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## Substance Use and Abuse Among Men Using the Internet Specifically to Find Partners for Unprotected Sex†

Hugh Klein, Ph.D.\*

\*Senior Researcher, Kensington Research Institute, Silver Spring, MD.

### Abstract

This study was based on a national random sample of 332 MSM who use the Internet to seek men with whom they can engage in unprotected sex. Data collection was conducted via telephone interviews between January 2008 and May 2009. Illegal drug use was highly prevalent in this population, particularly when compared to men in the general population: 85.2% of the men in the study versus 59.5% of men in the adult population reported lifetime use of an illegal drug, and 60.1% of the men in the study versus 9.9% of men in the adult population reported use of an illegal drug during the preceding 30 days. Substance abuse problems and drug dependence were also highly prevalent, with a sizable proportion of the men having unmet treatment needs. Most study participants (56.4%) reported a preference for having sex while under the influence of alcohol and/or other drugs, with the large majority of these persons (85.9%) expressing a preference for illegal drug use in that context. The author concludes that men who use the Internet to find partners for unprotected sex tend to have extensive drug use histories, and their experimentation with illegal drugs continues well into their 40s, 50s, and beyond. A sizable proportion of these men need substance abuse education, prevention services, intervention services, and/or drug treatment.

### Keywords

drug use/abuse; gay men; Internet users; MSM; substance use/abuse

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To date, approximately one million Americans have been diagnosed with AIDS and estimates suggest that nearly one-quarter million more are living with HIV that has not developed into AIDS (CDC 2009). Men who have sex with other men (MSM) comprise the largest proportion of these individuals, accounting for 57% of all reported cases of AIDS with a known source of transmission and 53% of all HIV-positive persons who believed that they knew how they became HIV-infected (CDC 2009).

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Please address correspondence and reprint requests to Hugh Klein, Ph.D., 401 Schuyler Road, Silver Spring, Maryland 20910; phone/fax: (301) 588-8875, hughk@aol.com (primary) or hughkhughk@yahoo.com (secondary).

In light of this, numerous studies have been conducted to identify why, approximately three decades into the HIV/AIDS epidemic, so many men continue to place themselves at risk for contracting HIV. Many factors have been identified, including the belief that engaging in unprotected sex is an expression of individual choice (Adam 2005; Carballo-Diequez & Bauermeister 2004), the belief that engaging in unprotected sex is an expression of masculinity (Halkitis, Green & Wilton 2004; Ridge 2004; Halkitis & Parsons 2003), the perception that AIDS antiretroviral drugs have made HIV/AIDS less of a health concern now than in prior years (Sheon & Crosby 2004; Halkitis, Parsons & Wilton 2003), a fear of being rejected sexually by partners who dislike condoms (Sheon & Crosby 2004), the belief that sex is more pleasurable when condoms are not used (Carballo-Diequez et al. 2002; Mansergh et al. 2002), feeling “burned out” by worrying about becoming HIV-infected (Halkitis, Parsons & Wilton 2003; Dilley et al. 2002), and feeling a greater sense of emotional connectedness to sexual partners with whom one had unprotected rather than protected sex (Mansergh et al. 2002; Theodore et al. 2004).

In recent years, with the proliferation of the Internet, many men who wish to find other men specifically for engaging in unprotected sex appear to be turning to MSM-oriented websites for this purpose. For example, in a sample of gay men who were recruited into a health promotion study via gay-oriented Internet websites, Bolding and colleagues' (2004) multivariate analysis revealed that the amount of risky sex in which men engaged was a significant predictor of their use of Internet websites to locate sex partners. Bolding and colleagues also reported that 47% of the men in their sample said that, when they wanted to identify potential sex partners, they preferred using websites to frequenting bars or other “offline” venues. In another study (Bull et al. 2004), among men actively using the Internet as a means of locating potential sex partners, 97% reported actually having met someone online for sex, and 86% said that they used Internet MSM sex sites at least once a week to identify possible partners. Halkitis, Parsons, and Wilton (2003) cited Internet websites and chat rooms as key sources that are partly responsible for the upsurge of unprotected sexual activities that they have observed among gay and bisexual men in the New York City area. Another study examining the role that Internet usage plays with regard to HIV risk taking found that persons who had a history of meeting sex partners via the Internet reported more frequent involvement in risky sexual behaviors than persons who had not met sex partners online (Mustanski 2007). Comparable findings were reported by Benotsch, Kalichman and Cage (2002), whose study of Atlanta area gay men found a greater likelihood of methamphetamine use, a larger number of sex partners, and a greater proportion of unprotected sex among men who used the Internet to find sex partners. Similarly, in an online survey of men who engage in sex with other men, Berg (2008) reported that those who use the Internet to find sex partners were more likely than those who did not to engage in unprotected anal sex. Based on a multisite Internet study of MSM, Mustanski (2007) found that a history of online sex-seeking was associated with a greater number of past-year sex partners, a larger number of one-time sex partners, more unprotected sex, and a lack of discussing sex partners' sexual histories. Clearly, there has been mounting evidence of the importance of the role that the Internet plays in fostering sexual encounters between men who specifically wish to have unprotected sex with other men.

