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# Race/ethnicity mixing among men who have sex with men : a preliminary examination

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RACE/ETHNICITY MIXING AMONG MEN WHO HAVE SEX WITH MEN:  
A PRELIMINARY EXAMINATION

A Thesis

Presented to

The Faculty of the Health Science Department

San José State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Public Health

by

H. Fisher Raymond

August 2008

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ABSTRACT  
RACE/ETHNICITY MIXING AMONG MEN WHO HAVE SEX WITH MEN:  
A PRELIMINARY EXAMINATION

by H. Fisher Raymond

Black men who have sex with men (MSM) have higher rates of HIV infection compared to other racial/ethnic groups of MSM while not engaging in any greater levels of behavior that would put them at risk for HIV infection. This thesis explored potential underlying reasons for this disparity. Data were collected in a randomized community-based survey of MSM attending venues in San Francisco. Black MSM had a fourfold higher level of same race sexual partnering than would be observed by chance alone, a finding not seen in other races. Further analyses suggest that it is not the preferences of Black men for Black partners that influence their partner choice, rather that other racial groups' non-preference for Black men, stereotypes of risk based on race, the composition of MSM social networks, and Black MSM's perceived welcome at gay venues that may drive Black men to more likely partner with each other. This reinforcement of Black-Black partnerships inherently exposes members of these partnerships to greater risk for HIV infection due to the greater chance of partnering with someone already HIV positive regardless of what behaviors they engage in. Moreover, closely-knit sexual networks may foster the fast spread and high level of HIV infection among Black MSM. HIV prevention programs may not be able to adequately address this disparity in HIV prevalence unless they tackle the social and environmental factors that isolate Black MSM. To this end, further research that thoroughly examines these factors is needed.

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## Table of Contents

	Page
Introduction	1
Literature Review	7
Methods	13
Results	20
Discussion	30
References	36
Appendices	
A. Sexual Mixing Instrument	40
B. Letter Verifying Data Provision	44
C. UCSF IRB Approval Letter	45
D. SJUS IRB Approval Letter	45



## List of Tables

		Page
Table 1	Measures Provided From Parent Study Instrument	16
Table 2	Additional Data Collected for Thesis Research	17
Table 3	Assortative and Disassortative Mixing by Race	27

## List of Figures

		Page
Figure 1	Probability of partnering among MSM: San Francisco, 2008.	21
Figure 2	Partner preferences by race among MSM: San Francisco, 2008.	22
Figure 3	Race based HIV risk perceptions by race among MSM: San Francisco, 2008.	23
Figure 4	Perceived ease of accessing MSM social venues among White and Black MSM: San Francisco, 2008.	24
Figure 5	Proportion reporting some friends of a given race: MSM, San Francisco, 2008.	25
Figure 6	Perceived ease of meeting partners of other races among MSM: San Francisco, 2008.	26

## Chapter 1

### *Introduction*

#### *Background*

Disparities exist in HIV prevalence and incidence among men who have sex with men (MSM) when comparing race/ethnicities. These disparities have been noted repeatedly in studies of MSM in the United States. Black MSM have historically had the highest levels of HIV/AIDS among all MSM sub-groups. However, data suggest that there are little or no differences in the kinds of sexual risk behavior engaged in by the various racial/ethnic groups of MSM studied (Millett, Flores, Peterson, & Bakeman, 2007).

To date a number of hypotheses have been explored to explain the relatively high rates of HIV prevalence among Black MSM when compared to other groups of MSM. Research investigating these hypotheses has focused on topics including the variation in patterns of partner selection and sexual mixing, which is the patterns of sexual partnering that connect individuals in a given social network, their sexual practices, substance use, genetic susceptibility, incarceration, disclosure of sexual identity, and anorectal douching, among others (Millett, Peterson, Wolitski, & Stall, 2006). Among these factors, higher levels of risk behavior, genetic susceptibility, disclosure of sexual identity, and higher levels of substance use are not supported by available evidence as factors driving the disparity (Millett et al., 2006).

One hypothesis that has promise but insufficient evidence to date centers on the role that sexual and social networks play in partner selection. While a concept

such as partner selection is undoubtedly mediated by many factors, this exploratory look at its contribution to sexual mixing is defined simply as the partners with whom an individual reports having engaged in sexual behavior. If limits are imposed on partner selection by factors stemming from sexual and social network composition, individuals may be restricted to choosing partners that put them at greater risk for HIV infection regardless of the specific HIV risk behaviors they engage in. Additionally, tight networks may foster a rapid spread of HIV among members of those networks.

Data from San Francisco suggest that partner selection based on race/ethnicity may be the overarching factor contributing to differences in HIV prevalence in certain racial/ethnic groups (Berry, Raymond, & McFarland, 2007). In particular, partner selection patterns by Black MSM may directly contribute to the higher levels of HIV infection in this group. Partner selection rather than sexual risk taking may be an indirect and significant contributor to ongoing disproportionate HIV prevalence and incidence among Black MSM.

Personal preferences in the types of partners with whom an individual wishes to have sex also may play a role in sexual mixing among MSM. Partner preferences, for the purpose of this research, are defined as what respondents reported as preferences in the characteristics of their sexual partners and does not address any mediating factors that influence preferences. In this case, race/ethnicity is used as a demographic descriptor and not a social construct of race/ethnicity. Similarly, in this research, race/ethnicity is used as a demographic descriptor. Personal choices in

sexual partners have to date not been emphasized in investigations of HIV risk taking. While specific risk behaviors such as unprotected anal sex have received most of the attention.

Social network composition may also play a role in sexual partner preferences. Individuals with less race/ethnicity heterogeneity in their social networks may have less access to sexual partners of other races. Social networks may serve to isolate individuals from freer social and sexual mixing. Investigating these network-based influences may provide a better understanding of the purposefulness or constraints affecting individuals' choice of sexual partners. Moreover, structural issues, such as lack of access to venues where MSM meet among certain sub-populations may also play a role in partner selection.

An additional area that may have direct impact on choice of sexual partner may be stereotypes of who is more likely to be already infected with HIV and thus riskier to have as a sexual partner. While these stereotypes may be informed by the different levels of HIV infection among the various sub-groups of MSM, it is highly possible that these perceptions of risk are based on appearing to be of certain race/ethnicities without any consideration of the individual or their behavior. Whether the different racial/ethnic groups differentially act upon these stereotypes may also play a role in partner selection and thus exposure to risk of HIV infection.

### *Methods*

This graduate research was part of a larger survey of HIV risk behavior among MSM conducted by the San Francisco Department of Public Health (SFDPH).

To accomplish the goals of this graduate research, specific measures were developed and added to the parent study. The new measures explored the influences of social networks, structural barriers, and perceptions of risk on partner selection among MSM in four areas: a) personal preferences for the race of sexual partners; b) the influences of social network composition on partner preferences; c) structural issues such as comfort in multi-ethnic settings and access to men of all race/ethnic groups; and d) race/ethnicity-based stereotypes of risk. The five new measures were added to a larger survey instrument that was administered to participants of a cross sectional study of MSM conducted in San Francisco by staff from SFPDPH, from December 2007 to March 2008.

