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Comparing three cohorts of MSM sampled via sex parties, bars/clubs, and Craigslis.org: Implications for researchers and providers

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Abstract

With limited exceptions, few studies have systematically reported on psychosocial and demographic characteristic differences in samples of men who have sex with men (MSM) based on where they were recruited. This study compared three sexually active cohorts of MSM recruited via Craigslis.org (recruited via modified time-space sampling), gay bars and clubs (recruited via time-space sampling), and private sex parties (identified via passive recruitment and listserves), finding mixed results with regard to differences in demographic characteristics, STI history, and psychosocial measures. Men recruited from sex parties were significantly older, reported more symptoms of sexual compulsivity, more likely to be HIV-positive, more likely to report a history of STIs, and more likely to self-identify as a barebacker, than men recruited from the other two venues. In contrast, men from Craigslis.org reported the lowest levels of attachment to the gay and bisexual community and were the least likely to self-identify as gay. Men from bars and clubs were significantly younger, and were more likely to report use of hallucinogens and crack or cocaine. Our findings highlight that the venues in which MSM are recruited have meaningful consequences in terms of the “types” of individuals who are reached.

Keywords

Gay and bisexual men; Internet; Condom use; HIV status disclosure; bars/clubs; sex parties

Introduction

Gay and bisexual men and other men who have sex with men (MSM) represent roughly 2–5% of the United States' population, (Gates, 2013; Gates & Newport, 2012; Purcell et al., 2012) though they accounted for 63% of all new HIV diagnoses in 2010—a 12% increase since 2008 (CDC, 2012). In urban centers like New York City (NYC), which are often home to large gay and bisexual communities, disparities are even more evident—compared to other men in NYC, MSM have a 140-fold higher risk to be newly diagnosed with HIV and/or syphilis (Pathela et al., 2011). These figures underscore the need to continue conducting research to better understand the factors that contribute to HIV transmission risks in MSM.

Since the dawn of the HIV/AIDS epidemic, researchers have investigated how the venues where MSM meet their sex partners might influence subsequent behaviors that may increase HIV transmission risks (Shilts, 1987). Venues where MSM meet their sex partners have been the subject of inquiry because (1) they represent a physical space where the target population can be identified, (2) the population can potentially be intervened upon before a risky behavior occurs, and (3) because there may be aspects of the venues themselves that contribute to risk (Elwood & Williams, 1998; Frankis & Flowers, 2009; Grov, 2012; Grov, Hirshfield, Remien, Humberstone, & Chiasson, 2013b; Grov, Parsons, & Bimbi, 2007; Horvath, Bowen, & Williams, 2006; Smith, 2010; Smith, Grierson, & von Doussa, 2010). Some examples of venue characteristics that can contribute to risk include the use of alcohol or club drugs in bars and clubs (Halkitis & Parsons, 2002), dim lighting and norms against audible communication in bathhouses and sex parties (Clatts, Goldsamt, & Yi, 2005; Elwood, Green, & Carter, 2003; Richters, 2007), and anonymous chatting online (Carballo-Dieuez, Miner, Dolezal, Rosser, & Jacoby, 2006; Rosser et al., 2009).

Much of the research on venues among MSM in the past two decades has focused on the Internet as a primary source of sexual partnering (Chiasson et al., 2006; Klausner, Wolf, Fischer-Ponce, Zolt, & Katz, 2000; Mustanski, Lyons, & Garcia, 2011). This research has often drawn on MSM recruited from membership-based sexual networking websites (e.g., [Manhunt.net](#), [Adam4adam.com](#)) (Grov et al., 2013b; Horvath, Rosser, & Remafedi, 2008; Klein, 2008; Liao, Millett, & Marks, 2006). With few exceptions (Grov, 2010, 2012; Moskowitz & Seal, 2010), less attention has been given to anonymous online bulletin boards (e.g., [Craigslist.org](#)). Some research suggests that men from online bulletin boards may be characteristically different from those on membership-based sites with regard to sexual identity, sexual behavior patterns, and racial and ethnic diversity (Grov, 2012). Thus, online bulletin boards offer an important, yet understudied, additional environment used by MSM for sex seeking.

Although the Internet is perhaps the modal way in which gay and bisexual men meet partners today, it represents only one of a variety of ways men meet partners. Sources for meeting partners have often been the subject of inquiry for their potential roles in HIV and STI transmission risk behaviors (Smith, 2010). Though not an exhaustive list, these include bathhouses (Mehta et al., 2011; Mullens, Staunton, Debattista, Hamernik, & Gill, 2009; Richters, 2007), gay bars/clubs (Blank, Gallagher, Washburn, & Rogers, 2005; Grov, 2012;

Groves, Golub, & Parsons, 2010; Groves et al., 2007), sex parties (Groves et al., 2010; Halkitis & Palamar, 2006; Mimiaga et al., 2010; Mimiaga et al., 2011; Solomon et al., 2011), and partners met through friends (O'Leary, Horvath, & Simon Rosser, 2013). What is clear from research is that there is significant variability in the extent to which MSM use a given source; however, more research is needed to examine utilization across a variety of sources *within* individuals to examine source favoritism (i.e., loyalty) versus varied usage, and how this may be associated with HIV risk behavior such as unprotected anal intercourse (UAI) (Groves & Crow, 2012).

