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# Ascertaining partner HIV status and its association with sexual risk behavior among Internet-using men who have sex with men

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## Abstract

The aims of this study were to understand strategies and consistency of strategy used by HIV-negative and HIV-positive men who have sex with men (MSM) to ascertain the HIV status of their male sexual partners and their associations with unprotected anal intercourse (UAI) and serodiscordant UAI (SDUAI) in the past 3 months. Participants ($n$=640) completed an online survey in December 2007. The most commonly reported strategy was checking online profiles (85%), followed by talking before sex (82%), talking after sex (42%), and guessing (29%). Adjusting for demographic and behavioral factors, guessing the HIV status of sex partners was associated with greater UAI (*IRR*=1.18) and SDUAI (*IRR* =2.651) partners, as was using an inconsistent strategy (UAI: *IRR*=1.36; SDUAI: *IRR*=1.94). Ascertaining HIV status before having sex was associated with fewer SDUAI partners (*IRR*=0.32). Prevention should target MSM who guess the HIV status of their sex partners and emphasize explicit safer sex agreements.

### Keywords

HIV; HIV disclosure and ascertainment; men who have sex with men; Internet; HIV risk

## INTRODUCTION

Despite more than two decades of targeted prevention efforts, cases of men who have sex with men (MSM) infected with the human immunodeficiency virus (HIV) continue to rise (Centers for Disease Control and Prevention, 2008). MSM remain the largest population infected with HIV in the United States (US) and similar countries. In 2006, MSM constituted 53% of incident infections in the US and approximately 550,000 to 650,000 MSM are estimated to be living with HIV or AIDS. Disclosure of HIV status to sexual partners may reduce risk of transmission in serodiscordant partnerships (Simoni & Pantalone, 2004). However, while much of the epidemiological research regarding sexual risk behavior rests on participants' self-reports of their own and their sex partners' HIV status, surprisingly little is has been written about how MSM ascertain the HIV status of their sexual partners. Understanding strategies MSM use to ascertain the HIV status of their sexual partners and the association with sexual risk-taking behavior has implications for intervention.

HIV status disclosure has been promoted as a sexual risk reduction strategy to appraise risk in sexual partnerships, screen potential partners for the same HIV status as oneself (i.e., "serosorting"), and negotiate sexual practices that may reduce the risk of HIV transmission (i.e., "strategic positioning"). Acknowledging that serostatus disclosure may present an

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imperfect reflection of one's actual HIV status, research nonetheless has shown serostatus disclosure by HIV-positive MSM to their primary partners is high (Rosser, et al., 2008). However, the association between disclosure to secondary partners and sexual risk behavior is not altogether clear. Some studies report a positive association between disclosure and protected insertive anal sex (Wolitski, Rietmeijer, Goldbaum, & Wilson, 1998), while others show little or no relationship (Crepaz & Marks, 2003). Differences in findings may, in part, be a function of serodisclosure strategy. Studies show that HIV-positive MSM who inconsistently serodisclose to secondary partners report higher rates of receptive unprotected anal intercourse (UAI; 43%–49%) than men who either consistently disclose to all (11%–28%) or consistently disclose to none (32%) of their partners (Hart, et al., 2005; J. Parsons, et al., 2005). Online HIV status disclosure appears to vary across virtual environments as well, with one study showing that 72% of MSM who have never been tested for HIV reporting that they are HIV-negative in all of their online profiles and 27% of HIV-positive MSM disclosing their serostatus on all of their online profiles (Horvath, Oakes, & Rosser, 2008). This in part may be a reflection of a shift toward non-disclosure in the MSM community (Sheon & Crosby, 2004).

Although much remains to be understood of the relationship between disclosure of one's own HIV status and sexual risk behavior, in comparison, less is known regarding how MSM ascertain the HIV status of their sexual partners. Ascertaining HIV status directly may occur either before (e.g., talking about HIV status before sex) or after (i.e., talking after sex) a sexual encounter. Alternatively, HIV status may be assessed indirectly (i.e., without discussion) by examining a sexual partner's online profiles or HIV status may be assumed by simply guessing. Just as disclosure practices vary across individuals and sexual encounters, MSM may apply one or a combination of ways to ascertain the HIV status of their sexual partners.

