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Barebacking, the Internet, and Harm Reduction: An Intercept Survey with Gay and Bisexual Men in Los Angeles and New York City

Christian Grov · Jonathan A. DeBusk · David S. Bimbi · Sarit A. Golub · Jose E. Nanin · Jeffrey T. Parsons

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Abstract Researchers have suggested that intentional unprotected anal intercourse (UAI) among gay and bisexual men (colloquially called barebacking), is on the rise. Further, they have linked this increase in barebacking to the growth of the Internet as a medium for men to meet sex partners. Data were used from large-scale gay, lesbian, and bisexual (GLB) community events in New York and Los Angeles collected between 2003 and 2004. In total 1178 men who have sex with men (MSM) responded to questions about the use of the Internet, willingness to have unplanned UAI, intentions toward planned UAI, and ''barebacker identity.'' Compared to nonbarebackers, barebackers spent significantly more time on the Internet looking for sex and looking for dates. Further, HIV-positive barebackers specifically spent the most time online looking for dates. Further analyses of willingness and intentions to have UAI, and the specific sexual behaviors of self-identified barebackers, found evidence of strategic positioning and serosorting, both harm reduction strategies. These data suggest both HIV-positive and HIV-negative barebackers may be engaged in efforts to reduce the risk of HIV transmission when engaged in unprotected sex.

Keywords Barebacking · MSM · Internet · Harm Reduction · Strategic Positioning · Serosorting · MANOVA

C. Grov · J. A. DeBusk
Department of Sociology, The Graduate Center, City University of New York, New York, USA

D. S. Bimbi · S. A. Golub · J. T. Parsons
Subprogram in Social/Personality Psychology, The Graduate Center, City University of New York, New York, USA

J. T. Parsons (✉)
Department of Psychology, Hunter College-CUNY, City University of New York, 695 Park Avenue, New York, USA
e-mail: jeffrey.parsons@hunter.cuny.edu

C. Grov · J. A. DeBusk · D. S. Bimbi · S. A. Golub · J. E. Nanin · J. T. Parsons
Center for HIV/AIDS Educational Studies and Training (CHEST), Hunter College, City University of New York, New York, USA

S. A. Golub
Department of Psychology, Queens College, City University of New York, New York, USA

J. E. Nanin
Department of Health, Physical Education, and Recreation, Kingsborough College, City University of New York, New York, USA

Introduction

Some have argued that the salience of HIV prevention messages has dramatically declined in recent years for a variety of reasons including the perception that, due to new treatments, many no longer consider HIV a ''death sentence'' (Dilley et al., 1997; Elford et al., 2001; Kippax and Race, 2003; Kravcik et al., 1998; Miller et al., 2000; Murphy et al., 1999; Pinkerton and Holtgrave, 1999; Remien et al., 1998; Van de Ven et al., 1999; Vanable et al., 2000). Others have argued gay communities are experiencing ''condom fatigue,'' or the idea that gay and bisexual men are tired of hearing about HIV prevention or being told how to have sex (Geidin, 1997; Rofes, 1999a; Salyer, 1999; Scarce, 1998). Meanwhile, new HIV transmissions are again on the rise among men who have sex with men (MSM; CDC, 2003a,b; Simoni and Pantalone, 2004). The same is true for other sexually transmitted infections (STIs) including syphilis, which has recently

made a ''comeback'' throughout many urban epicenters (Klausner et al., 2000). In total, this suggests that, despite current HIV prevention and safer sex efforts, many MSM today are not using condoms as consistently.

Both popular press (Geidin, 1997; Halkitis, 2000; Halkitis and Parsons, 1998; Kirby, 1999; Mann, 1999; Scarce, 1999) and academic literature (Gauthier and Forsyth, 1999; Goodroad et al., 2000; Grov, 2004, 2006; Halkitis, 2001; Halkitis et al., 2003; Huebner et al., 2006; Mansergh et al., 2002; Nanin and Parsons, 2006; Parsons, 2005; Rofes, 1999b; Suarez and Miller, 2001; Tewksbury, 2003) have recently begun discussing a new trend in the sexual behavior of some gay and bisexual men; barebacking, the colloquial term for intentional unprotected anal intercourse (UAI). Some have even suggested ''barebacking'' is vernacularly used to describe UAI regardless of intention (Halkitis in press; Parsons and Bimbi, 2007). Parsons and Bimbi (2007) reported on the survey data of 687 gay/bisexual men attending community events and assessed the prevalence and predictors of bareback identity. They found that barebackers reported significantly more use of crystal methamphetamine and higher peer norms for unprotected sex; HIV-negative barebackers were higher in sexual compulsivity while HIV-positive barebackers were higher in romantic obsession as well as drug/alcohol influenced sexual expectancies.