The present study represents an effort to investigate substance use and abuse in a population of men who actively use the Internet to locate partners for unprotected sex. The main research questions examined are: (1) How prevalent is substance use in this population? (2) To what extent do these MSM experience problems as a result of their drug use? (3) How prevalent is drug treatment among men who have experienced drug-related problems during their lives? and (4) What are men's preferences with regard to having sex while under the influence of alcohol and/or other drugs, and how, if at all, do these preferences relate to their involvement in risky sexual practices?

## METHODS

### Sampling and Recruitment

The data reported in this paper come from the *Bareback Project*, a National Institute on Drug Abuse-funded study of men who use the Internet specifically to find other men with whom they can engage in unprotected sex. The data were collected between January 2008 and May 2009. A total of 332 men were recruited from 16 different websites. Some of the sites catered exclusively to unprotected sex (e.g., [Bareback.com](http://Bareback.com), [RawLoads.com](http://RawLoads.com)) and some of them did not but made it possible for site users to identify which persons were looking for unprotected sex (e.g., [Men4SexNow.com](http://Men4SexNow.com), [Squirt.org](http://Squirt.org)). A nationwide random sample of men was derived, with random selection being based on a combination of the first letter of the person's online username, his race/ethnicity (as listed in his profile), and the day of recruitment. The study design called for an oversampling of men of color to ensure good representation of racial minority group men in the sample and to facilitate the examination of racial differences in risk taking and risk-related preferences. Recruitment efforts were undertaken seven days a week, during all hours of the day and nighttime, variable from week to week throughout the duration of the project. This was done to maximize the representativeness of the final research sample, in recognition of the fact that different people use the Internet at different times.

Depending upon the website involved, men were approached initially either via instant message or email (much more commonly via email). As part of the initial approach, a brief overview of the study was provided and, as part of the administration of the informed consent procedures, all men were given the opportunity to ask questions about the study before deciding whether or not to participate. A website link to the project's online home page was also made available, to provide men with additional information about the project and to help them feel secure in the legitimacy of the research endeavor. Men who were interested in participating were scheduled for an interview, which was conducted as soon after they expressed an interest in taking part in the study as possible, typically within a few days.

### Data Collection

Participation in the study entailed the completion of a one-time, confidential telephone interview covering a wide array of topics. Interviews were conducted during all hours of the day and nighttime, seven days a week, based on interviewer availability and participants' preferences, to maximize convenience to the participants. All of the study's interviewers

were gay or lesbian, to engender credibility with the target population and to enhance participants' comfort during the interviews. Interviews lasted an average of 69 minutes (median=63, SD=20.1, range=30–210). Men who completed the interview were compensated with \$35 for their time. Two payment options were offered, one of which allowed men to maintain complete anonymity (PayPal) and one of which required them to provide a name and mailing address to receive payment (check). Nearly 15% of the men participating in the study declined the \$35. Prior to implementation in the field, the research protocol was approved by the institutional review boards at Morgan State University, where the principal investigator and one of the research assistants were affiliated, and George Mason University, where the other research assistant was located.