The aims of this study were to: 1) Understand the most common strategies employed by MSM to ascertain the HIV status of their male sexual partners, as well as which combinations of strategies are used; 2) Examine the associations between strategies used to ascertain partner HIV status and high risk sexual behavior; and 3) Examine the relationship between consistency of strategy used to ascertain partner HIV status and high risk sexual behaviors. We hypothesize that ascertaining HIV status after a sexual encounter has occurred and guessing partner HIV status will be associated with increased sexual risk behavior, as will be using more than one strategy compared to using a consistent strategy. Given that most research has focused on disclosure practices among HIV-positive MSM, a strength of this study is the inclusion of both HIV-positive and HIV-negative MSM.

## METHOD

### Recruitment and Eligibility

Participants were 650 Internet-using MSM who completed a baseline survey for an online HIV prevention intervention study in December 2007. Participants were recruited from one of two sources. First, banner advertisements placed on two of the nation's largest gay websites were used to connect 4,566 MSM to the study webpage to be screened for inclusion into the study. Second, 1,324 men who had completed an online sexual risk survey in August 2005 and expressed interest in future research opportunities (Rosser, Oakes, Horvath, Konstan, & Peterson, 2009) were sent an invitation e-mail with a link to connect them to the study webpage to be screened for inclusion into this study. All potential participants, regardless of recruitment source, were screened for eligibility which included being 18 years or older, a US resident, and consented to viewing sexually explicit materials online. In addition, because the primary purpose of the overall study was to determine the

effect of the online HIV prevention intervention on self-reported risk behavior, MSM who engaged in UAI were oversampled.

## Procedures

Participants who clicked on the banner advertisement or invitation e-mail link were transported to the secure study website. Prospective participants viewed a welcome page with an overview of procedures and information about the study and staff. After answering eligibility questions, eligible respondents were invited to give informed consent, in accordance with procedures approved by the University of Minnesota Institutional Review Board, and to create a username and password for re-entry to the survey website. Ineligible persons viewed a separate webpage that thanked them for their interest. Prospective participants' IP addresses were recorded and used to block any individual from multiple entry attempts.

## Measures

Demographic factors included age, ethnicity, race, HIV status, education, student status, residency, whether they were in a long-term relationship, sexual orientation, and their comfort with their sexual orientation (on a 1–7 Likert scale, with 7=Very comfortable).

Participants were asked separately about their sexual behaviors with online and offline male partners. For each venue, participants were asked to report the number of male sexual partners they had in the past 3 months, the number with whom they engaged in anal intercourse (AI), as well as the number with whom they had unprotected anal intercourse (UAI). Next, men were asked the HIV status of their UAI male partners (HIV-positive, HIV-negative, or HIV unknown), from which the number of serodiscordant UAI (SDUAI) male partnerships was calculated. A UAI male partner was considered to be serodiscordant if he was known to have an HIV status opposite of the participants' HIV status or if his serostatus was unknown.

Immediately following each of the sexual behavior items for online and offline partners, participants were asked whether or not (yes/no) they ascertained the HIV status of those partners by 1) checking his/their online profiles; 2) asking before sex; 3) while talking after sex; or 4) by guessing. Participants were provided an "other, please specify…" write-in option to indicate different or additional strategies.

