Characteristics of men who have sex with men (MSM) who attend sex parties: Results from a national online sample in the U.S

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Abstract

Objective—To compare three groups of MSM—men who had attended a sex party in the past year (45.2%); men who had been to a sex party more than a year ago (23.3%); and men who had never been to one (31.5%)—on socio-demographic and behavioral characteristics.

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Method—In spring 2012, 2,063 sexually active MSM in the U.S. were recruited using banner advertising on a sexual networking website to complete an online survey about their sexual behavior and attendance at sex parties.

Results—A significantly higher proportion of past year attendees were HIV-positive (28.1%), single (31.7%), demonstrated sexual compulsivity symptomology (39.2%), recently used drugs (67.8%), averaged the greatest number of recent male partners (*Mdn*=15, <90 days), and greater instances of recent unprotected anal intercourse (UAI) with male partners (*Mdn*=3, <90 days). Adjusting for covariates, those having been to a sex party in the last year were significantly more likely than others to report UAI. Free lubricant (93.4%) and condoms (81.0%) were the most desirable services/products men wanted at sex parties. More than half of men having been to a sex party expressed interest in free rapid HIV testing at sex parties (52.8%); however, few considered it acceptable to see "medical providers" (11.7%) and "peer outreach workers" (9.5%) at sex parties.

Conclusions—MSM who have attended a sex party in the last year are appropriate candidates for targeted HIV and STI prevention. Collaborating with event promoters presents valuable opportunities to provide condoms, lubricant, and HIV/STI testing.

INTRODUCTION

In the United States the U.S., men who have sex with men (MSM) accounted for 63% of new HIV diagnoses in 2010.[1] Researchers have recognized the role that venues where MSM meet their sex partners play in influencing HIV/STI risk as well as the need to locate prevention services within venues.[2–4] Specifically, studies have investigated the role sex parties play in risk behaviors among MSM,[5–10] suggesting that sex party attendance may be common and that men who attend them may be at higher risk for HIV/STIs. One study of urban MSM reported that 25% recently attended a sex party and that these men had higher rates of unprotected anal intercourse (UAI),[3] and another noted that HIV-positive MSM were more likely to have attended sex parties than HIV-negative men.[5] A survey of gym-attending MSM reported that 23% attended a sex party in the previous six months and 8% had attended a bareback sex party.[11] In comparison, a 2011 study of young MSM found that 8.7% had recently attended a sex party; they reported higher numbers of male sex partners and were more likely to report drug use than men who had not attended sex parties.[9] These findings highlight variability in the proportion of MSM who attend sex parties, suggesting that more work is needed to determine the prevalence of sex party attendance and whether there are there are demographic and behavioral differences between men who do and do not attend.

Sex parties can have themes that may impact behavior. For example, themes around HIV status,[6] kink,[6,9] and barebacking[11] have been described, and these themes may be differentially associated with HIV risk. As such, more research is needed to characterize the full range of sex party themes and describe their prevalence. Additionally, there are insufficient data on the acceptability and feasibility of varying types of prevention/outreach approaches within sex parties, which limits the development of tailored HIV/STI prevention techniques.

We sought to address these gaps by focusing on a national online sample of MSM. We describe the prevalence and patterns of various multiple partner encounters. Second, we

compared socio-demographic and behavioral differences between men who had attended sex parties in the last year, more than a year ago, and had never attended a sex party. Third, we examined the associations of UAI with sex party attendance and other HIV/STI transmission risk factors. We describe the acceptability of HIV/STI prevention, education, and services at sex parties.

METHOD

Participants and procedures

For one month in spring 2012, the research team advertised on a popular, free sexual networking website for MSM. Those clicking the ad were redirected to our survey, which took approximately 10 minutes to complete. The survey screened participants for other, paid studies, though *this* online survey had no incentive itself.[12] Procedures were approved by the CUNY Institutional Review Board.

The ad was clicked 10,900 times. Thirty-one percent (*n*=3,334) provided informed consent and began the survey; the remainder closed their browsers. Eleven men were younger than 18 and ineligible. Of the remaining 3,323 who provided informed consent, 2,287 (68.8%) completed the survey. From these, we excluded the following: 108 individuals (4.7%) outside the US; four (0.1%) born biologically female; 15 (0.7%) not male-identified; 79 (3.5%) who reported no sex with men in the last 90 days; 18 surveys (0.8%) suspect of being duplicates (same IP address or computer metadata), and one man who did not indicate his sexual identity. The final sample included 2,063 sexually active MSM in the US (90% of completed surveys).

