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EFFECTS OF STIGMA, SENSE OF COMMUNITY, AND SELF-ESTEEM ON THE HIV SEXUAL RISK BEHAVIORS OF AFRICAN AMERICAN AND LATINO MEN WHO HAVE SEX WITH MEN

by

Teresa Jacobs Finlayson

Under the direction of John Peterson

ABSTRACT

African-American and Latino men who have sex with men (MSM) bear a disproportionately large burden of the Human Immunodefiency Virus (HIV) epidemic in the United States. To further enhance HIV prevention efforts among men of color, a survey was conducted within New York City's house ball community; a community largely comprised of racial and ethnic minority persons. Time-space sampling was adapted to recruit participants for the survey from venues frequented by members of the house ball community. Using logistic regression analysis, this study examined the effects of perceived stigma, enacted stigma, sense of community and self-esteem on unprotected anal intercourse (UAI) among a sub-sample of men in the survey. Both perceived and enacted stigma had a modest direct effect on engaging in UAI. The direct effect on UAI was significant even after controlling for covariates in the model. The magnitude of the effect on UAI did not vary by race/ethnicity or sexual identity. In addition, perceived and enacted stigma correlated negatively to both sense of community and self-esteem scores. Although sense of community did not buffer the effect of perceived or enacted stigma on UAI, both sense of community and self-esteem were protective against engaging in UAI.

However, while the direct effect of sense of community on UAI remained after controlling for covariates in the model, the effect self-esteem had on UAI diminished after adding variables to the model. Further, self-esteem was negatively correlated with both perceived and enacted stigma, but it did not mediate perceived and enacted stigma's effect on UAI. Implications for HIV prevention strategies given these findings are discussed. Implications include developing multilevel interventions, including structural interventions, to reduce the stigma that is perceived and experienced by men of color as well as building stronger communities for African American and Latino MSM.

INDEX WORDS: Stigma, community, sense of community, self-esteem, unprotected anal intercourse, house ball community, African American, Latino, men who have sex with men, Human Immunodeficiency Virus.

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by

TERESA JACOBS FINLAYSON

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in the College of Arts and Sciences

Georgia State University

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LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
CDC	Centers for Disease Control and Prevention
GMHC	Gay Men's Health Crisis
HIV	Human Immunodeficiency Virus
MSM	Men who have sex with men
NGI	Non gay-identified
NYCDOH	New York City Department of Health and Mental Hygiene
SES	Socioeconomic status
STD	Sexually transmitted disease
TB	Tuberculosis
UAI	Unprotected anal intercourse
VDT	Venue-Day-Time Period

INTRODUCTION

African-American and Latino men who have sex with men (MSM) bear a disproportionately large burden of the human immunodefiency virus (HIV) epidemic in the United States (Centers for Disease Control and Prevention, 2000a) This disparity in infection rates has led researchers to recommend increased HIV prevention in these populations (Blair, Fleming, & Karon, 2002; Cantania et al., 2001; Centers for Disease Control and Prevention, 2001; Dean & Meyer, 1995; Karon, Fleming, Steketee, & DeCock, 2001; Valleroy et al., 2000). However, HIV prevention that focuses on changing individual attributes may be insufficient at reducing risk behaviors if such behaviors are influenced by ecological factors (Sumartojo, 2000). The purpose of this study is to examine the effect some ecological factors have on risk behaviors. By building upon qualitative research among African American MSM that linked stigma to unprotected sex (Lichtenstein, 2000; Miller, Serner, & Wagner, 2005), this study will examine the relation between stigma and unprotected anal intercourse (UAI) among men of color. Although previous studies explored the association of stigma and UAI in mainstream populations of MSM (Meyer & Dean, 1995; Meyer & Dean, 1998; Perkins, Leserman, Murphy, & Evans, 1993; Shidlo, 1994; Ross et al., 2001), none were conducted specifically among men of color. The influence of community support and self-esteem was also considered as both may buffer the effects of stigma on UAI. Therefore, the overarching research question is "What is the relation between stigma, sense of community, self-esteem, and UAI among African-American and Latino men?"

Predictors of unprotected anal intercourse

Years before the specific virus causing AIDS was isolated, sexual intercourse was known to be the major route of transmission among adults (Centers for Disease Control, 1983). Among MSM, UAI is the sexual behavior often associated with HIV infection (Buchbinder et al., 2005; Dean et al., 1995; Ekstrand, Stall, Paul, Osmond, & Coates, 1999; Lemp et al., 1994; Osmond et al., 1994; Ruiz, Facer, & Sun, 1998; Seage et al., 1997; Vittinghoff et al., 1999). As a result, UAI is considered a common predictor of HIV prevalence among MSM. It does not, however, always account for the higher rates of HIV prevalence found in African American and Latino MSM. Among these populations UAI has been reported at rates lower or comparable to those reported by men in other racial groups (Easterbrook et al., 1993; Harawa et al., 2004; Lemp et al., 1994; Peterson, Bakeman, Stokes, & Community Intervention Trial for Youth Study Team, 2001). In a venue-based survey conducted among 15- to 22-year-old men, the high prevalence of infection among African-American and Latino men was coupled with respectively lower or similar rates of risk behavior to White MSM (Harawa et al., 2004). This paradoxical finding among African-American men has been supported by other studies (Easterbrook et al., 1993; Peterson et al., 2001), as have the findings among Latino men (Harawa et al., 2004; Bingham et al., 2003; Lemp et al., 1994). Although studies indicating higher UAI rates among African American (Xia et al., 2006) and Latino men (Easterbrook et al., 1993; Peterson et al., 2001) compared to other racial or ethnic groups exist, the studies indicating paradoxical findings have resulted in several hypotheses for the resulting disparity in HIV infection rates.

A recent critical review of the literature examined several hypotheses for the disproportionate rates of HIV infection among Black MSM. Millett and colleagues (2006) systematically searched five literature databases for articles that included Black MSM. They used these articles to examine the scientific evidence of 12 hypotheses for the disproportionate HIV rates among Black MSM. Hypotheses not supported by scientific evidence in the literature, including those indicating that higher rates of infection were due to Black men being more likely to engage in risky sexual behaviors, such as UAI. The hypotheses supported by scientific evidence suggest that while Black MSM are having less UAI compared to their peers in other racial groups, their acts of UAI are particularly more infectious. Specifically, the review suggests that Black MSM may experience higher rates of infection because they are more likely to have a sexually transmitted disease (STD) or to be unaware of their or their sexual partner's HIV serostatus. With low rates of UAI, the presence of either will increase the chance that an act of UAI will lead to HIV infection. If this is the case, a greater vigilance is needed to prevent UAI and to increase awareness of HIV infection among men of color. Given that most HIV prevention is focused on reducing risk behaviors that result in infection, more effective strategies that target the factors influencing UAI among men of color need to be developed to reduce this risk behavior in these populations. The predictors of UAI among African American and Latino MSM, may help illuminate which factors to focus prevention efforts in these prevention efforts

Cross-sectional studies among African American or Latino MSM suggest several factors predicting UAI in these populations. They include among African American

populations: older age (Myers, Javanbakht, Martinez, & Obediah, 2003), low peer norms regarding condom use (Hart, Peterson, & The Community Intervention Trial for Youth Study Team, 2004), identifying as gay (Crawford, Allison, Zamboni, & Soto, 2002), disclosure of sexuality (Centers for Disease Control and Prevention, 2003), injection drug use (Peterson et al., 1992), being paid for sex (Peterson et al., 1992), low self-esteem (Stokes, Vanable, & McKirnan, 1996), low social support (Peterson et al., 1992), higher life satisfaction (Crawford et al., 2002), and a high perceived risk of infection (Peterson et al., 1992). Fewer studies have been conducted among Latino MSM, but these studies show younger age (Munoz-Laboy, Castellanos, & Westacott, 2005), not identifying as gay (Agronick et al., 2004; O'Donnell et al., 2002), low acculturation (O'Donnell et al., 2002), and low perceived risk of infection (Carballo-Dieguez & Dolezal, 1996) as predictors of sexual risk behaviors. However, factors predicting UAI among both African American and Latino MSM suggest another hypothesis for UAI occurring in these populations. These factors include: not carrying condoms (Hart et al., 2004; Carballo-Dieguez et al., 1996), psychological distress (Diaz, Ayala, & Bein, 2004; Crawford et al., 2002; Myers et al., 2003) and low socioeconomic status, as determined by educational level, income, or employment (Diaz et al., 2004; Myers et al., 2003; Munoz-Laboy et al., 2005; O'Donnell et al., 2002; Peterson et al., 1992) and have been linked to the history of experiencing prejudice and discrimination shared by men of color (Brooks, 1981; Krieger, Rowley, Herman, Avery, & Phillips, 1993). Thus, an overarching factor related to their experience as members of a minority group may be channeling the sexual behaviors of men of color towards a more infectious environment, where UAI is likely.

African American and Latino MSM are more likely to have sex with women compared to their White peers (Bingham et al., 2003; McKirnan, Stokes, Doll, & Burzette, 1995). For some bisexual men, the context of the sexual encounter with men contributes to their infection (Lichtenstein, 2000; Miller et al., 2005). Lichtenstein (2000) concluded from her qualitative interviews of Black MSM that UAI is often done in secret encounters to avoid the loss of a heterosexual façade (i.e., wife and children) – suggesting that these men expected a certain loss in social status if it was discovered that they were having sex with men. In another qualitative study among African American MSM, such secret encounters meant using "targeted and discrete strategies to seek male partners" (p.130, (Miller et al., 2005). Thus, as Miller and colleagues (2005) conclude, "stigma associated with both HIV infection and homosexuality in….[the] Black community effectively insures that nonheterosexual sex preferences and practices will remain hidden (p. i32)" African American men have indicated that negative attitudes about homosexuality are prevalent in their community in general, particularly within the Black church (Stokes & Peterson, 1998). To prevent feeling stigmatized, some men may attempt to hide their same-sex attractions from others by living dual identities and maintaining relationships with women. As a result, men may feel eager to disguise their private sexual identity because of shame of being attracted to other men. Stigma of being attracted to the same-sex has been suggested to negatively influence self-esteem and self-worth and bring about stress (Stokes et al., 1998). As a consequence, men who are not comfortable with

their sexuality may engage in risky sexual behaviors because they either lack the self-esteem to protect themselves or want to avoid discussions of HIV and condoms with their sex partners for fear of being labeled "Gay."

Negative attitudes toward homosexuality are prevalent in Latino communities as well (Carballo-Dieguez, 1998; Diaz, Ayala, Bein, Henne, & Marin, 2001; Diaz et al., 2004). A study conducted among Latino MSM in 3 US cities found that social oppression in the form of experiencing homophobia, racism, and poverty, influenced sexual risk behaviors by influencing whether men participated in situations where it was difficult to engage in safe sex. Specific sexual situations included those alleviating stress and anxiety, occurring while under the influence of alcohol or drugs, or happening with partners who knowingly would resist using condoms (Diaz et al., 2004).

Thus, stigma may be compelling these men to have sexual encounters in clandestine settings where discussion of HIV infection is avoided and unprotected intercourse is likely. The purpose of this analysis is to examine stigma's influence on the likelihood that African American and Latino MSM will engage in UAI. The ultimate goal of the resulting analysis is to enhance existing prevention efforts among African American and Latino MSM.

Stigma

Stigma as described by Goffman (1963) is "an attribute that is deeply discrediting" (p.3) by other people and results in a degree of social rejection, often in the form of discrimination or disrespect; it exists when an attribute is linked to a negative stereotype. It may be categorized into both discredited and discreditable attributes of the body (e.g., appearance of ill health), character (e.g., homosexuality) or creed (e.g., race or ethnicity) (Goffman, 1963). A discredited attribute is one that is apparent to other persons, while a discreditable attribute is not readily obvious to others. This is an important distinction because persons are thought to manage stigma resulting from these attributes differently depending upon how likely other persons may notice the attribute. That is, a discredited attribute may lead a person to try to compensate for the loss of status resulting from the stigma, while a discreditable attribute may be managed by passing as a creditable person, which is someone without the potentially stigmatizing attribute (Goffman, 1963).

In addition, stigma may be conceptualized as process of interrelated components that include: 1) differentiating and labeling attributes prevalent among certain groups of people; 2) associating negative stereotypes to those attributes; 3) placing persons possessing the labeled attributes into a separate category from the collective (i.e., "them" vs. "us"); and 4) employing strategies against persons in the separate category such that they experience social loss and discrimination (Link & Phelan, 2001). Among stigmatized persons, this process may yield both perceptions and social experiences related to the stigma. They have been differentiated by Scrambler (1998): "enacted stigma refers to

actual discrimination or unacceptability, whereas felt stigma refers to the fear of such discrimination (p. 1054)." The two processes are interrelated with each other. Someone in response to the perception that they will experience a loss of social status due to stigma, may build a creditable façade so as to avoid subsequent discrimination or disrespect (i.e., enacted stigma). In fact, social reaction to stigma in the form of discrimination or disrespect may have a powerful influence because such acts not only result in a loss of social status, but they can stimulate feelings deeply connected to the stigmatizing attribute within a person (Brooks, 1981). Thus, to understand social stigma's influence on an individual's behavior both perceived and enacted forms of stigma should be considered.

Establishing the origin of stigma may be difficult particularly if there are multiple attributes linked to negative stereotypes present, because with multiple origins of negative stereotypes for each stigma facet can not be readily discerned. However, establishing if the stigma process is present is possible (Link et al., 2001). For example, African American and Latino MSM have attributes related to their sexuality, race, and ethnicity, which have negative stereotypes associated with them depending upon the social context. These attributes as well as others are interrelated with one another and interact with life's negative events (Brooks, 1981). That is, perceived stigma and discrimination from either racism or homophobia may negatively influence socioeconomic status indicators of education, income, and employment (Krieger et al., 1993), which in turn may contribute to other minority stressors and consequently influence mental and physical health (Brooks, 1981; Krieger et al., 1993; Meyer, 1995; Peterson, Folkman, & Bakeman,

1996;). In comparison, the detrimental effect of stigma felt by White MSM due to their sexuality, while also salient, are not usually compounded by racial or ethnic prejudice and discrimination.

Therefore, unlike White MSM, African-American and Latino MSM are coping with their homosexuality while embedded in a culture in which members experience both discrimination because of their race or ethnicity (Brooks, 1981) and negative attitudes towards homosexuality (Diaz et al., 2001; Stokes et al., 1998). While their perceptions and experiences related to stigma associated with race or homosexuality may influence their behavior, the relational aspect of racism and homophobia for MSM of color (Paradis, 1997), may make it difficult to determine if stigma is influencing their individual behaviors. This is particularly important given that stigma has been linked with the HIV epidemic and associated with HIV-related health behaviors.

Stigma and HIV

Stigma has been associated with the HIV epidemic for a long time. In the late 1980's, Jonathan Mann as director of the WHO Global Program on AIDS described three phases to the epidemic, the last of which is marked by stigmatization and discrimination, which results in a collective denial that hinders prevention efforts (cited in (Parker & Aggleton, 2003). Stigma and discrimination in this last phase are directed towards persons who are diagnosed with AIDS, infected with HIV, a member of a group at increased risk for infection, or associated with someone from one of these groups

(Devine, Plant, & Harrison, 1999; Herek, 1999). MSM in general have endured stigma and discrimination since the onset of the epidemic nearly 25 years ago (Devine et al., 1999; Herek & Capitanio, 1999; Herek, Capitanio, & Widaman, 2003), because male-to-male sexual contact has historically been attributed to the largest proportion of AIDS and HIV cases among men in the United States (Centers for Disease Control and Prevention, 2004b).

Research examining HIV-related stigma has focused on the effects of such stigma on the well-being and behaviors of infected populations. Such research has been useful in understanding the detrimental outcomes of social distancing from infected persons by MSM. For example, a recent analysis of HIV-positive men reported that HIV-related stigma was associated with depressive symptoms, avoidant coping strategies, and attending venues where anonymous sex is likely to occur (Courtenay-Quirk, Wolitski, Parsons, Gomez, & the Seropositive Urban Men's Study Team, 2006). Similar findings were reported in another study of HIV-positive men and women attending a university-based clinic (Vanable, Carey, Blair, & Littlewood, 2006). Both of these studies also reported no significant association between HIV-related stigma and sexual behaviors, which is not surprising because HIV-positive persons who know they are infected will alter their behavior to prevent transmitting HIV to another person (Centers for Disease Control and Prevention, 2004a; Weinhardt, Carey, Johnson, & Bickham, 1999). Persons who believe they are uninfected with HIV may not experience the same effects because their management of HIV-related stigma is to avoid it. This point becomes obvious in a study examining the relation between AIDS stigma and risk behavior in a population of

men who were not necessarily infected with HIV. The researchers found that men whose families were tolerant of people affected by HIV were more likely to have multiple sex partners and receptive anal intercourse with other men (Preston et al., 2004). The authors suggest that the men from families with tolerant views of people affected by HIV may be less worried about contracting HIV and thus having to conceal their infection. For these men the need to avoid HIV infection may not have been important, because the stigma resulting from being infected was perceived to be minimal.

While it may have a protective effect on sexual behaviors, HIV-related stigma does have detrimental effects on behaviors that may help to prevent infection. Research among persons at increased risk for acquiring HIV infection have reported HIV-related stigma as influencing whether these populations would seek HIV testing (Chesney & Smith, 1999; Fortenberry et al., 2002) or STD screening (Fortenberry et al., 2002). Addressing how the social-psychological literature applies to the understanding of HIV-related stigma, Devine et al. (1999) contend that "it involves a potential threat not only to uninfected people's physical well-being but also to their valued social identities. (p. 1213)." That is individuals may not express their issues with AIDS or HIV infection directly, but instead embody them in homophobic prejudice directed towards groups at increased risk for HIV infection. Thus, research related to stigma in the HIV epidemic often has focused on stigma associated with homosexuality, as negative stereotypes of persons infected with HIV are projected upon groups at increased risk for infection, such as men who have sex with men (Devine et al., 1999).

Research examining stigma associated with homosexuality and risk behaviors among men, not necessarily infected with HIV, have focused on the men's internalization of society's prejudice against homosexuality or internalized homophobia. The overall results of these studies are inconclusive about whether internalized homophobia is linked to sexual risk behaviors, but this may be due in part to the use of samples of predominately White men recruited from the gay community (Meyer et al., 1995; Perkins et al., 1993; Ross et al., 2001; Shidlo, 1994). The magnitude of homophobia's effect on the behavior of racial and ethnic minority men may be stronger, because minority men may not identify with the broader gay community and as a result may not have the "ties with individuals who share some of the same sexual issues and concerns (Wright, 1993 p.429)." Such ties may be useful at providing, through both formal and informal mechanisms, a means to cope with perceived stigma and discrimination and to learn positive social norms that prevent HIV infection. To date, however, only one study among a population of Latino MSM of mainly Central and South American origin has been conducted to examine the effects of discrimination based upon homosexual behavior on HIV risk behaviors (Jarama, Kennamer, Poppen, Hendricks, & Bradford, 2005). This study showed that such discrimination was associated with unprotected anal sex. Additional studies among Latino and African American men need to be conducted to examine the influence of stigma on the risk behaviors in these populations.

Being a member of a racial or ethnic minority group also plays a role in the stigma process related to HIV. For African-American and Latino MSM, existing racism interacts with the stigma of being attracted to the same sex. Such that men of color have reported

both feeling discriminated against by the broader gay community, which tends to be predominantly White (Diaz et al., 2004; Kraft, Beeker, Stokes, & Peterson, 2000; Stokes et al., 1996; Wright, 1993) as well as hearing negative attitudes toward homosexuality among their racial and ethnic communities (Stokes, et al. 1998; Diaz, et al. 2001). Also, while necessary for monitoring the epidemic and advocating for prevention, categorizing persons into at-risk populations tends to bring stigma on those populations (Devine et al., 1999). Thus, with the recent focus on the disproportionately higher rates of infection among men of color, additional stigma may be attributed to them as a group. The types of stigma among men of color may be hard to discern because it may be difficult to understand which characteristic (e.g., racial or sexual identity) is salient to the men experiencing stigma or the person's creating it. To further complicate analysis, the saliency of these identities also is dependent upon the men's physical context and their point in the coming out process (Paradis, 1997). Due to the complexities of the stigma process among African American and Latino MSM and to serve the purposes of this analysis, stigma is defined in general terms not related to either racism or homophobia.

Stigma's direct effect on UAI

Stigma and the stigma process may explain why African American and Latino MSM tend to have sex with women more so than their white peers, as MSM of color may be inclined to maintain a heterosexual façade to avoid the possibility of loosing their social status within their community. In addition, African American and Latino MSM may experience discrimination or disrespect within their community, which in turn may

reinforce their perceptions of stigma and may help them avoid further devaluation. Thus, both one's subjective feelings and actual experiences of social rejection due to stigma are important in understanding the influence stigma has on HIV related behaviors.