The main survey instrument also included a detailed partner-by-partner sexual behavior matrix that captured characteristics of each of up to five partners per respondent. Sexual behaviors measured with this instrument were insertive anal intercourse, unprotected insertive anal intercourse, receptive anal intercourse, and unprotected receptive anal intercourse. This cross sectional study was conducted by the SFPDPH and utilized time location sampling to intercept and recruit participants (MacKellar, Valleroy, Karon, Lemp, & Janssen, 1996). Participants completed a self-administered survey on hand held computers at a variety of venues in the community randomly sampled by place and time. The final de-identified anonymous data set was provided to the graduate researcher by the principal investigator of the parent study. The parent study has institutional review board (IRB) approval from University of

California San Francisco's Committee on Human Research (Appendix C). This thesis research had approval from San José State University's IRB (Appendix D).

### *Limitations*

There were limitations to this research. Due to delays in start up of the parent study, data were only collected for this graduate research over a three-month period. Although the sampling method is amenable to producing representative samples in relatively short amounts of time, specific sub-populations of MSM may be underrepresented in the dataset. These small numbers of individuals representing sub-populations of MSM made interpretation of cross-group comparisons less reliable. A second limitation is based on the unique social context of San Francisco. While the results of this research can be said to reflect the behavior of MSM in the San Francisco Bay Area, conclusions cannot be said to represent communities of MSM in other cities. Finally, partner selection is only one aspect of sexual behavior that may contribute to HIV infection.

### *Significance*

Despite these limitations, the present study has shown that investigation of disease and disease transmission must and can consider a wider range of issues that may contribute to disparities in disease burden. The addition of measures of race/ethnicity, partner selection, social networks, and structural barriers is essential to enhance the relevance of epidemiological methods.

This study demonstrates that race based negative perceptions do play a role in partner preferences and partner selection among MSM. The study also indicates that

it may not be actions or preferences of Black MSM that put them at greater risk for HIV infection but possibly the manifestation of these race/ethnicity based negative perceptions that reinforces Black men's partnering with other Black MSM. This reinforcement of Black-Black partnerships inherently exposes members of these partnerships to greater risk for HIV infection due to the greater chance of partnering with someone already HIV positive regardless of what behaviors they engage in. This phenomenon may also force more tightly knit or overlapping sexual networks that foster the rapid and wide spread of HIV and sexually transmitted disease (STD).



## Chapter 2

### *Literature Review*

#### *Disparities in HIV/AIDS among Men Who Have Sex with Men*

Black men who have sex with men (MSM) have historically had the highest levels of HIV/AIDS among all MSM sub-groups. Data from a study of young MSM 15-22 years of age, conducted between 1994 and 1998, showed Black MSM to have the highest HIV prevalence among all groups (16% among Blacks, 6.9% among Latinos, and 3.3% among Whites) (Harawa et al., 2004). HIV incidence among Black MSM was shown to be the highest among all groups at risk for HIV infection in the United States (Valleroy et al., 2000). AIDS cases are also a measure of disease burden among MSM. Between 1989 and 1998, as incident cases of AIDS among White MSM dropped, those among Black MSM rose (Centers for Disease Control and Prevention [CDC], 2000). As recently as 2005, data from five cities in the United States continue to show that Black MSM have the highest HIV prevalence when compared to other ethnicities with 46% HIV positive among Blacks compared to 21% and 17% HIV positive among Whites and Latinos, respectively. Blacks also have the highest level of unrecognized infection (67%) when compared to Whites (18%) and Latinos (48%) (CDC, 2005).

#### *High-risk Sexual Behavior*

Although Black MSM continue to be disproportionately affected by HIV, data suggest that Black MSM do not engage in high-risk sexual behavior at greater rates than other ethnic groups of MSM. Harawa et al. (2004) found that among young

MSM who had anal sex, 59% of Whites, and only 48% of Blacks reported unprotected anal intercourse. Furthermore, Myers, Javanbakht, Martinez, and Obediah (2003) found that Black MSM reported fewer sexual partners than MSM of other race/ethnicities.

#### *Substance Use*

Substance use has also been associated with HIV risk taking. Again, Harawa et al. (2004) found that Black MSM were less likely to report substance use behaviors than other ethnicities. When asked about injection drug use, Black MSM in their sample reported the least amount of injection drug use when compared to Latinos and Whites (3.1%, 6%, and 9.9% respectively). Stimulant use, other than that used intravenously, was also reported at lower levels among Black MSM than other ethnicities (16.2% among Blacks, 28.9% among Latinos, and 40% among Whites).

#### *Other Correlates of Risk*

Correlates of HIV risk also include factors other than sexual risk taking and substance use. Among these are commercial sex work, history of HIV testing, history of STD, disclosure of sexual identity, and use of anti-retroviral (ARV) medications. A quantitative meta-analysis of the literature conducted by Millet, Flores, Peterson, and Bakeman (2007) found no differences between White and Black MSM related to commercial sex work and HIV testing patterns. They did however find that Black MSM were less likely to disclose their sexual identity and, if HIV positive, were less likely to be taking ARVs. The first factor, sexual identity disclosure, has been found to be associated with lower levels of HIV infection. The second factor suggests that

lower levels of ARV use may also decrease HIV prevalence by resulting in a higher rate of death among Black MSM with AIDS.

*New Directions for Investigation*

In light of the marked differences in HIV prevalence but with data showing similar rates of risk behavior, new hypotheses formulated to understand HIV transmission and risk dynamics among the different racial/ethnic groups of MSM must be investigated. Millet, Peterson, Wolitski, and Stall (2006) conducted a qualitative meta-analysis of the literature focusing on the unexplained higher rates of HIV among Black MSM. Of 12 hypotheses generated during their analysis, sexual networks among MSM presented a strong possible explanation for the observed differences in HIV prevalence. Several explanatory factors support the influence of sexual networks on higher HIV prevalence. These factors are: a) less choice in sexual partners; b) tighter social and sexual networks; and c) overlapping sexual networks. All of these factors would magnify what HIV infection already exists in these networks leading to increasing levels of HIV prevalence among network members.

*Social and sexual networks.* Social and sexual networks have been implicated in the small number of reports on the dynamics of HIV risk and HIV infection among MSM. Bingham, Harawa, Johnson, Secura, MacKellar, and Valleroy (2003) hypothesized that partner characteristics, particularly the kinds of partners Black MSM choose, have more to do with higher levels of HIV infections among that group than does sexual risk taking. They noted that among API, Black, Latino, and White MSM, levels of anal sex were similar ranging from 98% to 94%. They also noted

similar levels of unprotected anal sex among the groups, ranging from 63% to 71%. However, in terms of race and age of partners, Black MSM had the most number of older partners and partners that were also Black. In this case partnering with same race partners appears to be a risk factor for HIV infection. Other research on sexual mixing also concludes that assortative (mixing that is homogenous) or intra-racial mixing can increase sexually transmitted disease burden among ethnic groups where disease prevalence is already elevated (Aral, 2000). Finally, research conducted in San Francisco shows that Black MSM have a significantly higher rate than random selection would dictate of race-based assortative partnering when compared to other race/ethnicities (Berry, Raymond, & McFarland, 2007). This study, however, did not include measures that would indicate why Black MSM had higher rates of same-race partnering.