Identification of factors related to barebacking are important for several reasons. HIV-negative individuals risk infection with HIV, including strains of HIV that may be resistant to current treatments (Boden et al., 1999; Hicks et al., 2001; Little et al., 1999). Meanwhile, HIV-positive individuals risk reinfection with more potent strains (Angel et al., 2000; Fultz et al., 1998; Halkitis and Wilton, 1999), rapid loss of CD4 cells (Wiley et al., 2000), or exposure to pathogens that may lead to opportunistic infections (Renwick, et al., 1998). Aside from HIV many other STIs, such as syphilis and Hepatitis C, are spread through unprotected sex, which have been related to HIV coinfection and further immune system depletion (Spengler and Rockstroth, 1998, Wheater et al, 2003).

Liau and colleagues (2006) meta-analysis of MSMs use of the Internet found that as much as 40% of MSM have met sex partners online, 95% *CI* = 35.2%–45.2%. Meanwhile, MSM identifying as barebackers has been linked to recent exponential growth of the Internet as a medium for meeting potential sex partners (Cooper et al., 1999; Elford et al., 2001; Halkitis, 2001; Halkitis and Parsons, 2003; Parsons, 2005; Shaw, 1997; Weinrich, 1997), with some researchers having argued it is a medium to negotiate barebacking (Gauthier and Forsyth, 1999; Grov, 2004; Halkitis, 2001; Parsons, 2005; Tewksbury, 2003). Klausner and colleagues (2000) best highlighted the powerful medium the Internet serves in facilitating unsafe sex by tracing an outbreak of syphilis among MSM in San Francisco to a particular Internet chat room.

Although the phenomena of barebacking may be on the rise, it is still a potentially taboo behavior as it is chiefly responsible for the spread of HIV and other STIs among MSM. Some researchers have argued that MSM have transitioned away from more traditional sex venues for meeting sex partners (e.g., bars, clubs, bathhouses, sex clubs) to the anonymity of the Internet in an effort to escape prevention efforts and community ''policing'' of risk behaviors (Chiasson et al., 2006; Ross, 2005; Ross et al., 2006; Warner, 1999). As a result, we see the development of an underground subculture of barebacking among MSM who meet through the Internet (Grov, 2006).

Researchers have attributed UAI among MSM to substance use (Halkitis et al., 2001; SAMHSA, 2001; Schifter and Madrigal, 1992), HIV seropositivity (Halkitis and Parsons, 2002, 2003; Halkitis et al., 2003), lack of knowledge about risks for HIV and other STIs (Kippax and Race, 2003; Suarez and Miller, 2001), sensation seeking behavior (Pinkerton and Abramson, 1992), or simply dislike for condoms (Ross, 2005). Many studies of barebacking and UAI have overlooked the larger conceptual issue of adopting the notion of being a barebacker into one's identity (Huebner et al., 2006; Parsons and Bimbi, 2007). Identifying as a person who intentionally seeks out unprotected sex can be far more problematic than simply engaging in the behavior on a casual or rare basis. This is especially the case in contexts when HIV and STIs are not candidly discussed among men before unprotected intercourse (Grov, 2006; Shernoff, 2005).

Researchers have indicated that anal receptive sex presents greater risks for being infected with HIV than anal insertive sex (CDC, 2004; Vittinghoff et al., 1999). In light of this, researchers have begun documenting the phenomenon termed ''strategic positioning'' as a harm reduction strategy undertaken by MSM trying to lessen their risks for HIV transmission when engaged in UAI (Parsons et al., 2005; Simoni and Pantalone, 2004; Van de Ven et al., 1999). Men who strategically position themselves engage in certain sets of behaviors based on the perceived HIV serostatus of their partners. For example, an HIV-positive individual may act as the anal receptive partner if he perceives his partner to be HIV-negative. A second harm reduction strategy undertaken by some MSM is serosorting, or having sex only with partners whom are believed to be of concordant HIV serostatus (Mao et al., 2006; Parsons et al., 2005; Patel et al., 2006). Strategic positioning and serosorting may not eliminate the risk of HIV transmission, but they do lessen the potential (CDC, 2004; Vittinghoff et al., 1999).