## Analyses

Statistical analyses were performed using STATA 9.2. Of the 650 participants who completed baseline measures, 10 were dropped for reporting no sex partners in the past 3 months. Among the remaining 640 participants, few ($n$=8) identified their sexual orientation as other than gay or bisexual, with the most common self-description being "queer" ($n$=5); therefore, these men were grouped with bisexual men to indicate a different sexual orientation than gay. In addition, their responses to which strategies they used to ascertain the HIV status of their sexual partners were used to generate a new variable indicating whether they consistently used one strategy (coded as 0) or multiple strategies (i.e., an inconsistent strategy, coded as 1) to ascertain their sexual partners' HIV status in the past 3 months. Group differences were examined with either a one-way ANOVA, chi-square, Fisher's exact, or Kruskal-Wallis test, where appropriate. To assess whether strategy (i.e., checking their online profile, talking before sex, talking after sex, or guessing) and the consistency of strategy (i.e., consistent vs. inconsistent) used to ascertain the HIV status of their sexual partners predicted sexual risk behavior, these factors and demographic factors significantly associated with UAI in bivariate analyses, number of male sexual partners, and venue in which they met their sexual partners were entered into two negative binomial

regression analyses of the main outcome variables of interest: UAI partners and SDUAI partners in the last 3 months. Statistical significance was set at $p<.05$.

# RESULTS

## Demographics

Table 1 shows the sociodemographic profile for the total sample. Overall, most participants identified as white (68%), HIV-negative (79%), gay (91%), highly educated (58% with a college or graduate degree), single (77%), and living in a suburban or urban area (68%). Most also expressed a high degree of comfort with their sexuality, with approximately half (53%) self-reporting the highest level of comfort.

## Strategies used to Ascertain Partner HIV Status

The strategy for ascertaining partner HIV status in the past 3 months reported by the highest percentage of participants was checking online profiles (85%), followed by talking before sex (82%), talking after sex (42%), and guessing (29%). Table 2 shows the percentage of participants who reported each possible *combination* of strategies to ascertain the HIV status of their sexual partners. The most common combination was checking online profiles and talking before sex, used by 30% of men. Twenty-five percent of men in the sample reported checking online profiles, talking before sex, and talking after sex, with 10% using all four strategies to ascertain the HIV status of their male sexual partners in the past 30 days. Few men reported finding out about their partners' HIV status exclusively through talking after sex and/or guessing (<4% of the sample), which would presumably entail the highest degree of risk of any combination. Twenty men in the sample (3%) reported using none of the strategies presented as choices to them during the survey.

In addition to these choices, some participants wrote in other strategies that they used to ascertain the HIV status of their online ($n$=29) and offline ($n$=25) partners. Strategies varied, and included "asking other people who [knew] this person", getting HIV tested together, having known their partner for many years and believing that they knew their HIV status, seeing the test result, and finding out while e-mailing or chatting online.

There were no significant differences between the percentage of HIV-positive (Profile: 90%; Talked Before: 78%) and HIV-negative (Profile: 84%; Talked Before: 83%) who reported checking online profiles or talking before sex to ascertain partner HIV status. A significantly higher proportion of HIV-negative men (46%) reported talking about HIV status after sex than HIV-postive men (27%), $\chi^2[1, N = 635] = 15.48$, $p<.001$. On the other hand, a significantly higher proportion of HIV-positive men (36%) reported guessing the status of their sexual partners than HIV-negative men (27%), $\chi^2[1, N = 633] = 4.82$, $p<.05$.

## Bivariate Analyses of Strategy used to Ascertain Partners' HIV Status and Sexual Partnerships

Nearly all (91%) participants reported at least one UAI partner in the past 3 months, and 43% were found to have an SDUAI partnership. Of note, 86% (235/273) of men who were categorized as having SDUAI partnerships had at least one partner whose HIV status was unknown, with only 14% reporting that they knew the HIV-status of all of their SDUAI partners. The mean and median number of UAI partners in the past 3 months reported by men in this sample were 5.7 and 3, respectively. Participants reported fewer mean (2.5) and median (0) SDUAI partnerships within the same period of time.

The mean and median number of UAI partners by combination of strategies used to ascertain partners' HIV status are shown in the two right-hand columns of Table 2. Those

who ascertained their partners' HIV status through online profiles, talking after sex, and guessing had the highest median UAI partners of any group (2% of the sample, *Mdn*=7), followed by men who reported using all four strategies (10%, *Mdn*=5) and those who ascertained partner HIV status through online profiles and talking after sex (1%, *Mdn*=5), online profiles, talking before sex, and guessing (7%, *Mdn*=4) and online profiles and guessing (6%, *Mdn*=4).