*Stereotypes of risk.* Research by Gold and Skinner (1996) and Gold, Skinner, and Hinchy (1999) explored stereotypes of HIV infected MSM in research done among both HIV infected and uninfected MSM. Their research focused on the perceptions of HIV status attributed to stereotypes based on physical looks, projected intelligence, appearance of health, personality, and apparent wealth. They found that there were significant associations with negative portrayals and perceptions of being HIV infected in general and found that positive portrayals of physical looks also scored higher on perceptions of being HIV infected. Although this research focused on physical and socioeconomic factors, stereotyping other MSM as to their HIV status and thus their potential contribution to HIV transmission based on

race/ethnicity is an area that deserves investigation. These perceptions of HIV risk may influence sexual partner choices in addition to sexual partner preference, or social network composition.

*Structural barriers.*

An additional area of inquiry is that of structural barriers experienced by MSM in freely mixing with other MSM. Mostly clearly, these barriers may be experienced as individuals' comfort level while attending various venues that cater to MSM in San Francisco. In fact, examples of specific venues that discriminate against groups of MSM have been cited in the San Francisco press (Buchanan, 2005).

*Theoretical models*

This study's measures were based on two theoretical models. These models also guided the analyses presented in this thesis. Both theoretical approaches are described below.

*Ecological model.* The ecological model of health promotion acknowledges that an individual's health is influenced by multiple individual, social, cultural, and environmental determinants (McLeroy, Bibeau, Steckler, & Glanz, 1988; Dahlgren and Whitehead, 2006). Of the five levels of determinants in this model: a) intrapersonal; b) interpersonal; c) institutional; d) community; and e) public policy, the current study addresses three. The intrapersonal level guided investigation of partner preferences, HIV risk stereotypes, and partner selection. The interpersonal level guided the construction of questions that describe individuals' social networks. Community factors were addressed by investigating individuals' comfort levels in

attending venues frequented by MSM. The ecological model is particularly useful for exploring the types of factors addressed in this thesis. The complexity of sexual mixing is undoubtedly due to a range of factors that go beyond those that can be influenced by individual agency. This model suits investigation of personal preferences, social network composition, and structural factors that influence behavior.

*Epidemiological model.* Basic epidemiological constructs also guided the study. The epidemiological model is based on the notion that quantified knowledge of the distribution of disease and related behaviors correlated to demographic and social characteristics allows health researchers to understand the underlying causes of disease and what groups are more likely to have the disease (Gerstman, 2007). This quantitative knowledge is then used to guide interventions and health promotion activities (Last, 2001). Quantitative data were collected to describe the distribution and determinants of behaviors related to partner selection among MSM.

## Chapter 3

### *Methods*

#### *Objectives*

The current study explored the personal preferences, social network composition, and structural issues that shape actual sexual partner choices among men who have sex with men (MSM). In particular, this study explored whether partner selection is a potential contributing factor to the disparities in HIV prevalence between various racial/ethnic groups of MSM. Additionally, this study explored whether MSM perceive structural constraints that influence their ability to freely mix with all other MSM when looking for sexual partners. Finally, the role of race/ethnicity-based perceptions of HIV risk were examined for their relationship to partner preferences and actual partner selection.

In addition to the objectives mentioned above, this study sought to extend the inquiry of the larger study of which it was a part. Exploring partner selection and the role of race/ethnicity, in terms of perceptions of HIV risk, contributes to the basic epidemiological knowledge of determinants of HIV risk. Furthermore, this study extends the areas of epidemiological inquiry. To date research has focused on risk behaviors, demographic correlates, and other risk correlates (e.g. commercial sex work, substance use, and mental health) related to HIV acquisition or transmission but has not focused on inter/intra-personal dynamics of individuals. In particular, epidemiological studies have yet to explore the role of personal preferences and social/sexual networks as determinants of risk. The role of race/ethnicity has also

been underexplored. The current study explores new methods available to investigations of the disparities in the burden of HIV/AIDS in different race/ethnic groups.

### *Sampling*

A one-time cross-sectional probability survey of MSM attending public venues in San Francisco started in December 2008 and is planned to continue data collection through August 2009. The study has the goal of enrolling 1,200 MSM. Data for this thesis is limited to those collected in the first three months of data collection (December 2007- February 2008). Participation in the main study was offered to a consecutive sample of MSM recruited for a National Institutes of Health (NIH) funded R01 study entitled “HIV Serosorting among Men Who Have Sex with Men” conducted in San Francisco.

The parent study employs time location sampling (TLS) as the standard for sampling MSM. TLS has been described in detail in MacKellar et al. (1996) and Centers for Disease Control and Prevention (2005). In this study, men over the age of 18 years old were systematically sampled from randomly selected public venues where MSM are known to congregate. A formative research phase was conducted to construct a universe of recruitment venues, which includes bars/clubs, social organizations, churches, street locations, and other venue types. During sampling events, staff approached men consecutively as they entered a predetermined enumeration area (e.g. an imaginary line or area in front of the venue entrance). Men stopping for intercepts at these venues were asked brief eligibility questions. Age



over 18 years, male gender, and being a resident of any of ten Bay Area counties were the only eligibility criteria. Identifying as MSM at the time of screening was not an eligibility criterion, thus allowing non-gay identified MSM to participate.

After determining eligibility, staff reviewed a written consent form with participants and obtained written informed consent. Staff then oriented participants to the handheld computer-assisted interview. Once participants were familiar with the operation of the handheld computer, they completed a self-administered standardized behavioral risk survey that included the measures specific to this study (Appendix A). This sampling method provides a quasi-probability sample of MSM thus allowing for generalizations about the entire MSM population of the geographic area of interest. The total desired sample size for the parent study was 1,200 MSM and 500 MSM for this study. The final sample for this thesis was the entire sample of the parent study collected through May 2008.

### *Measures*

Table 1 illustrates the standard measures that were made available to this project through a secondary data request to the Principal Investigator (PI) at SFDPH (Appendix B). Draft instruments were pilot tested with a convenience sample of MSM (n=10) via face-to-face interviews. No changes were made based on the pilot.

Table 1.

*Measures provided from parent study instrument*

Domain	Description	Measures
Individual	Demographics	Standard National Measures
Sexual Partner	Partner and partnership characteristics	Standard Sexual Activity Matrix

The sexual activity matrix mentioned in Table 1 elicits detailed partner-by-partner information on up to five partners over the last six months from each respondent. Respondents with more than five partners are asked to report on the five partners they had sex with most recently in the six-month period. For each partner, demographic characteristics including age, race, and type of partner (e.g. main, casual, anonymous) are recorded. Then for each partner, respondents are asked to report on the number of times they engaged in insertive anal intercourse, unprotected insertive anal intercourse, receptive anal intercourse, and unprotected receptive anal intercourse. The entire main survey is not included as an appendix to this thesis but can be obtained by contacting the SFDPH principal investigator.

Table 2 describes the domains and measures developed specifically for this thesis research. Specific wording of each measure is available in Appendix A. Questions based on these domains were piloted tested with the parent study instrument to a sample of 10 MSM through face-to-face interviews.