Previous researchers have reported on increasing rates of unprotected sex among MSM (Elford et al., 2001;

Kippax and Race, 2003), linked unprotected sex to identity as a barebacker (Halkitis, 2001; Halkitis et al., 2003; Huebner et al., 2006; Parsons, 2005; Parsons and Bimbi, 2007), and suggested the Internet may have served as a medium between the two (Elford et al., 2001; Chiasson et al., 2006; Grov, 2004, 2006; Parsons, 2005; Tewksbury, 2003). Nevertheless, several questions remain unanswered. Exactly what role does the Internet play for barebackers and nonbarebackers, and how is this confounded by a person's HIV serostatus? To what extent, does strategic positioning and serosorting play a role in men's willingness and intentions to engage in UAI? Addressing these questions, this analysis sought to assess the relationship between using the Internet to meet sex partners, willingness and intentions around UAI, and identity as a barebacker. Further, this study explored the extent to which men may have engaged in strategic positioning and serosorting, and thereby expands our knowledge of how willingness and intentions around UAI confound with an identity as a barebacker.

Methods

Participants and Procedure

A cross-sectional street–intercept survey method (Miller et al., 1997) was adapted to survey gay and bisexual men at a series of gay, lesbian, and bisexual (GLB) community events in New York City and Los Angeles in the Fall of 2003 and the Spring of 2004 through the Sex and Love v2.0 Project, which was approved by the Institutional Review Board of the authors. This approach to collecting data has been used in numerous studies (Carey et al., 1999; Chen et al., 2002; Kalichman and Simbaya, 2004a,b; Rotheram-Borus et al., 2001), including those focused on GLB persons (Benotsch et al., 2002; Kalichman et al., 2001) and has been shown to provide data that are comparable to those obtained from other more methodologically rigorous approaches (Halkitis and Parsons, 2002; Halkitis et al., 2003).

At each 2-day long event, the research team hosted a booth, and a member of the research team actively approached each person who passed the booth. Potential participants were provided with information about the project and offered the opportunity to participate. The response rate was high, with 82.9% of those approached having consented. The anonymous survey required 15–20 min to complete, and to promote additional anonymity participants were given the survey on a clipboard so that they could step away from others to complete the questionnaire. Upon completion, participants deposited their own survey into a secure box at the booth. Those who consented and completed the survey were provided with a voucher for free admission to a movie as an incentive. Data were entered into an Statistical Package for the Social Sciences (SPSS) database and verified by project staff for accuracy.

In total, 2333 men were surveyed. Of that, 1491 participants were randomized to a version of the survey that asked the subset of questions about use of the Internet and about barebacking behavior/identity. All men were asked to indicate their relationship status and also provided behavioral information about any sexual partners (i.e., number of partners, type of sexual behavior). For the purpose of this analysis, men that indicated they were in monogamous relationships and reported no sexual behaviors outside of their main partner, $n = 301$, were excluded, as any reported unprotected sexual behaviors were assumed to have been with their sole partners. Excluding men who identified as heterosexual and reported no recent (<90 days) sex with men, $n = 12$, the final sample for this analysis was 1178.

Measures

Sexual Behavior and Sexual Health

The survey assessed a broad range of sexual behaviors, substance use, physical health, and a series of scales related to psychological health and well-being. Participants were provided a list of STIs and asked if they had ever had them during the course of their lives. STIs included anal/genital warts, anal/genital herpes, gonorrhea, chlamydia, Hepatitis B, Hepatitis C, syphilis, and crabs/scabies/lice (1 = yes, 0 = no). The survey also included a series of questions about unprotected anal (UA) sex. All participants responded to two direct questions about planned anal sex without condoms: ''I seek out bareback sex as a top'' and ''I seek out bareback sex as a bottom.'' Further, two additional questions assessed willingness to have unplanned anal sex without condoms: ''I don't seek out bareback sex, but if it happens its okay, if I am a top'' and ''I don't seek out bareback sex, but if it happens its okay, if I'm on the bottom.'' All these questions were on Likert-type scales with responses ranging from 1 (strongly disagree) to 4 (strongly agree). See Parsons and Bimbi (2007) for the findings on the actual behaviors of self-identified barebackers, reported from an earlier version of this survey.

