sex was positively associated with protected anal intercourse during sexual encounters within the last three months and at the most recent sexual encounter (Zea, Reisen, Poppen, & Bianchi, 2009). Given the important role of self-efficacy to practice safe sex identified in above mentioned studies, understanding which factors can increase self-efficacy to practice safe sex is essential.

Experiences of Homonegativity within the Ecological Framework

The environmental context of an individual's experiences may have an important influence on the internalization and behavioral outcomes of those experiences (Mustanski, Newcomb, DuBois, Garcia, & Grov, 2011). Bronfenbrenner's ecological model (Figure 2) stresses the importance of social factors and individual relationships in different environments that affect an individual who is a part of those environments (Bronfenbrenner, 1977). Bronfenbrenner's ecological model comprises several systems that directly and indirectly affect an individual. The first level of an individual's environment in Bronfenbrenner's model is the microsystem. Microsystems are composed of an individual's immediate environments (e.g., work, family, and church). The relationships and interactions between the individual and others within the individual's church, neighborhood, family, and friends, were the focus of this study.

Church, neighborhood, family, and friends were the specific domains chosen because they are likely to have a strong influence on the individual (Barnes & Meyer,

2012; Kelly, Carpiano, Easterbrook, & Parsons, 2014; Ryan, Huebner, Diaz, & Sanchez, 2009). Family was found to be an important influence on mental and behavior health outcomes among gay men, bisexuals, and lesbians (Ryan et al., 2009). Kelly et al. (2014) postulated that neighborhoods and social networks are important influences on the individual. Community and social networks can potentially impact the development of an individual's social norms and behaviors (Kelly et al., 2014). Furthermore, church has also been theorized to be a strong influence on gay and bisexual men and lesbians (Barnes & Meyer, 2012).

While experiences in these domains are likely to influence the individual, not all experiences are likely to be negative. A gay individual may be rejected from one church but welcomed and accepted in another. Some MSM may be rejected by family and friends whereas others are accepted. MSM may be discriminated against in some but not all neighborhoods. The main focus of this dissertation will be on discrimination within the domains of family, friends, church, and neighborhood.

Bronfenbrenner's ecological model (1977) is helpful in understanding the effects of experiences of homonegativity on the development of the individual because it considers how individuals' experiences and interactions in different microsystems affect their behavior and functioning. Microsystems are different environments with which the individual has direct contact and are bidirectional, meaning that the individual affects his environment and the environment affects the individual (Alderson, 2003; Mustanski et al., 2011). Homonegativity stemming from individuals' interactions with others can be experienced in a number of different environments or microsystems, such as the neighborhood (Gottschalk & Newton, 2009), family (Ryan et al., 2009), and church

(Ward, 2005). Adamczyk and Pitt (2009) suggested that religious and cultural values may influence the public's opinion of homosexuality including family members, friends, neighborhoods, and churches. Loss of family, friends, and/or community support due to homosexual behavior, which is in essence a homonegative experience, can have a great impact on an individual who is rejected (Barret & Logan, 2002; Ryan et al., 2009). A church member may develop negative views of homosexuality based on cultural values that he may hear within his own church. Some Black churches endorse hyper-masculine, homonegative values (Ward, 2005). Overt discrimination against openly gay church members may be tolerated or encouraged in some churches (Ward, 2005). Thus, a gay church member may be regularly exposed to experiences of homonegativity within an important cultural context. Some researchers have begun to examine setting-specific homonegativity and postulated that Latino MSM experience homonegativity within ethnic neighborhoods and racism within White gay neighborhoods (e.g., Diaz et al., 2004). Bronfenbrenner's ecological model (Bronfenbrenner, 1977) helps to conceptualize experiences of homonegativity in different environments on the individual and aids in understanding the effects of these experiences. Experiences of homonegativity in different microsystems (e.g., family, friends, church, and neighborhood) may have varying negative effects on an individual which in turn may increase internalized homonegativity and decreases in self-efficacy to practice safe sex.

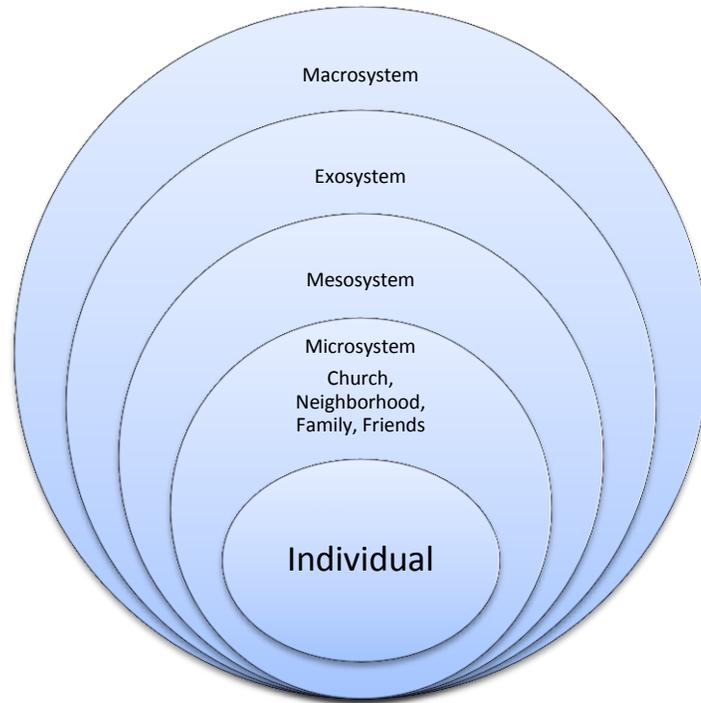


Figure 2. Example of Bronfenbrenner's (1977) Ecological Model.

Effects of Experiences of Homonegativity

Research has linked experiences of homonegativity to potentially negative consequences (Hein & Scharer, 2013). Several studies have suggested that experiences of homonegativity are associated with negative mental health consequences such as depression (Zakalik & Wei, 2006) and low self-esteem among Black MSM (Crawford, Allison, Zamboni, & Soto, 2002). Zakalik and Wei (2006) found that four measures of perceived discrimination based on sexual orientation were positively correlated with two measures of depressive symptoms. Furthermore, one aspect of homonegativity, physical violence, was found to be significantly related to lower self-esteem and aspects of internalized homonegativity, [measured via suicidal thoughts and behaviors due to negative view of an individual's sexual orientation among older gay men, lesbians, and

bisexuals (D'Augelli & Grossman, 2001)]. Hamilton and Mahalik (2009) found that homonegativity was associated with internalized homonegativity among a sample of gay men. Blais, Gervais, and Hébert (2014) found a relationship between homonegative bullying and internalized homonegativity among a sample of homosexual, bisexual, trans-identified, and questioning youths 14 to 22 years old.

Experiences of homonegativity can also affect behavioral outcomes. Experiences of homonegativity, measured through verbal experiences of homonegativity and experiences of physical violence due to sexual orientation, have been linked to negative behavioral outcomes such as substance use (Hatzenbuehler et al., 2008). Experiences of homonegativity also have been found to be associated with sexual situations that increased sexual risk among Latino gay men (Diaz et al., 2004). Jeffries et al. (2013) found that Black MSM who had experienced homonegativity within the last 12 months were more likely to have engaged in UAI than Black MSM who had not experienced homonegativity. Experiences of homonegativity were positively associated with UAI among a sample of MSM from Shanghai (Choi, Hudes, & Steward, 2008). Experience of homonegativity appears to have negative health and behavioral outcomes for individuals and increased risky sexual behavior.

Internalized Homonegativity within the Ecological Framework

Environments may play an important role in the internalization of experiences of homonegativity. Alderson (2003) discussed how microsystems such as the church, family, friends, and neighborhood might affect an individual's gay identity and thus internalized homonegativity. He theorized that acceptance of homosexuality from an individual's microsystems, such as church, family, and peers, could possibly lead to a

healthy gay identity and a reduction in internalized homonegativity (Alderson, 2003). The potential consequences of not overcoming homonegativity through self-acceptance can possibly lead to greater stress and an increase of internalized homonegativity (Meyer, 2003). However, it is possible that contextual factors may also serve as protective with regard to internalized negativity and sexual behavior. Having family and friends be supportive of gay and bisexual sexual orientation or transgender identity may possibly contribute to decreases in emotional distress, including anxiety and depression, and increases in self-esteem for MSM (CDC, 2011b; Doty, Willoughby, Lindahl, & Malik, 2010). Ward (2005) postulated that experiences of homonegativity within the church could affect internalized homonegativity and self-esteem by promoting messages that homosexuality is wrong. Rowen and Malcolm (2003) found a positive correlation between internalized homonegativity and perceived homonegative messages in three domains (family, religion, and society) among Australian MSM. They also found that internalized homonegativity was negatively associated with self-esteem and self-acceptance of homosexuality (Rowen & Malcolm, 2003). The existing literature suggests that there are important effects of the environment; however, there is need for further specificity in the research on internalized homonegativity (i.e., within an ecological framework).

Effects of Internalized Homonegativity

Internalized homonegativity has been linked to mental health and risky behavior outcomes. Gold, Marx, and Lexington (2007) found an association between internalized homonegativity and symptoms of depression. In a meta-analytic review, Newcomb and Mustanski (2010) found that internalized homonegativity was associated with symptoms

of depression and anxiety. Internalized homonegativity was linked to UAI among diverse samples of MSM (Hatzenbuehler et al., 2008; Ross et al., 2013; Yi, Sandfort, & Shidlo, 2010). Hatzenbuehler and colleagues (2008) found a positive association between internalized homonegativity and UAI among a sample of gay men who were caregivers of men with AIDS-related illnesses. Ross and colleagues (2013) cited the same association among Ugandan gay and bisexual men, as did Yi and colleagues (2010) among a diverse sample of HIV-negative gay men in New York City. Research findings suggest that internalized homonegativity can negatively affect an individual's mental health and sexual behavior.

The Association between Experiences of Homonegativity and Self-Efficacy

To date, limited research examining the relationship between experiences of homonegativity and self-efficacy to practice safe sex is available. A more general body of research implies that the effects of homonegativity may operate through internalized homonegativity to affect behavioral and emotional outcomes. In a recent study conducted by Tucker et al. (2014), findings did not reveal any significant associations between experiences of homonegativity and self-efficacy to practice safe sex. However, when research has studied the effects of homonegativity through other variables (e.g., internalized homonegativity), an indirect relationship was found. For example, Blais et al. (2014) found that internalized homonegativity was a partial mediator between discrimination and self-esteem among a sample of 300 sexual minority youths 14 to 22 years of age. In that study, both discrimination and internalized homonegativity were negatively related to self-esteem, and discrimination was positively related to internalized homonegativity. Thus, within the Blais et al. (2014) study, internalized homonegativity

explained the relationship between discrimination and self-esteem (i.e., functioned as a mediator). Gold, Feinstein, Skidmore, and Marx (2011) found that internalized homonegativity mediated the relationship between childhood abuse and depression. Despite the minimal research on experiences of homonegativity in microsystems and self-efficacy to practice safe sex, research (Blais et al., 2014; Gold et al., 2011) has suggested that an association between two variables may exist through a mediator (i.e., internalized homonegativity). Further research is necessary to clarify the associations among experiences of homonegativity in various microsystems, internalized homonegativity, and self-efficacy to practice safe sex.