Table 2

*Additional data collected for thesis research*

Domain	Description	Measures
Partner Preferences (e.g. race)	Description of what an individual prefers in sexual partners.	Race using 4 point Likert scales, Strongly agree – Strongly disagree
Social Network (e.g. race)	Composition	Race using 4 point Likert scales, Strongly agree – Strongly disagree
Venues accessibility	Perceptions of places where MSM feel welcome or comfortable	4 point Likert scales, Strongly agree – Strongly disagree
HIV Risk Stereotypes	Race and age based stereotypes of HIV transmission risk	3 point Likert scales ranging from, “more risk” to “no difference in risk”

*Human Subjects Protection*

The NIH funded RO1 study that served as the parent study to this thesis research received institutional review board (IRB) approval from the University of California San Francisco’s Committee on Human Research (UCSF CHR), which serves as the IRB for SFDPH. Approval was granted on September 24, 2007

(Appendix C). UCSF IRB approval included the measures specifically developed for this project. San Jose State University's IRB also approved the study (Appendix D).

#### *Data Collection Method*

After determining eligibility and obtaining written informed consent, the project staff provided participants with a self-administered behavioral risk survey using handheld computers. Questionnaire Design Studio (QDS) version 2.4 (Nova Research, Bethesda, Maryland) was used to design, implement, and manage the survey data. QDS is a personal computer based software system that allows users to program study instruments in electronic formats for administration of surveys on desktop, laptop, or handheld computers. The six measures comprising 49 questions that address the specific questions of this thesis research were embedded in the broader survey instrument. Individual participants completed the survey in approximately 30 minutes at the venue where they were recruited for the study. At the completion of the self-administered electronic survey, participants were thanked and remunerated with a modest cash incentive for their time by study staff. Staff also provided appropriate referrals for HIV risk reduction services as needed.

#### *Statistical Methods*

Observations were included in this thesis' race/ethnicity analyses if respondents reported their race as Asian, Black, White, or Latino. Other racial groups (e.g., Native Americans) were not included in these analyses because of small cell sizes. The expected number of race-race partnerships was estimated based on the race/ethnicity distribution of the sample. Observed race-race partnering was then

compared to the expected and Chi Square tests were used to test for significance. Initial frequency data were used to describe the respondents and their sexual partnerships. Responses to Likert scales probing differences in preferences were analyzed using rank sum tests for significance. Significance of access to social spaces, composition of social networks, and assortative and disassortative mixing were assessed in bivariate analyses using Chi Square and Fisher Exact tests. All statistical analyses were conducted using SAS version 9.13 (SAS Institute, Durham, North Carolina).

## Chapter 4

### *Results*

Data were collected between December 2007 and February 2008. Forty-six sampling events were conducted. Study staff enumerated 5,250 men at randomly selected venues and consequently approached 773 men as interviewers were available. Of 773 men approached, 576 (74.5%) stopped for eligibility screening, 477 (82.8%) were eligible, and 334 (70.0%) agreed to participate in the survey. Three hundred and thirty men completed interviews. Twenty-two men who reported identifying as heterosexual also did not report any male sex partners in the past twelve months. Therefore, these men were excluded, leaving a sample of 308 men who have sex with men (MSM).

### *Demographics*

One hundred fifty of these 308 MSM reported being White (49%), followed by Latino (23%), Asian/Pacific Islander (11%), Black (8%), Native American (4%), and other race/ethnicity (4%). Subjects ranged in age from 18 to 70 years old (34 Median, 27 - 45 Interquartile Range). The majority of the participants identified as gay (87%) or bisexual (9%) with the remaining men identifying as heterosexual or some other orientation (4%) while also reporting male sexual partners. In terms of educational attainment, 13% reported a high school or less level of education, 36% had attended some college, 32% had a college degree, and 18% held a post-graduate degree. As a whole, these men reported on 963 sexual partnerships with other men (approximately three each) during the past six months.

### Partner Selection by Race

Based on the race/ethnicity distribution of the sample and the observed distribution of the race/ethnicity of partners, Black men were four times more likely to have partners that were the same race compared to random chance ( $p < 0.005$ ) (Figure 1.). None of the other racial groups' assortative partner patterns, that is partnering with individuals of the same race, were in excess of random chance (White (Odds Ratio (OR) 1.4,  $p > 0.975$ ), Asian/Pacific Islanders (OR 1.5,  $p > 0.975$ ), and Latino MSM (OR 0.75,  $p > 0.975$ ). Of note, half of all partnerships were interracial with the most common pairings being Latino-White and Asian-White.

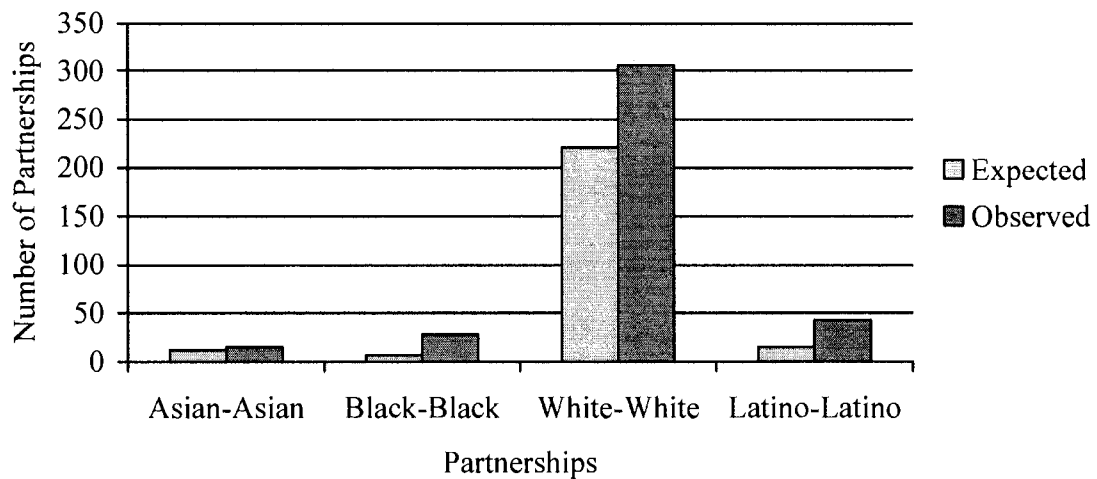
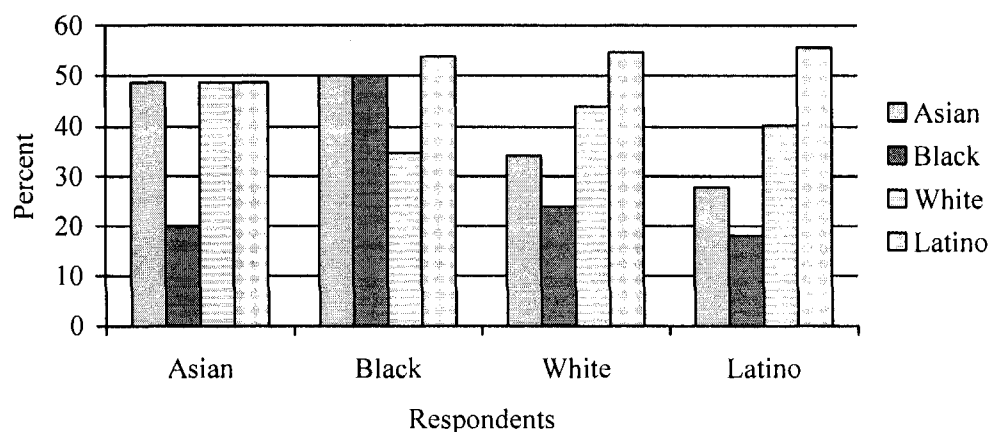


Figure 1. Probability of partnering among MSM: San Francisco, 2008.