Stigma also can be linked to sexual risk behaviors of African American and Latino MSM in several ways. First, to cope with stigma persons may internalize negative attitudes about the stigmatizing or minority characteristic (Goffman, 1963). Internalizing negative attitudes about a minority characteristic may be associated with intropunitive behaviors stemming from self-hatred directed towards that characteristic (Allport, 1954). Intropunitive behaviors associated with homosexuality could range from suicide to failing to protect one's self from harmful agents (e.g. intentionally having unprotected sex). Research supporting this theory in the general population of MSM found that a large percentage of gay youth who had attempted or thought about attempting suicide reported doing so because of their sexual orientation (Hammelman, 1993). Research has also linked internalized negative attitudes about homosexuality to failure to use condoms (Meyer et al., 1995; Meyer et al., 1998; Perkins et al., 1993) as well as using drugs and alcohol (Meyer et al., 1995), which can both be directly and indirectly associated with HIV infection as the use of drugs is thought to impair decisions about using condoms (Seal et al., 2000).

Second, persons who feel stigmatized by broader society may avoid association or affiliation with the stigmatized community (Goffman, 1963). Affiliating with the gay community provides men access to HIV prevention and other resources (Mills et al., 2001), but it also may provide men with role models to teach them to cope with stigma

resulting from their sexuality and develop and maintain positive relationships (Hetrick & Martin, 1987). Otherwise, they experience, what Hetrick and Martin (1987) refer to as "cognitive isolation…related to the lack of access to accurate information about homosexuality" (p. 32). This theory is partially supported by research where being involved in gay and lesbian activities was found to reduce unsafe sex behaviors by exposing youth to HIV education and prevention (Rosario, Hunter, Maguen, Gwadz, & Smith, 2001). In addition, a study conducted among men who have sex with men in Dallas indicated that men who lacked steady partners but were acculturated into the local gay community, as determined by regularly reading local and national gay publications and belonging to at least one organization of gay men, were more likely to use condoms during anal intercourse. Given that HIV prevention messages are disseminated via gay newspapers and organizations, the authors conclude that men acculturated into the gay community engage in safer sex because they are exposed to HIV prevention messages both when reading gay publications and through the organization of gay men in which they belong (Siebt et al., 1995). This theory is further elucidated by research that has shown internalized homophobia to be negatively related awareness of HIV prevention programs, comfort in group level interventions, and post-intervention condom use efficacy (Huebner, Davis, Nemeroff, & Aiken, 2006). In these cases, prevention efforts may not be as effective among men experiencing internalized homophobia and as a consequence these men may engage in risky sex.

Because of this linkage between the gay community and sexual behaviors, some have hypothesized that the higher prevalence of infection among African American and Latino MSM is due to the fact that these men are less inclined to identify as gay or to not disclose their sexuality to others which leads to increased risk behaviors. Although a critical review of the literature, concluded that this hypothesis was not supported by empirical evidence (Millett, Peterson, Wolitski, & Stall, 2006), conclusions from a study examining men who do not disclose their same-sex sexuality suggest that stigma may be the root of HIV transmission among the non-disclosers as the non-disclosers tended to not know they were infected (Centers for Disease Control and Prevention, 2003). Therefore, stigma and not sexual identity may be influencing the risk behaviors of African American and Latino men.

For African American and Latino MSM, affiliating with the gay community can also lead to stigma and rejection from the broader community of color (Kraft et al., 2000; Diaz et al., 2004), but these negative experiences may be minimized in communities offering "increased leadership for and participation by MSM in community change, the creation of new settings for nonsexual meetings and interactions, and a reduction in homophobia in African American communities" (p. 437, Kraft et al., 2000). A segment within both the African American and Latino gay community, known as the "house ball" community may offer such opportunities to men of color. "House" refers to a social network of persons within this community that is structured much like an extended family. This network provides support and leadership to younger persons within the network. In addition, competitive events or "balls" held by the community are alternate

settings for socializing and meeting other persons within the community. Community leaders serving as judges for the competitions often provide HIV prevention messages during the events. Thus, such a community yields HIV prevention and the qualities described by Hetrick and Martin (1987) for African American and Latino men.

Stigma may indirectly contribute to UAI through its influence on other variables predictive of UAI. Experiencing social oppression has been linked to higher psychological distress (Diaz et al., 2001). Consequently, sexual risk taking among both African American and Latino MSM has been associated with both psychological distress (Diaz et al., 2004; Myers et al., 2003; Stokes et al., 1998) and another outcome of social oppression -- low socioeconomic status, as determined by low income (Diaz, Stall, Hoff, Daigle, & Coates, 1996; Myers et al., 2003; Peterson et al., 1992), low educational level (Diaz et al., 1996; Munoz-Laboy et al., 2005; Myers et al., 2003; O'Donnell et al., 2002), and unemployment (Myers et al., 2003). One study reported a lack of significance between both education and employment and UAI among African American MSM aged 18 to 25 years (Hart & Peterson, 2004), but given that many young men are attending institutions of higher education and as a consequence are unemployed this was not too surprising.

Existing research examining stigma and HIV-related risk behaviors among populations at increased risk for HIV have been conducted among gay and bisexual men and focused on the stigma associated with homosexuality, specifically men's internalization of society's prejudice against homosexuality (i.e., internalized homophobia; (Meyer et al., 1995; Meyer et al., 1998; Perkins et al., 1993; 1986; Shidlo,

1994; Ross et al., 2001). These studies yielded inconclusive or conflicting results perhaps due to their small convenience samples, which were comprised mainly of White men, who were well-connected to the local gay community. A study conducted among African American and Latino men may yield different results.

Hypothesis 1: Perceived stigma has a direct effect on sexual risk behavior

It is hypothesized that African-American and Latino MSM who perceive greater stigma will engage in higher risky sexual behaviors, than those MSM who perceive lower stigma.

Hypothesis 2: Enacted stigma has a direct effect on sexual risk behavior

It is also hypothesized that African American and Latino MSM who experience greater enacted stigma will engage in more risky sexual behaviors than MSM who experience less stigma.

If perceived and enacted stigma directly effect UAI, then efforts to reduce UAI should include minimizing perceived and enacted stigma. Given that stigma is influenced by ecological factors, interventions designed to change factors within an individual will not be sufficient. Instead, HIV prevention efforts would need to focus on strategies that reduce ecological factors in the community that produce stigma. Such strategies may include community-level interventions facilitating positive attitudes towards homosexuality within the African American and Latino communities as well as positive

attitudes towards African Americans and Latinos within the gay community. In addition, if these relations existed, understanding the underlying mechanisms or conditions that determined how stigma influences risk behavior would prove useful for further advancing both research and prevention efforts. Thus, both the community and self-esteem were considered as they were thought to influence stigma's effect on sexual risk behaviors.

Direct effect of sense of community on UAI

McMillan and Chavis (1986) define sense of community as: "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (p.9). Having a quality connection with a community means more than simple group membership. It includes having a sense of belonging to the community (i.e., membership), a perception that the community is influenced by its members and visa versa, a common set of values, a means of meeting member's needs, and a shared emotional bond with other members.

Research among MSM in general has shown that being connected to a community can have a powerful influence on the cognitions and behaviors of MSM (Herek & Glunt, 1995). A study conducted in Sacramento among a group of predominately White MSM explored the relation of identity, internalized homophobia, and community on sexual risk behavior as well as several cognitive variables believed to be associated with sexual risk. Men who were connected to the community (or had a high community consciousness)

tended also to have a high self-efficacy, a perception of social support for engaging in safe sex, and a belief that safe sex was effective.

Research indicates that African American and Latino MSM tend to be less involved in the local gay community. Mills and colleagues (2001) examined differences between men living in the "gay ghettos" with those residing elsewhere and found that African American and Latino MSM tended to live outside the gay area. Men living outside the gay area of the city were less involved in the gay community and less likely to positively embrace the gay community. These men were also more inclined to engage in sex with women, less apt to disclose their sexuality to other people, and less likely to have ever been tested for HIV. Studies making racial and ethnic comparisons have also shown that both African American and Latino MSM tend to be less likely to be involved in the gay community than White men (Rosario, Schrimshaw, & Hunter, 2004; Stokes et al., 1996). One of these studies concluded that Black youth may have experienced racism and retreated from gay-related social events as a result of these experiences, because they got involved with gay-related social activities at the same point of the coming out process as White youth, (Rosario et al., 2004).

The finding that African American and Latino MSM are inclined not to associate with the gay community is not surprising. The gay community in most cities tends to be comprised predominately of White men; MSM of color have expressed experiencing social rejection in the form of discrimination or disrespect from the community (Stokes et al., 1996; Kraft et al., 2000; Diaz et al., 2004). Such discrimination and disrespect may lead African American and Latino men to refrain from getting involved in the gay

community (Wright, 1993; Stokes et al., 1996; Kraft et al., 2000) and to cope using behaviors that increase their likelihood of having UAI (Diaz et al., 2004).

Experiencing discrimination from the gay community may explain why men who do not identify as "gay" engage in risky sexual behavior. If these men perceived the gay community to be unwelcoming, they may not associate with it. As a result of not associating with the gay community, they miss prevention messages prevalent in the gay community for MSM and they may perceive HIV to be less of a threat. Fortunately, in some cities communities comprised largely of African American and Latino MSM exist to provide an alternate to the gay community.

House Ball Community

The house ball community is a well-established social network of persons attending and participating in social events, known as "balls," held by the community. Characteristic of these balls are the dance, theatrical, and fashion competitions. The balls have been a feature of New York City's nightlife since the 1800's. The annual Hamilton Lodge Ball, which first took place in Harlem as early as the 1860's, was well-known for being attended by gay men from all over the city as well as heterosexual Harlem residents, who attended as spectators (Chauncey, 1994). Since the turn of the century, Harlem has continued to host numerous balls which have been attended widely by gay men from throughout the city (Chauncey, 1994; Kaiser, 1997). Balls, like the now defunct Hamilton Lodge Ball, were organized by members of social groups, historically referred to as social clubs (Chauncey, 1994). The current community is currently organized into

social networks are referred to as “houses.” Houses are commonly named after famous clothing designers or celebrities. Members of the community often affiliate with a house, which range in size and structure. Each house is usually run by one or more parents (i.e., the house mother or father), who are often veterans of the balls and have reached legendary status in the community; other members of the house, regardless of age, are usually referred to as “children.” Also, as in 1920’s Harlem, a large percentage of persons in the community do not conform to traditional gender roles and dress opposite the gender of their physical sex (Chauncey, 1994). Lastly, as Chauncey notes in his history of gay culture in New York City, Harlem became a place for persons of African descent to come together as a community somewhat void of the racial discrimination prevalent in broader society. Persons of African descent from all over the United States, the Caribbean Islands, and South America would intermix. As a result, the House Ball community, deeply rooted in Harlem culture, tends to be largely comprised of persons from African descent some of which are of Latino ancestry.

Hypothesis 3: Sense of community has a direct effect on sexual risk behavior

Given that men in the study are from New York City’s house ball community, it is expected that being connected to this community will have a positive influence on the men. Specifically, it is posited that sense of community will be associated with sexual risk behavior, such that those men with a higher sense of community will be less likely to engage in UAI than men with a lower sense of community.

If this hypothesis is supported, prevention strategies which boost the sense of community felt by men in communities comprised largely of African American or Latino MSM, like the house ball community, may decrease the likelihood that these men will engage in UAI. In addition, given that the house ball community now extends to other metropolitan areas on the east coast as far south as Miami and westward to California and Hawaii, prevention efforts in New York City's house ball community may extend to other metropolitan areas. In fact, the need for this survey was recognized in part after an outbreak investigation of tuberculosis (TB) in Baltimore discovered that the social network of the TB cases extended to New York City and that many of the TB cases were co-infected with HIV (Centers for Disease Control and Prevention, 2000b). Given this interconnection nature of the community, prevention messages developed from the New York City sample may influence persons in similar communities in other cities as well.

The moderating effect of sense of community

In addition to community's direct effect, it was hypothesized that the effect of stigma will be buffered by being connected to a community that embraces both their sexual and racial/ethnic identities. Such that, the effect of stigma on unprotected intercourse would be greater when men were not involved with the community than when they were involved (Figure 1).

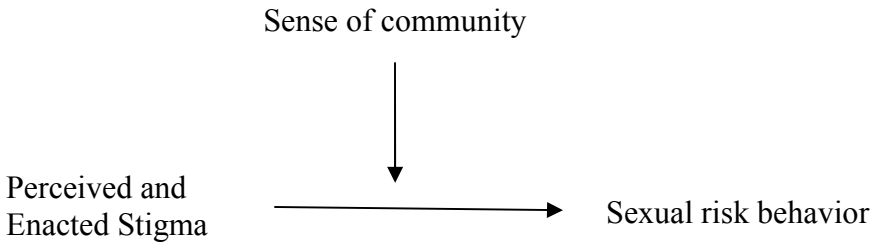

Figure 1. The moderating effect of sense of community on the relation between perceived and enacted stigma and sexual risk behavior

Being connected either to an informal community or formal organizations that share the same stigmatizing attributes is crucial (Goffman, 1963). It is crucial because through these connections the stigmatized person is exposed to other persons who share the same attribute(s). Through this exposure the person can learn how the world treats individuals with his stigma and how these individuals react and cope with discrimination and disrespect from others because of their stigma (Goffman, 1963). Few studies have examined the relation between community and stigma among MSM to provide definite results. Herek and Glunt (1995) found that men who scored high on an ego-dystonic homosexuality (or internalized homophobia) scale were more likely to report lower collective self-esteem, lower community consciousness, less importance to being involved in the local gay community, and greater dissatisfaction with the local gay community. No evidence is available that examined this effect in minority MSM.

Hypothesis 4: Sense of community moderates the effect of perceived stigma on sexual risk behavior

It is proposed that among African American and Latino MSM who have a higher sense of community the effects of perceived stigma on sexual risk behavior will be less than among men who have less of a sense of community.

Hypothesis 5: Sense of community moderates the effect of enacted stigma on sexual risk behavior.

It was proposed that among African American and Latino MSM who have a higher sense of community the effects of enacted stigma on sexual risk behavior will be less than among men who have less of a sense of community.

If these hypotheses were supported, by strengthening the sense of community among African American and Latino MSM populations the effect stigma has on the likelihood of engaging in UAI would be diminished. Building community among these men of color would also reduce UAI. However, it may be argued that by increasing one's sense of community, one is basically improving self-esteem, because self-esteem has been linked to involvement in the gay community (Rosario et al., 2001). Therefore, the role of self-esteem in the model was examined as well.

The mediating role of self-esteem on UAI

A variable is considered a mediator if it is associated with both the independent and dependent variable and the variance in the dependent variable once explained by the independent variable diminishes when the variable is added to the model (Baron & Kenny, 1986). The mediating role of self-esteem or "global feelings of self-worth" (p.609, Crocker & Major, 1989) is considered, because it has been associated with both stigma and sexual risk behaviors. The proposed mediating role of self-esteem is presented in Figure 2.

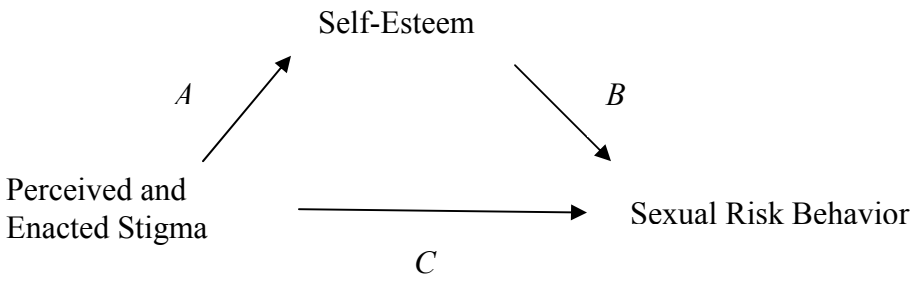

Figure 2: The mediating effect of self-esteem on the relation between perceived and enacted stigma and UAI.

The path in the model labeled A represents the influence that stigma has on self-esteem. Based upon studies among gay and bisexual men, it is believed that both perceived and enacted stigma will result in lower self-esteem among men of color. Huebner, Rebchook, and Kegeles (2004) examined experiences of harassment, discrimination, and physical violence among young gay and bisexual men and reported that these forms of enacted stigma were related to low self-esteem and suicidal ideation.

Although African American MSM were not analyzed as a group in the study, Latino men reported similar levels of harassment, discrimination, and physical violence as White men in the study. Several studies using samples of predominately White men, found that higher internalized homophobia, a reaction to perceived stigma, is associated with lower self-esteem among gay men (Allen & Oleson, 1999; Herek, Cogan, Gillis, & Glunt, 1997; Rowen & Malcolm, 2002). These findings have been supported by qualitative interviews among African American MSM linking self-esteem to negative attitudes about homosexuality (Stokes & Peterson, 1998) and cross-sectional surveys among Latino men (Diaz, et al., 2004). This latter study showed discrimination to be associated with both self-esteem and psychological distress. The authors conclude that discrimination serves to alienate, undermine self-esteem, and produce psychological distress, which in turn increase the likelihood that men will engage in "sexual situations in which risk behavior is likely to occur (p. 265)."

The path in the model labeled B shows the influence of self-esteem on HIV sexual risk behaviors. A longitudinal study of young MSM from New York City has shown self-esteem to be significantly associated with UAI (Rotheram-Borus, Rosario, Reid, & Koopman, 1995). A survey among young gay and bisexual youth conducted at a later date in the same city indicated that self-esteem had an effect on risk behaviors such that while experiencing high anxiety and low self-esteem, the youth were believed to cope with coming out by practicing risky sexual behaviors (Rosario et al., 2001). Given that anxiety has also been linked to perceived stigma (Wagner, Brondolo, & Rabkin, 1996), it is believed that perceived and enacted stigma negatively influences self-esteem and

increases the likelihood that men will engage in sexual risk behaviors. Whereas a large percentage of the participants in these studies were of racial or ethnic minority groups, studies specific to African American MSM have linked self-esteem to UAI (Stokes et al., 1996; Stokes et al., 1998). Also, Diaz, Ayala, and Bein (2004) concluded from their research that social oppression, which was defined as racism, poverty, and discrimination, influences mental health and sexual risk behaviors of Latino MSM by reducing their self-esteem. Thus, it is expected that stigma influences the engagement of sexual risk behaviors through self-esteem.

Hypothesis 6: Self-esteem mediates the effect of perceived stigma on sexual risk behavior

It is proposed that African Americans and Latino MSM experiencing higher levels of perceived stigma will experience lower self-esteem. As a consequence of the lower self-esteem, men will be more likely to report UAI.

Hypothesis 7: Self-esteem mediates the effect of enacted stigma on sexual risk behavior

It is proposed that African Americans and Latino MSM experiencing higher levels of enacted stigma will experience lower self-esteem. As a consequence of the lower self-esteem, men will be more likely to report UAI.

Fullilove and Fullilove (1999) suggest that boosting the self-esteem of African American MSM can lead to reduction in risky sexual behavior because "some men are so disoriented by their experiences of stigma…..that they do not feel empowered to care for

themselves (p.1127)." If stigma influences self-esteem, efforts to boost self-esteem alone may not be adequate in reducing sexual risk behaviors. Instead, efforts need to also reduce stigma that is prevalent within the community. Community-level interventions may be needed to reduce perceived and enacted stigma by effecting change in negative attitudes towards homosexuality.

Sense of community's influence on the relation between stigma and self-esteem

Informal communities and formal organizations can teach individuals how to cope with their stigma (Goffman,1963). Likewise, supportive communities of men who share similar stigmatizing attributes can help African American and Latino men learn how to cope with being a member of both a sexual and racial/ethnic minority. Therefore, the effect of stigma on reducing self-esteem is expected to be reduced among men connected to such communities (Figure 3).

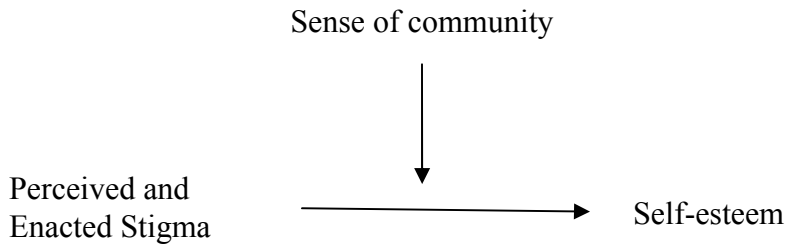

Figure 3. The moderating effect of sense of community on the relation between perceived and enacted stigma and self-esteem.

Hypothesis 8: Sense of community moderates the effect of perceived stigma on self-esteem

It is proposed that among African American and Latino MSM who have a higher sense of community the negative effect of perceived stigma on self-esteem will be less than among men who have a lower sense of community.

Hypothesis 9: Sense of community moderates the effect of enacted stigma on self-esteem

It is proposed that among African American and Latino MSM who have a higher sense of community the negative effect of enacted stigma on self-esteem will be less than among men who have a lower sense of community.

If sense of community moderates the relation between stigma and self-esteem, prevention efforts focused on connecting African American and Latino men to a supportive community that shares similar stigmatizing characteristics may serve to buffer the negative effect stigma has on reducing self-esteem.

Covariates

Several predictors of UAI among African American and Latino MSM were expected to influence the results of the proposed analyses. To understand the relation between each of these variables with UAI and the other analysis variables, each variable, unless noted otherwise, was included in the bivariate analyses. These variables are discussed in detailed below.

Race/ethnicity. Due to the historical differences in discrimination experienced by African American and Latino men, differences between the two groups are anticipated. In fact, several studies have noted differences in the sexual risk behaviors of African American and Latino MSM (Easterbrook et al., 1993; Harawa et al., 2004; Lemp et al., 1994; Peterson et al., 2001). Given these differences and the possible need to tailor prevention programs to each group, Race/ethnicity will be considered as a moderating variable in the initial multivariate analyses.