Unprotected Anal Intercourse

As previously stated, UAI can lead to an increase in HIV and STI infection among MSM. It is important to understand the consequences of UAI to inform UAI preventative measures. Research has suggested that examining condom use is an acceptable and common method for estimating risk among populations with high STI prevalence and sexual risk (Noar, Cole, & Carlyle, 2006). Previous researchers (Catania, Gibson, Chitwood, & Coates, 1990; Weinhardt, Forsyth, Carey, Jaworski, & Durant, 1998) have noted that no “gold standard” exists to ensure the validity of individuals’ retrospective reports of sexual behavior. Based on previous research among MSM (Zea et al., 2009), three-month sexual encounter information has been demonstrated to be a long enough time frame to gather data on multiple sexual encounters but short enough to refrain from hindering accurate recall. Questions concerning specific sexual behaviors may elicit improved recall of the events (Noar et al., 2006). In this study UAI is a

dichotomous variable (“yes” for any UAI or else “no”) and will be examined within the last three months and at last sexual encounter.

Associations among Internalized Homonegativity, Self-Efficacy, and UAI

Previous studies have found that high self-efficacy to use condoms was associated with less UAI in the last three months and in the last sexual encounter among Latino MSM (Zea et al., 2009) and at last encounter among Latino participants living in Texas (Fernandez-Esquer, Atkinson, Diamond, Useche, & Mendiola, 2004). Using any UAI within the last three months as an outcome, Miner, Peterson, Welles, Jacoby, and Rosser (2009) identified a significant negative relationship between self-efficacy for condom use and unsafe sex (i.e., the lower a participant’s reported self-efficacy for condom use, the higher the reports of unsafe sex). Semple, Patterson, and Grant (2003) concluded that increased self-efficacy for condom use and ability to negotiate condom use were associated with lower total UAI over a four-month period among HIV-positive gay and bisexual men, thus potentially decreasing the spread of HIV. Thus, there is strong research evidence that self-efficacy for safe sex and UAI are positively associated.

Despite the support for the role of self-efficacy to practice safe sex during a sexual encounter, minimal research exists examining the direct relationship between internalized homonegativity and self-efficacy to practice safe sex. One study was identified that explored these factors: Ratti, Bakeman, and Peterson (2000), who studied gay and bisexual men in Canada. Their results demonstrated a significant association between internalized homonegativity and condom self-efficacy. Examining bivariate correlations, Ratti et al. (2010) found that internalized homonegativity was significantly negatively correlated with self-efficacy to engage in safe sexual practices. They also

found a significant positive correlation between internalized homonegativity and UAI (Ratti et al., 2010). Further research has suggested that the relationship between internalized homonegativity and UAI may be indirect, that is, internalized homonegativity and UAI may be associated through a third variable. Ross et al. (2008) found an indirect link between internalized homonegativity and self-efficacy through sexual comfort.

Research has suggested that self-efficacy can act as a mediator between societal condom norms and UAI (Miner et al., 2009). Miner et al. (2009) concluded that condom use self-efficacy can act as a mediator. They found an indirect association between societal condom norms and UAI acting through condom use self-efficacy in the last three months among HIV-positive MSM (Miner et al., 2009). Thus, research supports not only a direct link between internalized homonegativity and UAI but also the potential of self-efficacy to practice safe sex as a mediator between internalized homonegativity and UAI, providing a better understanding on how these variables interact.

Given the importance of understanding UAI among MSM, the many factors that contribute to this behavior need to be better understood. Previous research has supported the direct link between self-efficacy and UAI (Miner et al., 2009; Ratti et al., 2000; Semple et al., 2003), as well as the direct link between internalized homonegativity and self-efficacy and UAI (Ratti et al., 2000) and self-efficacy as a mediator leading to UAI (Miner et al., 2009). Although direct links have been found between internalized homonegativity, self-efficacy, and UAI (Ratti et al., 2000), the study participants were men of South Asian and European descent living in Canada. Further research is needed to determine if these direct links exist within the diverse U.S. population and if an indirect

association exists where self-efficacy to practice safe sex is a mediating factor. Such findings could help explain the role of internalized homonegativity and self-efficacy to practice safe sex on the sex behaviors of MSM.

Purpose of the Study

Rates of HIV and STIs among MSM in the US are high compared to those of other at-risk subgroups and are, in part, attributed to high rates of risky sexual behaviors, although it should be noted that the highest transmission rates are among African Americans (CDC, 2013, 2014a). Understanding the unique (i.e., homonegativity) and complicated factors that may contribute to risky sexual behaviors among MSM is thus an important public health concern. Previous research has supported associations among experiences of homonegativity, internalized homonegativity, self-efficacy to practice safe sex, and UAI (Blais et al., 2014; Diaz et al., 2004; Hamilton & Mahalik, 2009; Hatzenbuehler et al., 2008; Klein, 2013; Ratti et al., 2000). The existing research has not, however, examined the important role of different environments (i.e., microsystems) and their associations with individual experiences and characteristics (i.e., experiences of homonegativity, internalized homonegativity, and self-efficacy to practice safe sex) on risky sexual behavior (i.e., UAI). The present study aims to contribute to the existing literature in three ways: first, by assessing experiences of homonegativity in different microsystems; second, by discerning the effects of those experiences on individual characteristics such as internalized homonegativity and self-efficacy to practice safe sex (including the potential of internalized homonegativity as a mediator between experiences of homonegativity and self-efficacy to practice safe sex); and third, by identifying whether self-efficacy to practice safe sex has a mediating role in the relationship between internalized homonegativity and UAI.

Research examining the role of experiences of homonegativity in different microsystems on internalized homonegativity and self-efficacy to practice safe sex is scarce (Blais et al., 2014; Hamilton & Mahalik, 2009; Ratti et al., 2000). Previous research has suggested that relationships among internalized homonegativity, self-efficacy to practice safe sex, and UAI may be complex and indirect (Alvy et al., 2011; Blais et al., 2014; Miner et al., 2009). Examining these relationships is important because previous findings have linked internalized homonegativity and low self-efficacy to practice safe sex to UAI (Ross et al., 2013). This study will replicate previous findings that link internalized homonegativity and self-efficacy to practice safe sex to UAI. Furthermore, the present study will examine how experiences of homonegativity in the family, friend, neighborhood, and church microsystems affect an individual's view of the self (i.e., internalized homonegativity), which in turn may influence self-efficacy to practice safer sex and condom use during sexual anal intercourse.

Rationale for Mediation

Mediation is hypothesized when evidence indicates that the relationship between a dependent variable and an independent variable is indirect, acting through a third variable (Baron & Kenny, 1986; Fritz & MacKinnon, 2007). The purpose of mediation analysis in the current study is to clarify the relationships of several individual factors with each other as well as their possible link to risky sexual behavior. The current study will test two mediation models (lower panel of Figure 3): (1) internalized homonegativity mediating the association between experiences of homonegativity and self-efficacy to practice safe sex; and (2) self-efficacy to practice safe sex mediating the association

between internalized homonegativity and UAI (at last sexual encounter and past three months).

Mediation 1. It is predicted that internalized homonegativity will explain the relationship between experiences of homonegativity and self-efficacy to practice safe sex. Internalized homonegativity has been found to be directly related to experiences of homonegativity (Blais et al., 2014; Hamilton & Mahalik, 2009) and self-efficacy (Ratti et al., 2000), but evidence demonstrating a relationship between experiences of homonegativity and self-efficacy to practice safe sex is lacking. Research also found that internalized homonegativity partially mediated the association between experiences of homonegativity and self-esteem (Blais et al., 2014). Using two scales of internalized homonegativity as indicators of internalized heterosexism, Szymanski and Carr (2008) found that internalized heterosexism mediated the association between gender role conflict and self-esteem among gay and bisexual men. These studies demonstrated the mediating role of internalized homonegativity among discrimination and health outcomes, but further research examining the possible mediating role of internalized homonegativity between experiences of homonegativity and self-efficacy to practice safe sex will expand on the literature of how these variables are related.

Mediation 2. It is predicted that self-efficacy to practice safe sex will mediate the association between internalized homonegativity and unprotected anal intercourse in the last three months and most recent sexual encounter. Research has demonstrated that internalized homonegativity is directly related to UAI (Hamilton & Mahalik, 2009; Hatzenbuehler et al., 2008; Ratti et al., 2000) and self-efficacy to practice safe sex (Ratti et al., 2000). Research has also found direct relationships between self-efficacy to

practice safe sex and UAI (Klein, 2013; Ratti et al., 2000; Zea et al., 2009). Ross et al. (2008) found that internalized homonegativity was related to lower self-efficacy for condom use, which in turn was related to serodiscordant unprotected anal intercourse in a diverse sample of MSM. Miner et al. (2009) demonstrated how self-efficacy can mediate specific relationships (i.e., social norms and UAI). Existing research has supported the direct associations between these variables, whereas the current study will clarify their interrelationships.

Hypotheses

Hypothesis 1. Experiences of homonegativity in each microsystem (i.e., friends, family, church, and neighborhood) will be positively associated with internalized homonegativity and negatively associated with self-efficacy to practice safe sex (top panel of Figure 3). Any differences of experiences of homonegativity on internalized homonegativity and self-efficacy to practice safe sex in different microsystems will be explored.

Hypothesis 2. Internalized homonegativity will mediate the relationship between experiences of homonegativity and self-efficacy to practice safe sex. Experiences of homonegativity in each microsystem will separately be positively related to internalized homonegativity and internalized homonegativity will be negatively related to self-efficacy to practice safe sex.

Hypothesis 3. Self-efficacy to practice safe sex will mediate the relationship between internalized homonegativity and unprotected anal intercourse at last sexual encounter. Internalized homonegativity will be negatively related to self-efficacy to

practice safe sex and self-efficacy to practice safe sex will be negatively related to UAI at last sexual encounter.

Hypothesis 4. Self-efficacy to practice safe sex will mediate the relationship between internalized homonegativity and unprotected anal intercourse within the last 3 months. Internalized homonegativity will be negatively related to self-efficacy to practice safe sex and self-efficacy to practice safe sex will be negatively related to UAI within the last 3 months.

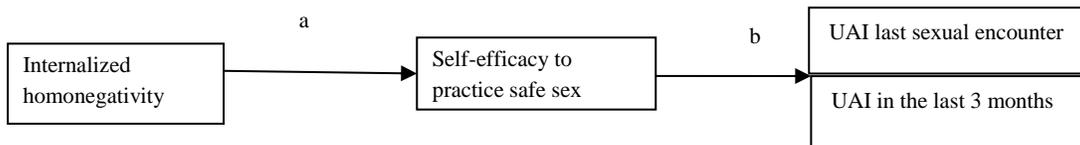
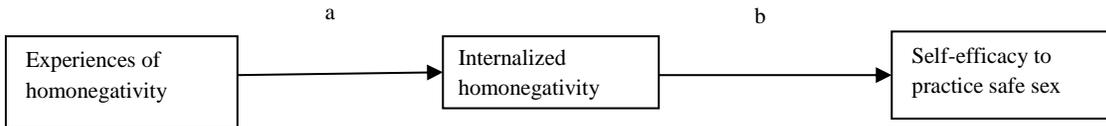
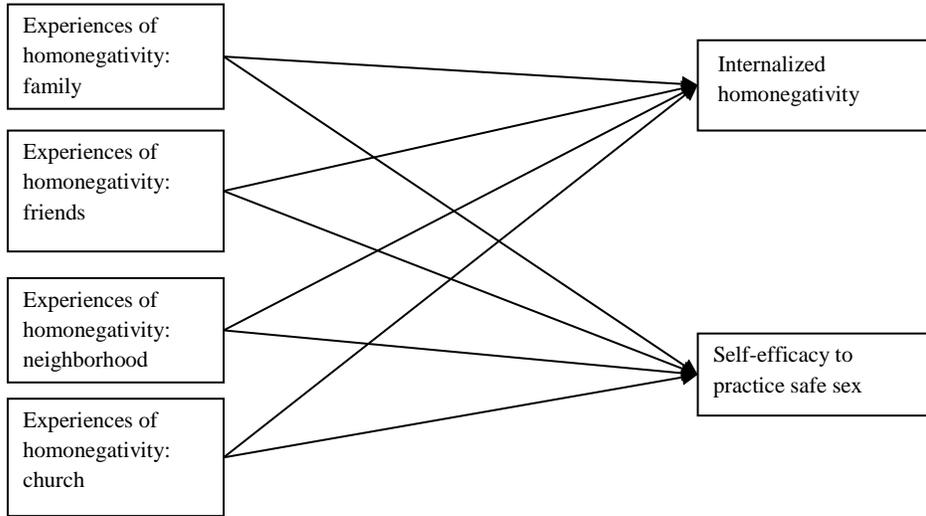


Figure 3. Model of associations of experiences of homonegativity with internalized homonegativity and self-efficacy. Model of internalized homonegativity mediating the relationship between experiences of homonegativity and self-efficacy. Model of self-efficacy mediating the relationship between internalized homonegativity and UAI.