To assess barebacker identity, participants were asked, ''I consider myself a barebacker'' (1 = yes, 0 = no). Those having identified as barebackers completed a series of follow-up questions related to their sexual behavior: ''I bareback with HIV-positive men,'' ''I bareback with guys regardless of their HIV status,'' ''I bareback with

HIV-negative men,'' and ''I don't discuss HIV status with the guys I bareback with.'' Responses to these questions were dichotomous (1 = yes, 0 = no).

Internet Use

Men answered open-ended questions about how they spent time on the Internet. They estimated the number of hours spent per week on the Internet looking to meet men for ''party n play'' (PnP), for sex (excluding PnP), and for men to date. ''Party n Play'' or PnP is the colloquial term, which has become commonly used among gay men (Nanin and Parsons, 2006; Parsons, 2004), for substance-enhanced sexual activity (i.e., drugs before or during sex). Most men wrote in numbers, while a portion left this section blank. Although omission of a response could have signified no time spent engaged in these activities, those who did not provide a response were coded as missing data.

Personal Characteristics

Demographic characteristics such as age in years, HIV serostatus, sexual identity, race/ethnicity, and zip code were also assessed. Race and ethnicity response categories included African American, Asian/Pacific Islander, European/White, Hispanic/Latino, Middle Eastern/Arab Native American, mixed and ''Other, Specify.'' Due to the small sample size of Middle Eastern/Arab, $n = 11$, mixed, $n = 6$, and Native American individuals, $n = 13$, this category was collapsed and added to the ''other'' group. African Americans comprised 10.0%, $n = 118$, of the sample. Meanwhile, Asian/Pacific Islanders 6.5%, $n = 76$, Latino 13.4%, $n = 158$, Caucasian 64.3%, $n = 757$, and ''Other'' 5.4%, $n = 64$, comprised the remainder. Five individuals, 0.4% did not indicate a race or ethnicity.

Analytic Strategy

Where appropriate, statistical *t*-tests, Fisher's exact test, χ^2, and Mann–Whitney *U* were utilized for these analyses. Furthermore, in an effort to evaluate the effects of the relationship between HIV serostatus (positive, negative) and barebacker identity (yes, no), factorial multivariate analysis of variance (MANOVA) were utilized. MANOVA allowed for the evaluation of both the main effects of HIV status and barebacker identity on dependent variables of interest, as well as the HIV status by barebacker identity interaction (i.e., whether the impact of barebacker identity varies by HIV status). We conducted two 2 (HIV status: positive, negative) by 2 (barebacker identity: yes, no) MANOVAs, grouped by categories of the dependent variables (one for Internet use and one for barebacking intentions). MANOVA was chosen to minimize the risk of Type I errors that can arise from the repetition of similar analyses (Tabachnick and Fidell, 2007).

Results

Most men identified as gay, $n = 1084$, 92.6%, while a smaller portion, $n = 86$, 7.4%, were bisexual. Eight participants did not indicate a response however did also report sexual behavior with other men. Ages ranged between 18 and 80, $M = 38.5$, $SD = 11.18$. The men were highly educated with approximately two-thirds of the sample reported having completed college. Income varied greatly with nearly half of all participants reporting incomes less than $30,000. Nonetheless, half of individuals reported an income between $30,000 and $70,000. Analyses of men's zip codes indicates participants were distributed across virtually all neighborhoods of the metropolitan areas of NYC and LA, with an expected higher frequency having reported zip codes from the traditional gay, lesbian, bisexual, and transgendered (GLBT)-concentrated neighborhoods.

Approximately 12%, $n = 144$, were HIV-positive. An additional 2.8%, $n = 33$, did not indicate an HIV serostatus, while the remainder, $n = 1001$, were HIV-negative. More than 13%, $n = 156$, identified as a barebacker, 80.6%, $n = 950$, identified as a nonbarebacker and 6.1%, $n = 72$, did not indicate a response. Compared to nonbarebackers, self-identified barebackers were 7.7 times more likely to be HIV-positive, 95% *CI* = 5.14–11.43. Self-identified barebackers reported having experienced significantly more STIs (other than HIV) in their lifetime, compared to nonbarebackers, $Z = -4.96$, $p < .001$, $r = -.15$, Barebacker *Mean Rank* = 636.97, nonbarebacker *Mean Rank* = 508.52. There were no differences by race or ethnicity, or by age in the proportions of men having identified as barebackers (see Table 1 for full demographic characteristics).