Often drawing from community-based samples, researchers have compared men who met partners in one type of venue to those who have met partners in another type. For example, Parsons and Halkitis (2002) and Binson et al. (2001) compared risk behavior between MSM having met sex partners via commercial sex environments ("CSEs;" e.g., bathhouses and sex clubs) to public sex environments ("PSEs;" e.g., cruising parks). Men having gone to CSEs were more likely to report UAI than those at PSEs (Parsons & Halkitis, 2002). Binson et al. (2001) reported that men who met partners only from PSEs were less likely to report any risky sexual behavior. Meanwhile, men reporting partners from CSEs were more likely to report UAI with non-primary partners. It is important to better understand whether such differences reflect characteristics of the participants recruited within these spaces or of the venues themselves.

Groves (2012) compared survey data from MSM identified via [Craigslist.org](https://www.craigslist.org) ($n = 208$), to those surveyed in bars/clubs ($n = 199$), and bathhouses ($n = 194$). Men from Craigslist (74.1%) were significantly less likely than men from bathhouses (89.6%) and bars/clubs (83.9%) to report recent anal sex with a casual male partner. However, among men reporting anal sex, those on Craigslist reported the lowest levels of condom use. Finally, men surveyed in gay bars/clubs were the youngest of the three and the most likely to be single; they also reported the highest levels of attachment to the gay community and the most frequent alcohol use. The study highlighted the need to tailor HIV prevention efforts to the location in which they are targeted, and for researchers to evaluate if participants differ by recruitment source.

In order to diversify sample and representativeness, both HIV surveillance and many large-scale studies involving MSM have identified samples via venue-based sampling (Bingham et al., 2003; Jenness et al., 2011; Kipke et al., 2007; MacKellar et al., 2007; Raymond et al., 2010)—often via spaces where MSM encounter partners, detailed previously. With limited exceptions, (Groves, 2012; Jenness et al., 2011; Parsons, Vial, Starks, & Golub, 2013; Sanchez, Smith, Denson, DiNenno, & Lansky, 2012) there has been little evaluation of demographic and behavioral differences in the type of participants recruited via different sources. In essence, we know little about how the venues in which we sample ultimately influence the characteristics of the samples we obtain from them. More research is needed to determine whether venues are characterized by distinct subpopulations of MSM. This information would be useful to evaluate representativeness of samples obtained within these various venues in order to inform targeted prevention and recruitment efforts.

Additionally, it would be useful to investigate if there are different patterns in venue frequenting. For example, Groves and Crow (2012) compared men surveyed in bathhouses, gay bars/clubs, and via Craigslist and noted a strong overlap in the venue in which individuals were recruited and their reported “most common” venue for meeting sex partners; however, this study did not provide details any other locations used. Such information is necessary to further understand overlapping sexual networks and thus the spread of HIV, STIs, and other communicable diseases (e.g., meningitis).

Current Study

With limited exceptions, few studies have systematically reported on characteristic differences in samples of MSM who participated in research studies—either because of having recruited participants via a single source (e.g., online) and thus lacking the ability to compare, or having cast a broad net for recruitment but then not fully assessing how participants may have differed between recruitment sources. To address these limitations, the goal of this study was to compare three cohorts of MSM (recruited via [Craigslist.org](https://www.craigslist.org), gay bars and clubs, or via private sex parties) across a variety of characteristics including demographics, STI history, substance use, and psychosocial measures. Next, as a means of investigating sexual networking strategies and identify “venue loyalty,” (Groves & Crow, 2012) this study sought to determine the association between recruitment source and the venues used to meet sex partners. Finally, for the five most commonly reported sources/venues for meeting sex partners, this study described normative perceptions regarding substance use, sexual behavior, and HIV-positive sero-prevalence. In so doing, this study informs both researchers and service providers about characteristic differences across recruitment sources as well as patterns of venues/sources utilized by MSM for sexual networking.

Method

Participants and Procedures

Data for this study are taken from *Project Score*, a formative study investigating three cohorts of NYC-based MSM and the places where they meet their sex partners. One cohort consisted of 50 MSM recruited from the “men-seeking-men section” on [Craigslist.org](https://www.craigslist.org), the second consisted of 50 MSM recruited via gay bars and clubs, and the third consisted of 50 MSM recruited in collaboration with sex party promoters. These venues were selected based on research suggesting these are among the most common places MSM meet sex partners (Groves et al., 2010; Groves et al., 2007; Liao et al., 2006; Mimiaga et al., 2011). Eligibility criteria included being biologically male, at least 18 years of age, able to complete the study in English, and having reported at least two new (i.e., first-time) male sex partners within the last 30 days. Participants were enrolled between 2010 – 2012. Those eligible were invited to participate in a face-to-face interview at our research office. The City University of New York Institutional Review Board approved all study procedures.

Recruitment and Enrollment

Because each type of venue can present its own unique challenges with regard to recruitment, differing methods were used to identify participants in this formative study.

Recruitment into the Craigslist and bar/club cohorts was conducted using adaptations of time-space sampling, while the sex party cohort was recruited using an adaptation of targeted sampling. Following guidelines for time-space sampling (Mackellar, Valleroy, Karon, Lemp, & Janssen, 1996; Parsons, Grov, & Kelly, 2008; Stueve, O'Donnell, Duran, Sandoval, & Blome, 2001), the research team generated an exhaustive list of venues and times in which to recruit—those determined to have an adequate magnitude of the target population at the venue (Kelly, Parsons, & Wells, 2006). In the case of bars and clubs, this was hours of operation up until 2am. A random digit generator was used to randomly select a bar or club, along with a shift start time. Then, teams of two staff members were assigned to approach and screen patrons at random for the duration of the recruitment shift. In total, 68.8% of those approached in bars/clubs consented to complete the survey. The screening consisted of a brief survey on a handheld device. Those meeting basic eligibility criteria were offered the opportunity to join the study.