### Measures Used

The questionnaire was developed specifically for use in the *Bareback Project*, with many parts of the interview derived from standardized scales previously used and validated by other researchers.<sup>1</sup> The interview covered such subjects as: degree of “outness,” perceived discrimination based on sexual orientation, general health practices, HIV testing history and serostatus, sexual practices (protected and unprotected) with partners met online and offline, risk-related preferences, risk-related hypotheticals, substance use, drug-related problems, Internet usage, psychological and psychosocial functioning, childhood maltreatment experiences, HIV/AIDS knowledge, and some basic demographic information.

Men were asked about their lifetime use of 12 different drug types: alcohol, tobacco, marijuana, powder cocaine, crack cocaine, heroin or other opiates, hallucinogens, Ecstasy, club drugs other than Ecstasy (e.g., ketamine/”Special K,” Rohypnol/”roofies,” or GHB), methamphetamine, Viagra or the equivalent, and nonprescription use of sedatives or depressant drugs. Data pertaining to the erection-enhancing drugs and tobacco use are excluded from this study. In addition to lifetime prevalence, men were asked their age of first use for each drug (continuous), the number of times using each drug during the 30 days prior to interview (continuous), the average number of times using each drug on a “typical” day of use during the preceding month (continuous), and the number of times using each drug “shortly before or while having sex with someone” (continuous). In addition, men were posed two hypothetical questions regarding drug use during sex: (1) Suppose for the moment that you could have access to any types of drugs you wanted—alcohol, marijuana, cocaine, whatever it might be. Which types of drugs, if any, would you yourself most like to use shortly before you had sex with someone or while you were having sex? (2) Now suppose that, once again, you could have access to any types of drugs you wanted. Which types of drugs, if any, would you most want one of your partners to use before you had sex with him/her or while you were having sex with him/her? Respondents could answer with as

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<sup>1</sup>The questionnaire included scales used and validated by other researchers to measure such phenomena as self-esteem (Rosenberg 1965), depression (Radloff 1977), attitudes toward condom use (Brown 1984), condom use self-efficacy (Brafford & Beck 1991), childhood maltreatment experiences (Bernstein & Fink 1998), knowledge about HIV (Carey, Morrison-Beedy & Johnson 1997), locus of control regarding HIV safety (Wolitski et al. 2007), partner communication skills (McCroskey 1982), current life satisfaction (Diener et al. 1985), optimism about the future (Scheier & Carver 1985), impulsivity (Von Diemen et al. 2007), extent of “outness” as a gay or bisexual man (Mohr & Fassinger 2000), and perceptions of being stigmatized as a result of one’s sexual orientation (Pinel 1999). Lifetime and recent substance use information was collected using a format very similar to that employed by the Risk Behavior Assessment (Needle et al. 1995). Additional information about these scales and their psycho-metric properties in the present study may be obtained by contacting the author.

many or as few of the drug types as they chose, and were asked to rank their preferences in terms of which drug they would most want to use, which they would want to use next most, and so forth.

In addition, participants were asked both lifetime and past-30-day prevalence questions (in yes/no format) about their experiences with each of 13 problems resulting from using alcohol and/or other drugs. These measures included: (1) substance use leading to problems in one's family relationships, (2) substance use leading to problems in one's friendships, (3) substance use causing problems at work or school, (4) having physical fights due to one's substance use, (5) inability to stop using or reduce one's alcohol and/or other drug use, (6) establishing personal "rules" to try to control one's use, governing when or where or with whom one could use alcohol and/or other drugs, (7) experiencing serious physical ailments as a result of substance use, (8) having legal problems as a result of one's alcohol and/or other drug use, (9) experiencing blackouts or memory lapses due to substance use, (10) losing interest in activities or people as a result of substance use, (11) continuing substance use despite experiencing sadness or depression, (12) developing drug tolerance due to long-term continued use, and (13) experiencing withdrawal symptoms.

Men were also asked about their experiences with formal drug treatment programs, excluding self-help groups such as Alcoholics Anonymous or Narcotics Anonymous. Specifically, they were asked the number of times in their lifetime they had received treatment for any problems they may have had with alcohol and/or other drugs.

## Analysis

Comparisons of the prevalence of drug use in the study sample to that in the adult male population-at-large were facilitated by using estimates provided by the National Survey on Drug Use and Health (SAMHSA 2009). Those prevalence estimates were converted to a sample size equivalent of that of the present study, so that relative risk (*RR*) coefficients could be computed to compare the prevalence of different drug types in the general population to those obtained in the present study.