### *Stated Race/Ethnicity Preferences*

Men reported on their racial/ethnic preferences when choosing sexual partners (Figure 2). Overall, when compared to their stated preferences for other race/ethnic partners, all race/ethnicities, with the exception of Blacks, did not prefer Black partners. Among Asian respondents, all preference differences between other races and Blacks were significant (all  $p < 0.05$ ). Among Whites, all differences between Blacks and other races were significant as well as the differences between Asians and Latinos (all  $p < 0.01$ ). Among Latinos, Latino-Asian, White-Black, and Black-White, preference differences were significant (all  $p < 0.05$ ). Black MSM's preferences for other races showed no significant differences between races. Of note, there appears to be a slight preference for Latino partners among Black, White, and Latino MSM.

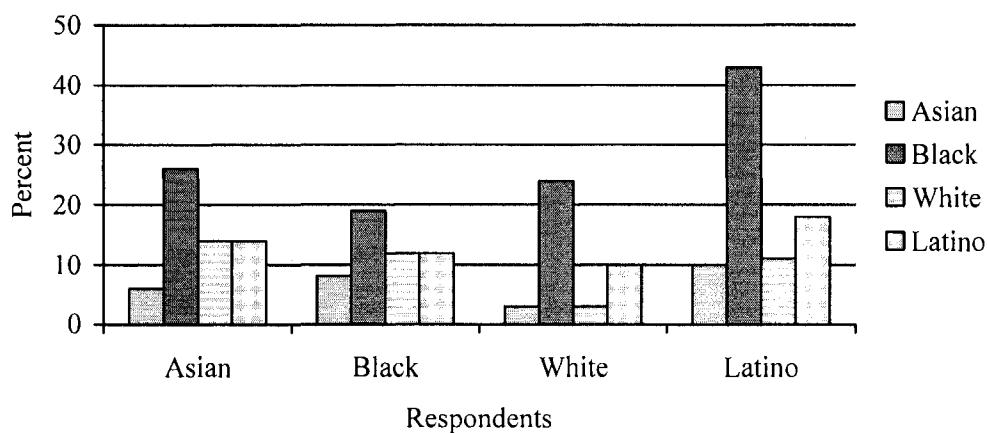


*Figure 2.* Partner preferences by race among MSM: San Francisco, 2008.



*Race/ethnicity based perceptions of risk*

When asked to report whether having sex with men of specific races was more or less risk for HIV infection, by far most race/ethnicity groups, including Blacks themselves, perceived Black men to be riskiest to have sex with. This perception was not necessarily statistically significant across all the race/ethnicities (Figure 3).



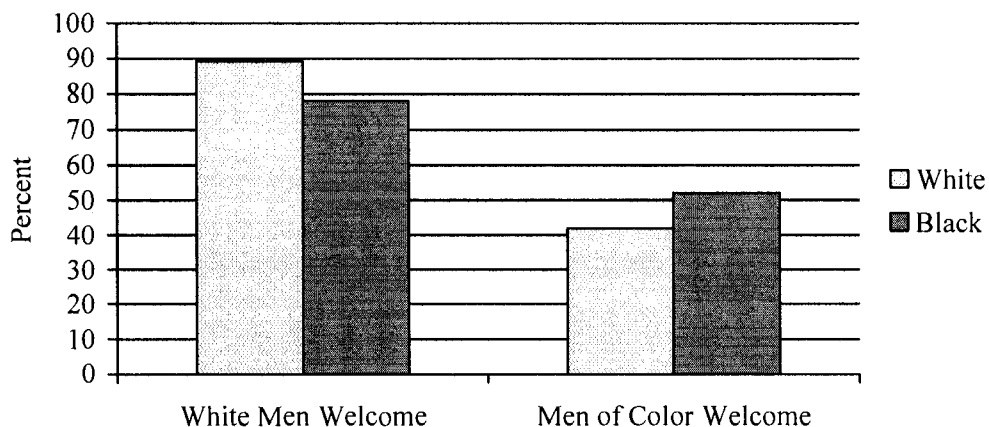
*Figure 3.* Race based HIV risk perceptions by race among MSM: San Francisco, 2008.

For Asian men, the differences in their perception of risk between having Asian and Black partners was significant ( $p = 0.0391$ ) while no other perceptions were significantly different. Among Whites, Blacks and Latinos were considered more risky to partner with, Blacks more so than Latinos (all  $p < 0.05$ ). Asian partners were considered by Whites to be equally as risky as having sex with another White MSM. For Latino MSM respondents, only Asian-Black, Black-White, and Black-Latino pairings were considered risky and these differences in perceptions were

statistically significant (all  $p < 0.0001$ ). Among Black MSM respondents, no significant differences in perception of risk by race were indicated.

#### *Access to Social Spaces*

Two hundred sixty-nine (87%) MSM indicated that they attended gay identified bars or dance clubs. Of these men, 128 (48%) identified as White while 23 (9%) identified as Black. Eighteen (78%) of Black MSM and 114 (89%) of White MSM agreed with the statement “It is easy for White men to feel welcome in most bars and dance clubs that cater to gay men in San Francisco” while only 12 (52%) of the Black MSM and 54 (42%) of the White MSM agreed with the statement “It is easy for men of color to feel welcome in most bars and dance clubs that cater to gay men in San Francisco” (Figure 4). Differences between Whites and Blacks in perceptions of which men were welcome or unwelcome at social venues were not significant (Whites welcome ( $p = 0.113$ ), men of color welcome ( $p = 0.118$ )).



*Figure 4.* Perceived ease of accessing MSM social venues among White and Black MSM: San Francisco, 2008.