The mean number of partner type by which strategy was used to ascertain partner HIV status in the past 3 months is shown in Table 3. Ascertaining partner HIV status through online profiles and guessing, as well as using an inconsistent strategy, were associated with higher numbers of sex partners, anal sex partners, and UAI partners. Participants who did not talk about HIV status before sex, talked about HIV status after sex, and guessed the HIV status of some or all of their partners reported significantly higher numbers of SDUAI partners.

### Multivariate Analyses of Strategies Used to Ascertain Partner HIV Status and HIV Risk Behavior

Bivariate analyses showed that age ($F$[3, 614] = 7.24, $p < .001$), HIV status ($\chi^2$[3, $N$ = 618] = 67.07, p<.001), sexual orientation ($\chi^2$[3, $N$ = 620] = 11.97, p<.01), comfort with sexual orientation ($\chi^2$[6, $N$ = 620] = 21.63, p<.01), being in a long-term relationship ($\chi^2$[3, $N$ = 620] = 11.49, p<.01), and student status ($\chi^2$[3, $N$ = 620] = 16.65, p<.001) were significantly associated with UAI partners (categorized as 0, 1–2, 3–5, 6 or more partners) in the past 3 months.

These factors, in addition to the number of sexual partners and where sex partners were met (online, offline, or in both venues), were included in the multivariate analyses to examine whether strategy type (i.e., profile, talked before, talked after, or guessed) and consistency of strategy independently predicted UAI and SDUAI partnerships (see Table 4). Adjusting for demographic and behavioral factors, guessing the HIV status of sex partners was associated with both higher numbers of UAI (*IRR*=1.18; *95%CI*=1.02–1.35) and SDUAI (*IRR* =2.65; *95%CI*=1.99–3.51) partners, as was using an inconsistent strategy to ascertain the HIV status of sexual partners (UAI: *IRR*=1.36; *95%CI*=1.05–1.77; SDUAI: *IRR*=1.94; *95%CI*=1.15–3.26). Conversely, ascertaining HIV status before having sex was associated with lower numbers of SDUAI partners than not talking before sex (*IRR*=0.32; *95%CI*=0.23–0.47).

In addition to strategy type and consistency, having online and offline sexual partners (*IRR* =1.18; *95%CI*=1.02–1.35) and higher numbers of sex partners (*IRR* =1.04; *95%CI*=1.04–1.05) independently predicted a higher likelihood for UAI, while self-identifying as HIV-negative (*IRR* =0.62; *95%CI*=0.53–0.72) and being in a long-term relationship (*IRR* =0.73; *95%CI*=0.63–0.85) was associated with fewer UAI partners. However, only higher numbers of sexual partners (*IRR* =1.05; *95%CI*=1.04–1.06) and gay sexual identity (*IRR* =0.46; *95%CI*=0.26–0.82) remained significant in the model with SDUAI as the outcome.

## DISCUSSION

The overall aims of this paper were to describe the strategies MSM use to ascertain the HIV status of their sexual partners and to determine the associations between type and consistency of strategies and sexual risk-taking. Most MSM reported using a proactive strategy to determine the HIV status of their partner, the most common of which were checking online profiles of potential sex partners and talking before having sex. While online profiles may provide an indirect and non-intrusive way to ascertain HIV status, of concern is the potential for such profiles to provide incorrect or misleading HIV status information (Horvath, Oakes, et al., 2008). Perhaps most concerning was the finding that

nearly one-third of men reported guessing the HIV status of their sexual partners and, when asked the specific HIV status of their male sexual partners, 37% reported having one or more partners of unknown HIV status. The high percentage of men reporting sexual partners of unknown HIV status appears to support a trend toward non-disclosure in MSM communities (Sheon & Crosby, 2004).