In the part of the analysis that pertains to drug use preferences during sex, the relationship between these preferences and actual involvement in risky sexual practices was examined with the use of Student's *t* tests, as the dependent measures were continuous and the independent variable was dichotomous. Throughout all of the analyses, results are reported as being statistically significant whenever  $p < 0.05$ .

## Qualitative Data

Although the *Bareback Project* was primarily a quantitative study, qualitative data accompany the quantitative interviews for nearly three-quarters of the study participants. The qualitative data took the form of post-interview narrative summaries (what qualitative researchers often refer to as memos, or memoing; see Glaser 1998 and Strauss & Corbin 1998 for further information about this procedural approach), in which the interviewers recorded personal observations and thoughts, direct quotes from the participants themselves, and contextual information that the interviewers believed would help to place the quantitative interview data into proper perspective. Each of the qualitative narrative

summaries was anywhere from half of one page to three pages in length, depending on how talkative the study participant was during the interview or after it had been concluded, and on how much useful information the interviewer felt should be recorded at the interview's conclusion. The idea underlying the memoing process was to capture information that otherwise would have been lost if the study had relied solely upon the quantitative information contained in the survey instrument—information that, hopefully, could be used to illuminate and inform major study findings.

## RESULTS

### Sample Characteristics

In total, 332 men participated in the study. They ranged in age from 18 to 72 (mean=43.7). SD=11.2, median=43.2 Racially, the sample is a fairly close approximation of the American population (U.S. Census Bureau 2001), with 74.1% being Caucasian, 9.0% each being African American and Latino, 5.1% self-identifying as biracial or multiracial, 2.4% being Asian, and 0.3% being Native American. The large majority of the men (89.5%) considered themselves to be gay and almost all of the rest (10.2%) said they were bisexual. On balance, men participating in the *Bareback Project* were fairly well-educated. About one man in seven (14.5%) had completed no more than high school; 34.3% had some college experience without earning a college degree; 28.9% had a bachelor's degree; and 22.3% were educated beyond the bachelor's level. Consistent with the demography of the U.S. population (U.S. Census Bureau 2000), 28.0% of the men lived in rural or low-density population areas (fewer than 500 persons per square mile), 23.5% lived in urban or higher-density population areas (more than 5,000 persons per square mile), with most of the latter group (17.2% of the sample) living in very high density population areas (more than 10,000 persons per square mile). Slightly more than half of the men (59.0%) reported being HIV-positive; most of the rest (38.6%) were HIV-negative.

### Prevalence and Initiation of Drug Use

Table 1 presents information about men's lifetime prevalence of drug use and their use during the preceding 30 days. For every type of drug studied, lifetime prevalence was significantly greater among participants in the *Bareback Project* than it was for men in the population at large. This was true for marijuana (81.6% versus 51.9%;  $RR = 2.61$ , 95% CI = 2.02–3.36,  $p < 0.0001$ ), powder cocaine (51.4% versus 18.6%;  $RR = 1.67$ , 95% CI = 1.89,  $p < 0.0001$ ), crack cocaine (20.2% versus 4.3%;  $RR = 1.20$ , 95% CI = 1.13–1.27,  $p < 0.0001$ ), heroin or other opiates (12.4% versus 1.9%;  $RR = 1.12$ , 95% CI = 1.07–1.17,  $p < 0.0001$ ), hallucinogens (37.5% versus 18.2%;  $RR = 1.31$ , 95% CI = 1.19–1.44,  $p < 0.0001$ ), Ecstasy (36.3% versus 6.6%;  $RR = 1.46$ , 95% CI = 1.34–1.60,  $p < 0.0001$ ), methamphetamine (43.5% versus 6.3%;  $RR = 1.66$ , 95% CI = 1.50–1.83,  $p < 0.0001$ ), and the non-prescription use of sedatives or depressant drugs (15.1% versus 4.6%;  $RR = 1.13$ , 95% CI = 1.07–1.18,  $p < 0.0001$ ). Participants in the *Bareback Project* were significantly more likely to report the lifetime use of any illegal drug than were men in the general population (85.2% versus 59.5%;  $RR = 2.74$ , 95% CI = 2.05–3.65,  $p < 0.0001$ ), even when this drug was not marijuana (68.3% versus 38.4%;  $RR = 1.94$ , 95% CI = 1.62–2.33,  $p < 0.0001$ ).