## Friendship Networks

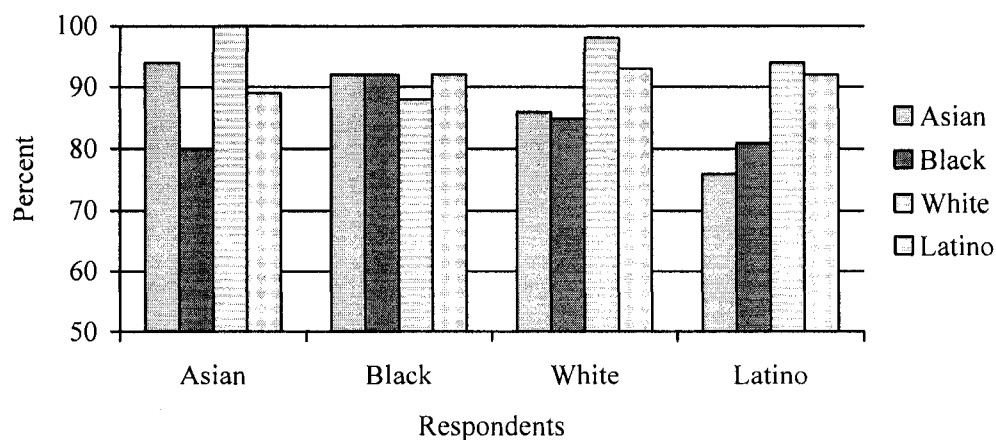
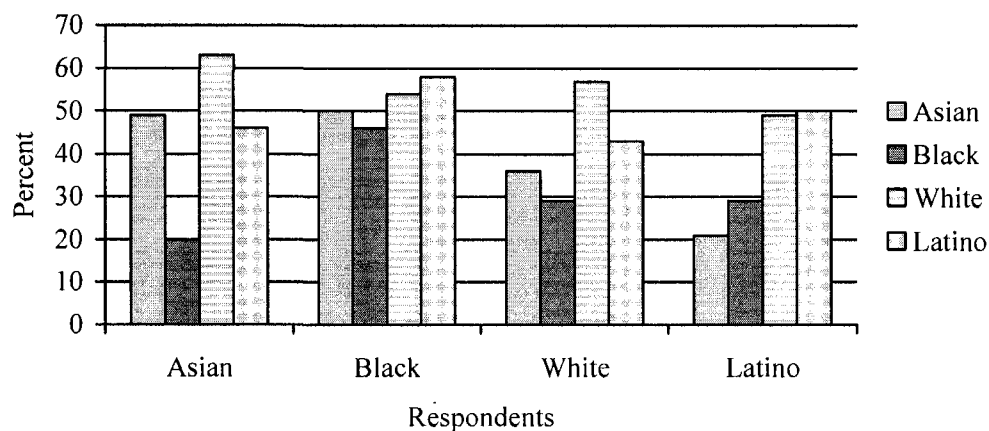


Figure 5. Proportion of MSM reporting some friends of a given race: San Francisco, 2008.

Figure 5 illustrates the proportion of respondents reporting having any friends of other race/ethnicity by race/ethnicity. A large proportion of all groups have diverse friendship networks; however, some differences were significant. Among Whites, there were significantly more men who reported having at least some White friends compared to having some friends of the other race/ethnic groups (all  $p$ -values  $< 0.05$ ). Among Latinos, the only significant difference detected was in the proportion of Latino MSM saying they had some Asian or some Black friends ( $p < 0.05$ ) but not White friends. Among Asian and Black respondents, there were no significant differences in having friends of all the other race/ethnicities. A small minority of Asians (20%) reported having any Black friends. Of note, fewer Black MSM reported having no Black friends compared to other groups. However, these last two findings were not statistically significant.

### *Ease of Meeting Partners*

Respondents also were asked their opinion about their ability to meet men of other race/ethnicities (Figure 6). While results were mixed, less than 30% of Asian, White, and Latino MSM perceived meeting Black MSM as easy.



*Figure 6.* Perceived ease of meeting partners of other races among MSM: San Francisco, 2008.

The differences in perceived ease of access of other MSM vs. Black MSM were significant across all race/ethnicities (all  $p < 0.05$ ) except among Latinos where Asian MSM were also perceived to be harder to meet. Of note, nearly 50% or more of all groups felt it was easy to meet White MSM.

### *Assortative and Disassortative Mixing*

Analysis of assortative mixing was limited to men reporting being White or Black. Black MSM ( $n=20$ ) and White MSM ( $n=127$ ) were categorized according to the race patterns of their partners. Among Black MSM, four (20%) reported always having sexual partners of the same race (assortative) while 16 (80%) had partners of

different race/ethnicity (disassortative). Among White MSM, 54 (43%) reported always having sexual partners of the same race (assortative) while 73 (57%) had partners of different race/ethnicity (disassortative). Table 3 illustrates the differences in assortative and disassortative mixing between Black MSM and White MSM. For White MSM having friends of the same race ( $p < 0.001$ ), preferring the same race ( $p < 0.0001$ ), and perceiving it easier to meet men of the same race ( $p < 0.0001$ ) were associated with assortative mixing. No associations with assortative mixing were found among Black MSM. Interestingly, younger Black MSM appear to be much less assortative than older Black MSM but not significantly so. This pattern was not evident among White MSM.

Table 3

*Assortative and Disassortative Mixing by Race*

Variable	Black		p	White		p
	Assortative N (%)	Disassortative N (%)		Assortative N (%)	Disassortative N (%)	
Total	4 (20)	16 (80)		54(43)	73 (57)	
Age						
18-25	0	5 (100)	ns	5 (50)	5 (50)	ns
26-35	0	3 (100)		16 (42)	22 (58)	
36-45	2 (33)	4 (67)		19 (48)	21 (53)	
46+	2 (33)	4 (67)		14 (36)	25 (64)	

Table 3 (Continued)

Variable	Black		p	White		p
	Assortative	Disassortative		Assortative	Disassortative	
	N (%)	N (%)		N (%)	N (%)	
<b>Sexual ID</b>						
Gay	1 (20)	4 (80)	ns	51 (44)	65 (56)	ns
Bi	3 (20)	12 (80)		2 (25)	6 (75)	
Straight				1 (50)	1 (50)	
Other				0	1 (100)	
<b>UAI</b>						
Yes	2 (20)	8 (80)	ns	27 (38)	44 (62)	ns
No	2 (20)	8 (80)		27 (48)	29 (52)	
<b>UIAI</b>						
Yes	1 (14)	6 (86)	ns	20 (36)	35 (64)	ns
No	3 (23)	10 (77)		34 (47)	38 (53)	
<b>URAI</b>						
Yes	1 (17)	5 (83)	ns	16 (37)	27 (63)	ns
No	3 (21)	11 (79)		38 (45)	46 (55)	
<b>Less risk with same race</b>						
Yes	0	0	-	5 (38)	8 (62)	ns
No	4 (20)	16 (80)		49 (43)	65 (57)	
<b>Less risk with other races</b>						
Yes	1 (50)	1 (50)	ns	2 (67)	1 (33)	ns
No	3 (17)	15 (83)		52 (42)	72 (58)	

Table 3 (Continued)

Variable	Black			White		
	Assortative	Disassortative	p	Assortative	Disassortative	p
	N (%)	N (%)		N (%)	N (%)	
Only comfortable in bars or clubs that cater to same race						
Yes	0	4 (100)	ns	7 (35)	13 (65)	ns
No	4 (25)	12 (75)		47 (44)	60 (56)	
Friends are the same race						
Yes	3 (36)	5 (63)	ns	41 (53)	37 (47)	<0.001
No	1 (8)	11 (92)		13 (27)	36 (73)	
Prefer same race						
Yes	2 (20)	8 (80)	ns	40 (69)	18 (31)	<0.0001
No	2 (20)	8 (80)		14 (20)	55 (80)	
Easier to meet same race						
Yes	2 (22)	7 (78)	ns	43 (58)	31 (42)	<0.0001
No	2 (18)	9 (81)		11 (21)	42 (79)	

## Chapter 5

### *Discussion*

This exploration of factors that influence patterns of social and sexual mixing among men who have sex with men (MSM) found, as in previous studies, that Black (MSM) in San Francisco partner with other Black MSM at rates higher than would be expected by random chance. This study also found; a) Black MSM are the least preferred as sexual partners among other MSM; b) Black MSM are perceived to be higher risk to partner with; c) White and Black MSM agree that men of color are less welcome at venues where MSM meet; d) many White and Asian MSM report having fewer Black friends; e) Black MSM were perceived as being the hardest group of men to meet; and f) there were no significant associations between Black MSM and patterns of assortative sexual partnering.