In the case of Craigslist, times in which to recruit were chosen based on our prior work suggesting that the hours between 7am and 2am were the most viable (Grov, 2010, 2012; Grov & Crow, 2012). The team divided these times into one-hour increments (e.g., 7am–7:59am, 8am–8:59am, and 9am–9:59am). The research team used a random digit generator to (1) select a day of the week in which to post (out of all seven days), (2) select a borough/neighborhood within NYC, and (3) select a time-increment to post. We weighted/matched borough selection based on NYC census population estimates (e.g., 31% of the NYC population resided in Brooklyn, while only 6% resided in Staten Island) (NYC Department of City Planning, 2009). At the date and time randomly selected, a member of the research staff posted an ad for the study in the men-seeking-men (“M4M”) section of the randomly selected borough/neighborhood. We opted to post ads on Craigslist versus simply responding to ads already posted in an effort to also reach those men who exclusively browse and respond to personals, but may not have posted ads themselves. Research staff responded to email inquiries promptly, providing instructions on how to join the study. Staff rescreened participants via phone and those still eligible were scheduled for an assessment. These sampling and enrollment procedures have been described in greater detail elsewhere (Grov, Agyemang, Ventuneac, & Breslow, 2013a; Grov, Ventuneac, Rendina, Jimenez, & Parsons, 2013e).

The third group to be enrolled consisted of men who attended sex parties. The research team used ethnographic mapping to identify ongoing sex parties in NYC (Grov, Bux, Parsons, & Morgenstern, 2009; Watters & Biernacki, 1989). This included browsing listings on sexual networking websites, sex blogs, gay print media, and word of mouth. We also contacted event spaces that house sex party events. Event promoters and space managers were provided with study recruitment cards and asked to include information about the study in their e-newsletters to their members. Those interested were asked to call our research center and screen for the study. Given the formative nature of this study, on-site recruitment (where field staff attended events) was not feasible.

Measures

After informed consent procedures, participants were placed on a computer equipped with audio computer-assisted self-interview (ACASI) software to complete survey procedures. ACASI uses a computer and voice recordings so that the participant hears (through headphones) and sees (on the screen) each question and response list. Participants responded to questions about their demographic characteristics (e.g., age, sexual identity, education, race or ethnicity, HIV status), lifetime STI diagnoses, and illicit substance use in the last 6 months (response categories are shown in Table 1). Participants indicated if they had engaged in any UAI with a casual male partner in the last 30 days (coded 1 = yes, 0 = no).

Other variables known to be associated with UAI as well as to confound associations with UAI were assessed. Participants completed the 11-item Composite International Diagnostic Interview (CIDI) Short Form for alcohol dependence (Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998; World Health Organization, 1990). In accordance with scoring guidelines, participants having a score of 3 or more were assigned high probability of alcohol dependence, thus dichotomizing the variable (0 = non-dependence, 1 = dependence). Participants also completed several psychosocial measures including the 10-item Sexual Compulsivity Scale ($\alpha = .90$) (Kalichman et al., 1994; Kalichman & Rompa, 2001) as an indicator of lack of control over one's sexual thoughts or behaviors, the 13-item Temptation for Unsafe Sex Scale ($\alpha = .96$) (Parsons, Halkitis, Bimbi, & Borkowski, 2000), the 14-item Knowledge of HIV Treatment Scale (Kalichman et al., 2007) as an indicator of HIV treatment optimism ($\alpha = .78$), and the 5-item Attachment to the Gay/Bisexual Community Scale ($\alpha = .93$) (Carpiano, Kelly, Easterbrook, & Parsons, 2011; Groß, 2012).

Participants indicated the various places they had met a sex partner in the previous three months from a list of 18 potential sources plus one additional option for "none of the above." Response choices (shown on Table 2) were generated after reviewing extant literature and in consultation with a panel of researchers who study the sexual behaviors of MSM. Note, only one participant (0.7%) selected "none of the above." Participants who indicated the "Internet" were asked a follow up question about which websites, and presented with 28 popular social and sexual networking sites (shown in Table 3). Though not exhaustive, this list was generated from our prior work and in consultation with MSM community members.

Participants were also asked six follow up questions regarding normative perceptions about the venues from which they met partners. Participants indicated what percentage of MSM at that venue they believed are typically "buzzed or drunk on alcohol with sex partners," "use cocaine with sex partners," "do poppers with sex partners," "use methamphetamine with sex partners," "have unprotected anal sex with sex partners," and "are HIV positive." Response options were in 10% increments (i.e., 0%, 10%, 20%, 30%, ..., 100%). For example, a man who indicated he had met a partner via a sex party was asked six follow up questions such as, "What percentage of other men who have sex with men do you think use cocaine with sex partners met at sex parties?" We report on these six normative perceptions for the five most common sources/venues where participants reported recent partners (the Internet, $n =$

124; gay bars and clubs, $n = 82$; through friends, $n = 59$; private sex parties, $n = 58$, and sex clubs, $n = 53$).

Due to software failure, two interviews were lost. Both participants were from the bar/club cohort. Thus, the final analytic sample for this study was $n = 50$ participants recruited via Craigslist, $n = 50$ recruited via sex parties, and $n = 48$ recruited at bars/clubs.

Analytic Plan

As appropriate, we used Pearson's chi-squared statistics and analysis of variance (ANOVA) to compare the three cohorts of MSM on demographic characteristics, STI history, substance use, and psychosocial measures. Next, we compared these cohorts on the locations where they reported meeting male sex partners in the prior 3 months, and investigated prevalence data on the various social and sexual networking websites where participants reported a recent male sex partner. Finally, for the five most commonly reported sources/venues participants had met a recent sex partner, we examined descriptive statistics regarding normative perceptions for substance use, sexual behavior, and HIV-positive sero-prevalence.