Most men in this study used a combination of strategies to ascertain partner HIV status, with 10% of men reporting using all of the suggested strategies. Few strategies were associated with increased or decreased sexual risk behavior in the multivariate models, with the exceptions that guessing partner HIV status increased risk for both UAI and SDUAI and talking before sex decreased the risk for SDUAI. These results suggest that encouraging MSM to initiate frank discussions about HIV status prior to sexual intercourse may provide some protection. However, prior studies that demonstrate that 25% of persons infected with HIV are unaware of their HIV-positive status (Marks, Crepaz, & Janssen, 2006), that most men who have never been tested for HIV disclose their status as HIV-negative (Horvath, Oakes, et al., 2008), and the increased risk for transmission during primary infection (Hollingsworth et al., 2008) before HIV antibodies may be detected highlight the limitations of nearly all methods of making an accurate assessment of a potential partner's HIV status.

Eighty-eight percent of MSM in this sample used two or more strategies to ascertain partner HIV status. As predicted, using an inconsistent strategy to ascertain partner HIV status was associated with increased risk for UAI and SDUAI, adjusting for both type of strategy and number of sexual partners. Just as inconsistent disclosure of HIV status has been shown to increase risk for unprotected sex among HIV-positive MSM (Hart, et al., 2005), MSM who inconsistently ascertain the HIV status of their sexual partners may engage in more risky sexual behavior because they are responding to the situational demands of the encounter rather than rely on a consistently used protocol to assess partner status (i.e., regardless of context). For example, meeting a potential sex partner at a crowded bar produces different demands on when and how HIV status is mentioned than meeting a potential partner online from the privacy of one's home. Whereas asking about the HIV status of a potential sex partner in a large group at a bar may be perceived negatively, thereby increasing the odds that guessing will be used, meeting in an Internet chatroom may provide greater opportunity to check his online profile or ask about HIV status before the sexual encounter.

Independent of strategy type and consistency, HIV-positive status, having both online and offline partners, and higher numbers of partners were associated with increased risk for UAI, which is consistent with prior studies (Horvath, Rosser, & Remafedi, 2008; van Kesteren, Hospers, & Kok, 2007). However HIV-positive status did not remain significant in the model with SDUAI as the outcome, suggesting that HIV-positive men in the study, as in other reports (J. T. Parsons, et al., 2005), may be using serosorting strategies to reduce the risk of HIV transmission to uninfected partners. While not a significant predictor of UAI, self-reporting a non-gay sexual orientation was independently associated with higher risk for SDUAI. Whether this finding may be the result of internalized homonegativity that has been associated with higher risk-taking (Rosser, Bockting, Ross, Miner, & Coleman, in press), or whether non-gay identified men are engaging in higher risk-taking activity for other reasons deserves greater attention. This may have implications for HIV incidence, as non-gay identified MSM may fail to benefit from prevention messages targeted toward gay men.

The results of this study are limited by a number of factors. First, the cross-sectional design precludes causal inferences about the impact of independent variables on outcomes. Second, the findings should not be generalized to MSM who were excluded because they abstain from sex or do not use the Internet. Third, although banner advertisements were randomly placed, participants were not randomly selected and therefore the extent to which they

represent Internet-using MSM is unknown. Providing a financial incentive for participation, though modest, might have biased the sample toward persons in financial need. Finally, although precautions were taken to detect and eliminate deception, the study relied on self-reported data that may be prone to error.

### Implications

Despite these limitations, the results of this study provide insight into how MSM ascertain the HIV status of their sexual partners. Based on these results and those of prior work, we make the following recommendations. First, given the ambiguity surrounding and high likelihood of misinformation about HIV status, prevention should emphasize explicit agreements to practice safer sex, rather than solely relying on the ascertainment or disclosure of partner HIV status to inform such decisions. Second, interventions should be targeted to MSM who guess their partners' HIV status to increase specific safer sex behavioral skills (e.g., negotiating condom use online before sex). Finally, more research is needed to understand whether strategies vary across sexual contexts to provide information regarding the risk for transmission. For example, MSM may weigh online profile information much more heavily in sexual encounters with partners they met over the Internet, while the effects of alcohol myopia may increase guessing about a sexual partner's HIV status who is met at a bar or club (Steele & Josephs, 1990). More episodic data is needed of how MSM ascertain the HIV status of their sexual partners across different contexts to inform the development of interventions that assist them to make accurate assessments of the risks entailed and to increase sexual risk-reduction behavioral skills across contexts.

