

Social network characteristics and sexual risk-taking among men who have sex with men in Atlanta, GA

Catherine Finneran, MPH¹; Ayesha McAdams-Mahmoud, MPH, CHES¹; Rob Stephenson, MSc, PhD¹;

¹Hubert Department of Global Health, Rollins School of Public Health, Emory University, Atlanta, Georgia, USA;

BACKGROUND

From 2005 to 2009, HIV diagnoses increased 17% among men who have sex with men (MSM) in the US, cementing their status as the only risk group in the US with increasing HIV incidence. In 2009, MSM represented 61% of all new HIV infections in the US. Efforts to prevent the spread of the HIV epidemic in this population have focused on encouraging consistent condom use, testing regularly, and other individual-level behaviors that may shape risk for HIV infection. However, emerging evidence shows the importance that peer groups may have on the factors influencing risk for HIV infection in MSM. Researchers have shown that social isolation is a significant risk factor for sexual risk-taking among gay and bisexual men (a subset of MSM), but little research has focused on how the characteristics of their social networks shape sexual risk-taking. Additionally, studies have shown that gay/bisexual-identified men, largely due to their desire to avoid disclosure and protect loved ones from heterosexist stigma, experience barriers to social support that their heterosexual counterparts do not face.

The particular features of social networks are important to consider because they may influence MSM sexual behaviors by creating constraints, providing access to social support, modeling positive or negative behaviors, and increasing feelings of acceptance. Several studies have suggested that the types of social networks held by gay men are an influence on their sexual risk-taking. Gay men whose social networks contain individuals with greater sexual risk-taking are themselves more likely to partake in high-risk behaviors. Additionally, African American gay men are more likely to engage in unprotected anal sex if they report receiving less social support from family and friends. Accordingly, having more openly gay friends has been shown to reduce risk-taking behavior and be advantageous to gay men's health because it reduces feelings of isolation, provides access to information and services, increases the potential for association with positive role models, and reduces the impact of minority stress on health. Thus, social networks may shape sexual risk by providing more opportunities for sexual partnering; alternatively, networks that provide more forms of social support, greater access to resources and positive role models may be protective of sexual risk-taking. Understanding the characteristics of social networks among gay and bisexual men could reveal new areas for intervention to reduce sexual risk-taking behaviors.

In this study, we used a cross-sectional survey to examine how the characteristics of social networks of gay and bisexual men who live in Atlanta, GA shape their reported sexual

risk-taking. We hypothesized that sexual risk taking is influenced by the composition of each individual's social network. We concentrated on the racial and sexual composition of each network, hypothesizing that individuals with networks that contain more openly gay people who share similar characteristics to themselves are less likely to feel isolated, and thus, less likely to engage in high-risk sexual activity. The framework also includes the relationship status of those in the social network, hypothesizing that social networks comprising members who are in relationships provide more validity for gay relationships, thus lowering the potential for stress and sexual risk.

METHODS

The data from this study were collected via an ACASI survey of self-identified gay and bisexual men living in the Atlanta Metro area in 2011-2012. Participants were recruited through venue-based sampling at popular community events and locations including In The Life Atlanta (a Gay Pride event focusing specifically on African American/black lesbian, gay, bisexual, and transgender (LGBT) persons); Atlanta Gay Pride; an AIDS service organization in the Atlanta area; gay bars, clubs, and bathhouses; gay-friendly businesses; gay-organized sporting events; and gay-organized fundraisers and parties. Survey inclusion criteria included reporting age of 18 or older, self-identification as gay/homosexual or bisexual, reporting living in the Atlanta Metro Area, and reporting sex with a man in the previous six months. After screening for eligibility, participants were given the option of taking the survey at home, or, in the case of Pride events and at the AIDS service organization, self-administering the survey on a tablet computer. Sexual risk-taking was measured by assessing if the participants engaged in unprotected anal intercourse (UAI) at the last anal sex act with a man within the past six months. If a participant did not have anal sex in the previous six months, he was classified as not having UAI. Both penetrative and insertive partners during anal sex were assessed for UAI. If a condom was not used, was used part of the time, or broke and was not replaced, the participant was classified as having UAI at last sex. If a respondent had both penetrative and receptive anal sex at last sex, a condom must have been used during both behaviors and the entire duration of the intercourse in order to be categorized as not having UAI. Both the respondent's demographic information (including age, race, educational attainment, employment status, sexual identification, and HIV status) and the demographic characteristics of up to five friends in his social network (including each friend's age, race, sexual identification, relationship status, and if the friend knew the respondent identified as gay/bisexual) were collected.

The data were analyzed using STATA 11. A logistic regression model was fitted to the binary outcome of UAI at last anal sex. The model controlled for the demographic characteristics of the respondent, and included covariates relating to the demographic characteristics of the respondent's social network: difference in age between the respondent and his friends, proportion of friends who were aware of respondent's identification as gay/bisexual, proportion of friends who identified as LGBT, proportion of LGBT-identifying friends who were in relationships, and proportion of non-LGBT-identifying friends who were in relationships.

RESULTS

Preliminary data analysis indicates that overall, respondents' social network characteristics were strongly associated with their patterns of sexual risk-taking. Men who identified as gay/homosexual were more likely to report that a greater proportion of their social network identified as LGBT when compared to men who identified as bisexual. The proportion of LGBT-identifying members in a respondent's social network increased with increasing age and educational attainment. In addition, white non-Hispanic men, men reporting current employment, and men who reported being more open about their homosexuality/bisexuality were more likely to report social networks comprised of more LGBT-identifying friends. The composition of respondents' social networks were associated with sexual risk-taking in that men who reported increased numbers of LGTB-identified friends also reported less UAI at last anal sex when compared to men whose social networks contained fewer LGBT-identified friends. This effect was also apparent for respondents whose social networks comprised LGBT-identified persons in relationships, that is, respondents with increasing numbers of LGTB-identified friends in relationships were less likely to report UAI at last sex. This effect was not apparent for increasing number of non-LGBT-identifying friends in relationships. Furthermore, men who reported that the closest members of their social networks were not aware of their gay/bisexual identification were more likely to report UAI at last anal sex compared to men whose social networks were more aware of their gay/bisexual identification.

DISCUSSION

These novel results strongly suggest that both the degree of "outness" and social network composition influence condom use among gay and bisexual men. Participants who reported more LGBT-identifying friends in relationships had lower odds of UAI at last sex. Importantly, this relationship was not apparent for men who reported non-LGBT-identifying friends in relationships, suggesting that LGBT couples may model healthy sexual relationships and sexual risk reduction for other members of their social networks. Accordingly, men who reported more comfort with others knowing about their sexual identity (were more "out" to their social networks) also had lower odds of UAI at last sex when compared to men who had social networks that were unaware of their sexual identity. This finding refutes previous studies, which have found that increased participation in the gay community is correlated with increased reporting of UAI, and rather suggests that openness about one's sexuality may lead to networks of social support that reduce sexual risk-taking. The study also highlights significant pathways to sexual risk-taking including bisexual identity, younger age, unemployment, and minority race. The findings, heretofore undocumented in the literature, provide vital new information that can be used in the development of interventions to reduce sexual risk-taking among gay and bisexual men in the US.