Results

Participants ranged in age from 18 to 75 ($M = 37.0$, $SD = 12.7$), with men from bars/clubs being significantly younger than men from sex parties (See Table 1). Nearly one-quarter (23.6%) self-reported that they were HIV-positive, 70.9% HIV-negative, and 5.4% did not know their status. Men from sex parties had the highest proportion of men who reported being HIV-positive (46.0%) compared to men from bars and clubs (10.4%) and Craigslist (14.0%). Half of participants were MSM of color and this was unassociated with recruitment source. A significantly smaller proportion of men from Craigslist self-identified as gay (78.0%) compared to men from bars/clubs (97.9%) and sex parties (86.0%). Recruitment source was marginally associated ($p = .06$) with education (men from bars/club trended toward having more education).

Among those who said they practice anal sex ($n = 139$), 16.9% said they identified as a barebacker (i.e., one who intentionally seeks out sex without condoms) and the largest proportion of barebackers were recruited via sex parties (36.2%). There was a significant association between HIV-positive serostatus and barebacker identity—52.9% of HIV-positive men identified as barebackers, compared with 6.7% of non-HIV-positive men ($\chi^2 = 37.3$, $p < .001$). Among the 139 men who reported they practice anal sex, 45.3% reported UAI with a casual male partner in the prior 30 days, and venue of recruitment was unassociated with reporting UAI.

Significant differences by venue of recruitment were found with regards to lifetime STI diagnosis, with the group recruited from sex parties having the largest proportion of men who had experienced a lifetime STI diagnosis (68.0%). Across all men, the highest reported prevalence was for genital warts (38.0%) and syphilis (32.0%). Whether a participant had done any drugs (yes/no) in the last 6 months was not significantly associated with venue of recruitment; however, cocaine/crack (47.9%) and hallucinogen use (25.0%) was highest among men from bars/clubs (both $p < .01$). There was a marginal association ($p = .054$)

between alcohol dependence and venue of recruitment—37.5% of men from bars/clubs demonstrated high probability for alcohol dependence, compared with 26.0% from Craigslist and 16.0% from sex parties.

With regard to psychosocial measures, men from Craigslist reported significantly lower mean scores on the Attachment to the Gay/Bisexual Community Scale than men from bars and clubs. Men from sex parties reported significantly higher mean scores on the Sexual Compulsivity Scale than men from Craigslist, and significantly higher mean scores on the HIV Knowledge Scale (i.e., HIV treatment optimism) than men from bars/clubs. Recruitment source was not significantly associated with the Temptation for Unsafe Sex Scale.

Table 2 reports on differences between the three cohorts in the venues from which they reported meeting their male sex partners in the prior 3 months. In four instances, expected counts fell below 5, so a 2x3 Fisher's exact test was used in place of Chi-square. There were significant findings for 10 of the 18 venues assessed. Not surprisingly, venue of recruitment was highly associated with having met a partner in that venue. Ninety-six percent of men from Craigslist reported a partner from the Internet, 87.5% of men from bars/clubs reported a partner from a bar or club, and 82.0% of men from sex parties reported a partner via sex parties (and 74.0% of these men reported a partner via a sex club). Men from sex parties appeared to have widest range of venues through which they met sex partners (an average of 5.9 venues) including bathhouses, sex shops (including adult video arcades and book stores), Grindr, and via previous sex partners.

The Internet was the most common venue participants reported meeting partners, with 83.7% of the sample having used it in the prior 3 months. The three most common websites in which participants had met a recent male sex partner included [Craigslist.org](#) (62.9%), [Adam4adam.com](#) (54.0%), and [Manhunt.net](#) (33.1%). In total, 87.5% of men from Craigslist reported having met recent partners from [Craigslist.org](#), compared with 43.6% from bars/clubs and 51.4% from sex parties, $\chi^2 = 20.8, p < .001$. In addition, only 18.8% of men from Craigslist reported partners from [Manhunt.net](#) compared with 53.8% from bars/clubs and 29.7% from sex parties, $\chi^2 = 12.2, p = .002$. We did not have sufficient power to detect differences in other websites, which were less common for having met a recent sex partner. Participants were also given the opportunity to write in any websites from which they had met a partner but were not included in our list. These responses included [allkink.com](#), [thugsforsex.com](#), [massageclub.org](#), [squirt.org](#), [men4now.com](#), [daddyhunt.com](#), and [bearwww.com](#). Each of these was only indicated once.

Finally, for the five most common venues/sources from which participants reported meeting sex partners, we reviewed participants' normative perceptions regarding substance use, sexual behavior, and HIV-positive sero-prevalence (see Table 4). Unlike the venues in which participants were recruited, the venues where participants reported partners are not mutually exclusive (e.g., one participant may have used two of the five, while another used only one, and a third used all five). As a result, it is not possible to conduct statistical comparisons between venues. Nonetheless, we can observe meaningful trends within each venue. For example, men who reported a partner from a gay bar/club ($n = 82$) perceived that,

on average, 69.3% of men who meet partners at bars/clubs are drunk or buzzed on alcohol at the time, and this average was markedly higher than other venues. Men who met partners at private sex parties ($n = 58$) or through sex clubs ($n = 53$) perceived that, on average, 60.9% of other men who meet partners at sex parties (or through sex clubs) use poppers at the time. Regardless of venue, men believed that approximately a quarter of the men, on average, used methamphetamine. Across venues, participants perceived that an average of between 45% and 55% of men had unprotected sex when meeting partners via the five most common venues. Similarly, across venues, participants perceived that an average of between 36% (at gay bars/clubs) and 55% (at sex clubs) of the men at these venues were HIV-positive. Among participants who reported meeting partners via friends ($n = 59$)—and with the exception of the proportion of other men believed to engage in unprotected sex or use methamphetamine—relative mean percentages for substance use (alcohol, cocaine, poppers) and HIV-positive sero-prevalence were lower than other venues.