## REFERENCES

Centers for Disease Control and Prevention. HIV/AIDS Surveillance Report, 2006. Vol. Vol. 18. Atlanta, GA: Department of Health and Human Services, Centers for Disease Control and Prevention; 2008. http://www.cdc.gov/hiv/topics/surveillance/resources/reports/.

Crepaz N, Marks G. Serostatus disclosure, sexual communication and safer sex in HIV-positive men. AIDS Care. 2003; 15(3):379–387. [PubMed: 12745398]

Hart T, Wolitski R, Purcell D, Parsons J, Gomez C. the Seropositive Urban Men's Study Team. Partner awareness of the serostatus of HIV-seropositive men who have sex with men: impact on unprotected sexual behavior. AIDS & Behavior. 2005; 9(2):155–166. [PubMed: 15933835]

Hollingsworth TD, Anderson RM, Fraser C, Hollingsworth TD, Anderson RM, Fraser C. HIV-1 transmission, by stage of infection. Journal of Infectious Diseases. 2008; 198(5):687–693. [PubMed: 18662132]

Horvath KJ, Oakes JM, Rosser BRS. Sexual negotiation and HIV serodisclosure among men who have sex with men with their online and offline partners. Journal of Urban Health. 2008; 85(5):744–758. [PubMed: 18649141]

Horvath KJ, Rosser BRS, Remafedi G. Sexual risk taking among young internet-using men who have sex with men. American Journal of Public Health. 2008; 98(6):1059–1067. [PubMed: 18445804]

Marks G, Crepaz N, Janssen R. Estimating sexual transmission of HIV from persons aware and unaware that they are infected with the virus in the USA. AIDS. 2006; 20(10):1447–1450. [PubMed: 16791020]

Parsons J, Schrimshaw E, Bimbi D, Wolitski R, Gomez C, Halkitis P. Consistent, inconsistent, and non-disclosure to casual sexual partners among HIV-seropositive gay and bisexual men. AIDS. 2005; 19(Suppl 1):S87–S97. [PubMed: 15838198]

Parsons JT, Schrimshaw EW, Wolitski RJ, Halkitis PN, Purcell DW, Hoff CC, et al. Sexual harm reduction practices of HIV-seropositive gay and bisexual men: serosorting, strategic positioning, and withdrawal before ejaculation. AIDS. 2005; 19(Suppl 1):S13–S25. [PubMed: 15838191]

Rosser BRS, Bockting WO, Ross MW, Miner MH, Coleman E. The relationship between homosexuality, internalized homonegativity and mental health in men who have sex with men. Journal of Homosexuality. (in press).

Rosser BRS, Horvath KJ, Hatfield LA, Peterson JL, Jacoby SM. Positive Connections Team. Predictors of HIV disclosure and sexual risk behavior among a high-risk sample of HIV positive MSM: Results from six epicenters in the US. AIDS Care. 2008 in press.

Rosser BRS, Oakes JM, Horvath KJ, Konstan JA, Peterson JL. HIV Sexual risk behavior by men who use the Internet to seek sex with men: Results of the Men's INTernet Sex Study-II (MINTS-II). AIDS & Behavior. 2009 in press.