Measures

Sex with multiple partners—Participants were presented with sexual scenarios involving multiple partners. Items included threesomes as well as themed/organized sex events. Items are presented in Table 1. Response options included "No, never," "Yes, but not within the last 12 months," and "Yes, within the last 12 months." Those who had ever participated in group sex (i.e., items 4 through 20 in Table 1) were asked to indicate how many sex parties they attended in the previous year.

Demographic characteristics—Participants completed measures for demographic characteristics including age, race/ethnicity, sexual identity, HIV status, and age (Table 2).

Behavioral and social risk factors—Participants completed the 10-item Sexual Compulsivity (SC) Scale[13] (a =.91), capturing feelings of loss of control over sexual thoughts and behaviors. Consistent with existing literature,[14–16] we categorized scores of 24 as indicative of SC symptomology (*M*=21.1, *SD*=7.88, Range 10–40).

Participants indicated use of alcohol and any of the following drugs in the last three months: cocaine, methamphetamine, MDMA (ecstasy), GHB, ketamine, marijuana, crack, nitrate inhalants (poppers), erectile drugs, or heroin. Participants indicated the number of male partners they had sex with in a given week, the last 30 days, and the last 90 days, and the number of UAI acts with male partners in the last 90 days. Participants indicated any anal or vaginal sex with female or transgender partners (combined), as well as their combined number of female/transgender partners (in 90 days), and the combined number of unprotected anal or vaginal acts with these partners (in 90 days). Because of the known risk of HIV transmission with main partners,[17] participants were instructed to include sexual activity with main partners in their estimates. Participants indicated the preferred age of their sex partners (younger, same age, older, or "It doesn't matter") (Table 3).

HIV/STI prevention, education, and services at sex parties—Participants who had ever been to a sex party (*n*=1,413) were asked to select the types of HIV/STI prevention, education, and health services they would like to see or receive at sex parties (Table 4).

Analytic plan

Using descriptive statistics, we report on prevalence and patterns of multiple partner encounters. Using chi-square and Kruskal-Wallis tests, we compared three groups of men: (1) those who attended sex parties in the last year ("past year attendees"); (2) those who attended a sex party more than a year ago ("lifetime attendees"); and (3) those who had never attended a sex party ("non-attendees"). In two instances, expected counts fell below five and paired Fisher's exact tests (two-tailed) were used. We compared participants on socio-demographic and behavioral characteristics. Post-hoc tests were conducted using partial chi-square and Mann-Whitney *U* with LSD criterion.

We conducted two multivariable models: a logistic regression utilized to identify associations with UAI with a male partner in the last 90 days (1=yes, 0=no) and a negative binomial regression to identify associations with the *number* of UAI acts with male partners in the last 90 days. Such an approach allows us to investigate factors associated with the absence/presence of HIV/STI risk as well as magnitude of exposure. Independent variables entered into the model included sex party attendance (past year, lifetime, and non-attendance), recent stimulant (methamphetamine, cocaine/crack) use (1=yes, 0=no), a dichotomous indicator of SC symptomology, age (in years), HIV-positive status (1=yes, 0=no), number of male partners (90 days), and whether participants were currently in a relationship (1=yes, 0=no). These variables were selected based on significant observed bivariate associations as well as conceptual relevance.

Finally, we report descriptive statistics on the acceptability of HIV/STI prevention, education, and services at sex parties.

RESULTS

Participants resided in 49 of the 50 states and Puerto Rico. The majority were White, gay-identified, and reported being HIV-negative. Mean age was 36.2 years (SD=12.2).