In total, 74.7%, $n = 880$ of men provided a written response for the amount of time spent online looking for dates. Meanwhile, 74.4%, $n = 877$, provided a written response for time spent on the Internet searching for sex, and 849 men, 72.1%, provided a written response for the amount of time they spent online search for PnP. Among those providing responses, 39.1%, $n = 344$, reported using the Internet for dating, 39.6%, $n = 347$, for finding sex partners, and 21.3%, $n = 181$, indicated having used the Internet to find partners for sex combined with drugs. Men looking for dates on the Internet (i.e., ≥1 h per week) spent an average of 5.7 h per week, *range* 1–50, *median* = 3, *SD* = 6.9, looking for dates. Those looking online for sex spent an average of 6.5 h per week, *range* 1–60, *median* = 4, *SD* = 7.6 (see Table 2). Meanwhile, those looking

Table 1 Participant Characteristics

	Nonbarebackers			Barebackers		
	n	*M*	*SD*	*n*	*M*	*SD*
Age	949	38.5	11.3	155	39.2	10.2
Average STIs in lifetime[a]	908	1.03	1.22	143	1.73	1.60
	n	%		*n*	%	
Proportion HIV positive[b]	75	7.9		62	39.7	
Race/Ethnicity						
African American	84	8.9		20	12.8	
Asian/Pacific Islanders	57	6.0		13	8.3	
Caucasian	637	67.2		97	62.2	
Latino	116	12.2		21	12.8	
Other races	54	5.7		6	3.8	
Sexual role						
Top	339	36.9		50	34.5	
Versatile	352	38.4		53	36.6	
Bottom	226	24.7		42	29.0	
Relationship status						
Single	651	70.1		89	60.1	
Partnered, non-monogamous	278	29.9		59	39.9	

[a] $Z = -4.96$, $p < .001$, $r = -.15$, Barebacker *mean rank* = 636.7, nonbarebacker *mean rank* = 508.52

[b] $\chi^2(1) = 123.7$, $p < .001$

for drug-enhanced sex spent an average of 5.1 h per week, *range* 1–40, *median* = 3, *SD* = 6.7.

To examine the impact of HIV status and barebacker identity on the amount of time spent on the Internet, the next portion of this analysis utilized a 2 (HIV status: positive, negative) by 2 (barebacker identity: yes, no) MANOVA, including all three measures of time spent on the Internet (i.e., sex, dating, and PnP). Means are presented in Table 2. Men who did not report an HIV status, $n = 33$, were excluded from further analyses.

There was a main effect of barebacker identity for the amount of time spent on the Internet looking for sex, $F(1, 770) = 10.70$, $p < .001$, and the amount of time spent on the Internet looking for dates, $F(1, 770) = 4.47$, $p < .05$. Barebackers reported spending more time on the Internet engaged in these activities than nonbarebackers. There was a marginally significant main effect for barebacker identity for the amount of time spent on the Internet looking for PnP, $F(1, 770) = 3.41$, $p = .06$, such that barebackers reported spending more time looking for PnP than nonbarebackers. There were no main effects for HIV serostatus.

There was a significant HIV status by barebacker identity interaction effect for one of the dependent variables. Controlling for the main effect of barebacker identity, HIV-positive barebackers reported spending the most time on the Internet looking for dates, $F(1, 770) = 4.15$, $p < .05$. There was a marginally significant HIV status by barebacker identity interaction effect for the amount of time spent on the Internet looking for PnP, $F(1, 770) = 2.96$, $p = .08$. Once again, controlling for the main effect of barebacker identity, the data suggested HIV-positive barebackers reported spending the most time on the Internet looking for PnP.

In order to examine the impact of HIV status and barebacker identity on intentions and willingness to have unprotected sex, the next portion of this analysis also utilized a 2 (HIV status: positive, negative) by 2 (barebacker identity: yes, no) MANOVA, including both measures of intentions and both measures of willingness to have UA sex. Means are presented in Table 3.