Method

Recruitment

Participants were recruited through several methods, including snowball sampling via the Internet and fliers. The survey was e-mailed to gay community-based organizations (CBOs) and recipients were asked to forward to potential participants. Information about the study was posted in gay listservs, chat rooms, and websites that cater to MSM populations. Second, fliers were placed in establishments that cater to gay men such as CBOs, bars, clubs, and bathhouses. Posting fliers in venues that cater to gay men helped spread news of the study by word-of-mouth from people who saw the fliers and to reach participants who do not frequent websites that cater to MSM. No compensation was offered or given to participants. Participants were encouraged to refer others to the study. These referrals could be by word-of-mouth or by forwarding the link to the study survey through an automatic setting which enabled participants to do so without the researcher collecting any identifying information, such as email addresses.

Online Survey Administration

Data were collected via an online survey between May 2012 and April 2013. No personally identifying information was collected, and participants did not need to meet with the researcher, which further ensured anonymity. Participants were able to complete the survey at home or any place that was convenient for them, which eliminated travel to a university or other setting to collect data. In their review of several Internet studies, Pequegnat and colleagues (2007) suggested that online research can be superior to offline research because of diversity of sample, anonymity, automatic data entry, pre-programmed skip patterns, and low cost.

Participants consented on a preface page viewed before the administration of the survey. The preface page listed inclusion criteria, had a general description of the study, listed the study goals, and listed the benefits and consequences of completing the survey. If the participant met all criteria he was asked to click on the link to give consent and take the survey. Regardless of whether the participants met the criteria, all participants were asked to refer any friends they believed met the criteria. Skip patterns in the questions eliminated asking participants any unnecessary questions (i.e., items that did not apply to their individual situation). Responses were sent to a database (Survey Monkey, www.surveymonkey.com) set up specifically for the purpose of data collection. Survey Monkey secured the data collected with the latest firewalls and encryption to ensure privacy (http://help.surveymonkey.com/articles/en_US/kb/What-is-the-enhanced-security-option-SSL-encryption?).

Participants

Inclusion criteria were: identifying as MSM, 18 years of age or older, resident of the US, and having had sex with a man within the last three months. The total number of participants was 146, but only 136 men fully completed the survey. Table 1 includes a description of the total number of 146 participants, the 136 participants who provided information on anal intercourse in the last three months, and the 131 participants who reported anal intercourse in their last sexual encounter.

Of the initial sample of 146, the majority (66%) indicated their race/ethnicity as White (Table 1). The average age was 40 years old; the youngest participant was 23 years old and the oldest was 74 years old. The sample was highly educated, with almost 60% having at least a college degree. However, almost 22% of the sample did not report

education. More than three quarters reported a monthly income of \$4,001 and above.

About half of the sample reported being employed full time and 7% were unemployed. A majority of the sample, 62%, reported being HIV negative. Nearly 19% of the sample did not report HIV status, 16% reported being HIV positive, and 3% did not know their HIV status (Table 1).

Table 1

Participants' demographics

Group	Initial sample	Sample with complete data on 3 Month Encounters	Sample with complete data on Last Sexual Encounter
	N = 146 (%)	N = 136 (%)	N = 131 (%)
Race/ethnicity			
Asian	2 (1)	2 (2)	1(1)
Black/African American	11 (8)	11 (8)	11 (8)
Latino/Latin/Hispanic/Spanish	19 (13)	18 (13)	17 (13)
Mixed	7 (5)	7 (5)	6 (5)
Native or Alaskan American	1 (1)	1 (1)	1 (1)
Other	4 (3)	4 (3)	4 (3)
White	96 (66)	92 (68)	90 (69)
Not Reported	6 (4)	1 (1)	1 (1)
Education			
Not Reported	31(21)	21 (15)	16 (12)
Less than H.S.	1 (1)	1 (1)	1 (1)
H.S. or GED	1 (1)	1 (1)	1 (1)
Some College	26 (18)	26 (19)	26 (20)
College Degree	32 (22)	32 (24)	32 (24)
Some Graduate School	10 (7)	10 (7)	10 (8)
Graduate Degree	45 (31)	45 (33)	45 (34)
Monthly Income			
Not Reported	31 (21)	21 (15)	16 (12)

Less than 400	6 (4)	6 (4)	6 (5)
401-800	6 (4)	6 (4)	6 (5)
801-1600	20 (14)	20 (15)	20 (15)
1601-2400	17 (12)	17 (13)	17 (13)
2401-3200	16 (11)	16 (12)	16 (12)
3201-4000	16 (11)	16 (12)	16 (12)
4001 or more	34 (23)	34 (25)	34 (26)
HIV Status			
Not Reported	27 (19)	17 (13)	12 (19)
Positive	24 (16)	24 (18)	24 (18)
Negative	90 (62)	90 (66)	90 (69)
Unknown	5 (3)	5 (4)	5 (4)
Employment			
Full-time	75 (51)	75 (55)	75 (57)
Part-time	13 (9)	13 (10)	13 (10)
Retired	4 (3)	4 (3)	4 (3)
Self-employed	13 (9)	13 (10)	13 (10)
Unemployed	10 (7)	10 (7)	10 (8)
Not Reported	31 (21)	21 (15)	16 (12)

Measures

The following basic demographic information was collected: year of birth, country of birth, education level, income, employment status, current living situation, and zip code. Questions concerning sexual identity, sexual orientation, comfort with sexual orientation, and current HIV status were also asked. The main measures of interest were three month sexual activity, most recent sexual activity, self-efficacy to practice safe sex, internalized homonegativity, and experiences of homonegativity.

Three month sexual activity. Three month sexual activity history was obtained by asking about the number of and type of main or casual sex partners in the past three months. The type of anal sex was also asked (receptive versus insertive) and whether condoms were used in each of these situations. Any unprotected anal intercourse (UAI) within the last three months was comprised of individuals who answered yes to any receptive or insertive UAI in the last three months; “yes” was coded as one (1), and “no” was coded as zero (0).

Most recent past sexual encounter. Participants were asked about their most recent sexual encounter, whether they had insertive or receptive anal sex, whether condoms were used for anal sex or whether they had UAI at the most recent encounter. “Yes” to UAI was coded as one (1), and “no” to UAI was coded as zero (0). Thus, UAI was a dichotomous variable (see Appendix for more details).

Self-efficacy to practice safe sex. Self-efficacy was measured using a 5-item Likert scale previously adapted for use with MSM (Brafford & Beck, 1991; Marin, Gomez, Tschann, & Gregorich, 1997; Zea et al., 2009). The scale had been modified to capture a range of difficulty within specific situations, such as, “I am sure that I could stop to put a condom on myself, even in the heat of the moment” (Zea et al., 2009). Responses ranged from (1) *strongly disagree* to (5) *strongly agree*, with higher scores suggesting higher ability to use condoms (see Appendix for details). In a study with Latino MSM, internal consistency was .84 (Zea et al., 2009) and .80 for the current study.

Internalized homonegativity. Internalized homonegativity was assessed using adaptations of several measures of internalized homonegativity (Mayfield, 2001; Ross & Rosser, 1996; Thiede et al., 2003). The revised 10-item scale assessed negative views of

the self due to same sex identification and/or behavior. The measure is comprised of two subscales: Personal homonegativity and morality of homosexuality. Personal homonegativity is defined as emotions and attitudes that participants may have about their homosexual behavior or orientation (Mayfield, 2001). A sample question for personal homonegativity included, “When people around me talk about homosexuality, I get nervous.” Morality of homosexuality is defined as “negative attitudes regarding the moral implications of same-sex behavior and attraction” (Mayfield, 2001, p. 67). A sample question for moral homonegativity included, “I sometimes feel guilty after having sex with men.” Likert-type responses ranged from (1) *strongly disagree* to (5) *strongly agree* with higher scores indicating greater levels of internalized homonegativity (see Appendix for details). The original measures have been used with MSM samples (Mayfield, 2001; Ross & Rosser, 1996; Thiede et al., 2003). Internal consistencies for the separate original measures were .91 (Mayfield, 2001), .83 (Smolenski, Ross, Risser, & Rosser, 2009), and .79 (Thiede et al., 2003). Internal consistency for the whole scale was .82 for the current study. Internal consistency of personal internalized homonegativity and morality internalized homonegativity were .82 and .72, respectively. Both scales were used to calculate internalized homonegativity.

Experiences of homonegativity. Experiences of homonegativity in each microsystem were assessed using a modified version of a measure developed by Diaz and colleagues (2001). The original measure consisted of five items. For this study, questions specified homonegative experiences within four microsystems: friends, family, church, and neighborhood. A sample question includes, “As an adult, how often have you been hit or beaten up by others because of your sexual orientation or for being gay,” followed

by specific microsystem, e.g., “among friends.” Likert-type responses ranged from (0) *not applicable* to (4) *many times* with higher scores indicating increases of experienced homonegativity (see Appendix for details). Questions that were answered with not applicable were omitted from the analysis and responses were re-labeled accordingly: (0) never, (1) once or twice, (2) several times, (3) many times. Experiences of homonegativity from family, friends, church, and neighborhood had internal consistencies of .72, .77, .77, .71, respectively.

Analytic Plan

Power Analysis

The sample size for the proposed model was determined using an a-priori sample size calculator for regression analysis (Abramowitz & Stegun, 1965; Cohen, 1988; Cohen, Cohen, West, & Aiken, 2003; Soper, 2013). The sample size needed for the regression analyses was 76. An anticipated effect size of 0.15 was used. In addition, the desired statistical power was at 0.8 with a probability of 0.05 using three predictors.

Bivariate correlations were conducted to determine whether there were significant associations between experiences of homonegativity in each microsystem (i.e., friends, family, church, and neighborhood), internalized homonegativity, and self-efficacy. Once tests of significant correlations were complete, Fisher’s r to z transformation test was used to explore whether the correlations were significantly different. A significant difference in the strength of the correlation is suggested when Fisher’s z test is significant.

Mediation was tested as specified in the Joint Test of Significance (Fritz & MacKinnon, 2007). According to this approach, mediation exists when the association

between the independent variable and the mediator is significant and the association between the mediator and dependent variable is significant (Fritz & MacKinnon, 2007). The association between the independent variable and mediator is termed *a*. The association between the mediator and the dependent variable is termed *b*. If *a* and *b* in Hypotheses 2, 3, and 4 are significant, mediation is present (Fritz & MacKinnon, 2007; MacKinnon & Fairchild, 2009; MacKinnon, Fairchild, & Fritz, 2007).