Patterns and prevalence of multi-partner encounters

Table 1 reports patterns and prevalence of multi-partner encounters. A majority (54.9%) participated in a threesome with two other men in the previous year. Threesomes with female partners in the last year were less common—7.1% reported a threesome with women. Participants had attended events in private homes or commercial sex venues, either free or for a cover charge. In the past year, 11.6% of men had attended a sex party themed around serosorting (e.g., HIV-positive men only); 11.9% had attended a barebacking sex party, 11.6% had attended a safer sex party, and 9.0% had been to a 'mixed' safe-unsafe sex party (i.e. wristbands identified what types of sex men were into). With regard to themes not previously described in literature, 11.8% of men attended a sex party for certain body types (e.g., muscle men, thin men); 10% attended a party themed around age groups (e.g., young men only, 'daddies' only).

Participants who had taken part in a sex party or group sex in their lifetime (*n*=1413, 68.5%) indicated how many sex parties they attended in the previous year. Sixty-six percent (*n*=933) attended at least one in the past year (*Mdn*=3; IQR 2–6; "past year attendees") and 33.9% (*n*=480) said they had been to a sex party, but not in the last year ("lifetime attendees").

Demographic differences in sex party attendance

Sexual identity, sex role, and racial/ethnic background were not associated with sex party attendance. Sex party attendance was related to HIV status, relationship status, and age. In total, 28.1% of past year attendees and 24.0% of lifetime attendees were HIV-positive compared with only 11.6% of non-attendees. A significantly higher proportion of non-attendees were in a relationship (72.6%) and younger (*Mdn*=29). See Table 2.

Social and behavioral differences in sex party attendance

Compared to non-attendees (29.4%), a higher proportion of past year (39.2%) and lifetime (35.0%) attendees reported SC symptomology. Compared to non-attendees (41.5%), a higher proportion of past year (51.9%) and lifetime (46.0%) attendees indicated partners' ages did not matter. A significantly larger proportion of past year attendees (67.8%) reported drug use, followed by lifetime attendees (58.3%) and non-attendees (43.7%). There were no significant differences in recent marijuana or alcohol use; however, past year attendees were the most likely to have recently used all other drugs assessed. See Table 3.

There were notable differences in sexual behavior with male partners across the three groups. Past year attendees reported the greatest number of male sex partners in a given week (*Mdn*=2), the last 30 days (*Mdn*=6), and the last 90 days (*Mdn*=15). Past year attendees reported having anal sex with the greatest number of male sex partners in the last 90 days (*Mdn*=8). Compared to non-attendees (85.9%), a significantly greater proportion of past year attendees (93.5%) and lifetime attendees (92.2%) reported anal sex with male partners in the last 90 days (χ^2(2)=27.9, *p*<.001). Among those (*n*=1,857), compared with lifetime and non-attendees, past-year sex party attendees reported the greatest proportion of UAI with a male partner (74.8%) and the greatest number of UAI acts (*Mdn*=3). There were no significant differences in sexual behavior with female and transgender partners.

Multivariable associations with UAI with a male partner (yes/no) and UAI acts

For all participants (*n*=2063), we conducted logistic regression to predict UAI with a male partner in the past 90 days (1=yes, 0=no). Compared to non-attendees, past year attendees had 1.45 times the odds of engaging in UAI ($CI_{95\%}$ 1.16–1.83, *p*=.001); lifetime sex party attendees had 1.37 times the odds of UAI ($CI_{95\%}$ 1.07–1.77, *p* =.01). Stimulant drug use in the past 90 days (AOR=2.78, $CI_{95\%}$ 1.92–4.02, *p*<.001), being HIV-positive (AOR=1.94, $CI_{95\%}$ 1.51–2.50, *p*<.001), demonstrating SC symptomology (AOR=1.26, $CI_{95\%}$ 1.03–1.54, *p*=.02), and reporting a greater number of male sex partners (AOR=1.02, $CI_{95\%}$ 1.01–1.02, *p*<.001) were independently associated with increased odds for UAI. Age was inversely associated with UAI (AOR=0.99, $CI_{95\%}$ .98-.998, *p*=.018). Relationship status was not associated with UAI (AOR=.90, $CI_{95\%}$ .74–1.10, *p*=.31).