Sheon N, Crosby GM. Ambivalent tales of HIV disclosure in San Francisco. Social Science & Medicine. 2004; 58(11):2105–2118. [PubMed: 15047070]

Simoni J, Pantalone D. Secrets and safety in the age of AIDS: Does HIV disclosure lead to safer sex? Topics in HIV Medicine. 2004; 12(4):109–118. [PubMed: 15516708]

Steele CM, Josephs RA. Alcohol myopia: Its prized and dangerous effects. American Psychologist. 1990; 45(8):921–933. [PubMed: 2221564]

van Kesteren N, Hospers H, Kok G. Sexual risk behavior among HIV-positive men who have sex with men: A literature review. Patient Education & Counseling. 2007; 65(1):5–20. [see comment]. [PubMed: 17098392]

Wolitski R, Rietmeijer C, Goldbaum G, Wilson R. HIV serostatus disclosure among gay and bisexual men in four American cities: General patterns and relation to sexual practices. AIDS Care. 1998; 10(5):599–610. [PubMed: 9828956]

## Table 1

Participant sociodemographic characteristics.

| | Total (N=640) M (SD) |
|---|---|
| Age | 34.3 (10.2) |
| | **Total** *n* (% within category) |
| Race/Ethnicity | |
| White | 437 (68) |
| Hispanic/Latino | 9 (15) |
| Other Races | 106 (17) |
| HIV Status | |
| HIV-negative | 499 (78) |
| HIV-positive | 139 (22) |
| Sexual Orientation | |
| Gay | 585 (91) |
| Bisexual/Queer | 55 (9) |
| Education | |
| High School or Less | 50 (8) |
| Some college | 220 (34) |
| College degree | 146 (23) |
| Graduate degree | 224 (35) |
| Student | |
| Student | 188 (29) |
| Non-student | 452 (71) |
| Residence | |
| Rural/small town | 102 (16) |
| Medium City | 104 (16) |
| Suburb | 153 (24) |
| Downtown | 278 (44) |
| LTR[a] | 150 (23) |
| Comfort with Sexuality | |
| 1–5 | 158 (25) |
| 6 | 146 (23) |
| 7 | 336 (52) |

Notes:

[a] Long-term relationship

* p<.05;

** p<.01;

*** p<.001

**Table 2**

Strategies for ascertaining partner HIV status among Internet-using men who have sex with men in the past 3 months.

| *N* = 640 | % | Profile | Talked Before | Talked After | Guessed | Mean UAI Sex Partners | *Mdn* UAI Sex Partners |
|---|---|---|---|---|---|---|---|
| 195 | 30 | ✓ | ✓ | | | 5.11 | 3 |
| 159 | 25 | ✓ | ✓ | ✓ | | 3.91 | 2 |
| 63 | 10 | ✓ | ✓ | ✓ | ✓ | 9.83 | 5 |
| 46 | 7 | ✓ | ✓ | | ✓ | 7.78 | 4 |
| 36 | 6 | ✓ | | | ✓ | 13.19 | 4 |
| 28 | 4 | | ✓ | | | 2.21 | 1 |
| 26 | 4 | ✓ | | | | 3.64 | 2 |
| 21 | 3 | | ✓ | ✓ | | 2.33 | 2 |
| 20 | 3 | | | | | 7.25 | 4 |
| 17 | 3 | | | | ✓ | 2.24 | 2 |
| 10 | 2 | ✓ | | ✓ | ✓ | 10.5 | 7 |
| 7 | 1 | ✓ | | ✓ | | 8.43 | 5 |
| 7 | 1 | | ✓ | | ✓ | 2.43 | 1 |
| 3 | <1 | | ✓ | ✓ | ✓ | 2.0 | 2 |
| 2 | <1 | | | ✓ | | 2.0 | 2 |
| 0 | 0 | | | ✓ | ✓ | 0 | 0 |

**Table 3**

Bivariate associations between strategy used to ascertain partner HIV status and sexual partner type among Internet-using men who have sex with men in the past 3 months ($n$=640).