Age. Theoretically, younger age is suggested to contribute to UAI because youth's cognitive abilities for regulating behavior and understanding risks is still under development during adolescence (Overton, Steidl, Rosenstein, & Horowitz, 1992). Typically, research among MSM in general has supported that young MSM are particularly vulnerable to infection because they practice more unsafe sex than older men (Centers for Disease Control and Prevention, 2001; Mansergh & Marks, 1998; Valleroy et al., 2000). However, studies among African American MSM indicate that sexual risk behaviors are associated with either older age groups (Myers et al., 2003) or not significantly different across age groups (Hart et al., 2004; Peterson et al., 1992). Given these findings, the association of age to UAI and stigma will be examined.

Socioeconomic status. Economic inequities are major contributors to poor health outcomes (Raphael, 2000). Such inequities are also suggested to influence the HIV epidemic (Fournier & Carmichael, 1998; Gillies, Tolley, & Wolstenholme, 1996; Holtgrave & Crosby, 2003; Mosley, 2004; Murrain & Barker, 1997). Epidemiological studies tend to use income, education, and employment as proxy socioeconomic

indicators (Krieger et al., 1993). These variables (i.e., lower income, inadequate education, and unemployment) have been shown to be linked to engaging in UAI among MSM (Diaz et al., 2004; Munoz-Laboy et al., 2005; Myers et al., 2003; O'Donnell et al., 2002; Peterson et al., 1992).

Sexual identity. Differences in sexual risk behaviors have been noted between men who self-identify as bisexual and gay (Heckman et al., 1995; Stokes, Vanable, & McKirnan, 1997). Research among Latino MSM have shown that men who self-identify as heterosexual or bisexual tend to engage in more risk behaviors than gay identified Latino men (Agronick et al., 2004; O'Donnell et al., 2002). This finding is consistent with theory suggesting that some non gay-identified (NGI) tend to engage in UAI because they are trying to avoid negative stereotypes associated with the gay identity. As a consequence, these NGI men may not associate with the gay community. By not being a part of the broader gay community, they may miss or ignore important prevention messages focusing on reducing UAI and have limited contact with other MSM. However, studies among African American MSM do not support this theory. Instead, African American men who identified as gay have been shown to engage in more sexual risk behaviors (Crawford et al., 2002) or similar levels of risk behaviors compared with their NGI counterparts (Hart et al., 2004). The lack of association between African American men and sexual identity is not surprising, because their reluctance to identify as "gay" may be culturally rooted in their race or ethnicity and not necessarily due to the stigma associated with being gay. Still, sexual identity will be considered as a covariate in analyses because this assumption may not be true among Latino men.

Drug use behaviors. Although injection drug use is directly associated with HIV infection (Buchbinder, Douglas, McKirnan, Katz, & MacQueen, 1996), non injection drug use could increase the likelihood of engaging in unprotected sex, which may lead to infection (McKirnan, Ostrow, & Hope, 1996). General drug use has been associated with seroconversion among seronegative homosexual men enrolled in a vaccine feasibility study (Buchbinder et al., 1996), unprotected sex with serodiscordant partners (Colfax et al., 2004), and unprotected sex with casual partners (Vanable et al., 2004). Although these studies were conducted among predominately White samples and little scientific evidence indicates it accounts for the disparate infection rates among Black MSM (Millett et al., 2006), drug use has been associated with sexual risk behaviors among four Latino ethnicities in New York City (Dolezal, Carballo-Dieguez, Nieves-Rosa, & Diaz, 2000).

HIV serostatus. The hypotheses in this analysis are based upon the notion that men experiencing stigma will engage in unprotected anal intercourse. Research has shown, however, that HIV positive persons who know they are infected will alter their behavior to prevent transmitting HIV to other persons (Centers for Disease Control and Prevention, 2004a; Marks, Crepaz, Senterfitt, & Janssen, 2004; Weinhardt et al., 1999). Given that men who are aware they are HIV-positive may be using condoms to prevent spreading the disease to others, HIV-positive men who are aware of their infection at the time of the interview were removed from the analysis dataset. HIV-positive men who were not aware of their infection at the time of the interview, however, were included in the analysis. These men were included because it was assumed that their behavior would have been uninfluenced by their HIV serostatus.

METHOD

Participants

Persons aged 15 years and older attending dance and fashion competitions and other events within the house ball community of New York City were asked to participate in the study following sampling procedures described below. Only persons residing in the 5 boroughs of New York City or a contiguous county in either New York (e.g., Nassau, Putnam, Rockland, and Westchester) or New Jersey (Bergen, Essex, and Union), as determined by their postal zip code, were eligible for the study. Participants were required to provide their consent prior to participation. Parental consent was waived for youth because of concern that parents would disapprove of the youth's participation in the house ball community and their sexuality. Consenting persons completed a 30-minute computer-assisted interview and provided an oral sample for HIV testing. Each participant received $50 to reimburse them for their time and the inconvenience of participation.

Sampling and Procedures

Data for these analyses were obtained from a cross-sectional survey of New York City's house ball community. The objectives of the survey were to estimate the prevalence of HIV infection and related risk behaviors in this community, and to identify demographic, behavioral, and psychosocial correlates to both HIV infection and related risk behaviors. The survey was also expected to characterize the community in terms of demographics, structures, sexual identification, gathering places, values, and behaviors.

With this information the survey was intended to address gaps in current HIV prevention efforts for the purpose of designing more effective strategies. The study protocol was approved by Institutional Review Boards at the New York City Department of Health and Mental Hygiene (NYCDOH) and Centers of Disease Control and Prevention (CDC).

In addition, data from the survey were to be used to assess the need of having sub-culturally specific or targeted prevention services. The survey was developed and conducted through a collaborative process that included investigators from NYCDOH, CDC, and the Gay Men's Health Crisis (GMHC) as well as members of the house ball community. The methods for obtaining the interviews for this study were based upon time-space sampling methods described in detail elsewhere in the literature (Mackellar, Valleroy, Karon, Lemp, & Janssen, 1996). The methods specific to this survey are described below.

Garnering support from the house ball community and its service providers. A community assessment process was started prior to data collection for the purpose of developing the study protocol and questionnaire as well as identifying venues attended by the house ball community along with attendance patterns at those venues. The rationale and methodology for conducting this process has been discussed elsewhere in the literature (Higgins et al., 1996; Israel, Schultz, Parker, & Becker, 1998). During the community assessment process the field team conducted face-to-face interviews and focus groups with members of the house ball community, businesses owners, masters of ceremonies, staff at community-based organizations that provided services to the house ball community, the city health department staff, and persons providing medical and

social services to the community. The purpose of these interviews was to become more familiar with the house ball community, assess the acceptability of the proposed study protocol and questionnaire, as well as learn about the venues frequented by the community. However, this process was also necessary to build the sampling frame from which venues were selected for data collection.

Determining venues frequented by members of the house ball community. A team of about 5 persons either familiar or associated with the house ball community were assembled to complete the community assessment process. This team established a list of the venues thought frequented by members of the house ball community. These venues were divided into four venue types: 1) house meetings, 2) balls or special events, 3) clubs and bars, and 4) other public locations. To learn about possible venues for inclusion in the venue list, the team consulted local publications, members of the house ball community, business owners, masters of ceremonies, community-based organizations, key health department staff, and persons providing medical and social services to the target population. Given that clubs, bars, and public locations did not necessarily serve the house ball community exclusively, the team observed patrons at these establishments. During these observations, the team conducted brief interviews to assess venue patrons' association with the house ball community and their eligibility for the survey. Those patrons that were eligible were enumerated. If at least 50% of the patrons were eligible and the location was estimated to yield a sufficient number of interviews during a four-hour period, the location was included in the venue list.

Determining the best time for sampling at each venue. Once the possible venues

frequented by the target population were determined, the team determined the best day and time period at each venue from which to sample a sufficient number of persons during a four to six hour sampling period. Day-time periods for each venue on the venue list were then placed on the team's sampling frame.

Selecting venue-day-time (VDT) from the sampling frame. At the end of each month, VDT for the following month were selected purposively from the sampling frame and entered into a calendar. If a venue had two or more DT, the team selected the DT believed to yield the highest number of interviews or sampled venue patrons at both DT. In addition, if two VDT on the sampling frame occurred at the same time, the team either selected the VDT that was expected to yield the most interviews or conducted sampling at both VDT. Decisions about VDT inclusion on the sampling calendar also were determined by ease of access to the venue, cooperation of venue management, previous use of the venue for sampling, and patron attendance.

Selecting participants for the interview. For each VDT on the monthly sampling calendar, a team of interviewers attended the venue to enroll persons into the study. This team would establish an imaginary boundary from which to sample persons at the venue. Persons entering the defined area or crossing the defined boundary were approached consecutively as long as an interviewer was available. A brief interview was conducted to determine eligibility for the study (e.g., 15 years of age or older, a resident New York City as defined above and had not previously participated in the study). At some venues, it was more feasible to set up appointments for interviews to take place on another day instead of conducting the interview at the venue. Persons who approached the team

about participating in the survey were allowed to enroll as well. Volunteer participants were allowed into the study because of concerns expressed during the community assessment process about systematic sampling methods. Persons determined to be eligible via the brief eligibility interview were invited to participate in the study. Those persons agreeing to participate were invited to a designated area set up to conduct private interviews. Here, the members of the team obtained informed consent or assent, interviewed the participant, provided HIV counseling and obtained an oral sample from the participant. Each participant in exchange received $50 for their time and an identification number so they could return in about two weeks for test results, post-test counseling and referrals. In addition, this identification number was used to link the HIV test results to the survey data.

Measures

Trained interviewers conducted face-to-face, anonymous interviews using a 30-minute standardized questionnaire on a handheld computer. The interview contained questions about demographics (including detailed questions assessing gender identity), house ball involvement, sexual behaviors, drug and alcohol use (including silicone and hormone use), sexually transmitted disease history, sexual identity, perception of HIV risk, stressful life events, disrespect, stigma, depressed feelings, things that they worried about, self-esteem, and HIV testing experiences. The following is a brief description of the variables included in the analyses:

Unprotected anal intercourse (UAI) with male partners. UAI was defined as anal intercourse where condoms were never or only sometimes used versus either anal

intercourse where condoms were used all the time or oral intercourse without anal intercourse. To assess UAI, persons were asked questions about their sexual behaviors with both steady (e.g., a person the participant had sexual intercourse and a relationship in which they felt committed to the person above anyone else) and casual male partners (e.g., anyone who was not a steady partner). If they acknowledged having anal or oral sex in the past twelve months with the type of sex partner, subsequent questions were asked to determine if they had anal sex and how often condoms were used (see appendix A). From the questions about sex with steady and casual partners, a dichotomous variable was created for UAI. If responses to any questions about anal intercourse or condom use were unknown, UAI was considered unknown as well. In the sample, few men reported having UAI with casual partners. UAI was not broken down by type of sex partner because only 18% (n=37) of the 207 men who had sex with a casual partner reported UAI. Given the small number of cases, conducting a logistic regression with more than 3 predictors was not feasible. Instead, a variable indicating the type of sex partners was created from the questions assessing the number of steady or casual sex partners in the 12 months prior to the interview and examined as a covariate. Categories for this variable included: steady partners only; casual partners only; and both steady and casual partners.

Perceived Stigma. A general measure of stigma derived from one used in previous studies among MSM (Meyer, 1995) was used to assess the extent to which participants perceived social rejection in general. A general measure of stigma was used because multiple stigma were prevalent in the house ball community, including stigma associated with race, sexuality, and gender identity. The six items in this scale are included in

appendix B. Participants were asked to rate each item on a scale of 1 (strongly agree) to 4 (strongly disagree). The responses for the six items were reversed and then summed to create a perceived stigma score. In other words, a score of 6 represents no perceived stigma and a score of 24 represents high perceived stigma. Seven records were missing a response for at least one item comprising the scale; missing values for items were recoded to the mean score for that item prior to calculating the score. Cronbach's Coefficient Alpha for the perceived stigma scale for this study population was .84.

Enacted Stigma. A general measure was used to assess the extent to which participant experienced social rejection in the form of disrespect. The 8 items in the scale are included in appendix C. Participants were asked to rate each item on a scale of 1 (often) to 4 (never). The responses for the 8 items were rescaled and summed to create an enacted stigma score, such that a score of 8 represents no enacted stigma and a score of 32 represents high enacted stigma. An item in two records was missing a value and was replaced by the mean value for that item prior to calculating the score. Cronbach's Coefficient Alpha for the enacted stigma scale for this study population was .79.

Sense of Community. A modified version of the community consciousness scale used by Herek and Glunt (1995) was used to assess participant's sense of community with the house ball community (See appendix D). Participants were asked to rate each item on a scale of 1 (strongly agree) to 4 (strongly disagree). The responses for the 8 items were reversed and then summed to create a sense of community score. Such that a score of 8 represents a low sense of community and a score of 32 represents high sense of community. Missing values for 16 items in the scale were replaced by the mean value for

that item prior to calculating the score. Cronbach's Coefficient Alpha for the enacted stigma scale for this study population was .78.

Self-Esteem. A measure of self-esteem was adapted from a self-esteem scale previously developed by Rosenberg (1965). This measure was used to assess the self-esteem of participants. The 10 items in the self-esteem scale are included in appendix E. Participants were asked to rate each item on a scale of 1 (strongly agree) to 4 (strongly disagree). The responses for the 10 items were reversed and then summed to create a self-esteem score, such that a score of 10 represents low self-esteem and a score of 40 represents high self-esteem. No records were missing values for the items comprising this scale. Cronbach's Coefficient Alpha for the self-esteem measure for this study population was .82.

Racial and Ethnic Identity. Race and Ethnicity were assessed through several questions. First, participants were asked "Are you Hispanic/Latino?" If the response was yes, they were considered to be Latino and were asked about their specific Hispanic ancestry. Then each respondent was asked "What are ALL the categories that describe your racial background?" Categories included Asian, American Indian, Black or African American, Native Hawaiian, and White. Non-Latino participants were categorized into mutually exclusive racial groups such that those who reported more than one race were classified into a separate category for multiple races. Men reporting a Latino background, regardless of race, were categorized as Latino. No significant differences were expected between the ancestry of the Latino men, because previous research by Carballo-Dieguez, Dolezal, Nieves-Rosa, and Diaz (2000) suggests that MSM of Colombian, Dominican,

Mexican, and Puerto Rican ancestry in New York City are similar in terms of sexual behavior and factors associated with it and most of the Latino men in the sample were from one of these ancestries. Still, the Latino men in the sample who provided their racial background were grouped into Black versus non-Black racial categories. The social, demographic, and behavioral characteristics of the Latino men in these two categories were then compared for differences prior to conducting analysis of them as a group.

Age. Age was calculated in years based upon the participant's full date of birth. Discrepant ages were verified with the participant and corrected during the interview.

Socioeconomic status. Socioeconomic status (SES) was determined by three items in the interview assessing income, level of education, and employment. To assess income, interviewers provided the participant with a response card containing eight income ranges. These ranges were numbered 1 through 8. The lowest range was "less than $5,000" and the highest was "greater than $50,000." Participants were asked to provide the number from the response card corresponding to the range that best described the money they made from all sources in the past 12 months. Given that the poverty threshold for a single person in the United States is estimated to be about $9,359 or $9,800 (Proctor & Dalaker, 2003; Department of Health and Human Services, 2006), the lowest two income ranges were grouped together into one category: less than $10,000. In addition, the two highest income brackets were collapsed into one due to the few participants reporting income greater than $40,000 (n=12). Education was assessed in one item: "What is the highest level of education that you have completed?" Categorical responses ranged from "Less than high school" to "Graduate School." Given that few

participants (n=2) reported attending some graduate school, these participants were grouped with those attending college or some other post-high school training. Employment was determined by asking respondents "Which of the following best describes your current work situation: Full-time, Part-time, Occasional, Unemployed, or Unable to work (disabled)?" Participants reporting full- or part-time employment were considered employed; those reporting one of the three other responses were considered unemployed. Student status was also included in analysis with these SES indicators, because men who are continuing their education may report low income and unemployment.

Sexual identity. Sexual identity was assessed with the question: "How would you describe your sexual identity or sexual orientation now?" Responses included homosexual/gay, heterosexual/straight, bisexual, other, and questioning. Assuming the relation between UAI and sexual identity is rooted in stigma associated with gay identity, the responses were grouped into two groups: gay and not gay identified.

Drug use. Drug use was assessed by the question "In the past 12 months, have you used drugs to get high other than drugs that were prescribed for you or drugs that you may have injected?" Participants replying "yes" were considered to have used drugs. Given that the question excluded injection drug use, those participants who acknowledged injecting drugs in the past year were considered to have used drugs as well. Injection drug use was not analyzed separately because few participants acknowledged injecting drugs (n=2).

Data Analysis

Participants included in the analyses either reported being affiliated with a House or had reported having attended at least one ball in the previous year. In addition, prior to conducting analyses, data were excluded for persons who reported a gender identity which did not include being a male at birth (i.e., transgender persons, and anatomical or non-transgender females), to avoid confounding the analysis with gender categories that were expected to experience different levels of social rejection and UAI with men. Also, men not reporting anal or oral intercourse with a male sex partner within the 12 months prior to their interview were excluded because they had not engaged in behaviors that could be examined as HIV risk outcomes. For reasons noted in the introduction, men who self-reported as HIV positive were removed prior to conducting analyses. Lastly, given the few interviews from men reporting a race or ethnicity other than African-American (non-Latino) or Latino, these records were removed prior to analysis as well.

Descriptive statistics were computed for sociodemographic and other characteristics that may be related to stigma or unprotected anal intercourse. These variables include race or ethnicity, age, education, student status, income, employment, sexual identity, relationship status, drug use, type of sex partner, sexual intercourse with females in the past 12 months, and self-reported HIV infection status. To understand the relation between these variables and the analysis variables, bivariate analyses were performed to examine associations between each of these characteristics and the analysis variables (i.e., stigma, sense of community, self-esteem, and UAI). The results of the bivariate analyses were used to examine sociodemographic variables that may co-vary

with UAI and possibly confound the analysis. According to Baron and Kenny (1986), a confounder is a factor that is associated with both the independent variables (i.e., perceived and enacted stigma) and the dependent variables (i.e., UAI). Variables associated with both UAI and stigma were controlled for in subsequent multivariate analyses examining each hypothesis. Specific analyses for the hypotheses include:

Hypothesis I: Perceived stigma has a direct effect on UAI. A logistic regression was conducted to determine the direct effect of perceived stigma on UAI. Specifically, the dependent variable (UAI) was regressed on the independent variable (perceived stigma) and covariates. Perceived stigma was considered to have a direct effect on UAI after controlling for covariates if its partial regression coefficient was significant.

Hypothesis II: Enacted stigma has a direct effect on UAI. A logistic regression was conducted to determine the direct effect of enacted stigma on UAI. Specifically, the dependent variable (UAI) was regressed on the independent variable (enacted stigma) and covariates. Enacted stigma was considered to have a direct effect on UAI after controlling for covariates if its partial regression coefficient was significant.

Hypothesis III: Community has a direct effect on UAI. A logistic regression was conducted to determine the direct effect of community on UAI. Specifically, the dependent variable (UAI) was regressed the independent variable (community) and the covariates. Community was considered to have a direct effect on UAI after controlling for covariates if its partial regression coefficient was significant.

Hypothesis IV: Community moderates the effect of perceived stigma on UAI. According to Baron and Kenny (1986) a variable functions as a moderator when the

interaction term of the moderating variable and a focal independent variable accounts for variation in the dependent variable. A hierarchical logistic regression was conducted to determine the moderating effect of community on the relation between perceived stigma and UAI. First, the dependent variable (UAI) was regressed on the independent variable (perceived stigma) and covariates in the first step and then on the independent variable (perceived stigma), covariates, moderating variable (community), and interaction term between the independent variable (perceived stigma) and moderator (community) in the second step. Moderation was considered if the interaction term was significant.

Hypothesis V: Community moderates the effect of enacted stigma on UAI. A hierarchical logistic regression was conducted to determine the moderating effect of community on the relation between enacted stigma and UAI. First, the dependent variable (UAI) was regressed on the independent variable (enacted stigma) and covariates in the first step and then on the independent variable (enacted stigma), covariates, moderating variable (community), and interaction term between the independent variable (enacted stigma) and moderator (community) in the second step. Moderation was considered if the interaction term was significant.

Hypothesis VI: Self-esteem mediates the effect of perceived stigma on UAI. A series of hierarchical regressions were conducted to determine the mediating effect of self-esteem on the relation between perceived stigma and UAI. First, the dependent variable (UAI) was regressed on the independent variable (perceived stigma) and covariates in the first step and then on the independent variable (perceived stigma), covariates, and mediator (self-esteem) in the second step. Next, the mediator (self-

esteem) was regressed on the independent variable (perceived stigma) and covariates. For mediation to occur, the path between the independent variable (perceived stigma) and mediator (self-esteem) would have to explain a significant amount of variance, as would the path between the mediator (self-esteem) and the dependent variable (UAI). Furthermore, the variance in the dependent variable (UAI) once explained by the independent variable (perceived stigma) would be diminished.