We conducted the same procedures using negative binomial regression to predict the number of UAI acts with male partners in the last 90 days (*Mdn*=1, IQR=0–5). Compared to past year attendees, non-attendees had a 29% lower rate of UAI (Exp β = 0.71, $CI_{95\%}$=.62–.81); lifetime attendees had a 24% lower rate of UAI (Exp β = 0.76, $CI_{95\%}$=.66–.87). Having used stimulant drugs (Exp β=1.43, $CI_{95\%}$=1.24–1.65, *p*<.001), being HIV-positive (Exp β=1.78, $CI_{95\%}$=1.58–2.01, *p*<.001), reporting a greater number of male partners (Exp β=1.02, $CI_{95\%}$=1.02–1.03, *p*<.001), and currently being in a relationship (Exp β=1.34, $CI_{95\%}$=1.21–1.50, *p*<.001) were associated with higher rates of UAI. Age was negatively associated with UAI acts (Exp β=.99, $CI_{95\%}$=.987-.996, *p*<.001). SC symptomology was not associated with the rate of UAI (Exp β=1.05, $CI_{95\%}$=.95–1.17, *p*=.31),

Acceptability of HIV/STI prevention, education, and services at sex parties

Lifetime and past year sex party attendees were asked follow-up questions about different types of HIV and STI prevention, education, or services they would like to have available at sex parties (Table 4). The vast majority of participants indicated they would want to receive free lubricant (93.4%) and condoms (81.0%); a majority expressed interest in free rapid HIV testing (52.8%). More than one-third expressed interest in free STI testing (43.9%) and testicular exams (36.9%). Least-endorsed items included peer outreach workers (9.5%), medical providers (11.7%) and video safer sex demonstrations (13.0%).

DISCUSSION

Compared with non-attendees and lifetime attendees, past year attendees differed by demographic and behavioral characteristics, suggesting these men may comprise a high-risk group for HIV/STI transmission. Sex party attendance was independently associated with engaging in UAI even after adjusting for known HIV/STI risk factors. These findings are consistent with others;[3,9,11] however they do not suggest that participants engaged in these behaviors *at* sex parties. Instead, they suggest men who attend sex parties may be in great need of targeted HIV and STI prevention.

Free condoms and lubricant were the most desirable services/products men would like at sex parties; these could be supplied by community outreach providers. More than half of men expressed interest in free rapid HIV testing at sex parties; other research on on-site HIV testing in bathhouses suggested promising results.[18,19] Studies have shown that MSM are willing to use rapid HIV tests to screen sexual partners; this strategy could aid in HIV prevention.[20,21] Yet, available rapid tests cannot capture acute HIV-infection, and may reinforce UAI for some.[22] Added, it remains unclear the extent to which MSM who self-test as HIV-positive subsequently seek care.[23] As such, it is necessary to determine how testing at sex parties impacts behavior.

The proportion of men reporting past year attendance appears higher than other studies, though they had different recall windows (i.e., 3-, 6-months).[3,9,11] Pollock et al.[11] reported that 8.9% of their sample had been to barebacking-themed sex parties in the past 6 months, compared with 11.9% of our participants in the past 12 months. These findings suggest notable prevalence of MSM attending sex parties that confer HIV/STI transmission risks. We reported on a broader range of themes and found that a noteworthy proportion of men (16%–25%) attended a party involving behaviors conferring lower risk of HIV transmission (massage, oral sex), though we did not collect data about their actual practices. Thus, not all sex parties are inherently risky. These findings highlight the need to assess within-person differences among male sex party attendees.

Findings regarding themed events suggest unique opportunities for providers to target demographic (e.g., younger men, men of color) and behavioral (i.e. bareback) groups. Our findings also suggest providers may want to use caution implementing preventive services at sex parties. Although over half of participants expressed interest in HIV testing and over one-third in STI testing or testicular exams, seeing "medical providers" and "peer outreach workers" was seldom considered acceptable. There may also be logistical challenges in working with events that occur in private residences or hotel rooms (e.g., finding private/separate spaces to interact with patrons, keeping updated on the ephemeral nature of the sex party scene). Providers might consider collaborating with party organizers to deliver programs, and reach out to party attendees as they enter or leave.

There are strengths and limitations to consider. We captured a range of types of sex parties, though this list was not exhaustive. We did not focus on the behaviors men might have

engaged in *within* a sex party, thus causality cannot be inferred. We cannot attest to within-person variability in and out of sex parties.