Other mediational methods were considered but had limitations or were equivalent in their approach and results. For example, the Sobel test assumes that the distribution of the *ab* product is normal and may yield an inaccurate *p* value with small sample sizes (Preacher & Hayes, 2004). Bootstrapping was considered but Hayes and Scharkow (2013) determined that the Joint Test of Significance works just as well as bootstrapping.

Mediation analysis was conducted using SPSS. Linear and logistic regression analyses were conducted to examine the relationships between the variables of interest and potential mediational effects. To determine if internalized homonegativity mediated the relationship between experience of homonegativity in each microsystem and self-efficacy to practice safe sex, several linear regressions were completed. Internalized homonegativity, the mediator, was regressed on experiences of homonegativity in each microsystem, and self-efficacy to practice safe sex was regressed on internalized homonegativity. This analysis was conducted to examine the relationship of the mediator with experiences of homonegativity in each microsystem and self-efficacy to practice safe sex. Similar steps were conducted for Hypotheses 3 and 4 using logistic regression

when analysis was conducted using the outcome categorical variables. Specific mediation steps for Hypotheses 2, 3, and 4 are presented below.

Hypothesis 2: Internalized homonegativity will mediate the association between experiences of homonegativity in each microsystem and self-efficacy to practice safe sex.

- 1) Internalized homonegativity, mediator, was regressed on experiences of homonegativity, independent variable.
- 2) Self-efficacy to practice safe sex, dependent variable, was regressed on internalized homonegativity, the mediator.

Hypothesis 3: Self-efficacy to practice safe sex will mediate the association between internalized homonegativity and unprotected anal intercourse at the last sexual encounter.

- 1) Self-efficacy to practice safe sex, mediator, was regressed on internalized homonegativity, the independent variable.
- 2) Unprotected anal intercourse at the last sexual encounter, dependent variable, was regressed on self-efficacy for safe sex.

Hypothesis 4: Self-efficacy to practice safe sex will mediate the association between internalized homonegativity and unprotected anal intercourse within the last three months.

- 1) Self-efficacy to practice safe sex, mediator, was regressed on internalized homonegativity, the independent variable.

- 2) Unprotected anal intercourse within the last three months, dependent variable, was regressed on self-efficacy for safe sex.

Results

The current study had several aims. The first aim was to examine the associations of experiences of homonegativity in four microsystems (i.e., friends, family, church, neighborhood) with internalized homonegativity and self-efficacy to practice safe sex. The second aim was to determine if internalized homonegativity mediated the association between experiences of homonegativity in all four microsystems and self-efficacy to practice safe sex. The third aim was to test whether self-efficacy to practice safe sex mediated the association between internalized homonegativity and unprotected anal intercourse in the last three months and at the most recent sexual encounter using regression analysis (see Figure 2).

Bivariate correlations were conducted to determine whether there were significant associations between experiences of homonegativity in each microsystem (i.e., friends, family, church, and neighborhood) and internalized homonegativity, and between experiences of homonegativity in each microsystem (i.e., friends, family, church, and neighborhood) and self-efficacy. Table 2 includes means, standard deviations, and correlations among the study variables. Overall, experiences of homonegativity across settings were highly correlated with each other, with correlations ranging from $r = .44, p < .01$ to $r = .73, p < .01$. Because experiences of homonegativity in church had only 68 respondents, possibly due to participants not attending church, this variable was dropped from further analysis. Bivariate correlations were conducted to explore associations among the variables of interest (see Table 2).

Table 2

Correlations for Variables of Interest

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Homoneg.: church	-												
2. Homoneg.: neighborhood	.44**	-											
3. Homoneg.: family	.61**	.60**	-										
4. Homoneg.: friends	.47**	.69**	.73**	-									
5. Homoneg.: family, friends	.58**	.69**	.94**	.93**	-								
6. Homoneg.: combined	.74**	.82**	.89**	.88**	.95**	-							
7. Homoneg.: family, friend, neighborhood	.57**	.86**	.89**	.91**	.96**	.98**	-						
8. Personal internalized homonegativity	.20	.24*	.36**	.47**	.43**	.39**	.39**	-					
9. Morality internalized homonegativity	.18	.09	.20*	.26**	.24*	.23*	.21*	.44**	-				
10. Internalized homonegativity	.22	.20*	.33**	.44**	.40**	.37**	.36**	.88**	.81**	-			
11. Self-efficacy to practice safe sex	-.15	-.10	-.11	-.18*	-.15	-.17	-.15	-.22*	-.26**	-.29**	-		
12. UAI last three months	-.21	-.09	-.01	-.12	-.06	-.10	-.09	.05	.05	.06	-.26**	-	
13. UAI last sexual encounter	-.26*	-.05	-.16	-.13	-.16	-.14	-.13	.10	.16	.15	-.23*	.68**	-
Mean	2.14	1.82	1.88	1.59	1.74	1.80	1.76	1.78	1.49	1.64	3.92	.62	.42
Standard deviation	.93	.71	.71	.67	.64	.61	.61	.87	.71	.67	.84	.49	.50
N	68	117	117	117	117	118	118	125	125	125	124	136	131

Note. Homoneg. = experiences of homonegativity; Combined = family, friend, neighborhood, and church; UAI = unprotected anal intercourse.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

Hypothesis 1 stated that experiences of homonegativity in each microsystem (i.e., friends, family, and neighborhood) would be positively associated with internalized homonegativity and negatively associated with self-efficacy to practice safe sex. The differences of experiences of homonegativity in each microsystem on internalized homonegativity and self-efficacy to practice safe sex were explored. Figures 4 through 6 represent the final models for Hypothesis 1. Regression analyses were conducted to examine whether experiences of homonegativity in each microsystem were positively associated with internalized homonegativity and negatively associated with self-efficacy to practice safe sex.

Experiences of homonegativity from family (Table 3), friends (Table 4), and neighborhood (Table 5) were all significantly positively associated with internalized homonegativity. Experiences of homonegativity from friends were significantly negatively associated with self-efficacy to practice safe sex (see Table 4). Although both experiences of homonegativity from family and neighborhood were negatively associated with self-efficacy to practice safe sex, the associations were not significant.

Fisher's r to z test was used to compare if there was a significant difference among the three correlations that examined the relationships between internalized homonegativity and experiences of homonegativity from family ($r = .33$), friends ($r = .44$), and neighborhood ($r = .20$). The correlation between internalized homonegativity and experiences of homonegativity from friends was significantly stronger than the correlation between internalized homonegativity and experiences of homonegativity from neighborhood, $z = 2.06$, $p = 0.02$. There were no other significant differences among the remaining correlations. Fisher's r to z test was not used to test the difference in

correlations among experiences of homonegativity in each microsystem and self-efficacy to practice safe sex because only one significant correlation was found in those variables (i.e., experiences of homonegativity from friends and self-efficacy to practice safe sex).

Hypothesis 2 stated that internalized homonegativity will mediate the association between experiences of homonegativity in each microsystem and self-efficacy to practice safe sex. The regression of internalized homonegativity on experiences of homonegativity from family (path a) was significant ($R^2 = .11$, $F=14.01$, $p < .001$). The regression of self-efficacy to practice safe sex on internalized homonegativity (path b) was significant ($R^2 = .09$, $F=11.00$, $p < .01$). Based on the Joint Test of Significance (Fritz & MacKinnon, 2007; MacKinnon & Fairchild, 2009; MacKinnon et al., 2007), there was a significant effect for the mediational path.

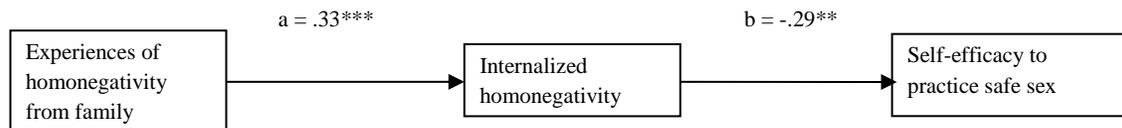


Figure 4. Hypothesis 2 family. Standardized beta coefficients were used to demonstrate the associations between variables. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3

Summary of Regression Analysis for Internalized Homonegativity Mediating the Association between Experiences of Homonegativity from Family and Self-Efficacy to Practice Safe Sex (N = 117)

	Beta	SE B	Beta	R ² change	F change
Condition 1: Experiences of homonegativity from family →Internalized homonegativity					
Step 1: Experiences of homonegativity from family	.31	.08	.33***	.11	14.01***
Condition 2: Internalized homonegativity→Self-efficacy to practice safe sex					
Step 2: Internalized homonegativity	-.38	.12	-.29**	.09	11.00***

Note. Conditions 1 and 2 refer to MacKinnon, Lockwood, Hoffman, West, & Sheets (2002) conditions for mediation.

Each condition was analyzed in separate equations.

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

The regression analyses to test whether internalized homonegativity mediated the relationship between experiences of homonegativity from friends and self-efficacy to practice safe sex are summarized in Table 4. The regression of internalized homonegativity on experiences of homonegativity from friends (path a) was significant ($R^2 = .19, F=27.63, p < .001$). The regression of self-efficacy to practice safe sex on internalized homonegativity (path b) was significant ($R^2 = .09, F=11.00, p < .01$). There was a significant effect for the mediational path.

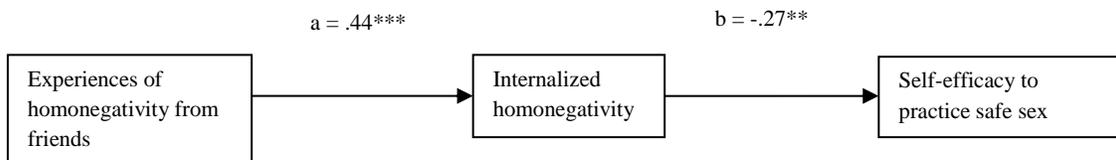


Figure 5. Hypothesis 2 friends. Standardized beta coefficients were used to demonstrate the associations between variables.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4

Summary of Regression Analysis for Internalized Homonegativity Mediating the Association between Experiences of Homonegativity from Friends and Self-Efficacy to Practice Safe Sex (N = 116)

	Beta	SE B	Beta	R ² change	F change
Condition 1: Experiences of homonegativity from friends →Internalized homonegativity					
Step 1: Experiences of homonegativity from friends	.44	.08	.44 ^{***}	.19	27.63 ^{***}
Condition 2: Internalized homonegativity→Self-efficacy to practice safe sex					
Step 2: Internalized homonegativity	-.35	.13	-.27 ^{**}	.09	11.00 ^{**}

Note. Conditions 1 and 2 refer to MacKinnon et al. (2002) conditions for mediation. Each condition was analyzed in separate equations.
* $p < .05$. ** $p < .01$. *** $p < .001$.

The regression analyses to test whether internalized homonegativity mediated the relationship between experiences of homonegativity from neighborhood and self-efficacy to practice safe sex are summarized in Table 5. The regression of internalized homonegativity on experiences of homonegativity from neighborhood (path a) was significant ($R^2 = .04$, $F=4.64$, $p = .03$). The regression of self-efficacy to practice safe sex on internalized homonegativity (path b) was significant ($R^2 = .09$, $F=11.00$, $p < .01$). There was a significant effect for the mediational path.