Hypothesis VII: Self-esteem mediates the effect of enacted stigma on UAI. A series of hierarchical regressions were conducted to determine the mediating effect of self-esteem on the relation between enacted stigma and UAI. First, the dependent variable (UAI) was regressed on the independent variable (enacted stigma) and covariates in the first step and then on the independent variable (enacted stigma), covariates, and mediator (self-esteem) in the second step. Next, the mediator (self-esteem) was regressed on the independent variable (enacted stigma) and covariates. For mediation to occur, the path between the independent variable (enacted stigma) and mediator (self-esteem) would have to explain a significant amount of variance, as would the path between the mediator (self-esteem) and the dependent variable (UAI). Furthermore, the variance in the dependent variable (UAI) once explained by the independent variable (enacted stigma) would be diminished.

Hypothesis VIII: Community moderates the effect of perceived stigma on self-esteem. A hierarchical logistic regression was conducted to determine the moderating effect of community on the relation between perceived stigma and self-esteem. First, the dependent variable (self-esteem) was regressed on the independent variable (perceived

stigma) and covariates in the first step and then on the independent variable (perceived stigma), covariates, moderating variable (community), and interaction term between the independent variable (perceived stigma) and moderator (community) in the second step. Moderation occurs if the interaction term is significant.

Hypothesis IX: Community moderates the effect of enacted stigma on self-esteem. A hierarchical logistic regression was conducted to determine the moderating effect of community on the relation between enacted stigma and self-esteem. First, the dependent variable (self-esteem) was regressed on the independent variable (enacted stigma) and covariates in the first step and then on the independent variable (enacted stigma), covariates, moderating variable (community), and interaction term between the independent variable (enacted stigma) and moderator (community) in the second step. Moderation occurred if the interaction term was significant.

Analyses were performed using SAS, Version 9.1 and SPSS, Version 14.0. Variables with unknown responses were excluded from analyses using listwise deletion. The alpha level for significance testing was .05. According to Tabachnick and Fidell (1996) the ratio of cases to variables in the model is important when conducting logistic regression analyses to avoid large parameter estimates and standard errors as well as failure of convergence. Given 119 cases were in the analysis dataset, it was anticipated that logistic models with more than 5 variables may have unreliable parameter estimates and standard errors. Thus, these estimates were monitored while building models.

RESULTS

Using the described sampling methods, data were collected between June and December 2004 from 35 sampling events at 33 venues where staff approached 753 persons and completed brief eligibility interviews for 682 (91%) persons. Of those completing the brief eligibility interview, 645 (95%) were eligible for the study; the study staff interviewed 504 (78%) and obtained an oral specimen from 501. The racial and ethnic diversity of the participants was similar to the racial and ethnic diversity reported during the community assessment process of the project in New York City's house ball community.

Of the 504 interviews, 16 (3%) were removed because the participant was not affiliated with the house ball community as determined by the self-report of house membership or ball attendance. Of the remaining 488 interviews, 331 were with persons who identified as men. Prior to conducting analyses, 17 interviews from men who did not report having sex with a man in the past year were excluded as well as 13 interviews from men who did not report either a Latino ethnicity or African American racial background. Of the remaining 303 men in the sample, 63 (21%) were infected with HIV as determined by HIV antibody test results conducted with the survey. Only 16 (25%) of these men were aware of their infection at the time of their interview. Data from these 16 interviews were removed prior to conducting analysis, because knowing their HIV status they were suspected to use condoms to avoid transmitting HIV to their sexual partners.

Most of the 287 men in the final sample were younger than 25 years in age (n=208) and identified as gay (n=210). More than half had not disclosed their sexual identity to everyone they knew (n=176). Also, about half lived with their parents, guardians, or some other relatives (n=145), 23% lived alone in a house or apartment (n=67), 12% lived with friends or roommates (n=35), and 8% lived with their lover or partner (n=22). Table 1 presents the demographic, social, and behavioral characteristics of the remaining sample for exclusively African American and Latino men. Slightly more than half of the men were African American (n=156). A comparison between the two groups, HIV-related behaviors, stigma, self-esteem, and sense of community scores yielded few significant racial differences. African American men were more likely than Latino men to be infected with HIV (28% vs. 2%, $X^2 = 35.21$, $p = <.0001$) and to have had an STD in the 12 months preceding the interview (15% vs. 5%, $X^2 = 3.74$, $p = .053$) and to be between 31 and 52 years of age (20% vs. 6%, $X^2 = 11.49$, $p = <.001$). Lastly, the two groups were similar in the level of stigma perceived ($F(1,285) = 0.004$, $p = .94$), stigma experienced ($F(1,285) = 0.23$, $p = .63$), self-esteem reported ($F(1,285) = 0.07$, $p = .80$), and sense of community reported ($F(1,285) = 0.002$, $p = .97$). Differences in HIV status, STD history, and age confirmed the need to examine race/ethnicity as a moderator in the multivariate analyses.

Table 1.
Characteristics of men who had sex with men within the 12 months preceding the interview, by race/ethnicity.

	African American		Latino		Chi-Square	p-value
	n	%	n	%		
Age					13.26	0.010
15-17	15	9.6	21	16		
18-20	45	28.8	45	34.4		
21-24	45	28.8	37	28.2		
25-30	20	12.8	20	15.3		
31-52	31	19.9	8	6.1		
Education					1.34	0.511
Not a high school graduate	34	21.8	35	26.7		
High school graduate	65	41.7	47	35.9		
Technical training, college, or graduate school	57	36.5	49	37.4		
Currently in school					0.28	0.597
No	100	64.1	80	61.1		
Yes	56	35.9	51	38.9		
Income					4.85	0.303
Less than $10,000	75	48.1	57	43.5		
$10,000 to $19,999	30	19.2	22	16.8		
$20,000 to $29,000	18	11.5	15	11.5		
$30,000 to $39,000	16	10.3	10	7.6		
$40,000 or more	11	7.1	19	14.5		
Employment					3.28	0.070
Not employed	70	44.9	45	34.4		
Employed at least part-time	86	55.1	86	65.6		
Sexual identity					0.003	0.960
Gay	115	73.7	95	72.5		
Not gay identified	37	23.7	31	23.7		
Currently in a relationship					0.93	0.336
Yes	65	41.7	62	47.3		
No	91	58.3	69	52.7		
Used drugs in the past 12 months					1.67	0.196
No	94	60.3	69	52.7		
Yes	62	39.7	62	47.3		

Table 1 (continued).
Characteristics of men who had sex with men within the 12 months preceding the interview, by race/ethnicity.

	African American		Latino		Chi-Square	p-value
	n	%	n	%		
Any sexually transmitted disease in the past 12 months					3.74	0.053
No	139	89.1	125	95.4		
Yes	15	9.6	5	3.8		
Type of sex partners in past 12 months					1.45	0.484
Steady partners only	40	25.6	40	30.5		
Casual partners only	30	19.2	28	21.4		
Both casual and steady partners	86	55.1	63	48.1		
Number of sex partners in past 12 months					2.70	0.260
1	28	17.9	28	21.4		
2 or 3	51	32.7	51	38.9		
4 or more	77	49.4	52	39.7		
Sexual intercourse with female in past 12 months					0.02	0.887
No	134	85.9	114	87		
Yes	21	13.5	17	13		
Sexual Intercourse with men in the past 12 months					0.16	0.686
Oral sex or protected anal intercourse	93	59.6	75	57.3		
Unprotected anal intercourse	63	40.4	56	42.7		
HIV infection					35.21	<.0001
Negative	111	71.2	128	97.7		
Positive	44	28.2	3	2.3		
Total	156		131			

Note: The column totals may not sum to total due to missing or unknown values.

Prior to conducting bivariate analyses, Latino men who reported an African racial identity were compared to Latino men who reported another racial identity were examined to determine if these two groups could be analyzed as one group. Of the 131 men who reported having a Hispanic or Latino ethnicity, most (80%) also reported a racial identity. These men were subsequently categorized into two groups depending upon whether they reported a racial identity of Black or African versus another race. Of the men reporting a racial identity, 65% were of African descent (n=68). A comparison of the differences between the two racial groups in terms of their social, demographic, and key behavioral characteristics yielded no significant differences (Table 2). In addition, no significant differences were noted in their scores for perceived stigma ($F(1,103) = 0.01$, $p = .909$), enacted stigma ($F(1,103) = 0.22$, $p = .637$), sense of community ($F(1,103) = 3.68$, $p = .06$), or self-esteem ($F(1,103) = 2.32$, $p = .131$). Given the lack of statistically significant differences between the two racial groups, Latino men were examined as one group in subsequent analyses.

Table 2.
Characteristics of Latino men who had sex with men by racial background.

	No Black or African Background		Black or African Background		Chi-Square	p-value
	n	%	n	%		
Age					0.71	0.870
15-17	5	13.5	11	16.2		
18-20	12	32.4	23	33.8		
21-24	11	29.7	22	32.4		
25-52	9	24.3	12	17.6		
Country of Birth					0.02	0.883
United States	33	89.2	60	88.2		
Other than the United States	4	10.8	8	11.8		
Education						
Not a high school graduate	11	29.7	20	29.4	0.43	0.805
High school graduate	12	32.4	26	38.2		
Technical training, college, or graduate school	14	37.8	22	32.4		
Currently in school					0.07	0.796
No	23	62.2	44	64.7		
Yes	14	37.8	24	35.3		
Income					0.44	0.931
Less than $10,000	17	45.9	28	41.2		
$10,000 to $19,000	6	16.2	11	16.2		
$20,000 to $39,000	8	21.6	14	20.6		
$40,000 or more	6	16.2	7	10.3		
Employment					2.98	0.084
Not employed	9	24.3	28	41.2		
Employed at least part-time	28	75.7	40	58.8		
Sexual identity					1.26	0.262
Gay	29	78.4	45	66.2		
Not gay identified	7	18.9	19	27.9		
Currently in a relationship					0.73	0.392
Yes	19	51.4	29	42.6		
No	18	48.6	39	57.4		
Used drugs in the past 12 months					2.09	0.148
No	18	48.6	43	63.2		
Yes	19	51.4	25	36.8		
Type of sex partners in past 12 months					0.38	0.827
Steady partners only	15	40.5	19	27.9		
Casual partners only	5	13.5	14	20.6		
Both casual and steady partners	17	45.9	35	51.5		
Sexual Intercourse with female in the past 12 months					0.31	0.575
No	33	89.2	58	85.3		
Yes	4	10.8	10	14.7		
Sexual Intercourse with men in the past 12 months					0.32	0.572
Oral sex or protected anal intercourse	18	48.6	37	54.4		
Unprotected anal intercourse	19	51.4	31	45.6		
Total	37		68			

Note: Column totals may not sum to total due to missing or unknown values.

Bivariate Analyses

Unprotected Anal Intercourse

Of the 287 men in the analysis, 41% (n=119) reported unprotected anal intercourse (UAI). Characteristics associated with UAI in general are presented in Table 3. No significant differences in rates of UAI were found for Latino ethnicity, education, employment, or drug use. Men engaging in UAI were more likely to report being between the ages of 21 and 24 years, earning between $20,000 and $39,000 per year, having a steady sexual partner, and having had a sexually transmitted disease in the 12 months preceding the interview than men in the respective reference category. Men currently enrolled in school were less inclined to report UAI than men not enrolled in school. UAI was not significantly related to HIV infection or having multiple sex partners. In addition, compared to men who did not report UAI, those reporting UAI reported higher levels of perceived stigma ($M=12.01$ vs. $M=13.03$, $F(1,285) = 5.92$, $p = .02$) and enacted stigma ($M=19.55$ vs. $M=18.29$, $F(1,285) = 5.09$, $p = .02$), but lower levels of self-esteem ($M=31.62$ vs. $M=32.66$, $F(1,285) = 4.49$, $p = .03$) and sense of community ($M=22.20$ vs. $M=23.36$, $F(1,285) = 4.92$, $p = .03$).

Table 3.
Prevalence of unprotected anal intercourse by characteristics of men who had sex with men within the 12 months preceding the interview.

	Total	Unprotected Anal Intercourse			
	n	n	%	Odds Ratio	Confidence Interval
Race/Ethnicity					
African American	156	63	40.4	Reference	— —
Latino	131	56	42.7	1.10	0.69 - 1.77
Age					
15-17	36	10	27.8	Reference	— —
18-20	90	32	35.6	1.43	0.61 - 3.35
21-24	82	45	54.9	3.16	1.35 - 7.39
25-30	40	14	35.0	1.40	0.53 - 3.72
31-52	39	18	46.2	2.23	0.85 - 5.84
Education					
Not a high school graduate	69	25	36.2	Reference	— —
High school graduate	112	47	42.0	1.27	0.69 - 2.36
Technical training, college, or graduate school	106	47	44.3	1.40	0.75 - 2.61
Currently in school					
No	180	79	43.9	Reference	— —
Yes	107	40	37.4	0.44	0.05 - 0.82
Income					
Less than $10,000	132	48	36.4	Reference	— —
$10,000 to $19,999	52	20	38.5	1.09	0.56 - 2.12
$20,000 to $29,000	33	19	57.6	2.38	1.09 - 5.16
$30,000 to $39,000	26	15	57.7	2.39	1.02 - 5.61
$40,000 or more	30	12	40.0	1.17	0.52 - 2.63
Employment					
Not employed	115	48	41.7	Reference	— —
Employed at least part-time	172	71	41.3	0.98	0.61 - 1.58
Sexual identity					
Gay	210	90	42.9	Reference	— —
Not gay identified	68	25	36.8	0.78	0.44 - 1.36
Currently in a relationship					
Yes	127	57	44.9	Reference	— —
No	160	62	38.8	0.76	0.47 - 1.25
Used drugs in the past 12 months					
No	163	71	43.6	Reference	— —
Yes	124	48	38.7	0.82	0.51 - 1.32

Table 3 (continued).
Prevalence of unprotected anal intercourse by characteristics of men who had sex with men within the 12 months preceding the interview.

	Total	Unprotected Anal Intercourse			
	n	n	%	Odds Ratio	Confidence Interval
Any sexually transmitted disease in the past 12 months					
No	264	105	39.8	Reference	— —
Yes	20	13	65.0	3.24	1.12 - 9.39
Type of sex partners in past 12 months					
Steady partners only	80	34	42.5	Reference	— —
Casual partners only	58	15	25.9	0.47	0.23 - 0.99
Both casual and steady partners	149	70	47.0	1.20	0.69 - 2.07
Number of sex partners in past 12 months					
1	56	25	44.6	Reference	— —
2 or 3	102	31	30.4	0.54	0.28 - 1.06
4 or more	129	63	48.8	1.18	0.63 - 2.22
Sexual intercourse with female in past 12 months					
No	248	106	42.7	Reference	— —
Yes	38	13	34.2	0.68	0.33 - 1.43
HIV infection					
Negative	239	98	41.0	Reference	— —
Positive	47	20	42.6	1.02	0.53 - 1.97
Total	287	119	41.5		

Note: Column totals may not sum to total due to missing or unknown values.

To confirm the underlying item structure for each scale, a principal factor analysis with a varimax rotation was performed on all 32 items. Four factors were extracted. The 32 items loaded on the four factors as expected; no cross-loadings were noted. As recommended by Tabachnick and Fidell (1996) items with loadings greater than .32 were included in the interpretation of a factor. The 6 items comprising perceived stigma loaded on the first factor (range: .59 to .80). The second factor was comprised of the 8 items from the enacted stigma scale (range: .44 to .79). The 8 items from the sense of community scale loaded on the third factor (range: .51 to 72). The last factor was comprised of the 10 items from the self-esteem scale (range: .54 to .82).

Descriptive statistics and Pearson correlation coefficients were calculated for perceived stigma, enacted stigma, sense of community, and self-esteem scores (Table 4). Perceived stigma was positively correlated with enacted stigma, but negatively correlated with both self-esteem and sense of community. Likewise, enacted stigma was negatively correlated with both self-esteem and sense of community scores; self-esteem and sense of community were positively correlated. All correlations were statistically significant.

Table 4.
Descriptive statistics and correlations for perceived stigma, enacted stigma, sense of community, and self-esteem scores.

	N	M	SD	Range	1	2	3	4
1. Perceived Stigma	287	12.45	3.47	6 - 24	1.00	0.51	-0.25	-0.15
						<.0001	<.0001	0.009
2. Enacted Stigma	287	18.82	4.71	8 - 32		1.00	-0.26	-0.15
							<.0001	0.011
3. Self-esteem	287	32.23	4.11	17 - 40			1.00	0.29
								<.0001
4. Sense of Community	287	22.88	4.39	12 - 32				1.00

Perceived and Enacted Stigma

Overall, the mean score was 12.5 (*SD* = 3.5) for perceived stigma and 18.8 (*SD* = 4.7) for enacted stigma. Both means were just below each scale's midpoint range (i.e., 15 and 19.5 respectively). The results of ANOVA analyses comparing differences between social, demographic, and behavioral characteristics for each scale are presented in Table 5. Perceived stigma was not related to race/ethnicity, age, income, employment, sexual identity, or type of sex partner. Significant differences were noted in education; post hoc tests were necessary to determine how scores varied across the multiple categories of education. Also, men who had engaged in UAI in the 12 months preceding the interview reported higher perceived stigma than men who had not engaged in UAI.

Similar results were found for enacted stigma scores. Enacted stigma was not related to race/ethnicity, income, employment, sexual identity, or type of sex partner. Instead, enacted stigma was associated with age and education. Because age and education had multiple categories, post hoc tests were conducted to determine how scores varied across categories. Also, men who had engaged in UAI in the 12 months preceding the interview reported higher enacted stigma scores than men who had not engaged in UAI.

Table 5.
Factors associated with perceived and enacted stigma among men who had sex with men within the 12 months preceding the interview.

		Perceived stigma					Enacted stigma				
Variable	n	M	SD	df	F	p	M	SD	df	F	p
Race/Ethnic Group											
African American	156	12.39	3.64	1	0.09	.770	18.95	4.36	1	0.27	.601
Latino	131	12.51	3.28				18.66	5.10			
Age											
15-17	36	13.44	3.34	4	1.21	.308	20.58	4.86	4	3.26	.012
18-20	90	12.24	3.22				18.91	3.95			
21-24	82	12.52	3.85				18.50	4.62			
25-30	40	12.50	3.63				19.50	5.72			
31-52	39	11.77	3.10				16.92	4.68			
Education											
Not a high school graduate	69	13.96	2.96	2	10.57	<.0001	20.43	5.09	2	6.50	.002
High school graduate	112	12.34	3.04				18.71	4.16			
Technical training, college, or graduate school	106	11.58	3.89				17.87	4.76			
Currently enrolled in school											
No	180	12.77	3.31	1	4.31	.040	18.78	4.84	1	0.03	.861
Yes	107	11.90	3.69				18.88	4.49			
Income											
Less than $10,000	132	12.64	3.37	5	0.55	.699	19.3	4.41	5	1.32	.263
$10,000 to $19,999	52	12.19	3.55				18.29	4.71			
$20,000 to $29,000	33	12.30	4.05				18.82	5.10			
$30,000 to $39,000	26	12.19	3.16				17.62	4.79			
$40,000 or more	30	11.67	3.86				17.73	5.04			
Employment											
not employed	115	12.90	3.17	1	3.37	.067	19.37	4.66	1	2.72	.100
employed at least part-time	172	12.14	3.64				18.44	4.71			
Sexual identity											
Gay	210	12.22	3.39	1	1.10	.296	18.43	4.60	1	1.81	.180
Not gay identified	68	12.72	3.57				19.31	4.77			
Currently in a relationship											
Yes	160	12.55	2.79	1	0.21	.648	18.49	4.71	1	1.10	.295
No	127	12.36	3.93				19.08	4.70			
Used drugs in past 12 months											
No	163	12.68	3.22	1	1.73	.189	18.77	4.70	1	0.03	.862
Yes	124	12.14	3.77				18.87	4.73			

Table 5 (continued).
Factors associated with perceived and enacted stigma among men who had sex with men within the 12 months preceding the interview.

		Perceived stigma					Enacted stigma				
Variable	n	M	SD	df	F	p	M	SD	df	F	p
Any sexually transmitted disease in the past 12 months											
No	264	12.45	3.47	1	0.003	.955	18.83	4.71	1	0.14	.704
Yes	20	12.50	3.43				19.25	4.34			
Type of sex partners in past 12 months											
Steady partners only	80	12.46	3.84	2	0.18	.834	18.13	5.31	2	1.20	.304
Casual partners only	58	12.20	2.89				19.12	4.14			
Both casual and steady partners	149	12.53	3.49				19.07	4.56			
Number of sex partners in past 12 months											
1	56	12.17	3.43	2	0.31	.735	17.71	4.97	2	1.97	.142
2 or 3	102	12.62	3.71				18.97	4.62			
4 or more	129	12.41	3.31				19.17	4.61			
Sexual intercourse with female in past 12 months											
No	248	12.41	3.44	1	0.20	.653	18.77	4.70	1	0.10	.756
Yes	38	12.68	3.79				19.03	5.30			
Sexual Intercourse with men in the past 12 months											
Oral sex or protected anal intercourse	168	12.01	3.55	1	5.92	.016	18.29	4.54	1	5.09	.025
Unprotected anal intercourse	119	13.03	3.29				19.55	4.85			
HIV infection											
Negative	239	12.44	3.53	1	0.01	.922	18.93	4.80	1	1.42	.235
Positive	47	12.49	3.23				18.04	4.07			

Sense of Community

The mean score for sense of community was 22.9 (*SD* = 4.4). No differences were found in sense of community scores by race/ethnicity, age, income, employment, or type of sex partner (Table 6). However, sense of community mean scores varied significantly by the men's sexual identity and whether they had a female sex partner in the 12 months preceding the interview. Men who did not identify as gay had lower sense of community scores than men who identified as gay. Men reporting a female sex partner within the 12 months preceding the interview had lower sense of community scores than men who did not report a female partner in the year prior to their interview. In addition, men who reported UAI in the preceding 12 months from the interview reported lower sense of community scores than men who did not report UAI in the year prior to the interview.