Responses were self-reported, questions were closed-ended, and some wording was perhaps not ideal. For example, participants reported UAI with main and casual male partners combined. Relationship status was not associated with whether participants engaged in UAI (yes/no), but was associated with the number of UAI acts. This may indicative of increased UAI acts with a main partner. Participants reported sexual behavior with female and transgender partners combined, thus behavior with non-transgender and transgender female partners cannot be disentangled. We also did not have data on partners' HIV statuses.

Findings were based on an online volunteer sample of men recruited from a single sexual-networking website. This sample engaged in greater HIV/STI risk behaviors than what has been documented in CDC surveillance data.[24] Because websites often cater to specific audiences, these findings may not generalize to other sites. For example, our sample was younger and more racially and ethnically diverse than those from previous online studies,[25–27] which is both a strength and limitation. The completion rate of 69% for our study was higher than most online studies of MSM.[25,27–29] Though we lacked sufficient data on those who did not complete the survey to determine if attrition was random, attrition patterns suggested non-completion may have resulted from fatigue.[27,30] There was no incentive for this online study, though our aim was to recruit/screen for larger incentivized studies. This might have motivated individuals to complete the survey more than once, though we found little evidence of duplicate cases.

This study has implications for providers and researchers. Past year attendees were at high risk for UAI, drug use, and SC. Collaborating with promoters presents valuable opportunities to (1) tailor outreach efforts to at-risk men, (2) provide information about behavioral risk reduction and biomedical strategies (rapid testing, PrEP), and (3) ensure the availability of condoms and lubricant. Researchers might consider evaluating the effect of on-site services in reducing HIV and STI transmission risks. Finally, this study found clear between-person differences with regard to those who do and do not attend sex parties. A next empirical question to examine is whether there is within-person variability regarding behavior in and out of sex parties.

Acknowledgments

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KEY MESSAGES

- MSM who have attended a sex party in the last year demonstrate high risk for HIV and STI transmission.

- MSM who have attended a sex party in the last year are appropriate candidates for targeted HIV and STI prevention.

- Although a majority of men having been to a sex party expressed interest in free rapid HIV testing at sex parties, few considered it acceptable to see prevention providers at sex parties.

- Collaborating with event promoters presents valuable opportunities to identify men who may be at risk, and to deliver services such as condoms, lubricant, and HIV/STI testing.

Table 1

Participation in different types of multiple partner sexual encounters

	No, Never		Yes, but not within the last 12 months		Yes, within the last 12 months	
	n	%	*n*	%	*n*	%
Threesome encounters						
1 Had a threesome (you and two men)?	316	15.3	614	29.8	1133	54.9
2 Had a threesome (you and another man and woman)?	1583	76.7	365	17.7	115	5.6
3 Had a threesome (you and two women)?	1892	91.7	140	6.8	31	1.5
Group Sex and Sex Parties						
4 Been part of a group sex event (e.g., an orgy, or a spontaneous gathering of four or more people that turns sexual) at your home/apartment or someone else's home/apartment?	844	40.9	599	29.0	620	30.1
5 Attended a free sex party at someone else's home/apartment?	1159	56.2	467	22.6	437	21.2
6 Attended a sex party at someone else's home/apartment that charged a cover for admission?	1616	78.3	244	11.8	203	9.8
7 Attended a free sex party at a private venue (e.g., a sex club)?	1380	66.9	364	17.6	319	15.5
8 Attended a sex party at a private venue (e.g., a sex club) that charged a cover for admission?	1379	66.8	339	16.4	345	16.7
9 Attended a sex party at a private venue (e.g., a sex club) that requires a subscription or membership?	1498	72.6	284	13.8	281	13.6
10 Attended a sex party for people of the same HIV status as you (i.e., 'neg for neg', 'poz for poz')?	1657	80.3	166	8.0	240	11.6
11 Attended a bareback themed sex party?	1619	78.5	198	9.6	246	11.9
12 Attended a jerk-off/oral sex only themed party?	1559	75.6	305	14.8	199	9.6
13 Attended a safer sex only themed party?	1545	74.9	279	13.5	239	11.6
14 Attended a 'mixed' themed sex party (e.g., both bareback and safer sex with wristbands or other identifiers to indicate your preference)?	1687	81.8	190	9.2	186	9.0
15 Attended a naked massage-only erotic themed party?	1728	83.8	170	8.2	165	8.0
16 Attended a kink (e.g., BDSM, fisting) themed sex party?	1667	80.8	227	11.0	169	8.2
17 Attended a watersports * themed sex party?	1793	86.9	149	7.2	121	5.9
18 Attended a sex party for men of certain races (e.g., 'men of color')?	1733	84.0	180	8.7	150	7.3
19 Attended a sex party for men of certain body types (e.g., muscle men, jocks, thin men, twinks, bears)?	1588	77.0	231	11.2	244	11.8
20 Attended a sex party for men of certain ages (e.g., young men only, daddies only)?	1656	80.3	197	9.5	210	10.2

