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Sexual risk and HIV prevention behaviors among African American and Latino MSM social networking users

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Abstract

This study explores the feasibility of recruiting minority men who have sex with men (MSM) Facebook users for HIV prevention studies, and notes demographic and sexual risk behaviors. Facebook-registered MSM (N=118) were recruited using online and offline methods. Participants validated Facebook-user status through using a Facebook Connect (computer science) application. Participants were primarily Latino (60.2%) and African-American (28.0%), with 33.1% using social media to find sex partners. Black MSM social networking users reported engaging in a lower frequency (Coeff = $-.48$, $p < .05$) of unprotected receptive anal intercourse (URAI) compared to Latino MSM. Results suggest that minority social media-users can be recruited for HIV studies and that sexual risk behavioral differences exist among minority social networking users. Findings highlight the importance of incorporating technologies into population-focused HIV interventions.

Keywords

HIV prevention; social networking; at-risk populations; MSM

Introduction

Within the United States, a disproportionate number of incident HIV infections and new diagnoses of HIV (e.g., cases detected long after incident infection) lie within African American and Latino populations, especially African American and Latino men who have sex with men (MSM). In Los Angeles, for example, as much as 77% of all HIV infections are attributable to men who have sex with men (MSM). (1) Among MSM in the United States, Latinos accounted for 20% of new infections and African Americans, with a large disproportionate rate of HIV, accounted for 37% of new infections (2). Studies have been unable to draw a conclusive link between these increased rates of HIV infection and sexual risk behavior. (3-5) To address the epidemic, researchers have requested innovative approaches for understanding sexual risk among African American and Latino MSM.

Online social networking usage has increased rapidly among African American and Latino populations, making it important to understand how these technologies affect sexual risk among minority MSM. An online social network is a website or online application that allows people to communicate by sharing pictures, messages, and other forms of multi-media communication. (6) Research suggests that Internet and technology “sex seekers” are

at increased risk for HIV, (7-12) and this risk might be especially relevant for online social networking users as social networking sites are designed for social communication and spreading of norms and behaviors. African Americans and English-speaking Latinos are almost 1.5 times more likely to use online social networking sites compared to the general adult population (33% of African Americans; 36% of English-speaking Latinos; and 23% of adults in the general population). (13) In addition, gay, lesbian, and bisexual individuals sign into social networks more frequently than heterosexuals. (14) While initial research suggests a relationship between social networking usage and sexual risk behaviors, (15) this relationship has not been directly studied among African American and Latino MSM. Understanding the feasibility of recruiting minority MSM social networking users for HIV prevention research as well as the relationship between these technologies and sexual risk could help improve approaches for population-focused HIV prevention. In addition, understanding whether and how at-risk populations are using online technologies can provide information on how to use these technologies for HIV prevention.

This study seeks to build on prior research by assessing whether social networking technologies can be used for HIV research among high-risk populations. (16) Specifically, this study seeks to: 1) test whether it is feasible to recruit a diverse sample of (primarily African American and Latino) MSM Facebook users for HIV prevention studies, and 2) note initial demographic, technological patterns, and sexual risk behavior differences among minority MSM social networking users.

Methods

Over a 4.5-month period from 2010–2011, one hundred and twenty-two participants were recruited from online venues (n = 104); community physical venues (n = 6) frequented by African American and Latino MSM (e.g., clubs, schools/universities); and from direct referrals from study participants (n = 12). Four participants were found to have completed duplicate surveys based on a system of matching email addresses, birthdates, and Internet addresses. Their initial responses were dropped, leaving 118 valid participants. The UCLA Office of the Human Research Protection Program approved this feasibility study. Participants completed an online informed consent. The present methods adhere to current recommendations for HIV research using social networking technologies. (17)

Participants were recruited online through the following methods: 1) paid targeted banner ads on social networking sites (e.g., Facebook), 2) setting up a fan page on Facebook with information about study procedure and registration, and 3) recruitment posts on Craigslist in the Greater Los Angeles area. Participants were directed to our Website and given the opportunity to email us for more information. Participants requesting information about confidentiality were informed about Facebook policies and ways of setting up social networking profiles to ensure privacy (17).

For outreach at offline venues, we contacted venue staff and provided fliers that could be viewed by potential participants. Most fliers were culturally tailored, with a picture of a male African American or Latino, and stated that this study was looking for male participants who were 18 years of age or older, interested in men, African American or Latino, and had a Facebook account. Fliers provided a contact email address and a Web link to receive more information and register on the study Website. Participants who requested information were told that they could refer any friends who were interested and fit the inclusion criteria. Participants were not paid for referring friends.