Discussion

This study compared three sexually active cohorts of MSM recruited via [Craigslist.org](https://www.craigslist.org), gay bars and clubs, or private sex parties, and found mixed results with regard to differences in demographic characteristics, STI history, and psychosocial measures. Men from sex parties were the oldest on average, scored highest on the Sexual Compulsivity Scale, and had the highest proportion of men who reported a history of STIs and self-identified as barebackers. These men also scored highest on HIV treatment optimism, which is perhaps unsurprising given that 46% of these men were HIV-positive (the highest of any group). Further, men from sex parties appeared to have the most diverse set of venues for meeting sex partners. Although venue of recruitment was unassociated with recent UAI with a casual male partner, there was a notable gap between the proportion of men reporting UAI from [Craigslist.org](https://www.craigslist.org) and sex parties (34.0% vs. 52.0%), which might have been statistically significant with a larger sample size. For example, and although not directly comparable, one study reported that men from Craigslist were significantly less likely than men from bars/clubs and men from bathhouses to engage in anal sex with male casual partners (Grov, 2012). A second study of 872 MSM who had attended a sex party in the last year and had anal sex in the last 90 days found that 75% reported at least one instance of UAI in the past 90 days, and this was significantly greater than men who had not been to a sex party (Grov et al., 2014). Taken together, these data coalesce with other's findings noting that men who attend sex parties may be particularly vulnerable to factors that put them at risk for HIV and STI transmission (Clatts et al., 2005; Grov et al., 2014; Grov, Rendina, Ventuneac, & Parsons, 2013c; Mimiaga et al., 2010; Mimiaga et al., 2011; Reisner et al., 2009; Solomon et al., 2011).

Given the high proportion of HIV-positive men who attend sex parties identified in our study, this might be a valuable opportunity for providers to engage in outreach with sex party promoters to ensure this population is engaged in care and on anti-retroviral medication. Meanwhile, HIV-negative men who attend sex parties might be appropriate candidates to take pre-exposure prophylaxis (PrEP), or explore the use of intermittent-PrEP (i.e., medication the day of a sex party as well as one day following) to avert HIV transmission.

In contrast, men from Craigslis.org reported the lowest mean scores on the Attachment to the Gay/Bisexual Community Scale and were also the least likely to self-identify as gay, which is similar to a prior study suggesting that Craigslis.org caters to a distinct MSM population (Grov, 2012). It may be that MSM who use Craigslis are less likely to be reached via traditional face-to-face outreach in concentrated gay neighborhoods (Sanchez et al., 2012). Similarly, they may be more disconnected from established/formal gay “communities” and thus lack access to social support from MSM community resources. Providers might be well served to advertise on Craigslis.org using messages tailored to bisexual men and other MSM who may be less connected to the gay community.

That being said, roughly one-third of men from bars/clubs (35%, $n = 17$ of 48) and sex parties (38%, $n = 19$ of 50) reported having met a partner off Craigslis in the last 3 months. Thus, although MSM recruited off Craigslis appear to be characteristically different from other MSM, notable portions of MSM recruited from other venues have used the website to meet a sex partner. And, although in the minority, this proportion is substantial enough such to warrant further investigation, particularly because the Craigslis environment is highly dissimilar from many traditional profile-based sexual networking websites (Grov, 2010). For example, Craigslis users’ ads are open-text-entry, whereas profile-based sites feature many “check off” options like HIV status, height, weight, and sexual interests. Profile-based websites are structured such that users interact with each other on the website (e.g., chat rooms, instant messaging, messages) whereas Craigslis users carry on their conversation off the website (i.e., via private email). These structural differences may impact sexual communication styles (Grov, 2010, 2012). Within the larger body of research on MSM’s online sexual networking, only a fraction has studied online bulletin boards like Craigslis.

Men from bars and clubs were the youngest on average and the most likely to report the use of hallucinogens and crack or cocaine. Further, more than one third of these men demonstrated high probability for alcohol dependence (note, marginal significance). HIV prevention efforts targeted to MSM in bars and clubs should consider adopting a dual approach that can subsequently address substance use and the connection between substance use and UAI (Grossman et al., 2011; Safren, Reisner, Herrick, Mimiaga, & Stall, 2010). A survey of 522 gay and bisexual men in bars and clubs noted that substance use ranked second behind HIV and STIs in terms of important issues facing gay communities (Grov, Ventuneac, Rendina, Jimenez, & Parsons, 2013d), suggesting providers may be well served to include a holistic approach toward prevention (Blank et al., 2005; Stall, Herrick, Guadamuz, & Friedman, 2009). In essence, MSM in bars/clubs might be receptive to outreach that dually addresses substance use and HIV.

Similar to Grov & Crow (2012), this study found a strong association between the venues where participants were recruited and having recently met a sex partner in that type of venue; however, it is clear that men used a variety of sources to find partners (an average of between 4 and 6 types of venues). A majority of participants reported having successfully met a sex partner using the Internet, and these men subsequently reported an average of two different websites from which they actually met a partner recently. Although not an exhaustive list, of the 28 websites presented to participants, Facebook.com ranked 5th—one in every 11 men who had met a partner off the Internet indicated that Facebook was the site

they used. Interestingly, Facebook is not specifically designed for sexual networking and has stringent rules regulating sexual content (both in photos and text). That being said, it is not implausible to sexual network on Facebook as private messages between users are not subject to the same prohibitions against sexual content. Given Facebook's large membership, it represents a powerful tool for researchers and providers to identify men who might be at risk for HIV and STI transmission (Parsons et al., 2013). Yet, its potential in this regard has not been fully utilized.