*
Urine play/exchange

Table 2

Demographic differences in sex party attendance

	Group a		Attended a sex party? Group b		Group c		χ^2	df	p	Post hoc [†]
	Never in my life ("non-attendees") $n = 650$		Yes, but not in the last year ("lifetime attendees") $n = 480$		Yes, in the last year ("past year attendees") $n = 933$					
	n	%	n	%	n	%				
Sexual identity							9.60	6	0.14	--
Gay	485	74.6	367	76.5	729	78.1				
Bisexual	155	23.8	99	20.6	181	19.4				
Queer	4	0.6	9	1.9	17	1.8				
Heterosexual	6	0.9	5	1.0	6	0.6				
Sex Role							9.36	8	0.31	--
Bottom (100%)	84	12.9	62	12.9	149	16.0				
Versatile bottom	180	27.7	109	22.7	229	24.5				
Versatile (50/50)	162	24.9	128	26.7	249	26.7				
Versatile top	148	22.8	120	25.0	196	21.0				
Top (100%)	76	11.7	61	12.7	110	11.8				
HIV Status							64.09	4	<.001	a b, c
Negative	504	77.7	314	65.4	574	61.5				
Positive	75	11.6	115	24.0	262	28.1				
Unknown	70	10.8	51	10.6	97	10.4				
Race or Ethnicity							1.96	3	0.58	--
White	369	56.8	303	63.3	581	62.3				
Black	120	18.5	69	14.4	129	13.8				
Latino	76	11.7	45	9.4	110	11.8				
Multiracial or "other"	85	13.1	62	12.9	113	12.1				
Currently in a relationship							9.30	2	0.01	a b
Yes	472	72.6	0.08	64.2	637	68.3				
	Md	IQR	Md	IQR	Md	IQR	χ^2*	df	p	
What is your age?	29	23–43	38	27–48	37	27–48	92.78	2	<.001	a b, c

*
Kruskal Wallis test (non-parametric equivalent to ANOVA)

†As appropriate, post hoc tests were conducted using partial χ^2 or Mann Whitney U with LSD criterion

Table 3

Social and behavioral differences in sex party attendance

	Attended a sex party?									
	Group a — Never in my life ("non-attendees") n = 650		Group b — Yes, but not in the last year ("lifetime attendees") n = 480		Group c — Yes, in the last year ("past year attendees") n = 933		χ^2	df	p	Post hoc [†]
	n	%	n	%	n	%				
Sexual Compulsivity Scale score is 24										
Yes	191	29.4	168	35.0	366	39.2	16.29	2	< .001	a b, c
Do you typically prefer your sex partners to be…										
Younger than you	126	19.4	130	27.1	213	22.8	45.60	6	< .001	a b, c
The same age as you	121	18.6	56	11.7	94	10.1				
Older than you	133	20.5	72	15.2	142	15.2				
It doesn't matter	270	41.5	221	46.0	484	51.9				
Drug and alcohol use, 90 days										
Alcohol	498	76.6	373	77.7	750	80.4	3.51	2	0.17	--
Cocaine	35	5.4	28	5.8	88	9.4	11.29	2	0.004	a, b c
Methamphetamine	9	1.4	21	4.4	102	10.9	62.59	2	< .001	a b c
MDMA, Ecstasy	15	2.3	17	3.5	56	6.0	13.61	2	0.001	a, b c
GHB	2	0.3	9	1.9	51	5.5	37.71	2	< .001	a b c
Ketamine[1]	2	0.3	0	0.0	14	1.5	NA			a, b c
Marijuana	202	31.1	158	32.9	335	35.9	4.17	2	0.13	--
Crack	5	0.8	3	0.6	31	3.3	18.87	2	< .001	a, b c
Poppers	109	16.8	145	30.2	422	45.2	142.72	2	< .001	a b c
Erectile drugs (e.g., Viagra, Cialis)	52	8	93	19.4	281	30.1	115.00	2	< .001	a b c
Heroin[2]	0	0.0	3	0.6	15	1.6	NA			a c
Any stimulant drug use, 90 days (cocaine, meth, crack)	43	6.6	46	9.6	159	17.0	42.89	2	< .001	a, b c
Any drug use, 90 days (excludes alcohol)	284	43.7	280	58.3	633	67.8	91.79	2	< .001	a b c
	Md	IQR	Md	IQR	Md	IQR	χ^2 *	df	p	