Self-Esteem

The mean score for self-esteem was 32.2 (*SD* = 4.1). Table 6 also includes the comparisons of self-esteem mean scores for selected social, demographic, and behavioral characteristics. Self-esteem was not associated with race/ethnicity, age, income, sexual identity, or type of sexual partner. Self-esteem was associated with employment status, drug use, and education. Men who were employed had lower self-esteem scores than those unemployed; those who used drugs within the 12-months before the interview had higher self-esteem scores. Post hoc tests were conduced to determine how self-esteem varied by education. Also, self-esteem was associated with UAI, such that men who had engaged in UAI reported lower self-esteem scores than men who had not engaged in UAI.

Table 6.
Factors associated with sense of community and self-esteem among men who had sex with men within the 12 months preceding the interview.

		Sense of Community					Self-esteem				
Variable	n	M	SD	df	F	p	M	SD	df	F	p
Race/Ethnic Group											
African American	156	22.87	4.67	1	0.002	.967	32.19	3.81	1	0.04	.843
Latino	131	22.89	4.07				32.28	4.46			
Age											
15-17	36	22.28	4.19	4	1.21	.307	30.86	4.00	4	1.91	.109
18-20	90	22.64	4.28				31.91	3.83			
21-24	82	22.54	4.55				32.99	4.60			
25-30	40	23.68	4.37				32.53	4.34			
31-52	39	23.90	4.52				32.33	3.23			
Education											
Not a high school graduate	69	22.58	4.49	2	1.94	.146	31.60	4.13	2	7.57	.0006
High school graduate	112	22.36	4.38				31.51	4.02			
Technical training, college, or graduate school	106	23.54	4.28				33.43	3.92			
Currently enrolled in school											
No	180	22.62	4.43	1	1.76	.186	31.88	4.32	1	3.57	.060
Yes	107	23.33	4.32				32.82	3.70			
Income											
Less than $10,000	132	22.74	4.67	5	0.20	.938	32.10	3.97	5	0.64	.344
$10,000 to $19,999	52	23.12	4.31				33.08	3.79			
$20,000 to $29,000	33	23.12	4.15				32.39	4.55			
$30,000 to $39,000	26	22.88	4.83				32.57	4.51			
$40,000 or more	30	23.47	4.07				32.87	3.95			
Employment											
not employed	115	22.50	4.34	1	1.41	.236	32.94	3.95	1	13.40	.0003
employed at least part-time	172	23.13	4.43				31.17	4.15			
Sexual identity											
Gay	210	23.60	4.14	1	19.91	<.0001	31.78	3.94	1	1.83	.177
Not gay identified	68	20.93	4.72				32.52	3.94			
Currently in a relationship											
Yes	160	23.23	4.10	1	1.42	.235	31.87	4.13	1	2.80	.095
No	127	22.61	4.61				32.69	4.06			
Used drugs in past 12 months											
No	163	22.45	4.56	1	3.60	.059	31.42	3.92	1	15.22	.0001
Yes	124	23.44	4.13				33.29	4.14			

Table 6 (continued).
Factors associated with sense of community and self-esteem among men who had sex with men within the 12 months preceding the interview.

		Sense of Community					Self-esteem				
Variable	n	M	SD	df	F	p	M	SD	df	F	p
Any sexually transmitted disease in the past 12 months											
No	264	22.88	4.41	1	0.03	.864	32.35	4.18	1	3.39	.067
Yes	20	22.70	4.14				30.60	2.84			
Currently in a relationship											
Yes	160	23.23	4.10	1	1.42	.235	31.87	4.13	1	2.80	.095
No	127	22.61	4.61				32.69	4.06			
Type of sex partners in past 12 months											
Steady partners only	80	23.55	4.91	2	1.32	.268	31.64	4.26	2	1.10	.335
Casual partners only	58	22.76	4.28				32.69	4.08			
Both casual and steady partners	149	22.57	4.14				32.21	4.07			
Number of sex partners in past 12 months											
1	56	23.41	5.12	2	0.75	.475	32.86	3.68	2	0.83	.439
2 or 3	102	22.98	4.01				32.14	4.20			
4 or more	129	22.57	4.36				32.03	4.23			
Sexual intercourse with female in past 12 months											
No	248	23.16	4.33	1	8.55	.004	32.29	4.01	1	0.77	.380
Yes	38	20.95	4.42				31.66	4.63			
Sexual Intercourse with men in the past 12 months											
Oral sex or protected anal intercourse	168	23.36	4.42	1	4.92	.027	32.66	3.91	1	4.49	.035
Unprotected anal intercourse	119	22.20	4.29				31.62	4.33			
HIV infection											
Negative	239	22.82	4.27	1	0.32	.573	32.27	4.20	1	0.17	.680
Positive	47	23.21	5.08				32.00	3.71			

Tukey Post Hoc Analysis

Tukey post hoc tests were conducted to evaluate pairwise differences in the mean scores for perceived stigma, enacted stigma, and self-esteem across the levels of education and age. Such tests were necessary because the ANOVA statistical tests indicated mean scores varied significantly across education and age categories, but did not indicate how the scores varied across the categories for these variables. Assuming equal variances in scores across the levels of education or age, a Tukey Honestly Stated Difference (HSD) was calculated using the harmonic mean (Table 7). Mean scores of scales were examined in post hoc tests only if the ANOVA test indicated they varied significantly across categories. Perceived stigma, enacted stigma, and self-esteem mean scores varied by education. Men with less than a high school education reported the highest perceived stigma and enacted stigma scores. Men reporting technical training, college, or graduate school reported the highest self-esteem. Enacted stigma mean scores varied by age. Although men 15-17 years of age reported the highest enacted stigma scores, their scores were not significantly different from men 18-20 years or 25-30 years.

Table 7.
Results of Tukey Post Hoc Tests.

Education	Not a high school graduate	High school graduate	Technical training, college, or graduate school			Tukey HSD
Mean of Perceived Stigma	13.96_{a}	$12.34_{a,b}$	11.58_{b}			1.67
Mean of Enacted Stigma	20.43_{a}	18.71_{b}	17.87_{b}			1.67
Mean of Self-Esteem	31.6_{a}	31.51_{a}	33.43_{b}			1.67
Age (in years)	15-17	18-20	21-24	25-30	31-52	
Mean of Enacted Stigma	20.58_{a}	$18.91_{a,b}$	$18.5_{b,c}$	$19.5_{a,b}$	16.92_{c}	1.94

Note: Means that share a common subscript do not differ significantly as determined by a Tukey HSD post hoc test, $p < 0.05$

Results of bivariate analyses were used to determine which variables to include in the multivariate analyses. Results indicated that sexual identity, education, employment, and drug use were not directly associated with UAI. Also, having an STD in the 12 months preceding the interview was found to be associated with engaging in UAI. This finding was not surprising given that STD can serve as a marker for unprotected sex. As a result of these analyses, covariates considered in the multivariate analyses of direct effects on UAI included age, SES indicators (as measured by income and student status), type of sex partners, and STD. Variables for each covariate were added stepwise to the model in this order to see how they contributed to each model's fit.

In addition, to reduce the degrees of freedom in the model and improve power, the income levels were reduced from 5 to 3 categories by combining the 2 income groups below $19,999 into a category and the 2 income groups between $20,000 and $39,999 into a category. This decision was based upon the odds ratios in the initial bivariate analyses indicating either there was no difference with the reference group (i.e., "less than $10,000") or the same direction of effect. The relation between the revised income levels categories and UAI yielded similar results to the initial bivariate test ($20,000 to $39,999 vs. less than $20,000: OR = 2.32, 95% Confidence Interval: 1.28 to 4.21).

Multivariate Analyses

The direct effect of perceived stigma on UAI

Table 8 shows results of regression analyses conducted to examine the hypothesis that perceived stigma is related to a greater likelihood of engaging in UAI. Perceived stigma was associated with UAI such that the likelihood of men reporting UAI increased 1.1 times or by 10% with a unit increase in perceived stigma. The direct effect was not large and its size and significance were not reduced by the covariates, which were added in steps to understand their contribution to the model. The likelihood ratio chi-square test of the overall model created in the fifth step was significant (X^2 (8, N=284) = 27.49, p=.001) and the "proportional reduction in the absolute value for the log-likelihood" or R^2_L was about 12% (p. 22, Menard, 1995), which means the variables in this model improved the fit of the model by 12%. However, the partial regression coefficients for age and student status were not significant (Z_{wald} = 0.01, p = .93; and Z_{wald} = 0.06, p = .80; respectively). In addition, removing these variables improved the fit of the model which was determined by a reduction in the -2 Log Likelihood estimate (Δ -2 Log Likelihood estimate = 4.031). Therefore, age and student status were dropped from subsequent steps in the regression examining perceived stigma and UAI.

Table 8.
Summary of logistic regression analyses examining the direct effect of perceived stigma on unprotected anal intercourse.

	Partial regression coefficients					Measure of model fit			
Variable	*b*	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.032	--	6.90	.009
Perceived stigma	.093	0.04	6.62*	1.10	(1.02 - 1.18)				
Step 2.						0.038	0.006	1.32	.250
Perceived stigma	.097	0.04	7.06*	1.10	(1.03 - 1.18)				
Covariates									
Age in years	.021	0.02	1.33	1.02	(0.99 - 1.06)				
Step 3.						0.074	0.036	7.82	.050
Perceived stigma	.098	0.04	6.83*	1.10	(1.03 - 1.19)				
Covariates									
Age in years	.006	0.02	.07	1.01	(0.97 - 1.05)				
Income between $20,000 and $39,999	.874	0.32	7.31*	2.40	(1.27 - 4.52)				
Income between $40,000 or more	.167	0.44	0.15	1.18	(0.50 - 2.78)				
Student status	-.158	0.27	0.35	0.85	(0.50 - 1.45)				
Step 4.						0.106	0.032	7.33	.026
Perceived stigma	.099	0.04	6.79*	1.10	(1.03 - 1.19)				
Covariates									
Age in years	.011	0.02	0.24	1.01	(0.97 - 1.05)				
Income between $20,000 and $39,999	.858	0.33	6.88*	2.40	(1.24 - 4.48)				
Income between $40,000 or more	.215	0.44	0.24	1.24	(0.52 - 2.96)				
Student status	-.068	0.28	0.06	0.93	(0.54 - 1.60)				
Casual sex partners only	-.745	0.39	3.65**	0.48	(0.22 - 1.02)				
Both casual and steady sex partners	.179	0.29	0.38	1.20	(0.68 - 2.12)				
Step 5.						0.124	0.018	4.12	.042
Perceived stigma	.101	0.04	6.82*	1.11	(1.03 - 1.19)				
Covariates									
Age in years	.006	0.02	0.01	1.00	(0.96 - 1.05)				
Income between $20,000 and $39,999	.910	0.33	7.36*	2.45	(1.28 - 4.69)				
Income between $40,000 or more	.382	0.42	0.63	1.43	(0.59 - 3.46)				
Student status	-.158	0.27	0.06	0.93	(0.54 - 1.61)				
Casual sex partners only	-.776	0.39	3.79**	0.47	(0.22 - 1.01)				
Both casual and steady sex partners	.123	0.29	0.19	1.14	(0.64 - 2.02)				
Any sexually transmitted disease in the past 12 months	1.037	0.51	5.42**	2.77	(1.01 - 7.62)				
Final Model						0.124	<.001	---	---
Perceived Stigma	.101	0.04	7.13*	1.11	(1.03 - 1.19)				
Covariates									
Income between $20,000 and $39,999	.910	0.32	8.18*	2.48	(1.33 - 4.63)				
Income between $40,000 or more	.382	0.42	0.83	1.47	(0.64 - 3.33)				
Casual sex partners only	-.776	0.39	3.95**	0.46	(0.21 - 0.99)				
Both casual and steady sex partners	.123	0.29	0.18	1.13	(0.64 - 2.01)				
Any sexually transmitted disease in the past 12 months	1.037	0.51	4.21**	2.82	(1.05 - 7.60)				

Note: N=284; Stepwise chi-square test was not conducted between Step 5 and final model. * $p < 0.01$, ** $p < 0.05$

Moderating effects were examined for both sexual identity and race/ethnicity on the relation between perceived stigma and UAI. In each analysis, UAI was regressed on perceived stigma, annual income, type of sex partners, having an STD in the past 12 months, followed by the moderating variable of interest and its interaction term, in two separate steps. Table 9 summarizes the results of the logistic regression analyses examining the moderating effect of sexual identity. Both the partial regression coefficient for sexual identity (Z_{wald} =0.66, p=.30) and the likelihood ratio chi-square test for the step (X^2 (8, N = 284) =0.67, p=.42) were not significant. Also, the relation between perceived stigma and UAI did not differ by sexual identity, as the partial regression coefficient for the interaction term was not significant (Z_{wald}=0.49, p =.30).

Table 10 summarizes the results of logistic regression analyses examining the moderating effect of race/ethnicity on the relation between perceived stigma and UAI. Race/ethnicity did not contribute to the likelihood of men engaging in UAI (Z_{wald} = 0.62, p=.43) or the fit of the model (X^2 (8, N = 284) = 0.62, p=.43). Also, the relation between perceived stigma and UAI did not differ between African American and Latino men as shown by an insignificant interaction with race/ethnicity (Z_{wald}=1.30, p =.25). Given the insignificant results for the moderating effect of sexual identity and race/ethnicity on the relation between perceived stigma and UAI, these variables were excluded from the subsequent analysis of mediation effect of self-esteem.

Table 9.
Summary of logistic regression analyses examining the moderating effect of sexual identity on the relation between perceived stigma and unprotected anal intercourse.

Variable	Partial regression coefficients					Measure of model fit			
	b	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.123	--	4.50	.034
Perceived stigma	.101	0.04	6.77*	1.11	(1.03 - 1.19)				
Covariates									
Income between $20,000 and $39,999	.878	0.32	7.47*	2.41	(1.28 - 4.52)				
Income between $40,000 or more	.375	0.42	0.80	1.46	(0.64 - 3.32)				
Casual sex partners only	-.834	0.40	4.37**	0.43	(0.20 - 0.95)				
Both casual and steady sex partners	.076	0.30	0.66	1.08	(0.60 - 1.93)				
Any sexually transmitted disease in the past 12 months	1.046	0.51	4.27**	2.85	(1.06 - 7.68)				
Step 2.						0.126	0.003	0.67	.415
Perceived stigma	.104	0.04	7.03*	1.11	(1.03 - 1.20)				
Covariates									
Income between $20,000 and $39,999	.857	0.32	7.08*	2.36	(1.25 - 4.43)				
Income between $40,000 or more	.362	0.42	0.74	1.44	(0.63 - 3.28)				
Casual sex partners only	-.848	0.40	4.49**	0.43	(0.20 - 0.94)				
Both casual and steady sex partners	.071	0.30	0.06	1.07	(0.60 - 1.92)				
Any sexually transmitted disease in the past 12 months	1.03	0.51	4.07**	2.79	(1.03 - 7.54)				
Not gay identified	-.247	0.31	0.66	0.78	(0.43 - 1.42)				
Step 3.						0.128	0.002	0.50	.479
Perceived stigma	.088	0.05	3.77**	1.09	(1.00 - 1.19)				
Covariates									
Income between $20,000 and $39,999	.864	0.32	7.19*	2.37	(1.26 - 4.47)				
Income between $40,000 or more	.358	0.42	0.72	1.43	(0.63 - 3.28)				
Casual sex partners only	-.825	0.40	4.21**	0.44	(0.20 - 0.96)				
Both casual and steady sex partners	.062	0.30	0.04	1.06	(0.59 - 1.90)				
Any sexually transmitted disease in the past 12 months	1.067	0.51	4.36**	2.91	(1.07 - 7.92)				
Not gay identified	-1.079	1.23	0.77	0.34	(0.31 - 3.78)				
Moderator									
Perceived stigma x Not gay identified	.065	0.09	0.49	1.07	(0.89 - 1.28)				

Note: N=275; * $p < 0.01$, ** $p < 0.05$

Table 10.
Summary of logistic regression analyses examining the moderating effect of race/ethnicity on the relation between perceived stigma and unprotected anal intercourse.

Variable	Partial regression coefficients					Measure of model fit			
	b	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.124	--	27.4	.035
Perceived Stigma	.101	0.04	7.13*	1.11	(1.03 - 1.19)				
Covariates									
Income between $20,000 and $39,999	.910	0.03	8.18*	2.48	(1.33 - 4.63)				
Income between $40,000 or more	.382	0.42	0.83	1.47	(0.64 - 3.33)				
Casual sex partners only	-.776	0.39	3.95**	0.46	(0.21 - 0.99)				
Both casual and steady sex partners	.123	0.29	0.18	1.13	(0.64 - 2.01)				
Any sexually transmitted disease in the past 12 months	1.037	0.51	4.21**	2.82	(1.05 - 7.60)				
Step 2.						0.127	0.003	0.62	.430
Perceived Stigma	.100	0.04	7.03*	1.11	(1.03 - 1.19)				
Covariates									
Income between $20,000 and $39,999	.913	0.32	8.20*	2.49	(1.33 - 4.65)				
Income between $40,000 or more	.349	0.42	0.69	1.42	(0.62 - 3.23)				
Casual sex partners only	-.770	0.39	3.88**	0.46	(0.22 - 0.97)				
Both casual and steady sex partners	.137	0.30	0.22	1.15	(0.64 - 2.04)				
Any sexually transmitted disease in the past 12 months	1.073	0.51	4.48**	2.92	(1.08 - 7.90)				
Race/ethnicity	.203	0.26	0.62	1.23	(0.74 - 2.03)				
Step 3.						0.132	0.005	1.32	.250
Perceived Stigma	.065	0.05	1.85	1.07	(0.97 - 1.17)				
Covariates									
Income between $20,000 and $39,999	.905	0.32	8.09*	2.47	(1.33 - 4.61)				
Income between $40,000 or more	.413	0.43	0.94	1.51	(0.66 - 3.48)				
Casual sex partners only	-.771	0.39	3.86**	0.46	(0.22 - 1.00)				
Both casual and steady sex partners	.115	0.30	0.15	1.12	(0.63 - 2.00)				
Any sexually transmitted disease in the past 12 months	1.117	0.51	4.85**	3.06	(1.13 - 8.25)				
Race/ethnicity	-.935	1.03	0.82	0.39	(0.05 - 2.96)				
Moderator									
Perceived Stigma x Race/ethnicity	.090	0.08	1.3	1.09	(0.94 - 1.28)				

Note: N=284; * $p < 0.01$, ** $p < 0.05$

The direct effect of enacted stigma on UAI

The results of the regression analyses to examine the direct effects of enacted stigma on UAI indicated that enacted stigma had a modest though significant effect on engaging in UAI (Table 11). Specifically, after considering the influence of age, annual income, student status, type of sex partners, and having an STD in the past 12 months, the likelihood of engaging in UAI increased 1.08 or 8% with each unit increase in enacted stigma. The likelihood ratio chi-square for the overall model in step 5 was significant (X^2 (8, N = 284) = 27.41, p =.001) and the value of R^2_L was 0.124. Partial regression coefficients for age, student status, and having an STD in the past 12 months, were not significant in the fifth step of model development (Z_{wald} = 0.24, p=.876, Z_{wald} =0.29, p=.59, and Z_{wald} =3.66, p=.056, respectively), which means these variables were not contributing to the prediction of UAI. A revised model excluding age and student status slightly diminished the model's fit (ΔR^2_L = -0.002; Δ-2 Log Likelihood = -0.38). However, removing the variable for having an STD in the past 12 months considerably reduced the model's fit (ΔR^2_L = -0.019; Δ -2 Log Likelihood = -4.28). Therefore, age and student status were dropped from subsequent regressions examining enacted stigma's influence on UAI, but the variable indicating having an STD in the past 12 months was retained in the model.

Table 11.
Summary of logistic regression analyses examining the direct effect of enacted stigma on unprotected anal intercourse.