In total, these data indicate there may be some bridging between sexual networks. In essence, although there were characteristic differences in *who* was recruited via different venues, the wide range in places these men subsequently used to meet sex partners highlights strong potential for overlap in sexual networks. In developing strategies through which to understand HIV transmission across populations, researchers have investigated the roles that racial intermixing/homogeneity (Bohl, McFarland, & Raymond, 2011; Newcomb & Mustanski, 2013) as well as intergenerational sexual partnerships (Anema et al., 2013; Raymond & McFarland, 2009; Sowell & Phillips, 2010). These findings highlight that an additional variable, venue-frequenting patterns (Grov & Crow, 2012; Jenness et al., 2011), may also contribute to our understanding of how HIV, STIs, and other communicable pathogens (e.g., meningitis) are transmitted across seemingly separate sub-communities of MSM.

Participants indicated their normative perceptions regarding substance use, unprotected anal sex, and HIV-positive seroprevalence for the venues in which they met sex partners. It is noteworthy how high these values were across the board. Although we do not know the extent to which participants' perceptions impacted their own behavior, behavioral theories have noted that subjective norms can play instrumental roles in behavioral outcomes (Ajzen, 1991; Ajzen & Fishbein, 1980). From our findings, it is clear that participants perceived substance use and unprotected anal sex as normative in the venues where they met their partners. In addition, participants estimated between 41%–55% of other men at these venues were HIV-positive, which is markedly higher than the *actual* percentage of MSM who are HIV-positive (New York City Department of Health and Mental Hygiene, 2012). More research is needed to fully understand both MSMs normative perceptions as well as how these impact their sexual behavior and substance use. For example, in a study of 248 HIV-positive MSM, O'Leary et al. (2013) found that men exude the greatest personal responsibility to protect partners from transmission that were met through friends or family and the least personal responsibility with partners met in PSEs. Future research would be well served to determine if normative perceptions may be driving participant's own sexual behavior and substance use, or if instances of UAI and substance use persist in spite of one's normative perceptions that "warn" an individual to avoid risk (e.g., the personal fable of invincibility) (Elkind, 1967).

Limitations

There are limitations of this study to consider. Although several statistically significant associations were identified, the samples for each cohort of MSM were necessarily small due to this being a formative and exploratory study. Some of the marginally significant

associations ($.10 > p > .05$) observed in this study may have reached statistical significance were the sample size was larger. All participants were sexually active, having reported at least two new male partners in the last 30 days, and were able to complete the study in English. Thus, these men do not represent the entire population of the venue from which they were recruited. By not limiting participants to be only, for example, young MSM, this study was able to identify age differences across recruitment source. That being said, additional consideration should be given to the role that age plays in sexual behavior and substance use.

Men from bars/clubs and Craigslis.org were recruited using adaptations of time-space sampling; however, men from sex parties were recruited using passive recruitment and list-serves. As a probability-based approach, time-space sampling helps reduce some selection bias; however, it has the potential to oversample those who attend venues frequently (Jenness et al., 2011). Other probability based sampling approaches, such as respondent-driven sampling (Heckathorn, 1997, 2002) should be considered, and future studies should recruitment methods that incorporate random selection at sex parties.

We found that men from sex parties were more likely to have used mobile apps to have met a partner. Enrollment for the sex party cohort occurred later than the other two cohorts, thus this finding may be at least partially a result of recent and rapid adoption of mobile apps (Burrell et al., 2012; Rendina, Jimenez, Grov, Ventuneac, & Parsons, 2014; Rice et al., 2012). Data were collected via ACASI, which reduces social desirability; however response choices were subsequently close-ended. Men were asked to reflect on the venues from which they successfully met a sex partner in the last three months and their substance use in the last 6 months. This may be subject to recall biases.

Recruitment for the Craigslis.org cohort occurred via the research team posting ads and interested participants responding. We do not have data on the number of men who saw our ad, thus cannot determine a response rate. Another approach would be to respond to men's ads on Craigslist, inviting them to join the study (Moskowitz & Seal, 2010). However, this too may systematically exclude members of the Craigslist community who exclusively *browse* ads, but do not post themselves. Future research should consider evaluating both approaches (i.e., posting research ads vs. replying to user's ads with research invitations) not only for feasibility, but also sample representativeness.

Conclusion

Taken together, and in spite of these limitations, our findings coalesce with prior research suggesting that the venues in which participants are recruited have meaningful consequences in terms of the characteristics of participants represented in their data (Grov, 2012; Grov et al., 2010; Neaigus et al., 2011; Raymond et al., 2010; Reisner et al., 2009; Smith et al., 2010; Vanden Berghe et al., 2011). This suggests the need for researchers to carefully consider types of biases that may be introduced by targeting one specific source for recruitment, as well as examining for potential differences across the various recruitment sources in which they are targeting participants (Jenness et al., 2011). This may be especially important for national surveillance of HIV and STI incidence as well as sexual behavior and substance use among MSM (Vanden Berghe et al., 2011). For providers and

researchers, this study provided added detail on the types of health services that could be targeted in the various venues where MSM congregate. For example, this can include increased prevention and education around alcohol abuse for men in bars/clubs. On Craigslist, this may include services designed to reach men who may not be fully engaged with the gay/bisexual community. For men who go to sex parties, this may include harm reduction education around barebacking, HIV treatment optimism, engagement in care (for HIV-positive men), and PrEP (for HIV-negative men). From an epidemiological perspective, researchers might also consider conducting network analyses to track the partnership patterns and sexual networks of men, particularly because the wide range in places these men subsequently used to meet sex partners suggests strong potential for overlap in sexual networks.