	Attended a sex party?									
	Group a Never in my life ("non-attendees") n = 650		**Group b** Yes, but not in the last year ("lifetime attendees") n = 480		**Group c** Yes, in the last year ("past year attendees") n = 933		χ^2	df	*p*	Post hoc [†]
	n	%	*n*	%	*n*	%				
Number of male sex partners in a given week	1	0–2	1	1–2	2	1–4	306.46	2	<.001	a b c
Number of male sex partners, 30 days	1	2–4	3	1–6	6	3–12	340.34	2	<.001	a b c
Number of male sex partners, 90 days	4	2–9	6	3–12	15	6–30	359.78	2	<.001	a b c
Number of male partners had anal sex w/, ≤90 days (n = 2053)	2	1–5	3	1–8	8	3–20	255.40	2	<.001	a ≠ b ≠ c
# of times had unprotected anal sex, ≤90 days (n = 1857)	1	0–3	1	0–4	3	0–10	103.37	2	<.001	a ≠ b ≠ c
	n	%	*n*	%	*n*	%	χ^2	df	*p*	
Any unprotected anal sex, ≤90 days (n = 1857)	341	61.8	299	68.0	647	74.8	27.36	2	<.001	a ≠ b ≠ c
Had anal or vaginal sex with a female or transgender partner, 90 days										
Yes	50	7.7	43	9	104	11.1	5.55	2	0.06	--
	Md	IQR	*Md*	IQR	*Md*	IQR	χ^2*	df	*p*	
How many female parters, ≤90 days (n = 197)	1	1–1	1	1–1	1	1–2.75	3.75	2	0.15	--
How many transgender partners, ≤90 days (n = 197)	0	0–0	0	0–0	0	0–0	4.58	2	0.10	--
How many times had unprotected anal or vaginal sex w/ female or transgender partner, ≤90 days (n = 197)	1	0–4	2	0–6	1	0–3	1.94	2	0.38	--

*Kruskal Wallis test (non-parametric equivalent to ANOVA)

NA: Not applicable. Chi-square test cannot be performed. Expected counts fell below 5 in one or more cells

[1] Fisher's Exact paired tests: Group a and b, *p* = 51; Group a and c, *p* = .02; Group b and c, *p* = .003

[2] Fisher's Exact paired tests (two-tailed): Group a and b, *p* = .08; Group a and c, *p* < .001; Group b and c, *p* = .14

[†] As appropriate, post hoc tests were conducted using partial χ^2 or Mann Whitney *U* with LSD criterion

Table 4

Preferences for HIV and STI prevention, education, and services at Sex Parties (*n* = 1413 men who attended sex parties)

	n	*%*
Which of the following would you like to see or receive at sex parties? (select all that apply)		
1 Free lubricant	1320	93.4
2 Free condoms	1144	81.0
3 Free rapid HIV testing (where you receive results in 20 minutes at the event)	746	52.8
4 Free STI testing	621	43.9
5 Free testicular exams	522	36.9
6 Information on where to get HIV testing	381	27.0
7 Advertisements for HIV research studies	305	21.6
8 Regular HIV testing (where you have to visit an office sometime later to receive results)	297	21.0
9 Live safer sex demonstrations	297	21.0
10 Brochures on sexual health	291	20.6
11 Brochures on HIV	263	18.6
12 Sexual health posters	211	14.9
13 Video safer sex demonstrations	184	13.0
14 Medical providers	166	11.7
15 Peer outreach workers	134	9.5