### *Limitations*

Small numbers of specific ethnic groups in the six-month sample made some cross group comparisons difficult and the resulting statistics less reliable than if larger sample sizes were obtained. However, the importance of this public health question demands investigation at this time and balanced the drawbacks of the small sample sizes. Questions directly probing racism and other race-based attitudes were not investigated in the present study. Indeed, direct queries about racism may have elicited socially desirable responses about race/ethnicity from participants thus not accurately capturing subtle and most probably unconscious preferences and perceptions. These types of questions have not been asked of heterosexuals in San



Francisco, therefore we cannot conclude whether these factors are more or less common among MSM compared to heterosexuals. Moreover, it is unknown how generalizable the findings of this study are to populations of MSM in other geographic areas. Finally, self-reported behavior and recall bias may have affected the accuracy of the sexual behavior measures.

### *Relevance*

The data reported here indicate that it is not the preferences of Black men for Black partners that influence the patterns in partnering in this group; rather they suggest that it is the other racial groups' non-preference for Black men that may drive Black men to more likely partner with each other. In essence, these findings potentially reflect and quantify aspects of race-based negative perceptions present in the community of men who have sex with men (MSM) in San Francisco. These race-based negative perceptions and preferences have high consequences. Populations limited to tighter social and sexual networks, particularly those with an already high burden of disease, experience more rapid spread of disease within their group.

Additionally, this study was able to investigate and detect differences in partner patterns and partner preferences among different race/ethnic sub-populations of MSM in the San Francisco Bay Area. Despite the sensitivity of the questions, men responding to the survey were amenable to answering pointed questions about race and racial preferences.

As shown in previous studies of MSM in San Francisco, the current study also found that Black MSM tend to partner with other Black MSM at higher rates than

would be expected if no forces were shaping the choice of sexual partners. These forces do not appear to be operating for MSM of other races and ethnicities.

Asian, White, and Latino MSM appear to prefer Black MSM as sexual partners the least out of all other possible races. At the same time such differences in preference of sexual partners do not appear to exist among Black MSM.

All race/ethnicity groups including Blacks perceive sex with a Black partner to put them at more risk for HIV infection. Interestingly, these perceptions appear to match the known epidemiology of HIV in San Francisco where Black MSM have a prevalence of about 30% while Asians have a prevalence of about 10% (San Francisco Department of Public Health, 2007).

In the MSM community particularly, sexual and social networks are quite intertwined making access to social spaces a viable proxy for access to specific social networks. White MSM and Black MSM held similar opinions about White men and men of color feeling comfortable in spaces catering to MSM in San Francisco; both groups indicated that White men were probably twice as comfortable as men of color. While there seems to be agreement on the accessibility of MSM spaces to both White MSM and men of color, it is disheartening that both groups appear to agree that men of color are less welcome. This finding lends credibility and support to attempts at bringing the issue of potential race based structural barriers and equal access to MSM spaces by MSM of all colors to the attention of the wider MSM community.

Additionally, the composition of MSM friendship networks also reflects race/ethnic differences that may play a role in shaping the networks of Black MSM.

While most MSM reported diverse friendship networks, White MSM were more likely to have White friends compared to friends of other race/ethnicities. Latinos were also less likely to have Black friends as well as less likely to have Asian friends. Taken together it would appear that at least two main race/ethnic groups of MSM in San Francisco have some proportion that are socially isolated from Black MSM.

Finally, all race/ethnic groups perceived it harder to meet Black men in San Francisco. These three social/sexual network factors, comfort in social spaces, composition of friendship networks, and access to MSM of other race/ethnicities, appear to work together to create an environment that strongly isolates Black MSM.

This study demonstrates that race does play a role in partner preferences and actual partner selection among MSM. The study also indicates that it may not be actions or preferences of Black MSM that put them at greater risk for HIV infection but possibly the manifestation of race based negative perceptions among other MSM that reinforces Black men's partnering with other Black MSM. This reinforcement of Black-Black partnerships inherently exposes members of these partnerships to greater risk for HIV infection due to the greater chance of partnering with someone already HIV positive regardless of what behaviors they engage in. Moreover, the creation of closely-knit sexual networks fosters fast and high levels of HIV infection.

In light of the disproportionate burden of HIV infection among certain racial groups and the incomplete understanding of the dynamics at play in this ongoing phenomenon, further investigation of sexual networks and partner choices is needed and may contribute significantly to the understanding of this important public health

issue. In the immediate, the larger goals of the parent study may be informed by the present findings. Additionally, extending these analyses to the final larger sample size will help confirm these findings. Moreover, investigations of these phenomena outside of the San Francisco Bay Area will be needed to determine whether these factors are unique to San Francisco or are indeed generalizable to other geographic areas. Finally, explorations of heterosexual partner preferences are needed to determine whether these forces act upon MSM only or are in operation society wide.

Further investigations will also need to draw upon and include social-behavioral theories that will help frame and explain these complex patterns of sexual mixing. While further investigating how these behaviors fit the ecological model, researchers might draw upon social cognitive theory to better understand the interactions between individuals and those around them and those interactions' effect on sexual mixing (Bandura, 2004). Social capital concepts may also be a useful framework to quantify the resources of individuals and their social networks and to explore how those resources influence sexual partnering (Bourdieu, 1986).

### *Implications*

The current findings have clear implications for the practice of public health. HIV prevention interventions will need to incorporate and address perceptions/stereotypes of risk and sexual partner preferences to reduce risk for HIV infection among MSM. Furthermore, educational programs that reinforce that it is behavior and not people or races that increases risk for HIV infection are needed.

Finally, structural interventions may be needed to address the effects venues have on race/ethnicity mixing.

### *Recommendations*

Despite some limitations, the present study has shown that investigation of disease and disease transmission must and can consider a wider range of issues that may contribute to disparities in disease burden. The addition of measures of race/ethnicity, partner selection, social networks, and structural barriers is essential to increasing the relevance of epidemiological methods.

Increased understanding of this issue via multiple means may help formulate novel responses and interventions for this highly vulnerable population. These responses, in addition to ongoing HIV risk reduction activities, will require that communities address race-based negative perceptions and preferences along with structural issues that include free access to and choice of community venues for all race/ethnic groups.

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Appendix A: Sexual Mixing Instrument

**Sexual Mixing and Social Network Instrument, H Fisher Raymond, SJSU, 2008**

P1. Study ID

**READ:** Now I am going to read a few statements about what you may prefer in sexual partners. Please tell me how much you agree or disagree with each statement.