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Table 1

Comparing three cohorts of MSM on demographic characteristics, STI history, substance use, and psychosocial measures

	Venue through which recruited							
	Craigslst, n = 50		Bars and Clubs, n = 48		Sex Parties, n = 50		χ^2	p
	n	%	n	%	n	%		
HIV-positive								
Yes	7	14.0	5	10.4	23	46.0	21.07	<.001
No	43	86.0	43	89.6	27	54.0		
Race or Ethnicity								
White	21	42.0	25	52.1	28	56.0	8.88	0.18
Black	6	12.0	7	14.6	9	18.0		
Latino	15	30.0	11	22.9	4	8.0		
Multiracial or Other	8	16.0	5	10.4	9	18.0		
Education								
High School or Less	3	6.0	8	16.7	7	14.0	12.05	0.06
Some College	18	36.0	5	10.4	12	24.0		
4-Year College Degree	17	34.0	17	35.4	20	40.0		
Graduate School	12	24.0	18	37.5	11	22.0		
Participant is not in a relationship (i.e., single) Sexual identity is "Gay" or "a	38	76.0	41	85.4	33	66.0	5.02	0.08
Yes	39	78.0	47	97.9	43	86.0	8.77	0.01
UAI with a casual male partner in the past 30 days	17	34.0	20	41.7	26	52.0	3.34	0.19
Identified as a Barebacker, valid n = 139*	3	6.7	5	10.6	17	36.2	16.17	<.001
Ever had a STI in lifetime?								
Gonorrhea	22	44.0	26	54.2	34	68.0	5.87	0.05
Genital warts (HPV)	11	22.0	16	33.0	16	32.0	1.84	0.40
Genital herpes	7	14.0	14	29.2	19	38.0	7.47	0.02
Syphilis	5	10.0	7	14.6	11	22.0	2.79	0.25
Hepatitis C	4	8.0	4	8.3	16	32.0	13.85	0.001
Hepatitis B	1	2.0	2	4.2	4	8.0	--	
Urethritis	4	8.0	5	10.4	8	16.0	1.65	0.44
Any Illicit drug use in the past 6 months?	7	14.0	3	6.2	5	10.0	--	
	36	72.0	39	81.2	33	66.0	2.92	0.23

	Venue through which recruited									
	Craigslist, <i>n</i> = 50			Bars and Clubs, <i>n</i> = 48			Sex Parties, <i>n</i> = 50			<i>p</i>
	<i>n</i>	%		<i>n</i>	%		<i>n</i>	%	χ^2	
Sedatives or Hypnotics (ambien, lunesta, seconal, halcion, etc.)	2	4.0		5	10.4		2	4.0	--	
Tranquilizers (xanax, klonopin, ativan, etc.)	2	4.0		9	18.8		2	4.0	--	
Stimulants (adderall, ritalin, other amphetamines. Not meth)	2	4.0		5	10.4		3	6.0	--	
Methamphetamine	2	4.0		8	16.7		6	12.0	4.16	0.12
Opiates (methadone, morphine, codeine, demerol)	3	6.0		6	12.5		3	6.0	--	
Inhalants (poppers, ethyl chloride, whippets)	21	42.0		25	52.2		23	46.0	1.01	0.60
Marijuana (hash)	27	54.0		29	60.4		26	52.0	0.76	0.68
Cocaine or crack (freebase)	10	20.0		23	47.9		11	22.0	11.30	0.004
Hallucinogens (ecstasy, ketamine, LSD, mushrooms)	2	4.0		12	25.0		6	12.0	9.39	0.009
Heroin	0	0.0		0	0.0		0	0.0	--	
High probability for Alcohol Dependence (CIDI-SAM)	13	26.0		18	37.5		8	16.0	5.84	0.054
	Group A			Group B			Group C			
	<i>M</i>	<i>SD</i>		<i>M</i>	<i>SD</i>		<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Age	36.3	12.2		33.1	10.6		41.5	13.9	5.84	0.004
Attachment to the G/B community scale (Range 5–20)	14.9	4.4		17.1	3.3		16.1	4.0	3.91	0.02
Temptation for unsafe sex scale (Range 0–52)	11.3	11.6		12.4	12.0		16.4	14.3	2.26	0.11
Sexual Compulsivity Scale (Range 10–39)	15.9	5.7		18.2	6.6		20.0	6.8	5.11	0.007
HIV Knowledge Scale (i.e., Optimism) (Range 17–48)	28.6	5.7		28.3	5.9		31.5	7.6	3.77	0.03

* *n* = 9 indicated they do not have anal sex

-- Chi-Square not calculated, expected counts fell below 5 in one or more cells

^a 15 men (10%) self identified as bisexual and 4 men (2.7%) as "other" but reported sex with men

Table 2
Differences in where MSM from Craigslist, Bars/Clubs, and Sex Parties met their sex partners in the prior three months