Interested participants visited a study Website where they were screened for eligibility. A Facebook Connect software application was created by accessing Facebook's application

programming interface (API's). This technology was developed by third-party engineers and used as a verification tool to ensure that each participant had a registered and unique Facebook account. If the eligible participant consented to the study, Facebook Connect requested his Facebook username and password and email address. Eligible participants who approved the consent form were provided a Website link to an online survey that took about 45 minutes to complete and received \$30 in gift cards for use on Amazon.com.

The 96-item online survey included items that were previously validated as well as items designed specifically for this study. Items focused on demographics; Internet and social media usage (including comfort using Internet and social media to talk about health and sexual risk behaviors); general health behaviors, such as exercise and nutrition; and sex and sexual health behaviors (including HIV testing). Demographics items included age, birthplace, and educational background. HIV risk behavior items asked about participant frequency and type of engagement in sexual risk behavior, such as "How many times have you had sex with a man in the past 3 months?" Social media usage questions were created specifically for this study and were similar to, "How many hours a day do you use social networking technologies?" Feasibility was assessed by participants' willingness to complete these items as well as specific responses to items addressing their comfort in using social media to discuss sexual risk behaviors.

Analysis

Chi-square and Fisher's Exact tests were used to assess differences in population demographics. Analysis of variance (ANOVA) tests were used to assess differences in age between groups as well as to confirm Chi-square differences on continuous variables. A focused ANOVA contrast as well as regression analysis were conducted to determine differences between Latino and African American MSM in frequency of anal intercourse and number of sex partners in the past 3 months. Logistic regression analysis was used to determine differences in whether participants had been tested for HIV and whether a health provider had previously told them they had contracted HIV or other sexually transmitted infections. Analyses were performed using Stata software. (18)

Results

Table 1 displays the demographic results between populations and in the overall sample. Recruited participants were predominantly Latino (60.2%) or African American (28%), while 14 participants (12.5%) described themselves as "White" or "Other." This small group of participants was labeled as "Other" and has been included for further analysis of demographic information. The majority of participants had at least a high school education, with over 60% of participants from the western United States. Almost all participants reported being either Gay (76.3%) or bisexual (17.8%) and single (82.2%). The average age of the sample was under just under 32 years of age. Group differences by minority population were found on education level, birthplace, and age.

Participants' computer and online usage is shown in Table 2. Over 90% of participants reported owning a computer, with almost 75% reporting being online for at least 1 hour a day. A majority of participants used online social networking technologies for meeting other people. Almost 40% of participants reported using online social networking technologies for finding people to date, almost 1/3 of participants frequently used the technology for finding sex partners, and over half of the sample reporting having used online social networking technologies to meet sex partners in the past 3 months. Overall, participants reported being comfortable using social networking technologies to discuss sex and sexual risk.

Over 90% of participants had had sex with more than 1 person in the past 3 months, with over 40% of the sample reporting having engaged in unprotected receptive anal intercourse over 11 times in the past 3 months, and over 45% of the sample reporting having engaged in unprotected receptive anal intercourse over 11 times in the past 3 months. Over 35% of participants had at some point in their lives been told by a health care provider that they had a sexually transmitted infection (STI), and over 13% had been told they were HIV positive. Almost 90% of participants reported having been tested for HIV within the past 3 years.

Results from regression and logistic regression analyses of participants' reported HIV and STI testing history and sexual risk behaviors are shown in Table 3. Results from a multiple regression controlling for age and education suggest that African American MSM reported engaging in significantly lower frequency of unprotected receptive anal intercourse compared to Latino MSM (Coeff = -.41, $p < .05$).

Discussion

The present results 1) provide support that it is feasible to recruit minority MSM Facebook users for HIV prevention studies, and note initial differences in sexual risk behaviors among these populations. Participants were comfortable using online social networking technologies to discuss sexual topics, possibly making social networking technologies a good communication platform for HIV and STD prevention studies. African American MSM also reported having less unprotected receptive anal intercourse compared to Latino MSM. These population differences support requests for additional research to understand the relationship between sexual risk behaviors and the high rates of HIV among minority populations.

This sample is unique in being a group of primarily minority MSM who are “early adopters” of social networking technologies, with approximately one-third using the technologies for sex seeking. Findings are therefore important 1) to understand the feasibility and acceptability of recruiting at-risk early adopters to HIV prevention studies, and 2) because understanding psychological and behavioral characteristics of at-risk groups who are early adopters will help to prevent a lag time between when technologies are used to facilitate sex and when the same technologies can be used to facilitate prevention efforts.