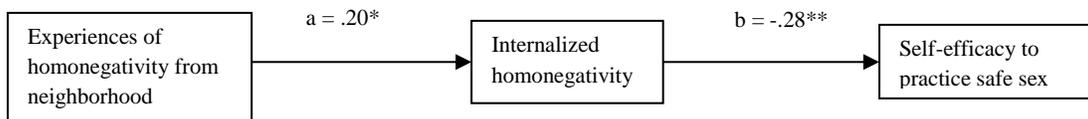


Figure 6. Hypothesis 2 neighborhood. Standardized beta coefficients were used to demonstrate the associations between variables.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 5

Summary of Regression Analysis for Internalized Homonegativity Mediating the Association between Experiences of Homonegativity from Neighborhood and Self-Efficacy to Practice Safe Sex (N = 117)

	Beta	SE B	Beta	R ² change	F change
Condition 1: Experiences of homonegativity from neighborhood →Internalized homonegativity					
Step 1: Experiences of homonegativity from neighborhood	.18	.09	.20*	.04	4.64*
Condition 2: Internalized homonegativity→Self-efficacy to practice safe sex					
Step 2: Internalized homonegativity	-.37	.12	-.28**	.09	11.00**

Note. Conditions 1 and 2 refer to MacKinnon et al. (2002) conditions for mediation. Each condition was analyzed in separate equations.

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

Hypothesis 3 stated that self-efficacy to practice safe sex will mediate the association between internalized homonegativity and unprotected anal intercourse at the last sexual encounter. Linear and logistic regression were used to determine that relationships between variables. Logistic regression was use for analysis that included UAI as the outcome variable because UAI was coded dichotomously. The regression analyses to test Hypothesis 3 are summarized in Table 6. The regression of self-efficacy to practice safe sex on internalized homonegativity (path a) was significant ($R^2 = .09$, $F=11.44$, $p < .001$); thus, the first condition for meditation was met. The regression of UAI at last encounter on self-efficacy to practice safe sex (path b) was significant (Wald $\chi^2(1) = 4.12$, $p = .04$); thus, the second condition for mediation was met. There was a significant effect for the mediational path.

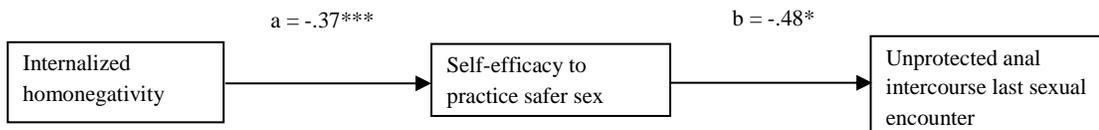


Figure 7. Hypothesis 3. Unstandardized beta coefficients were used to demonstrate the associations between variables. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6

Summary of Regression Analysis for Self-efficacy to Practice Safe Sex Mediating the Association Between Internalized Homonegativity and Last Sexual Encounter (N = 125)

	Beta	SE B	Beta	R ² change	F change	Exp (B)	Wald	χ ²
Condition 1: Internalized homonegativity → Self-efficacy to practice safe sex								
Step 1: Internalized homonegativity	-.37	.11	-.29 ^{***}	.09	11.44 ^{***}			
Condition 2: Self-efficacy to practice safe sex → Last sexual encounter								
Step 2: Self-efficacy to practice safe sex	-.48	.24				.62	4.12 [*]	5.83 [*]

Note. Conditions 1 and 2 refer to MacKinnon et al. (2002) conditions for mediation. Each condition was analyzed in separate equations.

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

Hypothesis 4 stated that self-efficacy to practice safe sex will mediate the association between internalized homonegativity and unprotected anal intercourse within the last three months. The regression analyses to test Hypothesis 4 are summarized in Table 7. Logistic regression was used to determine the relationship between self-efficacy to practice safe sex and UAI because UAI was coded dichotomously. The regression of self-efficacy to practice safe sex on internalized homonegativity (path a) was significant ($R^2 = .09, F=11.44, p < .001$); thus, the first condition for mediation was met. The regression of UAI within the last three months on self-efficacy to practice safe sex (path b) was significant (Wald $\chi^2(1) = 7.25, p < .01$); thus, the second condition for mediation was met. There was a significant effect for the mediational path.

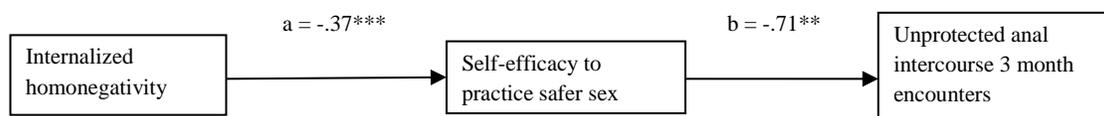


Figure 8. Hypothesis 4. Unstandardized beta coefficients were used to demonstrate the associations between variables.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 7

Summary of Regression Analysis for Self-efficacy to Practice Safe Sex Mediating the Association Between Internalized Homonegativity and 3 Month Sexual Encounters (N = 125)

	Beta	SE B	Beta	R ² change	F change	Exp(B)	Wald	χ^2
Condition 1: Internalized homonegativity → Self-efficacy to practice safe sex								
Step 1: Internalized homonegativity	-.37	.11	-.29***	.09	11.44***			
Condition 2: Self-efficacy to practice safe sex → 3 month sexual encounters								
Step 2: Self-efficacy to practice safe sex	-.71	.27				.49	7.25**	8.65**

Note. Conditions 1 and 2 refer to MacKinnon et al. (2002) conditions for mediation. Each condition was analyzed in separate equations.

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

Discussion

Men who have sex with men continue to be the most widely affected by HIV in the United States (CDC, 2014a). To begin addressing this public health concern, the current study aimed to examine MSM's experiences of homonegativity in different settings and the effects of internalized homonegativity and self-efficacy to practice safe sex on risky sexual behavior. More specifically, the goals were

1. To determine if experiences of homonegativity in each microsystem (i.e., friends, family, church, and neighborhood) would be positively associated with internalized homonegativity and negatively associated with self-efficacy to practice safe sex. The differences of experiences of homonegativity in each microsystem on internalized homonegativity were explored.
2. To determine whether internalized homonegativity mediated the association between experiences of homonegativity in each setting and self-efficacy to practice safe sex.
3. To determine whether self-efficacy to practice safe sex mediated the association between internalized homonegativity and UAI in the previous three months and in the most recent sexual encounter.

Experience of homonegativity from the ecological perspective. This study captured experiences of homonegativity in different settings. Asking about the specific setting where homonegativity was experienced was a novel approach. Experiences of homonegativity were highest in the church setting, for those who endorsed attending church, and lowest among friends. Experiences of homonegativity in any single setting were highly associated with perceived experiences of homonegativity in the other settings

HOMONEGATIVITY AND CONDOM USE

which could be an indicator of how much homonegativity permeates across settings, but could also be due to overlap among settings. People in an individual's friends setting could also be in the neighborhood setting. Alternatively, individuals who perceive discrimination in one setting could be prone to perceiving discrimination in all other settings (Major & O'Brien, 2005). Although an individual may perceive discrimination in a setting where discrimination may not have occurred, the perception of discrimination becomes the individual's reality including the consequences of the perceived discrimination.

From an ecological perspective, experiences in different microsystems (e.g., friends, family, and neighborhood) can affect an individual at varying levels. Experiences of homonegativity from friends appeared to be more salient to MSM's internalized homonegativity than experiences of homonegativity from neighborhood. In other words, the more an individual reported experiencing homonegativity from friends, the more their reported internalized homonegativity. Because causality cannot be determined, it is also possible that the greater an individual's report of internalized homonegativity, the more likely he is to surround himself with a social network of friends who discriminate against homosexuality (i.e., a social network in which he might experience homonegativity; Kimmel, 2004). Findings suggest that the surrounding social network is likely to influence internalized homonegativity or how MSM view their behavior or sexual orientation (Herek, Cogan, Gillis, & Glunt, 1997; Wright & Perry, 2006).

Experiences of homonegativity from both family and neighborhood were also related to internalized homonegativity. These findings suggest that family, neighborhood, and friends play an important role in how an individual views and accepts his sexual

HOMONEGATIVITY AND CONDOM USE

behavior. Consistent with previous research (Hein & Scharer, 2013; Zakalik & Wei, 2006), experiences of homonegativity can possibly lead to negative consequences; in the current study internalized homonegativity. MSM are likely to be influenced by the positive or negative view of MSM behavior or sexual orientation held by their microsystems (family, neighborhood, or friends).

Hypothesis 2. Experiences of homonegativity from friends were related to internalized homonegativity, which in turn was related to self-efficacy to practice safe sex. Experiences of homonegativity from friends were also directly related to self-efficacy to practice safe sex. Experiences of homonegativity from family were related to internalized homonegativity, which in turn was related to self-efficacy to practice safe sex. Experiences of homonegativity from neighborhood were related to internalized homonegativity, which in turn was related to self-efficacy to practice safe sex. Among men who reported experiences of homonegativity, those who had high experiences of homonegativity and high internalized homonegativity had low self-efficacy to practice safe sex. Internalized homonegativity was the strongest predictor of self-efficacy to practice safe sex. Acting through internalized homonegativity, MSM who experience homonegativity are likely to have lower self-efficacy to practice safe sex. Consistent with Meyer's (2003) review of the literature, experiences of homonegativity may make it more difficult for MSM to accept their sexual identity. Rejecting one's sexual identity or feeling shame about one's sexual identity can lead to other potentially negative behaviors including UAI and substance use (Hatzenbuehler et al., 2008; Ross, Kajubi, Mandel, McFarland, & Raymond, 2013). Internalized homonegativity played a role in explaining how experiences of homonegativity from several settings related to self-efficacy to

HOMONEGATIVITY AND CONDOM USE

practice safe sex. Friends, neighborhood, and family play pivotal roles in MSM's lives that greatly influence MSM's internalized homonegativity, which in turn affects self-efficacy to practice safe sex.

While previous studies have examined links between the variables of interest, this study is the first to examine whether internalized homonegativity helped explain the paths between experiences of homonegativity in several different settings and self-efficacy to practice safer sex. MSM who report experiences of homonegativity in several settings are likely to, but not always, report greater internalized homonegativity, and thus have lower self-efficacy to practice safe sex. Low self-efficacy to practice safe sex could contribute to UAI, which was also examined within this study. UAI in turn increases the likelihood of HIV and STI transmission. Furthermore, internalized homonegativity has been linked to negative mental and behavioral health outcomes (Hein & Scharer, 2013; Zakalik & Wei, 2006). This study helps explore one possible way in which internalized homonegativity is fostered, through experiences of homonegativity in different settings. Knowing how experiences of homonegativity and internalized homonegativity are related can lead to future interventions to reduce experiences of homonegativity and possibly help MSM develop a healthy sense of self and sexual identity and behavior.

Hypothesis 3 and 4. Internalized homonegativity was related to self-efficacy to practice safe sex, which in turn was related to UAI within the last three months and in the last sexual encounter. MSM with low self-efficacy to practice safe sex were more likely to have engaged in UAI in the last three months and at most recent sexual encounter than those with higher self-efficacy. Self-efficacy to practice safe sex was the strongest predictor of whether an individual engaged in UAI at three month and last encounters,

HOMONEGATIVITY AND CONDOM USE

although causality cannot be inferred. This finding is consistent with those found among Latino MSM (Zea et al., 2009) and gay and bisexual African American men (Peterson et al., 1992). Negative attitudes toward homosexual behavior across microsystems can affect an individual's mastery over their sexual behavior. For instance, someone could view his MSM behavior as shameful because of incorporated negative societal views and may want to complete the encounter as quickly as possible, forgoing condom use. MSM with high internalized homonegativity may also feel that they are not worth protecting or deserve what they get (i.e., STD or HIV) for engaging in homosexual behavior. Essentially, individuals with high internalized homonegativity may likely feel that they have no mastery over their sexual behavior. Within this study, internalized homonegativity was predictive of self-efficacy (i.e., belief in an individual's ability to practice safe sex) and self-efficacy was predictive of UAI. Furthermore, because belief in one's ability to practice safe sex influences behavior, these findings highlight the need to de-stigmatize homosexual behavior across microsystems which is likely to reduce internalized homonegativity and increase an individual's belief in his ability to engage in safe sexual practices. For instance, positive messages about homosexuals within an individual's community can help cultivate a positive sense of his homosexual sexual orientation thus increasing an individual's sense of self-worth and mastery over sexual behavior.