There was a main effect for barebacker identity for all four dependent variables. Compared to nonbarebackers, barebackers reported stronger intentions to engage in UA sex as a top, $F(1, 1038) = 177.16$, $p < .001$, and bottom, $F(1, 1038) = 208.37$, $p < .001$, as well as a greater willingness to have unplanned UA sex as a top, $F(1, 1038) = 77.31$, $p < .001$, and bottom, $F(1, 1038) = 112.59$, $p < .001$.

Table 2 Bareback identity and time on the Internet per week (in hours)

	Barebackers				Nonbarebackers			
	HIV positive		HIV negative		HIV positive		HIV negative	
	n = 62		*n* = 92		*n* = 75		*n* = 853	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Looking for PnP*	2.20	4.24	0.95	2.38	0.76	1.79	0.90	3.30
Looking for sex[a]	4.07	6.40	3.17	6.61	0.98	2.14	2.07	4.97
Looking for dates[a,b]	3.14	5.93	2.03	4.07	0.58	1.12	1.99	5.06

[a] Main effect, Barebacker identity

[b] Interaction effect, Barebacker identity by HIV serostatus

* PnP = Sex combined/enhanced with drugs

Table 3 Willingness and intentions toward unprotected anal intercourse

	Barebrackers				Nonbarebrackers			
	HIV positive		HIV negative		HIV positive		HIV negative	
	n = 62		n = 92		n = 75		n = 853	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
I seek out bareback sex as a top[a]	2.34	1.29	2.20	1.14	1.33	0.78	1.20	0.60
I do not seek out bareback sex, but its okay *if I am the top*[a,c]	2.29	1.18	2.59	1.16	1.74	1.03	1.48	0.85
I seek out bareback sex as a bottom[a,b,c]	2.56	1.22	1.77	1.06	1.30	0.74	1.14	0.48
I do not seek out bareback sex, but its okay *if I am the bottom*[a]	2.52	1.18	2.07	1.23	1.60	0.92	1.26	0.67

[a] Main effect, barebacker identity

[b] Main effect, HIV serostatus

[c] Interaction effect, barebacker identity by HIV serostatus

There was a main effect of HIV status for intentions to have UA sex as a bottom, $F(1, 1038) = 53.79$, $p < .001$, and willingness to have unplanned UA sex as a bottom, $F(1, 1038) = 23.68$, $p < .001$. Compared to HIV-negative men, HIV-positive men had a greater willingness and stronger intentions to have UA sex as bottoms. There was a marginally significant main effect of HIV status for planned UA sex as a top, $F(1, 1038) = 3.22$, $p = .07$, such that HIV-positive men *may* have stronger intentions to have UA sex as a top compared to HIV-negative men.

There was a significant HIV status by barebacker identity interaction effect for two of the four dependent variables, willingness to engage in unplanned UA sex as a top and intentions for planned UA sex as a bottom. Controlling for the main effects of barebacker identity and HIV status, HIV-positive barebackers reported the strongest intentions to have UA sex as a bottom, $F(1, 1038) = 23.14$, $p < .001$. In contrast, HIV-negative barebackers reported the greatest willingness to engage in unplanned UA sex as a top, $F(1, 1038) = 8.83$, $p < .01$.

In order to assess potential serosorting, self-identified barebackers completed a series of follow-up questions about whom they bareback with in regards to the HIV status of their sexual partners. HIV-positive barebackers were more likely than HIV-negative barebackers to report barebacking with other HIV-positive men (95% vs. 24.4%; see Table 4). Similarly, compared to HIV-positive barebackers, HIV-negative barebackers were far more likely to report barebacking with other HIV-negative men (85.4% vs. 55.9%). Compared to HIV-negative barebackers, HIV-positive barebackers were 2.37 times more likely to report barebacking with ''anyone'' regardless of their serostatus, 95% *CI* = 1.21–4.63. HIV-negative and HIV-positive barebackers did not significantly differ with regard to discussing HIV status with potential sexual partners.