Variable	Partial regression coefficients					Measure of model fit			
	b	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.026	---	5.52	.019
Enacted stigma	.061	0.03	5.38**	1.06	(1.01 - 1.12)				
Step 2.						0.033	0.007	1.62	.204
Enacted stigma	.066	0.03	6.12*	1.06	(1.01 - 1.13)				
Covariates									
Age in years	.023	0.02	1.62	1.02	(0.99 - 1.06)				
Step 3.						0.072	0.039	8.49	.037
Enacted stigma	.070	0.03	6.51*	1.07	(1.02 - 1.13)				
Covariates									
Age in years	.007	0.02	0.10	1.01	(0.97 - 1.05)				
Income between $20,000 and $39,999	.888	0.32	7.53*	2.43	(1.29 - 4.58)				
Income between $40,000 or more	.152	0.44	0.12	1.16	(0.50 - 2.73)				
Student status	-.243	0.27	0.83	0.79	(0.47 - 1.32)				
Step 4.						0.107	0.035	7.94	.019
Enacted stigma	.074	0.03	7.05*	1.07	(1.02 - 1.14)				
Covariates									
Age in years	.012	0.02	0.31	1.01	(0.97 - 1.06)				
Income between $20,000 and $39,999	.879	0.33	7.12*	2.41	(1.26 - 4.59)				
Income between $40,000 or more	.207	0.44	0.22	1.23	(0.52 - 2.92)				
Student status	-.148	0.27	0.30	0.86	(0.51 - 1.47)				
Casual sex partners only	-.831	0.39	4.52**	0.44	(0.20 - 0.94)				
Both casual and steady sex partners	.123	0.29	0.18	1.13	(0.64 - 2.00)				
Step 5.						0.124	0.017	3.84	.050
Enacted stigma	.073	0.03	6.84*	1.08	(1.02 - 1.14)				
Covariates									
Age in years	.003	0.02	0.24	1.00	(0.96 - 1.05)				
Income between $20,000 and $39,999	.916	0.33	7.58*	2.50	(1.30 - 4.80)				
Income between $40,000 or more	.345	0.45	0.59	1.41	(0.59 - 3.40)				
Student status	-.147	0.27	0.29	0.86	(0.51 - 1.48)				
Casual sex partners only	-.851	0.39	4.67**	0.43	(0.20 - 0.92)				
Both casual and steady sex partners	.073	0.29	0.06	1.08	(0.61 - 1.91)				
Any sexually transmitted disease in the past 12 months	.985	0.52	3.66	2.68	(0.98 - 7.34)				
Final Model						0.122	0.002	---	---
Enacted stigma	.073	0.03	6.89*	1.08	(1.02 - 1.14)				
Covariates									
Income between $20,000 and $39,999	.938	0.32	8.56*	2.56	(1.36 - 4.79)				
Income between $40,000 or more	.388	0.42	0.87	1.47	(0.65 - 3.34)				
Casual sex partners only	-.872	0.39	4.95**	0.42	(0.19 - 0.90)				
Both casual and steady sex partners	.071	0.29	0.06	1.07	(0.61 - 1.90)				
Any sexually transmitted disease in the past 12 months	1.018	0.50	4.08**	2.77	(1.03 - 7.44)				

Note: N=284; Stepwise chi-square test was not conducted between Step 5 and final model. * $p < 0.01$, ** $p < 0.05$

As with the effects of perceived stigma on UAI, sexual identity and race/ethnicity were expected to moderate the relation between enacted stigma and UAI. Table 12 summarizes the results of the hierarchical logistic regression analyses examining the moderating effect of sexual identity. Men who identified as gay were just as likely as men who did not identify as gay to report UAI (Z_{wald}= 0.68, p=.41). Also, the effect of enacted stigma on UAI did not differ by sexual identity, as reflected in the insignificant interaction term (Z_{wald} = 0.90, p =.34).

Table 13 contains the results of hierarchical logistic regression analyses examining the moderating effect of race/ethnicity on the relation between enacted stigma and UAI. Like sexual identity, race/ethnicity was not significantly associated with UAI (Z_{wald} = 0.84, p =.36). Also, the effect enacted stigma has on UAI did not differ between the African American and Latino men in the sample (Z_{wald} = 1.33, p=.25). Given the insignificant results for both sexual identity and race/ethnicity as moderating the relation between enacted stigma and UAI, these variables were not included in the analyses examining the mediating effect of self-esteem on the relation between enacted stigma and UAI.

Table 12.
Summary of logistic regression analyses examining the moderating effect of sexual identity on the relation between enacted stigma and unprotected anal intercourse.

Variable	Partial regression coefficients					Measure of model fit			
	b	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.122	--	26.08	<.0001
Enacted stigma	.073	0.03	6.60*	1.08	(1.02 - 1.14)				
Covariates		0.32							
Income between $20,000 and $39,999	.911	0.42	7.93*	2.48	(1.32 - 4.69)				
Income between $40,000 or more	.384	0.40	0.84	1.47	(0.65 - 3.33)				
Casual sex partners only	-.931	0.30	5.39**	0.39	(0.18 - 0.87)				
Both casual and steady sex partners	.023	0.51	0.01	1.02	(0.57 - 1.83)				
Any sexually transmitted disease in the past 12 months	1.03	0.50	4.13**	2.79	(1.04 - 7.51)				
Step 2.						0.125	0.003	0.69	.406
Enacted stigma	.076	0.03	6.90*	1.08	(1.02 - 1.14)				
Covariates									
Income between $20,000 and $39,999	.893	0.33	7.56*	2.44	(1.30 - 4.62)				
Income between $40,000 or more	.372	0.42	0.79	1.45	(0.64 - 3.30)				
Casual sex partners only	-.944	0.40	5.52**	0.39	(0.18 - 0.86)				
Both casual and steady sex partners	.017	0.30	0.003	1.02	(0.57 - 1.82)				
Any sexually transmitted disease in the past 12 months	1.00	0.51	3.91**	2.72	(1.01 - 7.33)				
Not gay identified	-.251	0.30	0.68	0.78	(0.43 - 1.41)				
Step 3.						0.129	0.004	0.93	.336
Enacted stigma	.060	0.03	3.36	1.06	(1.00 - 1.13)				
Covariates									
Income between $20,000 and $39,999	.907	0.32	7.82*	2.48	(1.32 - 4.68)				
Income between $40,000 or more	.373	0.42	0.79	1.45	(0.64 - 3.31)				
Casual sex partners only	-.938	0.40	5.42**	0.39	(0.18 - 0.86)				
Both casual and steady sex partners	.018	0.30	0.004	1.02	(0.57 - 1.82)				
Any sexually transmitted disease in the past 12 months	1.03	0.51	4.17**	2.81	(1.04 - 7.58)				
Not gay identified	-1.52	1.38	0.90	0.22	(0.15 - 3.29)				
Moderator									
Enacted stigma x Not gay identified	0.065	0.07	0.49	1.07	(0.93 - 1.22)				

Note: N=275; * $p < 0.01$, ** $p < 0.05$

Table 13.
Summary of logistic regression analyses examining the moderating effect of race/ethnicity on the relation between enacted stigma and unprotected anal intercourse.

Variable	Partial regression coefficients					Measure of model fit			
	b	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.122	--	27.08	<.001
Enacted stigma	.073	0.03	6.89*	1.08	(1.02 - 1.14)				
Covariates									
Income between $20,000 and $39,999	.938	0.32	8.56*	2.56	(1.36 - 4.79)				
Income between $40,000 or more	.388	0.42	0.87	1.47	(0.65 - 3.34)				
Casual sex partners only	-.872	0.39	4.95**	0.42	(0.19 - 0.90)				
Both casual and steady sex partners	.071	0.29	0.06	1.07	(0.61 - 1.90)				
Any sexually transmitted disease in the past 12 months	1.018	0.50	4.08**	2.77	(1.03 - 7.44)				
Step 2.						0.126	0.004	0.84	.360
Enacted Stigma	.074	0.03	6.96*	1.08	(1.02 - 1.14)				
Covariates									
Income between $20,000 and $39,999	.943	0.32	8.63*	2.57	(1.37 - 4.82)				
Income between $40,000 or more	.352	0.42	0.71	1.42	(0.63 - 3.22)				
Casual sex partners only	-.865	0.39	4.87**	0.42	(0.20 - 0.91)				
Both casual and steady sex partners	.084	0.29	0.83	1.09	(0.61 - 1.93)				
Any sexually transmitted disease in the past 12 months	1.069	0.51	4.37**	2.90	(1.07 - 7.84)				
Race/ethnicity	.235	0.26	0.84	1.27	(0.76 - 2.10)				
Step 3.						0.132	0.006	1.34	.248
Enacted Stigma	.110	0.04	6.64*	1.12	(1.03 - 1.22)				
Covariates									
Income between $20,000 and $39,999	.951	0.32	8.65*	2.59	(1.38 - 4.88)				
Income between $40,000 or more	.296	0.42	0.49	1.35	(0.59 - 3.07)				
Casual sex partners only	-.890	0.39	5.13**	0.41	(0.19 - 0.89)				
Both casual and steady sex partners	.099	0.29	0.11	1.10	(0.62 - 1.97)				
Any sexually transmitted disease in the past 12 months	1.085	0.52	4.45**	2.96	(1.08 - 8.12)				
Race/ethnicity	1.476	1.11	1.77	4.38	(0.50 - 38.50)				
Moderator									
Enacted Stigma x Race/ethnicity	-.065	0.06	1.33	0.94	(0.84 - 1.05)				

Note: N=284; * $p < 0.01$, ** $p < 0.05$

The direct effect of sense of community on UAI

Having a high sense of community was expected to have a protective effect against engaging in UAI. The results of regression analyses examining this hypothesis are included in table 14. Sense of community was protective against engaging in UAI in this sample; it remained significantly protective against UAI after controlling for age, SES, and having an STD. The likelihood ratio chi-square for the overall model created in the fifth step was significant (X^2 (8, N = 284) = 26.60 p =.001), but several variables did not contribute to the likelihood of engaging in UAI. These included age, student status, and having an STD in the 12 months preceding the interview, as partial regression coefficients for these variables were not significant (Z_{wald} = 0.19, p =.67, Z_{wald} = 0.19, p =.67 and Z_{wald} =2.59, p =.11, respectively). Also, removing age and student status appeared to diminish the fit of the model slightly (ΔR^2_L = -0.001; Δ -2 Log Likelihood = -0.21), but deletion of STD from the model dramatically altered the fit (ΔR^2_L = -0.009; Δ -2 Log Likelihood = 4.40). Thus, age and student status were dropped from subsequent multivariate analyses, but the variable for having an STD in the 12 months preceding the interview was retained.

Table 14.
Summary of logistic regression analyses examining the direct effect of sense of community on unprotected anal intercourse.

Variable	Partial regression coefficients					Measure of model fit			
	b	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.028	--	5.89	.015
Sense of community	-.068	0.03	5.72**	0.93	(0.88 - 0.99)				
Step 2.						0.035	0.007	1.54	.214
Sense of community	-.072	0.03	6.36**	0.93	(0.88 - 0.98)				
Covariates									
Age in years	.023	0.02	1.54	1.02	(0.99 - 1.06)				
Step 3.						0.069	0.034	7.43	.059
Sense of community	-.070	0.03	5.77**	0.93	(0.88 - 0.99)				
Covariates									
Age in years	.008	0.02	0.14	1.01	(0.97 - 1.05)				
Income between $20,000 and $39,999	.837	0.32	6.74	2.31	(1.23 - 4.34)				
Income between $40,000 or more	.102	0.43	0.06	1.11	(0.47 - 2.59)				
Student status	-.188	0.27	0.50	0.83	(0.49 - 1.40)				
Step 4.						0.103	0.069	7.76	.021
Sense of community	-.074	0.03	6.16**	0.93	(0.88 - 0.99)				
Covariates									
Age in years	.013	0.02	0.35	1.01	(0.97 - 1.06)				
Income between $20,000 and $39,999	.818	0.33	6.27**	2.27	(1.19 - 4.30)				
Income between $40,000 or more	.141	0.44	0.10	1.15	(0.48 - 2.74)				
Student status	-.098	0.27	0.13	0.91	(0.53 - 1.55)				
Casual sex partners only	-.832	0.39	4.50**	0.44	(0.20 - 0.94)				
Both casual and steady sex partners	.107	0.29	0.13	1.11	(0.63 - 1.98)				
Step 5.						0.120	0.017	3.97	.046
Sense of community	-.074	0.03	6.07**	0.93	(0.88 - 0.99)				
Covariates									
Age in years	.004	0.02	0.04	1.00	(0.96 - 1.05)				
Income between $20,000 and $39,999	.857	0.33	6.75**	2.36	(1.23 - 4.50)				
Income between $40,000 or more	.282	0.45	0.40	1.33	(0.55 - 3.19)				
Student status	-.097	0.28	0.12	0.91	(0.53 - 1.56)				
Casual sex partners only	-.852	0.40	4.65**	0.43	(0.20 - 0.93)				
Both casual and steady sex partners	.058	0.30	3.77	1.06	(0.59 - 1.89)				
Any sexually transmitted disease in the past 12 months	.997	0.51	1.83	3.10	(0.99 - 7.41)				
Final Model						0.119	0.001	---	---
Sense of community	-.074	0.03	6.27**	0.93	(0.88 - 0.98)				
Covariates									
Income between $20,000 and $39,999	.880	0.32	7.75*	2.41	(1.30 - 4.48)				
Income between $40,000 or more	.326	0.42	0.61	1.39	(0.61 - 3.13)				
Casual sex partners only	-.865	0.39	4.96**	0.42	(0.20 - 0.91)				
Both casual and steady sex partners	.053	0.30	0.03	1.06	(0.59 - 1.88)				
Any sexually transmitted disease in the past 12 months	1.03	0.50	4.18**	2.80	(1.04 - 7.50)				

Note: N=284; Stepwise chi-square test was not conducted between Step 5 and final model. * $p < 0.01$, ** $p < 0.05$

Additional regression analyses were conducted to determine if race/ethnicity or sexual identity moderated the relation between sense of community and UAI. Table 15 summarizes the results of hierarchical logistic regression analyses examining the moderating effect of sexual identity on the relation. In this analysis, UAI was regressed on perceived stigma, annual income, type of sex partner, and having an STD. Then in two subsequent steps, sexual identity and the interaction term for perceived stigma and sexual identity were added to the model. Results show that sexual identity did not influence the likelihood of reporting UAI (Z_{wald} = 1.71, p=.19) and that sexual identity did not moderate the relation between sense of community and UAI (Z_{wald} = 2.59, p=.11). Given that adding sexual identity did not contribute to the model's fit (X^2 (1, N = 275) = 1.74, p=.19), it was excluded from subsequent analyses.

Similarly, Table 16 summarizes the results of the hierarchical logistic regression analyses examining the moderating effect of race/ethnicity on the relation between sense of community and UAI. With sense of community and the covariates in the model, race/ethnicity was not significantly associated with UAI (Z_{wald} = 0.73, p =.39). Also, race/ethnicity did not appear to moderate the relation between sense of community and UAI (Z_{wald} = 0.32, p =.86). Race/ethnicity was excluded from subsequent analyses because it did not contribute to the model's fit (X^2 (1, N = 284) = 0.07, p =.39).

Table 15.
Summary of logistic regression analyses examining the moderating effect of sexual identity on the relation between sense of community and unprotected anal intercourse.

Variable	Partial regression coefficients					Measure of model fit			
	b	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.122	--	26.08	<.0001
Sense of community	-.074	0.03	6.12**	0.93	(0.88 - 0.99)				
Covariates									
Income between $20,000 and $39,999	.854	0.32	7.15**	2.35	(1.26 - 4.40)				
Income between $40,000 or more	.330	0.42	0.62	1.39	(0.61 - 3.15)				
Casual sex partners only	-.919	0.40	5.25**	0.40	(0.18 - 0.88)				
Both casual and steady sex partners	.019	0.30	.004	1.02	(0.57 - 1.83)				
Any sexually transmitted disease in the past 12 months	1.044	0.50	4.29**	2.84	(1.06 - 7.63)				
Step 2.						0.127	0.005	1.74	.187
Sense of community	-.085	0.03	7.37*	0.92	(0.86 - 0.98)				
Covariates									
Income between $20,000 and $39,999	.821	0.32	6.54*	2.27	(1.21 - 4.26)				
Income between $40,000 or more	.311	0.42	0.55	1.37	(0.60 - 3.11)				
Casual sex partners only	-.941	0.40	5.46**	0.39	(0.18 - 0.86)				
Both casual and steady sex partners	.04	0.30	0.000	1.00	(0.56 - 1.80)				
Any sexually transmitted disease in the past 12 months	.998	0.51	3.91**	2.71	(1.01 - 7.30)				
Not gay identified	-.415	0.32	1.71	0.66	(0.36 - 1.23)				
Step 3.						0.139	0.012	2.55	.110
Sense of community	-.118	0.38	9.52*	0.89	(0.83 - 0.96)				
Covariates									
Income between $20,000 and $39,999	.833	0.32	6.65*	2.30	(1.22 - 4.33)				
Income between $40,000 or more	.298	0.42	0.50	1.35	(0.59 - 3.08)				
Casual sex partners only	-.921	0.41	5.16**	0.40	(0.18 - 0.88)				
Both casual and steady sex partners	.037	0.30	0.15	1.04	(0.58 - 1.87)				
Any sexually transmitted disease in the past 12 months	1.023	0.51	4.05**	2.78	(1.03 - 7.53)				
Not gay identified	-2.749	1.50	3.37	0.64	(0.003 - 1.20)				
Moderator									
Sense of community x Not gay identified	0.109	0.07	2.59	1.12	(0.98 - 1.27)				

Note: N=275; * p < 0.01, ** p < 0.05

Table 16.
Summary of logistic regression analyses examining the moderating effect of race/ethnicity on the relation between sense of community and unprotected anal intercourse.

Variable	Partial regression coefficients					Measure of model fit			
	b	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.119	--	26.38	<.001
Sense of community	-.074	0.03	6.27**	0.93	(0.88 - 0.98)				
Covariates									
Income between $20,000 and $39,999	.880	0.32	7.75*	2.41	(1.30 - 4.48)				
Income between $40,000 or more	.326	0.42	0.61	1.39	(0.61 - 3.13)				
Casual sex partners only	-.865	0.39	4.96**	0.42	(0.20 - 0.91)				
Both casual and steady sex partners	.053	0.30	0.03	1.06	(0.59 - 1.88)				
Any sexually transmitted disease in the past 12 months	1.029	0.50	4.18**	2.80	(1.04 - 7.50)				
Step 2.						0.123	0.004	0.07	.392
Sense of community	-.075	0.03	6.25**	0.93	(0.88 - 0.98)				
Covariates									
Income between $20,000 and $39,999	.887	0.32	7.83*	2.43	(1.30 - 4.51)				
Income between $40,000 or more	.291	0.42	0.48	1.34	(0.60 - 3.04)				
Casual sex partners only	-.857	0.39	4.76**	0.42	(0.20 - 0.92)				
Both casual and steady sex partners	.069	0.30	0.54	1.07	(0.60 - 1.92)				
Any sexually transmitted disease in the past 12 months	1.070	0.51	4.47**	2.92	(1.08 - 7.87)				
Race/ethnicity	.220	0.26	0.73	1.25	(0.75 - 2.06)				
Step 3.						0.123	<.001	0.03	.858
Sense of community	-.079	0.04	4.16**	0.92	(0.86 - 1.00)				
Covariates									
Income between $20,000 and $39,999	.888	0.32	7.85*	2.43	(1.31 - 4.52)				
Income between $40,000 or more	.293	0.42	0.49	1.34	(0.59 - 3.05)				
Casual sex partners only	-.869	0.40	4.76**	0.42	(0.19 - 0.92)				
Both casual and steady sex partners	.062	0.30	0.04	1.06	(0.59 - 1.91)				
Any sexually transmitted disease in the past 12 months	1.074	0.51	4.48**	2.93	(1.08 - 7.92)				
Race/ethnicity	-0.31	1.42	.000	0.97	(0.06 - 15.66)				
Moderator									
Sense of community x Race/ethnicity	.011	0.06	0.03	1.01	(0.90 - 1.14)				

Note: N=284; * p < 0.01, ** p < 0.05

The moderating effect of sense of community

It was hypothesized that the effects of perceived stigma on UAI would be moderated by sense of community, such that for men with a high sense of community, the effect of perceived stigma on UAI would be less than the effect among men with low sense of community. Table 17 summarizes the results of the hierarchical logistic regression analyses examining this moderating effect. After adding the covariates perceived stigma, annual income, type of sex partner, and having an STD to the model, sense of community was significantly associated with UAI ($Z_{\text{wald}} = 4.75$, p=.03), though it did not substantially improve the strength of association with UAI ($\Delta R^2_L = 0.001$). The partial regression coefficient for the interaction term between sense of community and perceived stigma was not significant ($Z_{\text{wald}} = 0.38$, p =.54), which reflects that sense of community did not moderate the relation between perceived stigma and UAI. Given these results, sense of community was included in the analysis examining the mediating effect of perceived stigma on UAI.

Table 17.
Summary of logistic regression analyses examining the moderating effect of sense of community on the relation between perceived stigma and unprotected anal intercourse.