Two factors of internalized homonegativity. Internalized homonegativity was comprised of several measures of internalized homonegativity (Mayfield, 2001; Ross & Rosser, 1996; Thiede et al., 2003) and included two subscales: personal internalized homonegativity and morality of homosexuality. Including these two subscales helped in

HOMONEGATIVITY AND CONDOM USE

determining a participant's attitude, emotions, and moral implications of MSM behavior. Participants endorsed slightly higher levels of personal internalized homonegativity than morality of homosexuality. Personal internalized homonegativity, which are the attitudes and emotions toward MSM behavior, could be slightly more salient than the possible moral implications of MSM behavior or morality of homosexuality. Personal internalized homonegativity was associated with experiences of homonegativity in three settings while morality of homosexuality was only associated with experiences of homonegativity in two settings. Neither was associated with experiences of homonegativity from church.

Study limitations

The current study has several important limitations. The most obvious limitation is the small sample size. A larger sample size could have provided a greater breadth of information and possibly stronger effects. Although participants who endorsed attending church reported more experiences of homonegativity in the church setting, experiences of homonegativity in church was not as highly correlated as experiences of homonegativity among friends and family. A larger sample size could have yielded a greater effect size between experience of homonegativity from church and internalized homonegativity. A larger sample could help explain the importance, or lack thereof, of experiences of homonegativity in church.

Although diverse, the sample was largely comprised of MSM who identified as White. A sample with a larger participation from racial/ethnic minorities would have been more representative of the US MSM population. Because ethnic minorities may endorse higher levels of internalized homonegativity (O'Leary, Fisher, Purcell, Spikes, &

HOMONEGATIVITY AND CONDOM USE

Gomez, 2007), the negative influence of societal stigma could play a stronger role, albeit in the same direction, than among this predominantly White sample.

Another limitation is the use of self-reported data. Although research supports self-report of sexual encounters as useful (Catania, Gibson, Chitwood, & Coates, 1990; Noar, Cole, & Carlyle, 2006; Weinhardt, Forsyth, Carey, Jaworski, & Durant, 1998; Zea et al., 2009), there are problems with self-reporting. For instance, inaccurate recall cannot be completely eliminated. This is a limitation of sexual behavior research in general, because it is all self-reported.

Data were collected via internet. People who took the survey and therefore had internet access could have less internalized homonegativity than those who lacked internet access because the latter could be less likely to see the extent of societal changes that have made homosexuality more acceptable. The last few years have seen a surge of states accepting gay marriage, one indicator of decreased homonegativity. However, those with low or no internet connectivity, can miss the extent to which there are social changes.

Unprotected anal intercourse in the last three months was coded dichotomously. Although not a limitation, measuring UAI continuously (i.e., frequency of UAI over last three months) could have yielded results concerning how often MSM are engaging in UAI which could help inform level of risk (e.g., one instance of UAI in last three months or twenty instances of UAI in the last three months). Future studies could examine frequency of UAI to determine level of risk which would provide a base line for future interventions.

Recommendations for future studies

HOMONEGATIVITY AND CONDOM USE

The current study sheds light on how salient experiences of homonegativity in different microsystems relate to internalized homonegativity, and indirectly on self-efficacy to practice safe sex, which is related to UAI among MSM. In addition, the complexity and importance of how these variables are interconnected should not be understated. Future research, with larger and more diverse sample sizes, could provide more generalizable results. Future research on self-efficacy to practice safe sex will be needed to determine how an individual can increase protective sexual behaviors. Given that internalized homonegativity is associated with self-efficacy to practice safe sex, research should also focus on finding factors that may influence and reduce internalized homonegativity at the church, family, friends, and neighborhood levels. For instance, future research can determine if positive educational messages about MSM within specific microsystems changes individuals' opinions of MSM within that microsystem. This could help cultivate open discussion of MSM. Research could also determine how these positive messages within a specific microsystem affect MSM, including internalized homonegativity, self-efficacy, mental health (e.g., depression and anxiety), and risky behaviors (e.g., substance use and UAI). Future interventions in more homonegative microsystems, such as the church, could reduce homonegativity and internalized homonegativity. Examination of microsystems not included in this study (e.g., armed forces) and programs aimed at reducing homonegativity in diverse microsystems could also make a contribution to this field of study.

Longitudinal, funded studies, could potentially reduce some limitations. A longitudinal study would allow examining causal relationships among variables such as determining if experiences of homonegativity cause internalized homonegativity.

HOMONEGATIVITY AND CONDOM USE

Individuals are likely not born with internalized homonegativity, but rather they internalize homonegativity from the environment. The cross-sectional nature of this study does not allow examinations of causality. A funded study would help attract participants by compensating them for their time, and would allow hiring research aids to help with data collection. To increase participation from minority MSM, venues that cater to minority MSM could be targeted for recruitment.

Implications

The current study has some important public health implications. Developing interventions that focus on reducing experiences of homonegativity in microsystems, decreasing internalized homonegativity, and increasing self-efficacy could contribute to a decrease in UAI. Community based organizations (CBO) could focus on providing social outlets that help an MSM positively accept his sexual orientation and decrease internalized homonegativity. Organizations that cater to MSM can help promote acceptance and provide education among different microsystems. For instance, a bully prevention program held within schools led to a reduction in bullying (Brown, Low, Smith, & Haggerty, 2011). Similarly, an intervention on tolerance and acceptance within a microsystem could potentially lead to a reduction of experiences of homonegativity. CBOs can also hold seminars for family and friends of MSM if CBOs encounter resistance in various microsystems. Similar to public health messages about HIV testing and bullying, messages about experiences of homonegativity and internalized homonegativity could be disseminated among media outlets. Websites, such as AIDS.gov or stopbullying.gov, have educational materials, videos, and prevention resources (U.S. Department of Health and Human Services, 2015).

HOMONEGATIVITY AND CONDOM USE

Individual therapists should be aware of how different microsystems may potentially influence an individual's perception and acceptance of his sexual orientation identity. Therapists will need to be vigilant about what microsystems could have potentially increased an individual internalized homonegativity and that will likely need to be addressed in therapy. This could help therapists guide men who have sex with other men to develop healthy views of themselves.

Conclusion

The purpose of this study was to contribute to the discussion of a public health concern, HIV risk, by examining the relationships among experiences of homonegativity in specific microsystems, internalized homonegativity, self-efficacy to practice safe sex, and UAI at most recent sexual encounter and within the last three months. This study suggests that experiences in different microsystems are directly related to internalized homonegativity and indirectly related to self-efficacy to practice safe sex. Furthermore, internalized homonegativity was directly related to self-efficacy to practice safe sex and indirectly related to UAI at last encounter and within the last three months. Self-efficacy to practice safe sex was directly related to UAI at last sexual encounter and within the last three months. This study helps explain how homonegativity influences the sexual risk of MSM and on which areas we can focus in the future to reduce internalized homonegativity and UAI, and increase self-efficacy to practice safe sex.

HOMONEGATIVITY AND CONDOM USE

References

- Abramowitz, M. & Stegun, I. A., (Eds.). (1965). *Handbook of Mathematical Functions: with formulas, graphs, and mathematical tables*. New York, NY: Dover.
- Adamczyk, A. & Pitt, C. (2009). Shaping attitudes about homosexuality: The role of religion and cultural context. *Social Science Research*, 38(2), 338-351. doi: 10.1016/j.ssresearch.2009.01.002
- Alden, H. L. & Parker, K. F. (2005). Gender role ideology, homophobia and hate crime: Linking attitudes to Macro-level anti-gay and lesbian hate crimes. *Deviant Behavior*, 26(4), 321-343. doi: 10.1080/016396290931614
- Alderson, K. G. (2003). The ecological model of gay male identity. *The Canadian Journal of Human Sexuality*, 12(2), 75-85.
- Alvy, L. M., McKirnan, D. J., Mansergh, G., Koblin, B., Colfax, G. N., Flores, S. A., Hudson, S. & Project MIX Study Group. (2011). Depression is associated with sexual risk among men who have sex with men, but is mediated by cognitive escape and self-efficacy. *AIDS and Behavior*, 15(6), 1171-1179. doi: 10.1007/s10461-010-9678-z
- AVERTing HIV and AIDS. (1986-2014). *Stigma & Discrimination: Homophobia*. Retrieved June 24, 2014 from <http://www.avert.org/homophobia.htm>
- Barnes, D. M. & Meyer, I. H. (2012). Religious affiliation, internalized homophobia, and mental health in lesbians, gay men, and bisexuals. *American Journal of Orthopsychiatry*, 82(4), 505-515. doi: 10.1111/j.1939-0025.2012.01185.x
- Baron, R. M. & Kenny, D. A. (1986). The moderator-mediator variable distinction in

HOMONEGATIVITY AND CONDOM USE

- social psychology research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182. doi: 10.1037/0022-3514.51.6.1173
- Barret, B. & Logan, C. (2002). *Counseling gay men and lesbians: A practice primer*. Pacific Grove, CA: Brooks/Cole.
- Blais, M., Gervais, J., & Hébert, M. (2014). Internalized homophobia as a partial mediator between homophobic bullying and self-esteem among youths of sexual minorities in Quebec (Canada). *Ciência & saude coletiva*, 19(3), 727-735. doi: 10.1590/1413-81232014193.16082013
- Brafford, L. J. & Beck, K. H. (1991). Development and validation of a condom self-efficacy scale for college students. *Journal of American College Health*, 39(5), 219-225. doi: 10.1080/07448481.1991.9936238
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, 32(7), 513-531. doi:10.1037/0003-066X.32.7.513
- Brown, E. C., Low, S., Smith, B. H., & Haggerty, K. P. (2011). Outcomes from a school-randomized controlled trial of Steps to Respect: A School Bullying Prevention Program. *School Psychology Review*, 40(3), 423-443.
- Catania, J. A., Gibson, D. R., Chitwood, D. D., & Coates, T. J. (1990). Methodological problems in AIDS behavioral research: influences on measurement error and participation bias in studies of sexual behavior. *Psychology Bulletin*, 108(3), 339-362. doi: 10.1037/0033-2909.108.3.339
- Center for Disease Control and Prevention. (2014a). *HIV among gay and bisexual men*.

HOMONEGATIVITY AND CONDOM USE

Retrieved May 23, 2014 from

<http://www.cdc.gov/hiv/risk/gender/msm/facts/index.html>.

Center for Disease Control and Prevention. (2014b). *HIV/AIDS: Risk behaviors*.

Retrieved June 28, 2014 from <http://www.cdc.gov/hiv/risk/behavior/>.

Center for Disease Control and Prevention. (2013). *HIV in the United States: At a glance*.

Retrieved May 23, 2014 from

<http://www.cdc.gov/hiv/statistics/basics/atagance.html>.

Center for Disease Control and Prevention. (2011a). *HIV/AIDS: Statistics overview*.

Retrieved June 24, 2014 from <http://www.cdc.gov/hiv/statistics/basics/>.

Center for Disease Control and Prevention. (2011b). *Gay and bisexual men's sexual*

health. Retrieved June 24, 2014 from <http://www.cdc.gov/msmhealth/stigma-and-discrimination.htm>

Channel NewsAsia. (2014, June 20). *US slaps sanctions on Uganda over anti-gay laws*.

Retrieved from <http://www.channelnewsasia.com/news/world/us-slaps-sanctions-on/1180818.html>.