To further examine the harm reduction strategy of strategic positioning in addition to serosorting among barebackers, analyses of barebacker's self-reported sexual positioning were conducted (see Table 5). Overall, 48%, $n = 30$, of the 62 HIV-positive barebackers indicated they have UA sex with HIV-negative men and 24.4%, $n = 20$, of the 93 HIV-negative barebackers indicated they have UA sex with HIV-positive men. However among barebackers, who reported serodiscordant sex partners, HIV-positive barebackers were more likely to self-identify as the anal *receptive* partner during anal sex (i.e., bottom; 50% bottom vs. 20% top) and HIV-negative barebackers were more likely to self-identify as the anal *insertive*

Table 4 Differences between HIV Positive and HIV Negative Barebackers

Will have bareback sex...	HIV-Positive		HIV-Negative		$\chi^2(1)$	p	Odds ratio	95% Confidence interval
	Barebackers, n = 62		Barebackers, n = 93					
	n[a]	%	n[a]	%				
with HIV positive men	57	95.0	21	24.4	69.9	<.001	57.9	16.4–204.4
with men regardless of HIV status	37	61.7	36	40.9	6.15	.01	2.3	1.2–4.5
with HIV negative men	33	55.9	76	86.4	17.1	<.001	0.2	0.09–0.44
without discussing HIV	22	36.7	40	45.5	1.13	.29	—	—

[a] A few men did not indicate responses for who they would bareback with

Table 5 Sexual Positioning and unprotected anal intercourse

Has bareback sex with...	HIV positive barebackers, $n = 62$							HIV positive barebackers, $n = 93$						
	Tops		Versatile		Bottoms		Total	Tops		Versatile		Bottoms		Total
	n	%	*n*	%	*n*	%		*n*	%	*n*	%	*n*	%	
HIV positive men	8	15.4	21	40.4	23	44.2	52	**11**	**55.0**	6	30.0	**3**	**15.0**	20
HIV negative men	**6**	**20.0**	9	30.0	**15**	**50.0**	30	32	43.8	27	37.0	14	19.2	73
Men regardless of HIV status	6	18.2	10	30.3	17	51.5	39	16	47.1	12	35.3	6	17.6	34

Bold numbers are those used to compute *Fisher's* exact test ($p < .01$)

partner (i.e., top; 55% top vs. 15% bottom), Fisher's exact $p < .01$.

Discussion

Barebacking as a behavior and identity has only recently been explored in academic literature (Grov, 2006; Huebner et al., 2006; Parsons, 2004; Parsons and Bimbi, 2007; Shernoff, 2005). This analysis not only explored gay and bisexual men who have engaged in UAI, but the impact of Internet use among barebackers and nonbarebackers, and potential harm reduction strategies of barebackers. As expected, men identifying as barebackers had a greater willingness to engage in both planned and unplanned barebacking; in essence, a clear link between identity and behavior. These data suggest direct marketing of HIV prevention education to those self-identified as barebackers would be effective in reaching individuals engaged in unsafe sex. Meanwhile, these programs must be appropriately tailored to meet the needs of barebackers, as a ''condom-only'' or a ''condom-centric'' approach would be ineffective (Parsons, 2005; Shernoff, 2005; Tomso, 2004). Further, a ''condom-only'' approach may not incorporate many sex acts that some gay and bisexual men may practice that do not involve high HIV transmission risk (Nanin et al., 2006). Instead, incorporation of harm reduction strategies such as encouraging frequent HIV testing, monitoring sexual health, limiting numbers of partners, and frank discussions about HIV and sexuality with potential sex partners might be a more effective strategy to reduce HIV transmission risks with this population (Grov, 2006; Shernoff, 2005). These data provided strong evidence that strategic positioning was a phenomenon common among men self-identified as barebackers. Prevention campaigns focusing on barebackers may consider *reinforcing* harm reduction rather than *initiating* it.

This analysis found no racial or ethnic differences in the proportion of men identifying as barebackers, suggesting that the ''barebacking phenomenon'' transcends some of the racial and ethnic diversity within gay and bisexual communities. Those providing prevention education to barebackers must acknowledge this diversity in an effort to adequately address the varying needs of these men. Nevertheless, it must be noted that the term ''barebacking'' may not be acknowledged among all men who practice or identify with this behavior (e.g., African American men may use the term ''raw'' to refer to UAI; Huebner et al., 2006; Nanin et al., 2005). Health professionals who are tailoring programs toward barebackers must recognize this different manifestation in order to properly provide prevention-oriented services.