| | | | Sex Partners | | Anal Partners | | UAI[a] Partners | | SDUAI[b] Partners | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | % | Mean | WRS[c] z-value | Mean | WRS[c] z-value | Mean | WRS[c] z-value | Mean | WRS[c] z-value |
| Total | | -- | 12.0 | -- | 8.4 | -- | 5.7 | -- | 2.5 | -- |
| Profile | Yes | 85 | 12.8 | 4.65*** | 9.0 | 5.64*** | 6.2 | 5.21*** | 2.6 | 0.68 |
| | No | 15 | 7.7 | | 4.9 | | 2.8 | | 1.7 | |
| Talked Before | Yes | 82 | 11.8 | 0.48 | 8.3 | 0.69 | 5.3 | 0.79 | 1.6 | 8.17*** |
| | No | 18 | 13.2 | | 9.3 | | 7.7 | | 6.7 | |
| Talked After | Yes | 42 | 12.1 | 0.82 | 8.6 | 1.30 | 5.5 | 0.17 | 2.1 | 2.26* |
| | No | 58 | 12.0 | | 8.3 | | 5.9 | | 2.7 | |
| Guessed | Yes | 29 | 15.9 | 3.86*** | 12.0 | 4.04*** | 8.9 | 4.35*** | 6.0 | 10.93*** |
| | No | 71 | 10.4 | | 6.9 | | 4.4 | | 1.1 | |
| Inconsistent[d] | Yes | 89 | 12.5 | 3.26** | 8.9 | 4.66*** | 6.1 | 4.72*** | 2.6 | 0.04 |
| | No | 11 | 8.2 | | 4.7 | | 2.7 | | 1.3 | |

Notes:

[a] Unprotected anal intercourse;

[b] Serodiscordant unprotected anal intercourse;

[c] Wilcoxon Rank Sum;

[d] Used two or more of the strategies listed above to ascertain the HIV status of sexual partners (inconsistent) or used only one strategy consistently

* p<.05;

** p<.01;

*** p<.001

**Table 4**

Adjusted multiple negative binomial regression of strategies for ascertaining partner HIV status on unprotected anal intercourse (UAI) and Serodiscordant UAI (SDUAI) among Internet-using men who have sex with men in the past 3 months ($n$=640).

| | | UAI Partners | | | SDUAI Partners | | |
|---|---|---|---|---|---|---|---|
| | | **IRR** | **95% CI (LL, UL)** | | **IRR** | **95% CI (LL, UL)** | |
| Strategy | Online Profile | 1.72 | 0.94 | 1.47 | 0.91 | 0.58 | 1.41 |
| | Talked Before | 0.87 | 0.73 | 1.04 | 0.32*** | 0.23 | 0.47 |
| | Talked After | 1.05 | 0.93 | 1.20 | 0.84 | 0.63 | 1.12 |
| | Guessed | 1.18* | 1.02 | 1.35 | 2.65*** | 1.99 | 3.51 |
| Inconsistent Strategy | | 1.36* | 1.05 | 1.77 | 1.94* | 1.15 | 3.26 |
| Age | | 1.01 | 1.00 | 1.01 | 1.01 | 0.99 | 1.02 |
| HIV-negative | | 0.62*** | 0.53 | 0.72 | 0.79 | 0.58 | 1.09 |
| Student | | 0.93 | 0.80 | 1.08 | 1.12 | 0.81 | 1.56 |
| In Long-term relationship | | 0.73*** | 0.63 | 0.85 | 1.03 | 0.75 | 1.42 |
| Gay Sexual Orientation | | 0.85 | 0.67 | 1.08 | 0.46** | 0.26 | 0.82 |
| CSO (ref: 1–5) | CSO=6 | 1.08 | 0.90 | 1.29 | 1.22 | 0.82 | 1.82 |
| | CSO=7 | 1.15 | 0.98 | 1.34 | 1.18 | 0.84 | 1.67 |
| Partner (ref: Online Only) | Offline Only | 0.80 | 0.49 | 1.30 | 0.53 | 0.19 | 1.47 |
| | Online/Offline | 1.18* | 1.02 | 1.35 | 1.31 | 0.96 | 1.79 |
| Number of Partners | | 1.04*** | 1.04 | 1.05 | 1.05*** | 1.04 | 1.06 |

* p<.05;

** p<.01;

*** p<.001