These findings extend research on social networking and HIV risk, by suggesting that people use online social networking technologies to meet potential dating and sex partners, and that those who use these technologies may be at high risk for HIV because of their engagement in sexual risk behaviors. (15, 19) In this sample, almost 40% of participants reported using the networks to find people to date and almost one-third used the technologies for finding sex partners. In addition, many of the participants may have been engaging in sexual risk behaviors with their sexual partners, potentially putting them at risk for HIV.

However, these results also highlight population differences in sexual risk behaviors among social networking MSM, demonstrating the need for better understanding differences among social networking sex-seekers. For example, African American MSM Facebook users in the study were less likely to report engaging in unprotected receptive anal intercourse compared to Latino MSM. These differences are important and imply that social networking sex-seekers cannot necessarily be categorized and approached as one group, but that researchers should seek to gain an understanding of the cultural and racial differences among social networking users, as these differences may give insights for targeting more focused and effective interventions.

Participants in the study sample were highly educated relative to samples from similar geographical areas. For example, in Los Angeles County, approximately 28% of people have a college degree or greater level of education (32.1% White, 22.2% Black, 9.4% Hispanic, and 47.9% Asian). (20) However, participants in this study displayed almost 40% overall rates of higher education. These differences may be due to the fact that this was a sample of early technology adopters.

While this sample reported being more educated than the general population, the study does provide support that the “digital divide” is decreasing and that recruiting participants from online social networking technologies will not necessarily result in a sample that lacks diversity or sexual risk. It was possible that requiring participants to have a Facebook account as an enrollment criteria would have reduced participation from minority and lower socio-economic groups, due to a limited opportunity for them to access and use the Internet. However, we were able to recruit social media users who were predominantly Latino and African American MSM, with the majority of participants engaging in behaviors that put them at risk for contracting and transmitting HIV and STIs. As minority populations continue to use mobile phones as a primary method for accessing the Internet, researchers should focus on these technologies as avenues for reaching these populations.

The study limitations are based primarily on the focused population and enrollment criteria. First, it is possible that participants were not from Los Angeles, but actually from other locations. While we did our best to validate that participants were based in Los Angeles through checking their Facebook networks, it is possible, as with any online study, that some participants may have been from other locations and only reported being from Los Angeles to receive compensation. However, by using Facebook Connect as a novel method of verifying participant identity, this study builds on previous Internet studies to improve data quality. While Internet studies often have high rates of repeat respondents, the use of Facebook Connect and other computer science techniques can help to limit the sample and improve data quality by validating participant identities. This study serves as a call for future researchers to incorporate technologies into studies that can be used for verifying participant information, when face-to-face checks are not possible. Future research can explore other ways that technology can be used to verify data in HIV prevention studies. It is also possible that these recruitment methods and the present results do not generalize outside of African American and Latino MSM populations. While it is possible that certain groups would not be able to be recruited using these study methods, social networking users are growing at such a rapid pace that most populations and groups will soon have access to these technologies if they do not already. Future research is encouraged to test whether these findings can extend to other at-risk populations.

Conclusion

This study provides initial support for the feasibility of recruiting at-risk social media users from diverse populations and notes initial sexual risk differences among minority populations of social networking users. Understanding differences in sexual risk behaviors among minority and MSM social networking users will allow researchers to craft innovative population-focused HIV interventions.

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Table 1
Socio-demographic Characteristics of Study Participants (N=118), Los Angeles, CA, 2011

	White (n= 12)	African American (n = 33)	Asian (n =2)	Latino (n = 71)	Chi Square	Total Sample
Participant population (%)	10.2	28	1.7	60.2		100
Highest Education *						
Less than HS	0	3	0	4.2		3.4
HS	16.7	36.4	0	31		30.5
GED	0	0	50	7		5.1
Associates	16.7	12.1	0	28.2		22
Bachelors	50	24.2	50	23.9		27.1
Graduate School	16.7	24.2	0	5.6	26.5	11.9
Birthplace **						
Northern USA	0	21.2	0	15.5		15.3
Southern USA	8.3	15.2	0	8.5		10.2
Eastern USA	16.7	15.2	0	0		5.9
Western USA	66.7	48.5	50	69		62.7
Latin America/Caribbean	8.3	0	0	7		5.1
Other	0	0	50	0	77.7	
Self-Described Sexual Orientation						
Gay	75	54.6	50	87.3		76.3
Bisexual	16.7	39.4	50	7		17.8
Heterosexual	0	0	0	1.4		0.9
Questioning	0	0	0	1.4		0.9
Don't know	0	0	0	1.4		0.9
Refuse to Answer	8.3	6.1	0	1.4	22.2	3.4
Current Marital Status						
Single	75	84.9	100	81.7		82.2
Married	0	0	0	4.2		2.5
Partnered	16.7	6	0	9.9		9.3
Divorced	8.3	9.1	0	2.8		5.1
Other	0	0	0	1.4	6.2	0.9

	White (n= 12)	African American (n = 33)	Asian (n =2)	Latino (n = 71)	Chi Square	Total Sample
					F-statistic	
Age (mean, SD) **	42.7, 10.7	33.8, 9.6	29.5, 6.4	29.1, 8.8	8.2	31.8

* Significant at the $p < .05$ level

** Significant at the $p < .01$ level

Table 2

Internet and social media usage (N=118), Los Angeles, CA, 2011.