P2.	Strongly Disagree	Disagree	Agree	Strongly Agree
a. I prefer to have sexual partners that are of the same race /ethnicity that I am	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b. I prefer sexual partners that are older than I am.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c. I prefer to have sexual partners that are not the same race / ethnicity that I am	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d. I prefer to have sexual partners that are the same age as me	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e. I prefer to have sexual partners that are Caucasian	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f. I prefer to have sexual partners that are African American	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
g. I prefer to have sexual partners that are Asian/ Pacific Islander	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
h. I prefer to have sexual partners that are Latino	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
i. I prefer to have sexual partners that are another race	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
j. I have no preference for the race of my sexual partners	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
k. I have no preference for the age of my sexual partners	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
l. I prefer to have sexual partners that are younger than I am	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

**READ:** The next statements are about meeting sexual partners. Please tell me how much you agree or disagree with each statement.

P3.	Strongly Disagree	Disagree	Agree	Strongly Agree
a. It seems easier to meet sexual partners that are of the same race /ethnicity that I am	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b. It seems easier to meet sexual partners	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

that are older than I am.

- |   |                                       |                                       |                                       |                                       |
|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| c. It seems easier to meet sexual partners that are not the same race / ethnicity that I am | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| d. It seems easier to meet sexual partners that are the same age as me                      | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| e. It seems easier to meet sexual partners that are Caucasian                               | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| f. It seems easier to meet sexual partners that are African American                        | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| g. It seems easier to meet sexual partners that are Asian/ Pacific Islander                 | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| h. It seems easier to meet sexual partners that are Latino                                  | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| i. It seems easier to meet sexual partners that are another race                            | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| j. It seems easier to meet sexual partners that are younger than I am                       | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |

**READ:** Now I'm going to ask you some questions about your friends (social network).

- |  |                                       |                                       |                                       |                                       |                                       |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| P4.  | None                                  | A few                                 | Some                                  | Most                                  | All                                   |
| a. How many of your friends are African American?                        | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| b. How many of your friends are Asian / Pacific Islander?                | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| c. How many of your friends are Caucasian?                               | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| d. How many of your friends are Latino / Hispanic?                       | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| f. How many of your friends are of another race than those listed above? | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |

- |  |                                       |                                       |                                       |                                       |                                       |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| P5.  | None                                  | A few                                 | Some                                  | Most                                  | All                                   |
| a. How many of your friends are younger than you are?    | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| b. How many of your friends are older than you are?      | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| c. How many of your friends are the same age as you are? | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |

**READ:** The next series of statements are about venues you may attend where you meet other men who have sex with men. Please tell me how much you agree or disagree with each statement.

P6	Strongly Disagree	Disagree	Agree	Strongly Agree
a. I feel comfortable going to gay bars or dance clubs in San Francisco that cater to all races and ethnicities.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b. I only feel comfortable going to gay bars and dance clubs in SF that cater to people of the same race as I am.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c. I feel comfortable going to gay bars or dance clubs in San Francisco that cater to all ages.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d. I only feel comfortable going to gay bars and dance clubs in SF that cater to younger people.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e. I only feel comfortable going to gay bars and dance clubs in SF that cater to older people.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f. I only feel comfortable going to gay bars and dance clubs in SF that cater to people who are around my same age.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
g. It is easy for men of color to feel comfortable in most bars and dance clubs that cater to gay men in SF.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
h. It is easy for men of color to feel welcome in most bars and dance clubs that cater to gay men in SF.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
i. It is easy for Caucasian gay men to feel comfortable in most bars and dance clubs that cater to gay men in SF.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
j. It is easy for Caucasians to feel welcome in most bars and dance clubs that cater to gay men in SF.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

**READ:** For each of the following situations, please indicate what you believe about the level of risk for HIV infection is in these situations; Your responses can be "more risk", "less risk" or "no difference in risk".

Example: Having sex with an African American sex partner is \_\_\_\_\_ for HIV infection.

P7	More risk	No difference in risk	Less risk
a. Having sex with an African American sex partner	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
b. Having sex with a Caucasian sex partner	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
c. Having sex with a partner who is older than I am	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
d. Having sex with a partner who is younger than I am	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
e. Having sex with an Asian sex partner	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
f. Having sex with a Latino sex partner	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
g. Having sex with someone the same age as I am	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
h. Having sex with someone the same race /ethnicity as I am	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
i. Having sex with someone of a different race / ethnicity than I am	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>

Appendix B: Letter Verifying Data Provision

**City and County of San Francisco**

Gavin Newsom, Mayor

**Department of Public Health**

Mitch Katz, Director



**Willi McFarland, MD, PhD, MPH**

Director

HIV / AIDS Statistics and Epidemiology Section

415-554-9016

willi.mcfarland@hotmail.com

May 25, 2007

H Fisher Raymond

Dear Henry,

It is with pleasure that I am writing to confirm the San Francisco Department of Public Health's provision of data from our NIH Serosorting project in support your Masters thesis at San Jose State University.

I feel your research question has the potential to shed light on an important HIV transmission dynamic among men who have sex with men in San Francisco

I am committed to adding your questions to our main study instrument and will provide you a complete dataset without identifiers as soon as it is available.

Sincerely,

A handwritten signature in black ink, appearing to read "Willi McFarland", written over a horizontal line.

Willi McFarland

Appendix C: UCSF IRB Approval Letter

COMMITTEE ON HUMAN RESEARCH  
OFFICE OF RESEARCH, Box 0962  
UNIVERSITY OF CALIFORNIA, SAN FRANCISCO  
[www.research.ucsf.edu/hr/ApplyChrApprovalCond.asp](http://www.research.ucsf.edu/hr/ApplyChrApprovalCond.asp)  
chr@ucsf.edu  
(415) 476-1814

**CHR APPROVAL LETTER**

**TO:** William McFarland, M.D., Ph.D.  
Box 1224

**RE:** HIV Serosorting Among Men Who Have Sex With Men

The Committee on Human Research (CHR) has reviewed and approved this application to involve humans as research subjects. This included a review of all documents attached to the original copy of this letter.

The CHR is the Institutional Review Board (IRB) for UCSF and its affiliates. UCSF holds Office of Human Research Protections Federalwide Assurance number FWA0000068. See the CHR website for a list of other applicable FWA's.

**APPROVAL NUMBER:** H9772-29669-02A. This number is a UCSF CHR number and should be used on all correspondence, consent forms and patient charts as appropriate.

**APPROVAL DATE:** September 24, 2007


**EXPIRATION DATE:** September 21, 2008

**Expedited Review**

**GENERAL CONDITIONS OF APPROVAL:** Please refer to [www.research.ucsf.edu/hr/ApplyChrApprovalCond.asp](http://www.research.ucsf.edu/hr/ApplyChrApprovalCond.asp) for a description of the general conditions of CHR approval. In particular, the study must be renewed by the expiration date if work is to continue. Also, prior CHR approval is required before implementing any changes in the consent documents or any changes in the protocol unless those changes are required urgently for the safety of the subjects.

**HIPAA "Privacy Rule" (45CFR164):** This study does not involve access to, or creation or disclosure of Protected Health Information (PHI).

Sincerely,



Thomas P. Bersot, M.D., Ph.D.  
Vice Chair, Committee on Human Research