Choi, K., Hudes, E. S., & Steward, W. T. (2008). Social discrimination, concurrent

sexual partnerships, and HIV risk among men who have sex with men in

Shanghai, China. *AIDS and Behavior*, *12*(S1), 71-77. doi:10.1007/s10461-008-9394-0

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd Edition).

Hillsdale, NJ: Lawrence Earlbaum Associates.

Cohen, J., Cohen, P., West, S.G., & Aiken, L.S. (2003). *Applied Multiple*

Regression/Correlation Analysis for the Behavioral Sciences (3rd edition).

HOMONEGATIVITY AND CONDOM USE

- Mahwah, NJ: Lawrence Earlbaum Associates.
- Crawford, I., Allison, K. W., Zamboni, B. D., & Soto, T. (2002). The influence of dual-identity development on the psychosocial functioning of African-American gay and bisexual men. *The Journal of Sex Research, 39*(3), 179-189.
doi:10.1080/00224490209552140
- D'Augelli, A. R. & Grossman, A. H. (2001). Disclosure of sexual orientation, victimization, and mental health among lesbian, gay, and bisexual older adults. *Journal of Interpersonal Violence, 16*(10), 1008-1027. doi: 10.1177/088626001016010003
- Diaz, R. M., Ayala, G., & Bein, E. (2004). Sexual risk as an outcome of social oppression: Data from a probability sample of Latino gay men in three U.S. cities. *Cultural Diversity and Ethnic Minority Psychology, 10*(3), 255-267.
doi:10.1037/1099-9809.10.3.255
- Diaz, R. M., Ayala, G., Bein, E., Henne, J., & Marin, B. V. (2001). The impact of homophobia, poverty, and racism on the mental health of gay and bisexual Latino men: Findings from 3 U.S. cities. *American Journal of Public Health, 91*(6), 927-932.
- Doty, N. D., Willoughby, B. L. B., Lindahl, K. M., & Malik, N. M. (2010). Sexuality related social support among lesbian, gay, and bisexual youth. *Journal of Youth and Adolescence, 39*(10), 1134-1147. doi: 10.1007/s10964-010-9566-x
- Fernandez-Esquer, M. E., Atkinson, J., Diamond, P., Useche, B., & Mendiola, R. (2004). Condom use self-efficacy among U.S.- and foreign-born Latinos in Texas. *The Journal of Sex Research, 41*(4), 390-399. doi:10.1080/00224490409552246

HOMONEGATIVITY AND CONDOM USE

- Fritz, M. S. & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science, 18*(3), 233-239. doi: 10.1111/j.1467-9280.2007.01882.x
- Frye, V., Koblin, B., Chin, J., Beard, J., Blaney, S., Halkitis, P., Vlahov, D., & Galea, S. (2010). Neighborhood-level correlates of consistent condom use among men who have sex with men: A multi-level analysis. *AIDS and Behavior, 14*(4), 974-985. doi:10.1007/s10461-008-9438-5
- Gold, S. D., Marx, B. P., & Lexington, J. M. (2007). Gay male sexual assault survivors: The relations among internalized homophobia, experiential avoidance, and psychological symptom severity. *Behaviour Research and Therapy, 45*(3), 549-562.
- Gold, S. D., Feinstein, B. A., Skidmore, W. C., & Marx, B. P. (2011). Childhood physical abuse, internalized homophobia, and experiential avoidance among lesbians and gay men. *Psychological Trauma: Theory, Research, Practice, and Policy, 3*(1), 50-60. doi:10.1037/a0020487
- Gottschalk, L. & Newton, J. (2009). Rural homophobia: Not really gay. *Gay & Lesbian Issues and Psychology Review, 5*(3), 153-159.
- Hamilton, C. J. & Mahalik, J. R. (2009). Minority stress, masculinity, and social norms predicting gay men's health risk behaviors. *Journal of Counseling Psychology, 56*(1), 132-141. doi:10.1037/a0014440
- Hatzenbuehler, M. L., Nolen-Hoeksema, S., & Erickson, S. J. (2008). Minority stress

HOMONEGATIVITY AND CONDOM USE

- predictors of HIV risk behavior, substance use, and depressive symptoms: Results from a prospective study of bereaved gay men. *Health Psychology, 27*(4), 455-462. doi:10.1037/0278-6133.27.4.455
- Hayes, A. F. & Scharkow, M. (2013). The relative trustworthiness of inferential tests of the indirect effect in statistical mediation analysis: Does method really matter? *Psychological Science, 24*(10), 1918-1927. doi: 10.1177/0956797613480187
- Herek, G. M. (2009). Hates crimes and stigma-related experiences among sexual minority adults in the United States: Prevalence estimates from a national probability sample. *Journal of Interpersonal Violence, 24*(1), 54-74.
doi:10.1177/0886260508316477
- Herek, G. M., Cogan, J. C., Gillis, J. R., & Glunt, E. K. (1997). Correlates of internalized homophobia in a community sample of lesbians and gay men. *Journal of the Gay and Lesbian Medical Association, 2*, 17-25.
- Herek, G. M. & Garnets, L. D. (2007). Sexual orientation and mental health. *Annual Review of Clinical Psychology, 3*(1), 353-375.
doi:10.1146/annurev.clinpsy.3.022806.091510
- Hein, L. C. & Scharer, K. M. (2013). Who cares if it is a hate crime? Lesbian, gay, bisexual, and transgender hate crimes-mental health implications and interventions. *Perspectives in Psychiatric Care, 49*, 84-93. doi: 10.1111/j.1744-6163.2012.00354.x
- Jeffries, W. L., Marks, G., Lauby, J., Murrill, C. S., & Millett, G. A. (2013). Homophobia

HOMONEGATIVITY AND CONDOM USE

- is associated with sexual behavior that increases risk of acquiring and transmitting HIV infection among black men who have sex with men. *AIDS and Behavior*, 17(4), 1442-1453. doi:10.1007/s10461-012-0189-y
- Joint United Nations Programme on HIV/AIDS. (2006). *HIV and sex between men: Policy brief*. Retrieved June 24, 2014 from https://web.archive.org/web/20130621123530/http://www.unaids.org/en/media/unaids/contentassets/dataimport/pub/briefingnote/2006/20060801_policy_brief_msm_en.pdf
- Kaiser Family Foundation. (2001). *Inside-out: A report on the experiences of lesbians, gays, and bisexuals in America and the public's view on issues and politics related to sexual orientation*. Menlo Park, CA: Kaiser Family Foundation. Retrieved February 2, 2010, from <http://www.kff.org/kaiserpolls/upload/New-Surveys-on-Experiences-of-Lesbians-Gays-and-Bisexuals-and-the-Public-s-Views-Related-to-Sexual-Orientation-Report.pdf>
- Kelly, B. C., Carpiano, R. M., Easterbrook, A., & Parsons, J. T. (2014). Exploring the gay community question: Neighborhood and network influences on the experience of community among urban gay men. *The Sociological Quarterly*, 55, 23-48. doi: 10.1111/tsq.12041
- Kenny, D. A. (2014, April 9). *Mediation*. Retrieved from <http://davidakenny.net/cm/mediate.htm>
- Kertzner, R. M., Meyer, I. H., Frost, D. M., & Stirratt, M. J. (2009). Social and

HOMONEGATIVITY AND CONDOM USE

- psychological well-being in lesbians, gay men, and bisexuals: The effects of race, gender, age, and sexual identity. *American Journal of Orthopsychiatry*, 79(4), 500-510. doi:10.1037/a0016848
- Kimmel, M. S. (2004). Masculinity as homophobia: Fear, shame, and silence in the construction of gender identity. In P. F. Murphy (Ed.), *Feminism and Masculinities* (182-199). New York: Oxford University Press.
- Klein, H. (2013). Condom use self-efficacy and HIV risk practices among men who use the internet to find male partners for unprotected sex. *American Journal of Men's Health*, 8(3), 190-204. doi: 10.1177/1557988313492172
- MacKinnon, D. P. & Fairchild, A. J. (2009). Current directions in mediation analysis. *Current Directions in Psychological Sciences*, 18(1), 16-20. doi: 10.1111/j.1467-8721.2009.01598.x
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology*, 58(1), 593-614. doi: 10.1146/annurev.psych.58.110405.085542
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, 7(1), 83-104. doi: 10.1037//1082-989X.7.1.83
- Major, B. & O'Brien L. T. (2005). The social psychology of stigma. *Annual Review of Psychology*, 56, 393-421. doi: 10.1146/annurev.psych.56.091103.070137
- Marin, B. V., Gomez, C. A., Tschann, J. M., & Gregorich, S. (1997). Condom use in unmarried Latino men: A test of cultural constructs. *Health Psychology*, 16(5), 458-467. doi:10.1037/0278-6133.16.5.458

HOMONEGATIVITY AND CONDOM USE

- Mayfield, W. (2001). The development of an internalized homonegativity inventory for gay men. *Journal of Homosexuality, 41*(2), 53-75. doi:10.1300/J082v41n02_04
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin, 129*(5), 674-697. doi:10.1037/0033-2909.129.5.674
- Miner, M. H., Peterson, J. L., Welles, S. L., Jacoby, S. M., & Rosser, B. R. S. (2009). How do social norms impact HIV sexual risk behavior in HIV-positive men who have sex with men? Multiple mediator effects. *Journal of Health Psychology, 14*(6) 761-770 doi: 10.1177/1359105309338976
- Murphy, D. A., Stein, J. A., Schlenger, W., Maibach, E., & National Institute of Mental Health Multisite HIV Prevention Trial Group. (2001). Conceptualizing the multidimensional nature of self-efficacy: Assessment of situational context and level behavioral challenge to maintain safer sex. *Health Psychology, 20*(4), 281-290. doi: 10.1037//0278-6133.20.4.281
- Mustanski, B. S., Newcomb, M. E., DuBois, S. N., Garcia, S. C. & Grov, C. (2011). HIV in young men who have sex with men: A review of epidemiology, risk, and protective factors, and interventions. *Journal of Sex Research, 48*(2-3), 218-253. doi: 10.1080/00224499.2011.558645
- Newcomb, M. E., & Mustanski, B. (2010). Internalized homophobia and internalizing mental health problems: A meta-analytic review. *Clinical Psychology Review, 30*(8), 1019-1029. doi:10.1016/j.cpr.2010.07.003
- Noar, S. M., Cole, C., & Carlyle, K. (2006). Condom use measurement in 56 studies of

HOMONEGATIVITY AND CONDOM USE

- sexual risk behavior: Review and recommendations. *Archives of Sexual Behavior*, 35(3), 327-345. doi: 10.1007/s10508-006-9028-4
- O'Leary, A., Fisher, H. H., Purcell, D. W., Spikes, P. S., & Gomez, C. A. (2007). Correlates of risk patterns and race/ethnicity among HIV-positive men who have sex with men. *AIDS & Behavior*, 11(5), 706-715. doi:10.1007/s10461-006-9205-4
- Pequegnat, W., Rosser, B. R. S., Bowen, A. M., Bull, S. S., DiClemente, R. J., Bockting, W. O., Elford, J., Fishbein, M., Gurak, L., Horvath, K., Konstan, J., Noar, S. M., Ross, M. W., Sherr, L., Spiegel, D., & Zimmerman, R. (2007). Conducting internet-based HIV/STD prevention survey research: Considerations in design and evaluation. *AIDS & Behavior*, 11(4), 505-521. doi:10.1007/s10461-006-9172-9
- Preacher, K. J. & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36(4), 717-731. doi: 10.3758/BF03206553
- Ratti, R., Bakeman, R., & Peterson, J. L. (2000). Correlates of high-risk sexual behaviour among Canadian men of South Asian and European origin who have sex with men. *AIDS Care*, 12(2), 193-202. doi:10.1080/09540120050001878
- Reilly, T., Woodruff, S. I., Smith, L., Clapp, J. D., & Cade, J. (2009). Unsafe sex among HIV positive individuals: Cross-sectional and prospective predictors. *Journal of Community Health*, 35(2), 115-123. doi: 10.1007/s10900-009-9203-3
- Ross, M. W., Kajubi, P., Mandel, J. S., McFarland, W., & Raymond, H. F. (2013). Internalized homonegativity/homophobia is associated with HIV-risk behaviours among Ugandan gay and bisexual men. *International Journal of STD & AIDS*, 24(5), 409-413. doi: 10.1177/0956462412472739.