	African American (n = 33) N (%)	Latino (n = 71) N (%)	Other (n = 14) N (%)	Total Sample (%)
Have a computer at home	28 (90.3)	63 (92.7)	13 (92.9)	92.0
Hours using online social networks/ day				
None	1 (3.2)	1 (1.5)	0 (0%)	1.8
0–1	7 (22.6)	17 (25)	4 (28.6)	24.8
1–2 hours	10 (32.3)	22 (32.4)	6 (42.9)	33.6
2–3 hours	4 (12.9)	14 (20.6)	1 (7.1)	16.8
3–5 hours	3 (9.7)	8 (11.8)	1 (7.1)	10.6
5+	6 (19.4)	6 (8.8)	2 (14.3)	12.4
Used social networks for:				
Meeting people	20 (64.2)	47 (66.2)	12 (85.7)	67.0
Finding people to date	10 (32.3)	32 (47.8)	5 (35.7)	39.8
Finding sex partners	7 (22.6)	27 (40.3)	5 (35.7)	33.1
Met sex partners on social networks in past 3 months				
Yes	14 (46.7)	41 (60.3)	8 (57.1)	56.3
Used social networks to discuss sexual positions				
Never	11 (35.5)	18 (26.5)	7 (50.0)	31.9
1–5 times	13 (41.9)	23 (33.8)	3 (21.4)	34.5
6–10 times	1 (3.2)	14 (20.6)	0 (0.0)	13.3
11–15 times	1 (3.2)	5 (7.4)	1 (7.1)	6.2
16–20 times	1 (3.2)	1 (1.5)	1 (7.1)	2.7
21–25 times	1 (3.2)	0 (0.0)	0 (0.0)	0.9
> 25 times	3 (9.7)	7 (10.3)	2 (14.3)	10.6
Used social networks to discuss HIV/STI status				
Never	10 (32.3)	21 (66.7)	8 (57.1)	34.5
1–5 times	15 (48.4)	24 (35.3)	1 (7.1)	35.4
6–10 times	1 (3.2)	10 (14.7)	1 (7.1)	10.6
11–15 times	3 (9.7)	4 (5.9)	1 (7.1)	7.1
16–20 times	0 (0.0)	2 (2.92)	1 (7.1)	2.7
21–25 times	0 (0.0)	2 (2.9)	1 (7.1)	2.7
> 25 times	2 (6.5)	5 (7.4)	1 (7.1)	7.1

	African American (n = 33) N (%)	Latino (n = 71) N (%)	Other (n = 14) N (%)	Total Sample (%)
Used social networks to discuss having sex with men				
Never	6 (19.4)	14 (20.6)	4 (28.6)	21.2
1–5 times	16 (51.6)	15 (22.1)	4 (28.6)	31.0
6–10 times	1 (3.2)	16 (23.5)	1 (7.1)	15.9
11–15 times	3 (9.7)	8 (11.8)	1 (7.1)	10.6
21–25 times	0 (0.0)	2 (2.9)	0 (0.0)	1.8

Table 3

HIV/STI and sexual risk behaviors (N=118), Los Angeles, CA, 2011.

	Latino (n=71)		African American (n = 33)		Other (n = 14)	
	Coeff	Confidence Interval	Coeff	Confidence Interval	Coeff	Confidence Interval
HIV test in past 3 years ⁺	–	.38, 10.29	2.51		.25, 25.62	
Told HIV + by a health provider ⁺	–	.19, 3.19	.78		.15, 4.11	
Told had an STI by a health provider ⁺	–	.46, 2.93	.78		.21, 2.93	
Sex partners in past 3 months	–	–2.84	–3.46		–11.0, 4.08	
Unprotected insertive anal intercourse in last 3 months	–	–.25	–.70, .21		–.89, .38	
Unprotected receptive anal intercourse in last 3 months	–	–.48*	–.95, –.01		–.47, .83	

⁺ Logistic regression reporting odds ratios

* Significant at p < .05 level