	Venue through which recruited						χ^2	<i>p</i>
	Craigslist, <i>n</i> = 50		Bars and Clubs, <i>n</i> = 48		Sex Parties, <i>n</i> = 50			
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
Reported sex partners in the last 3 months from...								
The Internet	48	96.0	39	81.3	37	74.0	9.24	0.01
Gay bars or clubs	16	32.0	42	87.5	24	48.0	32.21	<.001
Through friends	18	36.0	23	47.9	18	36.0	1.92	0.38
Private sex party	8	16.0	9	18.8	41	82.0	58.15	<.001
Sex clubs (not sex shops)	7	14.0	9	18.8	37	74.0	48.15	<.001
Through current or previous sex partners	18	36.0	9	18.8	23	46.0	8.30	0.02
Grindr	7	14.0	20	41.7	23	46.0	13.42	0.001
Sex shops, video arcades, or adult bookstores	12	24.0	8	16.7	19	38.0	5.96	0.051
Bathhouses	6	12.0	9	18.8	19	38.0	10.27	0.006
On the street or public transportation	11	22.0	12	25.0	7	14.0	1.97	0.37
Steam room, saunas, or showers	6	12.0	10	20.8	11	22.0	2.00	0.37
Public cruising (at parks, piers, etc.)	10	20.0	5	10.4	7	14.0	1.82	0.40
Mobile phone apps other than Grindr	3	6.0	3	6.3	12	24.0	9.91	0.007
Gym (not the steam room, sauna, shower)	3	6.0	8	16.7	5	10.0	2.94	0.23
At work ^a	8	16.0	3	6.3	0	0.0	--	0.005
Public toilets ^a	2	4.0	1	2.1	7	14.0	--	0.08
GLBT community events or support groups ^a	2	4.0	6	12.5	2	4.0	--	0.18
At school ^a	3	6.0	2	4.2	1	2.0	--	0.70
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Number of venues met partners from (Range 1–12)	3.8	2.02	4.5	1.90	5.9	2.73	11.10	<.001

^a Fisher's exact 2x3 used instead of Chi-Square (expected counts fell below 5 in one or more cells)

Table 3Websites MSM met their sex partners in the prior three months ($n = 124$)

	<i>n</i>	%	Notes
Craigslist.org	78	62.9	<i>a</i>
Adam4Adam.com	67	54.0	<i>c</i>
Manhunt.net	41	33.1	<i>b</i>
BarebackRT.com	14	11.3	<i>c</i>
Facebook.com	11	8.9	<i>c</i>
Dudesnude.com	10	8.1	<i>c</i>
Recon.com	10	8.1	<i>c</i>
DaddyHunt.com	8	6.5	<i>c</i>
OKcupid.com	7	5.6	<i>c</i>
Gayromeo.com	6	4.8	<i>c</i>
Bareback.com	6	4.8	<i>c</i>
SilverDaddies.com	6	4.8	<i>c</i>
Rentboy.com	5	4.0	<i>c</i>
Men4SexNow.com	5	4.0	<i>c</i>
AOL (America Online)	4	3.2	<i>c</i>
Bigmusclebears.com	4	3.2	<i>c</i>
Bear411.com	4	3.2	<i>d</i>
BlackGayChat.com (BGC)	2	1.6	<i>c</i>
Gay.com	1	0.8	<i>c</i>
Gaydar.com	1	0.8	<i>c</i>
Myspace.com	1	0.8	<i>c</i>
OutPersonals.com	1	0.8	<i>c</i>
Justusboys.com	1	0.8	<i>c</i>
Men4Rent.com	1	0.8	<i>c</i>
Asspig.com	1	0.8	<i>c</i>
Positivesingles.com	0	0.0	<i>d</i>
BlackPlanet.com	0	0.0	<i>d</i>
RealJock.com	0	0.0	<i>c</i>
None of the above	2	1.6	<i>c</i>
	<i>M</i>	<i>SD</i>	
Number of websites met partners from (Range 0–9)	2.1	1.36	<i>e</i>

^a 87.5% of men from craigslist reported partners from [Craigslist.com](#), compared to 43.6% from Bars/Clubs and 51.4% from Sex Parties, $\chi^2 = 20.8$, $p < .001$

^b 18.8% of men from Craigslist reported partners from [Manhunt.net](#) compared to 53.8% from Bars/Clubs and 29.7% from Sex Parties $\chi^2 = 12.24$, $p = .002$

^c Insufficient statistical power to compare differences across venue of recruitment. Expected cell counts fall below 5 in one or more cells

^d Not applicable to compare differences across venue of recruitment

^e No significant differences in the mean number of websites reported by venue of recruitment, $F = 2.56, p = .08$.

Normative perceptions of MSM at the five most common venues where participants reported sex partners in the prior 3 months

Table 4

	... online. n = 124		... at gay bars & clubs. n = 82		... through friends. n = 59		... at private sex parties. n = 58		... at sex clubs. n = 53	
	M	SD	M	SD	M	SD	M	SD	M	SD
What percentage of other men who have sex with men do you think ^{1,2} ...										
...are buzzed or drunk on alcohol with sex partners met...	32.4	(20.5)	69.3	(18.4)	27.1	(13.3)	46.2	(24.8)	37.4	(23.0)
...use cocaine with sex partners met...	25.1	(16.8)	29.8	(17.4)	20.0	(15.7)	23.3	(18.3)	23.2	(16.4)
...do poppers with sex partners met...	51.5	(22.0)	47.4	(24.2)	47.1	(20.9)	60.9	(21.6)	60.9	(22.6)
...use methamphetamine with sex partners met...	26.5	(19.0)	23.4	(17.3)	25.0	(28.8)	25.3	(21.1)	24.9	(20.3)
...have unprotected anal sex with sex partners met...	45.0	(19.4)	43.9	(21.2)	45.0	(23.5)	43.6	(24.4)	54.7	(23.3)
...are HIV-positive...	40.8	(18.9)	36.1	(19.9)	37.1	(29.5)	45.3	(27.1)	54.7	(21.9)

¹ An example question: "What percentage of other men who have sex with men do you think are buzzed or drunk on alcohol with sex partners met online"

² Response options were in 10% increments (e.g., 0%, 10%, 20%, 30% ... 100%)