Variable	Partial regression coefficients					Measure of model fit			
	b	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.124	--	27.40	<.001
Perceived Stigma	.101	0.04	7.13*	1.11	(1.03 - 1.19)				
Covariates									
Income between $20,000 and $39,999	.910	0.03	8.18*	2.48	(1.33 - 4.63)				
Income between $40,000 or more	.382	0.42	0.83	1.47	(0.64 - 3.33)				
Casual sex partners only	-.776	0.39	3.95**	0.46	(0.21 - 0.99)				
Both casual and steady sex partners	.123	0.29	0.18	1.13	(0.64 - 2.01)				
Any sexually transmitted disease in the past 12 months	1.037	0.51	4.21**	2.82	(1.05 - 7.60)				
Step 2.						0.145	0.021	4.87	.027
Perceived Stigma	.091	0.04	5.67**	1.10	(1.02 - 1.18)				
Covariates									
Income between $20,000 and $39,999	.930	0.32	8.42*	2.54	(1.35 - 4.75)				
Income between $40,000 or more	.417	0.42	0.97	1.52	(0.66 - 3.48)				
Casual sex partners only	-.838	0.40	4.50**	0.43	(0.20 - 0.94)				
Both casual and steady sex partners	.066	0.30	0.05	1.07	(0.60 - 1.92)				
Any sexually transmitted disease in the past 12 months	1.054	0.51	4.27**	2.87	(1.06 - 7.80)				
Sense of community	-.066	0.03	4.75**	0.94	(0.88 - 0.99)				
Step 3.						0.146	0.001	0.38	.536
Perceived Stigma	-.037	0.21	0.03	0.96	(0.64 - 1.46)				
Covariates									
Income between $20,000 and $39,999	.917	0.32	8.13*	2.50	(1.33 - 4.70)				
Income between $40,000 or more	.406	0.42	0.92	1.50	(0.65 - 3.45)				
Casual sex partners only	-.846	0.40	4.58**	0.43	(0.20 - 0.93)				
Both casual and steady sex partners	.065	0.30	0.05	1.07	(0.59 - 1.92)				
Any sexually transmitted disease in the past 12 months	1.044	0.51	4.15**	2.84	(1.04 - 7.75)				
Sense of community	-.134	0.12	1.36	0.88	(0.70 - 1.10)				
Moderator									
Perceived Stigma x Sense of community	.005	0.01	0.38	1.01	(0.99 - 1.02)				

Note: N=284; * $p < 0.01$, ** $p < 0.05$

Likewise, sense of community was hypothesized to moderate the effect of enacted stigma on UAI. Specifically the effect of enacted stigma on UAI was expected to be less among men reporting a high sense of community than those reporting a low sense of community. To examine this hypothesis, UAI was regressed on enacted stigma, annual income, type of sex partner, having an STD in one step. Then sense of community and the interaction term for the moderator were added in two subsequent steps. Table 18 reports the results of these hierarchical regression analyses. Sense of community was significantly associated with UAI (Z_{wald} = 4.99, p =.03) and its inclusion in the model improved the fit (ΔR^2_L =0.022; X^2 (1, N = 284) = 5.12, p=.02). Since the regression coefficient for the interaction term was not significant (Z_{wald} = 0.63, p =.43), it was concluded that the effect of enacted stigma on UAI did not differ across scores for sense of community.

Table 18.
Summary of logistic regression analyses examining the moderating effect of sense of community on the relation between enacted stigma on unprotected anal intercourse.

Variable	Partial regression coefficients					Measure of model fit			
	b	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.122	--	27.03	<.001
Enacted stigma	.073	0.03	6.89*	1.08	(1.02 - 1.14)				
Covariates									
Income between $20,000 and $39,999	.938	0.32	8.56*	2.56	(1.36 - 4.79)				
Income between $40,000 or more	.388	0.42	0.87	1.47	(0.65 - 3.34)				
Casual sex partners only	-.872	0.39	4.95**	0.42	(0.19 - 0.90)				
Both casual and steady sex partners	.071	0.29	0.06	1.07	(0.61 - 1.90)				
Any sexually transmitted disease in the past 12 months	1.02	0.50	4.08**	2.77	(1.03 - 7.44)				
Step 2.						0.144	0.022	5.12	.024
Enacted Stigma	.067	0.03	5.62**	1.07	(1.01 - 1.13)				
Covariates									
Income between $20,000 and $39,999	.955	0.32	8.76*	2.60	(1.38 - 4.89)				
Income between $40,000 or more	.425	0.42	1.02	1.53	(0.67 - 3.50)				
Casual sex partners only	-.935	0.40	5.55**	0.39	(0.18 - 0.86)				
Both casual and steady sex partners	.017	0.30	0.003	1.02	(0.57 - 1.82)				
Any sexually transmitted disease in the past 12 months	1.04	0.51	4.17**	2.83	(1.04 - 7.69)				
Sense of community	-.067	0.03	4.99**	0.94	(0.88 - 0.99)				
Step 3.						0.147	0.003	0.64	.423
Enacted Stigma	-.049	0.15	0.12	0.95	(0.71 - 1.27)				
Covariates									
Income between $20,000 and $39,999	.940	0.32	8.39*	2.56	(1.36 - 4.83)				
Income between $40,000 or more	.427	0.42	1.03	1.53	(0.67 - 3.50)				
Casual sex partners only	-.915	0.40	5.29**	0.40	(0.18 - 0.87)				
Both casual and steady sex partners	.026	0.30	0.01	1.03	(0.57 - 1.84)				
Any sexually transmitted disease in the past 12 months	1.037	0.51	4.09**	2.82	(1.03 - 7.70)				
Sense of community	-.157	0.12	1.80	0.86	(0.68 - 1.08)				
Moderator									
Enacted Stigma x Sense of community	.005	0.01	0.63	1.01	(0.99 - 1.02)				

Note: N=284; * $p < 0.01$, ** $p < 0.05$

The mediating role of self-esteem on UAI

The mediating effect of self-esteem on the relation between perceived or enacted stigma and UAI was examined following criteria suggested by Baron and Kenny (1986). The criterion that the independent variable (perceived stigma or enacted stigma) is associated with the dependent variable (UAI) was established earlier by examining the direct effects on UAI. Therefore, the test for mediation determined whether the independent variable was associated with the hypothesized mediator (self-esteem). To examine if this criterion was met, self-esteem was regressed in two separate models on perceived stigma and enacted stigma. These analyses were conducted using linear regression because self-esteem was measured as a continuous variable. Table 19 includes the results of the two analyses conducted for each type of stigma. Both perceived stigma and enacted stigma were significantly associated with self-esteem ($t = -3.67$, $p < .001$ and $t = -3.75$, $p < .001$, respectively).

Table 19.
Summary of two regression models examining perceived and enacted stigma association with self-esteem.

Variable	b	SE_b	B	R^2
Self Esteem				
Model 1.				0.144
Perceived Stigma	-0.25*	0.07	-0.21	
Covariates				
Income between $20,000 and $39,999	0.28	0.58	0.03	
Income between $40,000 or more	0.31	0.77	0.02	
Casual sex partners only	-0.93	0.67	-0.09	
Both casual and steady sex partners	-0.15	0.55	-0.02	
Any sexually transmitted disease in the past 12 months	-1.71	0.90	-0.11	
Sense of community	0.24*	0.05	0.25	
Model 2.				0.146
Enacted Stigma	-0.19*	0.05	-0.21	
Covariates				
Income between $20,000 and $39,999	-0.22	0.58	0.02	
Income between $40,000 or more	0.28	0.77	0.02	
Casual sex partners only	-0.70	0.67	-0.07	
Both casual and steady sex partners	-0.16	0.55	-0.002	
Any sexually transmitted disease in the past 12 months	-1.65	0.90	-0.10	
Sense of community	0.24*	0.05	0.26	

Note: N=284; * $p < 0.01$

After establishing that independent variable and mediator were associated, the next criterion was examined. In this step, the dependent variable (UAI) was regressed on the hypothesized mediator (self-esteem) to determine if an association between the two variables existed. To examine this effect, UAI was regressed on self-esteem in one step, followed by the covariates annual income, type of sex partner, having an STD, and sense of community in a second step. The results of the logistic regression analyses are presented in table 20. Self-esteem was significantly associated with UAI prior to adding the covariates to the model ($Z_{wald} = 4.99$, $p = .026$). After adding covariates, self-esteem was not associated with UAI ($Z_{wald} = 3.21$, $p = .073$), which would suggest the criterion that the mediator and the dependent variable are associated was not met. However, given that self-esteem and UAI are associated at the bivariate level, it was appropriate to test for mediation in both models.

Therefore, the last step in testing for mediation was to determine if the significant association between the independent variable and dependent variable was sustained, after controlling for the mediator. Separate regression analyses were used to examine if the criteria was met and these results are presented in two separate tables for perceived stigma (Table 21) and enacted stigma (Table 22). The direct effect of perceived stigma and enacted stigma on UAI did not diminish much after adding self-esteem to each model ($b=.09$ vs. $b=.08$ and $b=.07$ vs. $b=.06$, respectively). Thus, it was concluded that the direct effect of perceived stigma and enacted stigma on UAI was not mediated by self-esteem.

Table 20.
Summary of logistic regression analyses examining the association between self-esteem and unprotected anal intercourse.

Variable	Partial regression coefficients					Measure of model fit			
	b	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.024	--	5.11	.024
Self-esteem	-0.67	0.03	4.99**	0.94	(0.88 - 0.99)				
Step 2.						0.133	0.109	24.51	<.001
Self-esteem	-0.58	0.03	3.21	0.94	(0.89 - 1.01)				
Covariates									
Income between $20,000 and $39,999	0.91	0.32	8.20*	2.50	(1.34 - 4.67)				
Income between $40,000 or more	0.36	0.42	0.73	1.43	(0.63 - 3.25)				
Casual sex partners only	-0.93	0.40	5.48**	0.40	(0.20 - 0.86)				
Both casual and steady sex partners	0.05	0.30	0.03	1.05	(0.59 - 1.88)				
Any sexually transmitted disease in the past 12	0.94	0.51	3.44	2.56	(0.95 - 6.94)				
Sense of community	-0.06	0.03	3.74**	0.94	(0.89 - 1.00)				

Note: N=284; * $p < 0.01$, ** $p < 0.05$

Table 21.
Summary of logistic regression analyses testing for mediating effects of self-esteem on the relation between perceived stigma and unprotected anal intercourse.

Variable	Partial regression coefficients					Measure of model fit			
	b	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.015	--	25.38	<.001
Perceived Stigma	0.09	0.038	5.67**	1.10	(1.02 - 1.18)				
Covariates									
Income between $20,000 and $39,999	0.93	0.321	8.42*	2.54	(1.35 - 4.75)				
Income between $40,000 or more	0.42	0.423	0.97	1.52	(0.66 - 3.48)				
Casual sex partners only	-0.84	0.395	4.50**	0.43	(0.20 - 0.94)				
Both casual and steady sex partners	0.07	0.298	0.05	1.07	(0.60 - 1.92)				
Any sexually transmitted disease in the past 12 months	1.05	0.510	4.27**	2.87	(1.06 - 7.80)				
Sense of community	-0.07	0.030	4.75**	0.94	(0.88 - 0.99)				
Step 2.						0.152	0.137	1.77	.184
Perceived Stigma	0.08	0.039	4.31**	1.08	(1.00 - 1.17)				
Covariates									
Income between $20,000 and $39,999	0.95	0.322	8.70*	2.59	(1.38 - 4.87)				
Income between $40,000 or more	0.43	0.425	1.03	1.54	(0.67 - 0.90)				
Casual sex partners only	-0.89	0.399	4.99**	0.41	(0.59 - 1.91)				
Both casual and steady sex partners	0.06	0.299	0.04	1.06	(0.59 - 1.92)				
Any sexually transmitted disease in the past 12 months	0.99	0.514	3.69**	2.68	(0.98 - 7.34)				
Sense of community	-0.05	0.031	3.16	0.95	(0.89 - 1.01)				
Mediator									
Self-esteem	-0.04	0.033	1.76	0.96	(0.89 - 1.02)				

Note: N=284; * $p < 0.01$, ** $p < 0.05$

Table 22.
Summary of logistic regression analyses testing for mediating effects of self-esteem on the relation between enacted stigma and unprotected anal intercourse.

Variable	Partial regression coefficients					Measure of model fit			
	b	SE_b	Z_{Wald}	Exp (B)	95% CI	R^2L	ΔR^2L	X^2	p-value
UAI									
Step 1.						0.144	--	32.15	<.001
Enacted Stigma	0.07	0.028	5.62**	1.07	(1.01 - 1.13)				
Covariates									
Income between $20,000 and $39,999	0.96	0.323	8.76*	2.60	(1.38 - 4.89)				
Income between $40,000 or more	0.43	0.421	1.02	1.53	(0.67 - 3.49)				
Casual sex partners only	-0.94	0.397	5.55**	0.39	(0.18 - 0.85)				
Both casual and steady sex partners	0.02	0.297	0.003	1.02	(0.57 - 1.82)				
Any sexually transmitted disease in the past 12 months	1.04	0.510	4.17**	2.83	(1.04 - 7.69)				
Sense of community	-0.07	0.030	4.99**	0.93	(0.88 - 0.99)				
Step 2.						0.151	0.007	1.70	.192
Enacted Stigma	0.06	0.029	4.15**	1.06	(1.00 - 1.12)				
Covariates									
Income between $20,000 and $39,999	0.97	0.324	8.96*	2.64	(1.40 - 4.98)				
Income between $40,000 or more	0.44	0.423	1.08	1.55	(0.68 - 3.55)				
Casual sex partners only	-0.98	0.401	5.96**	0.38	(0.17 - 0.82)				
Both casual and steady sex partners	0.02	0.298	0.003	1.02	(0.57 - 1.82)				
Any sexually transmitted disease in the past 12 months	0.98	0.513	3.62	2.65	(0.97 - 7.25)				
Sense of community	-0.06	0.031	3.34	0.94	(0.89 - 1.00)				
Mediator									
Self-esteem	-0.04	0.033	1.70	0.96	(0.90 - 1.02)				

Note: N=284; * $p < 0.01$, ** $p < 0.05$

The moderating effect of sense of community on self-esteem

Both perceived and enacted stigma were hypothesized to have negative effects on self-esteem, but this relation was expected to differ between men who reported higher, rather than lower sense of community scores. Given that self-esteem is measured with a continuous variable, a series of linear regression models were conducted to determine if these hypotheses were supported. Since education, employment, and drug use were determined previously to be associated with self-esteem in bivariate analyses (See Table 6), these variables were included as covariates in the model.

Table 23 shows the results of regression analyses examining the direct effect of perceived stigma on self-esteem. Both perceived stigma and sense of community contributed significantly to the prediction of self-esteem ($t = -3.13$, $p = .002$ and $t = 4.17$, $p < .001$, respectively). However, the partial regression coefficient for the interaction term was not significant ($t = 1.45$, $p = .15$). Therefore, while perceived stigma and sense of community both predicted self-esteem, sense of community did not appear to moderate the relation between perceived stigma and self-esteem based upon the statistical results.

Using the same strategy, the moderating effect of sense of community on the relation between enacted stigma and self-esteem was examined (Table 24). The partial regression coefficients for enacted stigma and sense of community were significant ($t=-3.71$, $p <.001$ and $t =4.09$, $p <.001$, respectively). However, the coefficient for the interaction term was not significant ($t = 1.61$, $p = .11$) and so it may be concluded that sense of community did not moderate the relation between enacted stigma and self-esteem.

Table 23.
Summary of logistic regression analyses examining the moderating effect of sense of community on the relation between perceived stigma and self-esteem.

Variable	*b*	SE_b	B	R^2	ΔR^2
Self Esteem					
Step 1.				0.202	--
Perceived Stigma	-0.21*	0.07	-0.18		
Covariates					
High school education	-0.50	0.59	-0.06		
More than a high school education	0.63	0.64	0.08		
Unemployed	1.16**	0.48	0.14		
Drug use in the past 12 months	1.40*	0.45	0.17		
Sense of community	0.21*	0.05	0.23		
Step 2.				0.208	0.006
Perceived Stigma	-0.41**	0.35	-0.60		
Covariates					
High school education	-0.56	0.59	-0.07		
More than a high school education	0.58	0.64	0.07		
Unemployed	1.13**	0.48	0.13		
Drug use in the past 12 months	1.41*	0.45	0.17		
Sense of community	-0.04	0.18	-0.04		
Moderator					
Sense of community x Perceived Stigma	0.02	0.01	0.47		

Note: N=286; * $p < 0.01$, ** $p < 0.05$

Table 24.
Summary of logistic regression analyses examining the moderating effect of sense of community on the relation between enacted stigma and self-esteem.

Variable	*b*	SE_b	B	R^2	ΔR^2
Self Esteem					
Step 1.				0.213	--
Enacted stigma	-0.18*	0.05	-0.20		
Covariates					
High school education	-0.46	0.58	-0.06		
More than a high school education	0.68	0.63	0.08		
Unemployed	1.13**	0.48	0.13		
Drug use in the past 12 months	1.53*	0.44	0.19		
Sense of community	0.21*	0.05	0.22		
Step 2.				0.220	0.007
Enacted stigma	-0.56**	0.24	-0.64		
Covariates					
High school education	-0.49	0.58	-0.06		
More than a high school education	0.63	0.63	0.07		
Unemployed	1.12**	0.48	0.13		
Drug use in the past 12 months	1.52*	0.44	0.18		
Sense of community	-0.08	0.18	-0.08		
Moderator					
Sense of community x Enacted stigma	0.02	0.01	0.50		

Note: N=286; * $p < 0.01$, ** $p < 0.05$

However, the conclusion that the magnitude of perceived and enacted stigma's effect on self-esteem varied little by sense of community scores was based upon the alpha level for significance testing which was set prior to conducting analyses at .05. Given that the *p* value for the interaction terms approached this level, the final models from tables 23 and 24 were graphed to explicate the magnitude of stigma's effect on self-esteem for three levels of sense of community (Figure 4). Using the mean and standard deviation for each scale, three levels for sense of community and for each stigma scale were calculated: low (mean score minus two standard deviations); medium (mean score); and high (mean

score plus two standard deviations). Both graphs indicate a slight interaction may be occurring as hypothesized. That is, men reporting low levels of perceived or enacted stigma tend to report about the same level of self-esteem regardless of their connection to house ball community. However, as stigma increases, self-esteem scores tend to decrease among men who are not well connected to the community. Therefore, it appears that sense of community may buffer stigma's detrimental effect on self-esteem. Perhaps with a slightly larger sample size the power would have been adequate to detect these interactions.

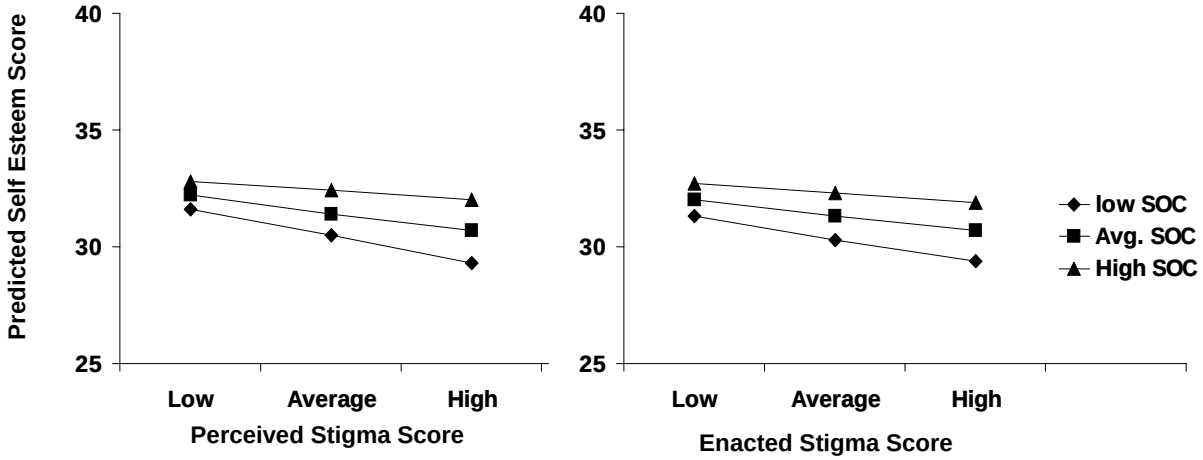

Figure 4. The moderating effect of sense of community on the relation between perceived and enacted stigma and predicted self-esteem score.

DISCUSSION

The disparity in risk for HIV infection among MSM of color compared with white MSM and their dire need for effective HIV prevention strategies led to this quantitative study of ecological factors that may influence engaging in UAI, but not dealt with in current efforts. The large percentage of African American and Latino MSM unaware of their infection or engaging in UAI in this sample indicates a need for both individual- and group-level interventions designed to alter individual behaviors related to HIV infection among men in New York City's house ball community. However, to have the greatest influence on reducing sexual risk behaviors, this study indicates that these efforts must be supplemented with strategies at both the community and societal level. A major finding from this study was that both perceived and enacted stigma contributed directly to the likelihood that African American and Latino men would engage in UAI. These effects prevailed after controlling for factors associated with UAI in this sample. And while the effects were small, the resulting regression models estimated that as stigma scores increase by one unit the predicted proportion of men engaging in UAI will increase by 8 to 10 percent. Thus, strategies focused on reducing stigma may achieve a greater effect among groups of men who perceive or experience higher levels of social rejection than groups with lower levels.