This analysis found that the Internet has played an important role among self-identified barebackers. A main effect for barebacker identity was identified such that, compared to nonbarebackers, barebackers spent more time on the Internet engaged in a variety of activities. This analysis also identified a unique interaction effect such that HIV-positive barebackers spent particularly more time on the Internet looking for dates. Those seeking to deliver HIV prevention and/or educational messages might consider incorporating the Internet as a useful tool to reach this population.

The Internet is a venue operating 24-h a day and serves as a medium where men with highly specialized interests can connect (Chiasson et al., 2006). Further, the Internet affords its users greater anonymity compared to more public venues where sex is negotiated face-to-face (Parsons, 2005; Ross et al., 2006). Online, men can disclose both their HIV status and their desire to engage in UA sex, two potentially taboo topics, without outright disclosing personal information such as their real name or identity (Chiasson et al., 2006). Meanwhile, researchers have identified that stigma against HIV-positive individuals has led to concealment of their HIV serostatus to sex partners (Ciccarone et al., 2003; Kalichman and Nachimson, 1999; Kalichman et al., 1998). In light of this, HIV-positive barebackers might utilize the Internet as a stigma reduction mechanism, in addition to negotiating sexual behaviors and serosort for partners of similar HIV status. Nevertheless, this does not discount the Internet's role in exposing some individuals to risky sexual behavior and risky sexual

partners that they might not have had access to otherwise. This is especially the case with the growth of barebacking-centered online communities and Web sites who attract hundreds to thousands of visitors each day (Grov, 2006). This analysis does not discount the plausibility that some of the men sampled, who were currently HIV-positive, had in fact seroconverted as a result of partners met from the Internet. These scenarios lay beyond the capabilities of this analysis; however, are arenas worthy of further exploration.

Previous researchers found HIV-positive men have intentionally positioned themselves as the anal-receptive partner (i.e., bottom) during barebacking as a means of harm reduction in preventing the transmission of HIV to their partners (Parsons et al., 2005; Van de Ven et al., 2002). These data support the findings of previous researchers, in addition to suggesting that HIV-negative barebackers are also engaged in strategic positioning in the opposite direction (i.e., as tops). Further investigation of the ways in which men negotiate safety around unprotected sex, including the ways in which this negotiation takes place through the Internet is warranted. Public health officials would benefit from more data on strategic positioning and other negotiated safety techniques to inform better, realistic, and culturally group-sensitive HIV and STI prevention efforts.

The results of this analysis may not generalize to all gay and bisexual men as it is biased toward those who attend large-scale GLB events in metropolitan epicenters. It does, however, give a very comprehensive picture about the types of individuals that do attend these events, and comprise a considerable (and accessible) portion of the GLB community. Although efforts were taken to ensure confidentiality, there was potential for biased responses due to social desirability in the reporting of sensitive information. These factors must be considered before these findings can be extrapolated.

Caution is needed before these findings can be widely applied. The survey instrument used for this analysis assessed a broad range of variables related to psychosocial and sexual health, relationships, and behaviors. Such an instrument helps provide a general perspective about a variety of characteristics; however, has its limitations. Questions on barebacking were quantitative and close-ended, while those on the Internet were more open-ended. Because these questions were open-ended and quite possibly difficult for an individual to assess, there was some missing data (i.e., nonresponse). Nonresponse to the number of hours reported on the Internet could have signified 0 h spent, however this analysis coded nonresponse as ''missing'' data as many men wrote, ''zero'' or ''0'' for these questions. Nearly half of all men reported spending some time on the Internet for either sex, drug-enhanced sex, or dating. Although *all* gay/bi men may not use the Internet to find partners for sex or dating these data suggest it is a modality for which a considerable portion of MSM, and in particular MSM barebackers, seek partners. These findings closely mirrored Liau and colleagues (2006) meta-analysis investigating the proportion of MSM who seek partners via the Internet.

Some popular and academic discourses have stigmatized bareback sex (Tomso, 2004). It is well understood that UAI is chiefly responsible for the spread of HIV among MSM (Vittinghoff et al., 1999). Until recently, many academic discussions of barebacking have failed to consider harm reduction strategies around UAI (Shernoff, 2005). A key group of individuals excluded from this analysis, however may have been ''barebacking'' per se, were men in monogamous relationships. Whether they are using condoms or not, mutual monogamy between partners of the same HIV serostatus is possibly the most effective strategy to eliminate HIV transmission risks (Shernoff, 2005).

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