HOMONEGATIVITY AND CONDOM USE

- Ross, M. W. & Rosser, B. R. S. (1996). Measurement and correlates of internalized homophobia: A factor analytic study. *Journal of Clinical Psychology, 52*(1), 15-21. doi:10.1002/(SICI)1097-4679(199601)52:1<15::AID-JCLP2>3.3.CO;2-D
- Ross, M. W., Rosser, B. R. S., Neumaier, E. R., & the Positive Connections Team. (2008). The relationship of internalized homonegativity to unsafe sexual behavior in HIV-seropositive men who have sex with men. *AIDS Education and Prevention, 20*(6), 547-557.
- Ross, M. W., Rosser, B. R. S., & Smolenski, D. (2010). The importance of measuring internalized homophobia/homonegativity. *Archives of Sexual Behavior, 39*(6), 1207-1211. doi: 10.1007/s10508-010-9634-z
- Rosser, B. R., Bockting, W. O., Ross, M. W., Miner, M. H., & Coleman, E. (2008). The relationship between homosexuality, internalized homonegativity, and mental health in men who have sex with men. *Journal of Homosexuality, 55*(2), 185-203. doi: 10.1080/00918360802129394
- Rowen, C. J. & Malcolm, J. P. (2003). Correlates of internalized homophobia and homosexual identity formation in a sample of gay men. *Journal of Homosexuality, 43*(2), 77-92. doi: 10.1300/J082v43n02_05
- Ryan, C., Huebner, D., Diaz, R. M., & Sanchez, J. (2009). Family rejection as a predictor of negative health outcomes in White and Latino lesbian, gay, and bisexual young adults. *Pediatrics, 123*(1), 346-352. doi: 10.1542/peds.2007-3524
- Sandfort, T. G. M., Melendez, R. M., & Diaz, R. M. (2007). Gender nonconformity, homophobia, and mental distress in Latino gay and bisexual men. *Journal of Sex Research, 44*(2), 181-189. doi: 10.1080/00224490701263819

HOMONEGATIVITY AND CONDOM USE

- Semple, S. J., Patterson, T. L., & Grant, I. (2003). HIV-positive gay and bisexual men: predictors of unsafe sex. *AIDS Care, 15*(1), 3-15. doi: 10.1080/713990434
- Smolenski, D. J., Ross, M. W., Risser, J. M. H., & Rosser, B. R. S. (2009). Sexual compulsivity and high-risk sex among Latino men: The role of internalized homonegativity and gay organizations. *AIDS Care, 21*(1), 42-49. doi:10.1080/09540120802068803
- Soper, D.S. (2013). A-priori Sample Size Calculator for Multiple Regression [Software]. Retrieved from <http://www.danielsoper.com/statcalc>
- Strasser, M. (2014). *Newsweek: Top twelve most homophobic nations*. Retrieved June 24, 2014 from <http://www.newsweek.com/top-twelve-most-homophobic-nations-230348>
- Szymanski, D. M. & Carr, E. R. (2008). The roles of gender role conflict and internalized heterosexism in gay and bisexual men's psychological distress: Testing two mediation models. *Psychology of men & Masculinity, 9*(1), 40-54. doi: 10.1037/t10027-000
- Thiede, H., Valleroy, L. A., MacKellar, D. A., Celentano, D. D., Ford, W. L., Hagan, H., Koblin, B. A., LaLota, M., McFarland, W., Shehan, D. A., & Torian, L. V. (2003). Regional patterns and correlates of substance use among young men who have sex with men in 7 US urban areas. *American Journal of Public Health, 93*(11), 1915-1921. doi:10.2105/AJPH.93.11.1915
- Tucker, A., Liht, J., de Swardt, G., Jobson, G., Rebe, K., McIntyre, J., & Struthers, H. (2014). Homophobic stigma, depression, self-efficacy and unprotected anal intercourse for peri-urban township men who have sex with men in Cape Town,

HOMONEGATIVITY AND CONDOM USE

- South Africa: A cross-sectional association model. *AIDS Care*, 26(7), 882-889.
doi: 10.1080/09540121.2013.859652
- U.S. Department of Health and Human Services. (2015). *AIDS.gov*. Retrieved April 09, 2015 from <https://aids.gov/>.
- U.S. Department of Health and Human Services. (2015). *Stopbullying.gov*. Retrieved April 09, 2015 from <http://www.stopbullying.gov/>.
- Vaughn, J. (2014, June 10). *Video: man beaten at 'Detroit Motor City Pride,' gay pride festival in Detroit*. Retrieved from <http://www.wxyz.com/news/video-man-beaten-at-gay-pride-festival-in-detroit>.
- Vincke, J., DeRycke, L., & Bolton, R. (1999). Gay identity and the experience of gay social stress. *Journal of Applied Psychology*, 29(6), 1316-1331.
- Ward, E. G. (2005). Homophobia, hypermasculinity and the US Black church. *Culture, Health & Sexuality*, 7(5), 493-504. doi:10.1080/13691050500151248
- Weinhardt, L. S., Forsyth, A. D., Carey, M. P., Jaworski, B. C., & Durant, L. E. (1998). Reliability and validity of self-report measures of HIV-related sexual behavior: Progress since 1990 and recommendations for research and practice. *Archives of Sexual Behavior*, 27(2), 155-180.
- World Health Organization. (2010). *Mental Health: Depression*. Retrieved February 16, 2010 from http://www.who.int/mental_health/management/depression/definition/en/index.html
- Wrench, J. S. (2005). Development and validity testing of the homonegativity short form. *Journal of Intercultural Communication Research*, 24(3), 152-165.

HOMONEGATIVITY AND CONDOM USE

- Wright, E. R. & Perry, B. L. (2006). Sexual identity distress, social support, and the health of gay, lesbian, and bisexual youth. *Journal of Homosexuality*, 51(1), 81-110. doi: 10.1300/J082v51n01_05
- Yi, H., Sandfort, T. G. M., & Shidlo A. (2010). Effects of disengagement coping with HIV risk on unprotected sex among HIV-negative gay men in New York City. *Health Psychology*, 29(2), 205-214. doi: 10.1037/a0017786.
- Zakalik, R. A. & Wei, M. (2006). Adult attachment, perceived discrimination based on sexual orientation, and depression in gay males: Examining the mediation and moderation effects. *Journal of Counseling Psychology*, 53(3), 302-313. doi: 10.1037/0022-0167.53.3.302
- Zea, M. C., Reisen, C. A., Poppen, P. J., & Bianchi, F. T. (2009). Unprotected anal intercourse among immigrant Latino MSM: the role of characteristics of the person and the sexual encounter. *AIDS & Behavior*, 13(4), 700-715. doi: 10.1007/s10461-008-9488-8

HOMONEGATIVITY AND CONDOM USE

Appendix

3 MONTH SEXUAL ACTIVITY

Below are questions concerning sexual activities in the last three months. Please mark/answer the questions as accurately as possible.

In the last 3 MONTHS, have you had INSERTIVE anal sex with a man WITHOUT A CONDOM (you were the top; your penis was in his anus; you did NOT use a condom)?

-Yes

-No

In the last 3 MONTHS, have you had RECEPTIVE anal sex with a man WITHOUT A CONDOM (you were the bottom; his penis was in your anus; he did NOT use a condom)?

-Yes

-No

LAST SEXUAL ENCOUNTER

When was THE LAST TIME that you had sex with a man?

1. Today
2. Yesterday
3. Within the last week
4. Within the last month
5. Within the last 3 months
6. Within the last 6 months
7. Within the last year
8. More than a year ago

Where did you have sex the last time?

1. My home
2. The partner's home
3. Our home
4. Someone else's home
5. A hotel/motel
6. Another place (sauna, club)

If Another place:

Where did the sex occur?

1. Sauna
2. Bar/club
3. Park/other outdoor space
4. Bathroom
5. Public transportation

HOMONEGATIVITY AND CONDOM USE

6. Movies/theatre
7. Car/truck
8. Other

During this encounter did you have INSERTIVE anal sex with this man WITHOUT a condom (you were the top; your penis was in his anus; you did NOT use a condom)?

- Yes
- No

During this encounter did you have RECEPTIVE anal sex with this man WITHOUT a condom (you were the bottom; his penis was in your anus; he did NOT use a condom)?

- Yes
- No

Internalized homonegativity

Instructions: The following are some questions about how you feel in relation to same sex attraction. We want to hear about how you feel and what you think.

- Responses
- 1 = Strongly disagree
 - 2 = Disagree
 - 3 = Neutral
 - 4 = Agree
 - 5 = Strongly Agree

Personal homonegativity (5 items)

1. When people around me talk about homosexuality, I get nervous.
2. I sometimes feel that my homosexuality is embarrassing.
3. I feel conflict within myself over having sex with men.
4. Sometimes I wish I was not gay.

RS 5. I feel comfortable about being homosexual.

Morality of homosexuality (5 items)

6. I believe that it is morally wrong for men to have sex with other men.
7. I believe that it is morally wrong for men to be attracted to each other.

HOMONEGATIVITY AND CONDOM USE

8. I sometimes feel guilty after having sex with men.
- RS 9. Homosexuality is as acceptable as heterosexuality.
10. I feel ashamed of my homosexuality/same sex attraction.

Self –Efficacy to practice safe sex

Instructions: We have some questions about your ability to use condoms. Please choose a number that in your opinion best answers each question.

- Responses
- 1 = Strongly Disagree
 - 2 = Disagree
 - 3 = Neither Agree nor Disagree
 - 4 = Agree
 - 5 = Strongly Agree

1. I am sure that I could stop a sexual situation that put me at risk for sexually transmitted diseases.
2. I am sure that I could stop to put a condom on myself, even in the heat of the moment.
3. I am sure that I could insist that my partner or I use a condom for anal intercourse, even if my partner did not want to.
4. I am sure that I could insist that my partner or I use a condom for anal intercourse, even if we were deeply in love.
5. I am sure that I could use a condom, even if I were drunk or high on drugs.

Experiences of Homonegativity

Instructions: We have some questions about some experiences you may have had in different settings. Please choose a number that in your opinion best answers each question.

- Responses
- 0 = Not applicable
 - 1 = Never
 - 2 = Once or twice
 - 3 = Several times
 - 4 = Many times

HOMONEGATIVITY AND CONDOM USE

1. As an adult, how often have you had to pretend that you were straight or heterosexual in order to be accepted by others

Among your friends?

Among family members?

In your church community?

In your neighborhood?

2. As an adult, how often have you been harassed because of your sexual orientation by others

Among your friends?

Among family members?

In your church community?

In your neighborhood?

3. As an adult, how often have you heard people talk negatively about gay people

Among your friends?

Among family members?

In your church community?

In your neighborhood?

4. As an adult, how often have you been discriminated against because of your sexual orientation or for being gay

Among your friends?

Among family members?

In your church community?

In your neighborhood?

5. As an adult, how often have you been hit or beaten up by others because of your sexual orientation or for being gay

Among your friends?

Among family members?

In your church community?

In your neighborhood?