Strategies that reduce African American and Latino men's stigma must be implemented above the individual- and group-level within their communities, city, and broader society. Individual-level and group-level interventions are effective at reducing

sexual risk behaviors among MSM by changing the individual's attitudes, beliefs, motivation, skills, or self-efficacy about such items as using condoms, negotiating condom use with partners, discussing HIV with partners, and other similar issues (Herbst et al., 2007). Some culturally specific group-level interventions also address behavioral influences associated with being members of both racial and sexual minorities (Peterson et al., 1996). However, while similar group-level interventions are needed within the house ball community, focusing solely on individuals or groups within the house ball community will not be enough. First, changing individual factors through one-on-one or group conversations will not change the social forces in the community and society that result in social rejection. Also individual- and group-level interventions imply an individual responsibility for health related behavior and as a result tend to blame the victim for engaging in behaviors and deflect from the social causes of those behaviors (Revenson & Schiaffino, 2000). Results from this study suggest that the responsibility for the health behaviors of African American and Latino MSM partially rests within society. Therefore, to bring about sustainable change in sexual risk behaviors at the individual level, prevention researchers must develop multilevel interventions that change structures within New York City and broader society creating the contexts for social rejection of men in the house ball community.

When designing structural interventions that reduce stigma, prevention researchers should consider changing laws and policies that permit racial, ethnic, and sexual prejudices to occur. Structural changes should also strive to improve the educational and employment opportunities available to members of the house ball

community to reduce the detrimental effects of stress resulting from their dual minority status (Brooks, 1981). Psychologists have recommended a two-prong process to combating prejudice in the general population that could be adapted to create structural interventions that reduce stigma for African American and Latino MSM (Devine et al., 1999). The process is based on the notion that society assigns stigma to characteristics deemed to threaten valued social identities and includes strategies for both directly and indirectly altering society's attitude toward the stigmatizing characteristics. For example, prevention messages that address risk behaviors among African Americans or Latinos in general, rather than focusing on MSM, may directly change society's attitude toward MSM by shifting the association of HIV infection from MSM to the general population. Thus, homosexuality is seen as less of a threat to the social identity. In addition, society's negative attitudes towards MSM may be indirectly changed by enacting legislation or implementing policies that either minimize prejudice against gay and bisexual men or foster tolerance for same-sex relationships. Such efforts directly alter behavior related to enacting stigma when the legislation or policy is enforced; they indirectly alter attitudes by providing a social norm that same-sex relationships are acceptable by society. As a result, individuals within society are faced with altering their negative attitudes towards same-sex relationships to avoid a conflict with their desire to be a law-abiding citizen. This process explains why gay men in states that recognize same-sex partnerships are expected to engage in less HIV-related risk behaviors than men in states that do not provide legal protections to these unions (Stall 2007).

Stigma occurs as a result of interaction between an individual with a discrediting or discreditable attribute and a social group that associates negative stereotypes to that attribute (Goffman, 1963). Therefore, when developing interventions that reduce stigma, it is paramount to consider the ties African American and Latino MSM have with other communities, because it is within these communities that the negativity associated with race or sexuality must be extinguished to reduce stigma in the house ball community. For African American and Latino MSM in the house ball community, social rejection may occur as a result of interacting with prejudiced persons who associate negative attributes with their race, ethnicity, or sexuality (Paradis, 1997) as well as the socioeconomic consequences of stress resulting from their dual minority status (Brooks, 1981).

To understand the role other communities play in African American and Latino MSM perceptions and experiences of stigma, prevention researchers must understand these men's lives from an ecological perspective. In part, this means understanding the social ecology of how these young men experience their lives or the different ways men in the house ball community, in different social and cultural contexts, experience pressures, opportunities, and constraints that influence their behaviors, the meaning of those behaviors, and their rationale for not engaging in alternative behaviors (Trickett, 2002). This understanding is gained by conducting an assessment of the community context that shapes the social and sexual life of young minority MSM. When conducting an assessment for the purpose of designing interventions, prevention researchers should focus on the social norms causing the perceptions and experiences of social rejection among African American and Latino MSM. These norms may be those of the respective

racial and ethnic groups as well as those in the broader gay community.

Furthermore, despite the shared social contexts within the house ball community, the social norms impinging upon African American and Latino men may be different due to the diverse racial and ethnic contexts in which they take part. African American and Latino men in the house ball community function within the social context of their respective racial and ethnic communities. These communities have social norms shaping sexual prejudice (Diaz et al., 2004; Stokes & Peterson, 1998) as well as resources for coping with racial and ethnic prejudice and discrimination. Historically men of color have had to negotiate their sexual minority status within their respective racial and ethnic communities because of prejudice and discrimination (Chauncey, 1994). Understanding the historical nature of these norms and resources is important because interventions focused on changing norms supporting sexual prejudice within the African American and Latino communities also may reduce the resources men of color use to fight racial and ethnic prejudice and discrimination. Knowing how men use resources at the interpersonal, community, and extra-community level when responding to social rejection due to their sexuality, race, or ethnicity is key in designing multilevel interventions. This is because resources are interconnected within and between each level and interventions at one level may not address resistance at another level (Hobfoll, 1998). For example, interventions among Latino men that bolster interpersonal resources without considering the impact on community resources may be faced with resistance as Latinos tend to view the individual as "subordinate to the group (p.S35, Ramirez-Vallez, 2007)."

In addition to structural interventions that reduce stigma, findings from this study also suggest that prevention efforts within the house ball community are needed both to reduce the effects of stigma and to enhance men's psychological sense of community. Although sense of community did not influence the magnitude of stigma's effect on engaging in UAI, being emotionally connected to the house ball community was negatively associated with both perceived and enacted stigma and was directly protective against engaging in UAI. In fact, sense of community continued to significantly protect against engaging in UAI with stigma in the model. Therefore, strategies that strengthen the bond that men have with the house ball community, may serve to reduce their perceptions and experiences of social rejection as well as the likelihood that they will engage in UAI. Furthermore, because both stigma and sense of community contributed uniquely to engaging in UAI when both variables were in the model, strategies that both strengthen the bond with the community and reduce stigma are expected to have a larger effect on reducing sexual risk behavior than strategies that focus on either one of these issues alone.

HIV community-level interventions work by "transforming attitudes, norms, values, and context of behaviors within a defined community (p. S47, Herbst et al., 2007)." Within the house ball community, these interventions should focus upon reducing sexual risk behaviors by improving the community's resiliency to racial, ethnic, and sexual prejudice and discrimination. Key to building community resiliency is enhancing its sense of community by developing settings that provide chances for consciousness raising, participation in the community, and belonging to the community while also

serving to protect and disseminate the social and cultural processes that give the group meaning (Sonn & Fisher, 1998). Recommendations for building communities of African American MSM are consistent with these suggestions and may be applicable in building community resiliency in the house ball community. These recommendations include: cultivating existing social networks into communities; identifying community leaders; ensuring these leaders have skills and resources for enacting community change; developing nonsexual contexts for meeting other men of color; and addressing negative attitudes towards homosexuality and race/ethnicity (Kraft et al., 2000).

The seeds for implementing these strategies are in the house ball community, but they need nurturing. Social networks in the form of houses exist within the house ball community, but rifts between the houses may weaken the overall strength of the community. Community leaders are present, but the rifts undermine their ability to enact change within the community. More information about the cause and significance of these rifts in the community is needed to understand which resources and skills community leaders need to enact community-level change. In addition, balls and other social events serve as a non-sexual context for meeting other men of color in the house ball community. These also serve as the processes that give the house ball community meaning as a group. Many of these events are accomplished by collaborating with agencies outside the community. More information about these relationships is needed to understand how they might be used by the house ball community to build bridges to the broader African American, Latino, and gay communities and as a result reduce stigma of being an African American or Latino MSM in these settings as well. Nurturing these

seeds will take time and resources but results of this study suggest that these efforts will have an effect on the sense of community, stigma, and self-esteem of men within the house ball community.

Prevention researchers may want to consider incorporating existing HIV community-level interventions into the community building effort. Interventions proven effective at reducing sexual risk behaviors among populations of MSM are likely candidates. Those that enlist popular opinion leaders who help to diffuse positive messages about engaging in safer sex may be intertwined with the community building efforts described above (Kelly, et al. 2001; Kelly, et al. 2004). However, core elements of the Mpowerment project "seek to mobilize and empower" members of the community by recruiting persons from the community to design and carry out the project's activities, establish a physical location where these activities can occur, and holding social events that promote community-building (p. 1129, Kegeles, Hays, & Coates, 1996). When recruiting persons from the house ball community, prevention researchers may want to recruit from as many houses as possible to ensure the intervention's activities are widely accepted. Project activities include outreach to encourage peers to engage in safer sex, holding peer-facilitated discussion groups, and staging publicity campaigns about the project's activities within the community. Besides conveying safer sex messages, these project activities should also strive to boost the collective self-esteem among members of the house ball community. By doing so, when the members experience discrimination they may be more likely to attribute it to social prejudice rather than personal failure, and as a result, their self-esteem may remain intact (Crocker & Major, 1989).

When developing community-level interventions prevention researchers should assess interconnections between different segments of.the community. While the house ball community is comprised largely of African American and Latino MSM, the community historically has embraced persons who tend to bend gender categories (Chauncey, 1994). In this study, persons whose gender identity was not the traditional gender associated with their birth sex were defined as transgender. Transgender persons often hold positions as house parents and leaders in the house ball community. These individuals are also at increased risk for acquiring HIV infection (Garofalo, Deleon, Osmer, Doll, & Harper, 2006; Nemoto, Luke, Mamo, Ching, & Patria, 1999). Due to the small number of transgender persons in the sample, it was not possible to include this group in this analysis, but they should be considered in community-level interventions.

Because it is difficult to forecast the "rippling effects" of community-level and structural interventions, which sometimes surprisingly can affect health negatively (Trickett, 2002), behavioral surveillance systems for monitoring the epidemic among MSM should include stigma as a key indicator. Devine et al. (1999) argue that the concept of having particular groups of persons at risk for HIV infection "had contributed greatly to the sense that those vulnerable to the disease are outgroup members and simultaneously confers on those who are not members of the so-called risk groups a sense of invulnerability to the disease (p.1226)." While this practice has greatly aided prevention efforts by effectively focusing them on the groups at highest risk, it has also served to foster HIV-related stigma. Some of this stigma has been in the form of homophobic attitudes (Herek et al., 1999) because male-to-male sexual behavior has been

attributed historically to a large number of the AIDS cases and HIV infections in the United States. Likewise, as more information is communicated to the general public for the purpose of combating the HIV epidemic raging within African American and Latino communities, the negative attitudes associated with HIV infection may shift from MSM in general to racial and ethnic minority men. The shift in stigma from sexual identity to racial or ethnic identity may result in additional stigma for African American or Latino MSM and as a result higher rates of UAI among men of color. Therefore, the National HIV Behavioral Surveillance (NHBS) system, which is conducted by CDC every three years among MSM, should include indicators for stigma. The NHBS system is designed to monitor key behavioral indicators related to infection and prevention that may affect the direction of the epidemic (Lansky, Sullivan, Gallagher, & Fleming, 2007), but the current assessment does not include measures of stigma. By incorporating measures of stigma within the surveys, the NHBS system may be able to monitor changes in stigma as a result of prevention efforts and how stigma is influencing the epidemic in the United States.

Future research is also needed to illuminate the basis for the men's perceptions and experiences of social rejection. Such research should attempt to identify the different causes of stigma toward the men in the house ball community, including the actual factors and the interrelationships between these factors of stigma (Brooks 1981). The measures of perceived and enacted stigma in this survey were not specific to any particular attributes of the study participants who experienced stigma. Therefore while the perception and experience of social rejection was associated with UAI in this sample, it is

not known what attributes of the men may have caused such social rejection. In theory, men in the house ball community may perceive and experience social rejection as a result of their economic status, educational level, race or ethnicity, and sexual identity.

Several limitations should be considered when interpreting the findings from this study. This survey was a cross-sectional survey collected through face-to-face interviews with persons living in New York City attending venues frequented by members of the city's house ball community. Since persons not attending these venues or those living outside New York City were systematically excluded from the sample, the results should not be generalized beyond the venue-based sample from New York City. This means that findings should not be generalized to other populations of African American or Latino MSM. African American and Latino MSM are not homogenous groups; the house ball community is just one segment of each group.

Similarly, the Latino men in the sample are not representative of Latino men in general for several reasons. First, many of the Latino men shared a common racial background as the African American men in this sample. About 65% of the Latino men in this sample who provided their racial background identified as Black or African American. Second, the Latino men in this sample may have been well acculturated into the local American culture. Only 13 of the Latino men in the analysis were born outside the United States. All these men had lived in the US for at least 5 years; the median number of years they had lived in the US was 14. Third, most of the Latino men in this sample reported Puerto Rican and Dominican ethnic backgrounds. Thus, the Latino men

in this sample may be different from Latino men who are from other racial backgrounds, less acculturated, or from other ethnic backgrounds.

Despite the low frequency of gay identity in the sample, sexual identity was not associated with UAI and did not moderate the effect of stigma on UAI. In fact, few associations were found with sexual identity, except the association with sense of community in which men who identified as gay had a higher sense of community than their peers who did not identify as gay. While these findings are consistent with a conclusion made in a recent critical review of the scientific literature of comparative studies among Black and white MSM (Millet et al., 2006), the finding should be considered with caution. Only a small number of men (N=5) in this study identified as straight or heterosexual and these men were grouped with bisexual men into the non-gay identity category for analysis. Therefore, in these analyses, comparisons were mainly between bisexually- and gay-identified men. A sample with more men who identify as heterosexual may yield a more accurate comparison between the sexual identity categories. Therefore, the findings regarding sexual identity should not be interpreted to include all non-gay identified men.

The sample size of the analysis dataset was too small to examine some of the moderating effects. The interaction term for the moderating effect of sense of community on the association between perceived or enacted stigma and self esteem only approached significance ($t = 1.45$, $p = .15$; $t = 1.61$, $p = .11$, respectively). However, in the figure that depicts this moderator effect, it appears that a slight interaction may have occurred as hypothesized (See Figure 4 on page 95). That is sense of community appeared to buffer stigma's detrimental effect on self-esteem by protected the self-esteem of men with a

higher sense of community. Perhaps with a slightly larger sample size the power would have been adequate to detect these interactions.

In addition, this study was a cross-sectional survey conducted only at one point in time. In this analysis, the mediating hypothesis was not determined to be significant. That is, stigma did not appear to act through self-esteem in influencing the likelihood of engaging in UAI. A longitudinal survey designed to capture stigma, self-esteem, and UAI scores at various points in time is a more rigorous method of determining the order of their influence (Cole & Maxwell, 2003). Thus, a longitudinal design may be a better approach to examining whether self-esteem mediates the effect of stigma on UAI.

Lastly, the accuracy of self-reported risk behaviors collected through face-to-face interviews may be susceptible to socially desirable effects. To improve the likelihood that respondents would provide accurate reports of their risk behaviors, efforts were made by the investigators and field team to ensure both the community and individual respondents that survey answers were anonymous and important to the health of the house ball community. Still, face-to-face interviews can result in socially desirable responses to questions about sexual behaviors (Gribble, Miller, Rogers, & Turner, 1999). Future studies are encouraged to collect data using computer-assisted self or personal interviewing (A-CASI or A-CAPI) methods because these modes of interviews can improve the internal consistency of self-reported sexual behaviors (Gribble, et al., 1999).

In summary, this study underscores the need to address the HIV epidemic in the house ball community at many levels. Interventions implemented at the individual- and group-level should be supplemented with community-level interventions that enhance the resiliency of young men by improving their sense of community. In addition, structural

interventions are needed to change the ecology of lives for the men in the house ball community by changing laws and policies that permit prejudice and discrimination associated with race, ethnicity, and sexuality. With such a multi-level level approach to fighting the HIV epidemic in the house ball community, this community may have the opportunity to survive and prosper within the contemporary gay population.

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APPENDICES

Appendix A

Sexual Behaviors with Male Partners

1a. How many people have you had oral, anal or vaginal sex with in the past 12 months that were male, not transgender?

1b. How many people have you had oral, anal, or vaginal sex with in the past 12 months that were post-operative (FTM) transgender men?

1c. How many people have you had oral, anal, or vaginal sex with in the past 12 months that were pre- or non-operative (MTF) transgender women?

Steady Partners

2. Of these [insert total male partners here] partners you've had oral, anal or vaginal sex with in the past 12 months, how many of them were steady partners? By steady, I mean a relationship with them where you feel committed to them above anyone else AND where you have had sex together.

3. Of these [Response to #2] steady partners, how many did you have vaginal sex with? [Use your judgment, select .N if needed]

4. Of these [Response to #2] steady partners, how many did you have unprotected vaginal sex with? [If not sure, say: By unprotected sex, I mean vaginal sex when you or your partner didn't use a condom]

5. Of these [Response to #] steady partners, how many did you have anal sex with?

6. Of these [Response to #2] steady partners, how many did you have unprotected anal sex with? [If not sure, say: By unprotected sex, I mean anal sex when you or your partner didn't use a condom]

7. Was this person that you had oral, anal or vaginal sex with in the past 12 months a steady partner? By steady, I mean that you had a relationship with them where you feel committed to them above anyone else AND where you had sex together.

0 = No
1 = Yes
.D = Don't Know
.R = Refuse to Answer

8. Have you had vaginal sex with this partner? [Use your judgment, select .N if needed]

0 = No
1 = Yes
.D = Don't Know
.R = Refuse to Answer
.N = Not Applicable

9. Have you had unprotected vaginal sex with this partner? [If not sure, say: By unprotected sex, I mean vaginal sex when you or your partner didn't use a condom]

0 = No
1 = Yes
.D = Don't Know
.R = Refuse to Answer

10. Have you had anal sex with this partner?

0 = No
1 = Yes
.D = Don't Know
.R = Refuse to Answer

11. Did you have unprotected anal sex with this partner? [If not sure, say: By unprotected sex, I mean anal sex when you or your partner didn't use a condom]

0 = No
1 = Yes
.D = Don't Know
.R = Refuse to Answer

Not Steady Partners

27. Of these [insert total male partners here] people you've had oral, anal or vaginal sex with in the past 12 months, how many of them were not steady partners?

28. Of these [Response to #27] non-steady partners, how many did you have vaginal sex with? [Use your judgment, select .N if needed]

29. Of these [Response to #27] non-steady partners, how many did you have unprotected vaginal sex with? [If not sure, say: By unprotected sex, I mean vaginal sex when you or your partner didn't use a condom]

30. Of these [Response to #27] non-steady partners, how many did you have anal sex with?

31. Of these [Response to #27] non-steady partners, how many did you have unprotected anal sex with? [If not sure, say: By unprotected sex, I mean anal sex when you or your partner didn't use a condom]

32. Of these [Response to #27] non-steady partners, how many did you have sex with in exchange for things you needed or they needed like money, drugs, food, shelter or transportation.

33. Was this person that you had oral, anal or vaginal sex with in the past 12 months a non steady partner?

0 = No
1 = Yes
.D = Don't Know
.R = Refuse to Answer

34. Have you had vaginal sex with this partner?
[Use your judgment, select .N if needed]

0 = No
1 = Yes
.D = Don't Know
.R = Refuse to Answer
.N = Not Applicable

35. Have you had unprotected vaginal sex with this partner? [If not sure, say: By unprotected sex, I mean vaginal sex when you or your partner didn't use a condom]

0 = No
1 = Yes
.D = Don't Know
.R = Refuse to Answer

36. Have you had anal sex with this partner?

0 = No
1 = Yes
.D = Don't Know
.R = Refuse to Answer

37. Did you have unprotected anal sex with this partner? [If not sure, say: By unprotected sex, I mean anal sex when you or your partner didn't use a condom]

0 = No
1 = Yes
.D = Don't Know
.R = Refuse to Answer

Appendix B

PERCIEVED STIGMA SCALE

Each item is scaled = 1 (Strongly Agree) to 4 (Strongly Disagree)

1. Most people believe that a person like me cannot be trusted.
2. Most people think that a person like me is dangerous and unpredictable.
3. Most people think less of a person like me.
4. Most people look down on people like me.
5. Most people think people like me are not as intelligent as the average person.
6. Most employers will not hire a person like me.

Appendix C

ENACTED STIGMA SCALE

Each item is scaled = 1 (Often) to 4 (Never)

1. I have been treated with less courtesy than others.
2. I have been treated with less respect than others.
3. I have received poorer services than others in restaurants or stores.
4. I have experienced people treating me as if I'm not smart.
5. I have experienced people acting as if they are better than I am.
6. I have experienced people acting as if they are afraid of me.
7. I have experienced people acting as if they think I am dishonest.
8. I have been called names or insulted.

Appendix D

SENSE OF COMMUNITY SCALE

Each item is scaled = 1 (Strongly Agree) to 4 (Strongly Disagree)

1. If we work together the House Ball community can solve the problems facing us.
2. I feel close in my ideas and feelings to others in the House Ball community.
3. I feel it is important to keep informed about issues facing the House Ball community.
4. I actively support the House Ball community.
5. I feel a bond with other people who are part of the House Ball community.
6. I think that most people in the House Ball community share a common sense of purpose.
7. I think that all people in the House Ball community should join together to end homo/transphobia.
8. Most of my friends are part of the House Ball community.

Appendix E

SELF-ESTEEM SCALE

Each item is scaled = 1 (Strongly Agree) to 4 (Strongly Disagree)

1. I feel that I'm a person of worth, at least on an equal plane with others.
2. I feel that I have a number of good qualities.
3. All in all, I am inclined to feel that I am a failure.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I take a positive attitude toward myself.
7. On the whole, I am satisfied with myself.
8. I wish I could have more respect for myself.
9. I certainly feel useless at times.
10. At times I think I am no good at all.