Due to low prevalence estimates in the general population, statistical comparisons for drug use during the previous 30 days could only be made for marijuana, overall illegal drug use, and overall illegal drug use excluding marijuana (see Table 1). In each instance, drug use during the 30 days prior to interview was significantly more prevalent among *Bareback Project* study participants than it was among men in the population-at-large (for marijuana, 51.1% versus 7.9%,  $RR=1.88$ , 95%  $CI=1.69-2.11$ ,  $p < 0.0001$ ; for any illegal drug use, excluding marijuana, 23.0% versus 4.3%,  $RR = 1.24$ , 95%  $CI = 1.17-1.32$ ,  $p < 0.0001$ ) Only recent hallucino-gen and nonprescription sedative/depressant use were less prevalent among study participants than among men in the general population, and in both instances, barely so.

The mean age of first experimenting with illegal drug use was 20.1 (range = 6–58,  $SD = 7.5$ ). The mean age at which men tried their last illegal drug for the first time was 31.7 (range = 10–65,  $SD=11.5$ ), indicating an average of more than 11 years of drug experimentation among members of this sample population. Relying exclusively upon this sample-wide average obscures a rather interesting finding, though: In the *Bareback Project*, it was fairly commonplace for men in their 40s, 50s, and 60s and beyond to continue to experiment with illegal drugs they had never tried before. For example, among men currently in their 40s, the mean age at which they last tried (for the first time) an illegal drug they had never used previously was 32.5. For men in their 50s, this increased to 35.2; and for men in their 60s or 70s, this increased yet again, to 43.5. Put somewhat differently, 27.0% of the men in their 40s experimented with illegal drugs they had never tried before at some point during their 40s. Among men in their 50s at the time of interview, 42.5% experimented with illegal drugs they had never tried before at some point during their 40s or 50s, with nearly half of this experimentation (19.2%) occurring while the men were in their 50s. Among men in their 60s or 70s at the time of interview, 57.7% experimented with at least one illegal drug they had never tried before at some point in their 40s or beyond, with most of this experimentation occurring after the age of 50 (46.2%) and a moderate amount of it occurring at some point in their 60s or beyond (19.2%).

### Substance Abuse and Drug Treatment

Substance abuse-related problems were commonplace among the men in this study (see Table 2). Among those who had ever used alcohol or an illegal drug ( $n = 325$ ), the substantial majority (75.1%) had experienced at least one drug-related problem over the course of their lifetimes. Moreover, among men who had been affected adversely by their substance abuse, the substantial majority (77.0%) had been affected by more than one type of drug-related problem (median = 4). The most common substance abuse-related symptoms reported by men in this study were trying to control their drug use by limiting when or where they used (i.e., creating rules for using; 39.9%), experiencing blackouts or memory lapses due to substance use (35.9%), and needing to use more of a particular substance in order to get the same effect previously experienced (32.2%). Also fairly commonplace were experiencing a loss of interest in things, people, and/or activities as a result of substance use (27.9%) and continuing to use alcohol and/or other drugs despite becoming depressed as a result of ongoing use (27.9%). It is noteworthy that, as Table 2 shows, no substance abuse/

dependency symptom was experienced by fewer than one man in eight in this study, and most symptoms had been incurred by at least one person in five.

Additionally, during the 30 days prior to interview, more than one-quarter of the men (28.0%) reported recently having experienced at least one drug-related problem. The most common drug-related problems or abuse symptoms reported during the 30 days prior to interview were: trying to control drug use by limiting where or when alcohol and/or other drugs were used (17.2%), continuing use despite becoming depressed as a result of ongoing use (9.5%), losing interest in things, people, and/or activities as a result of using (8.6%), the development of increased tolerance (7.1%), and inability to quit or cut down on one's substance use (6.4%). Overall, 28.2% of the men who had used alcohol or another drug at some point during their lifetimes experienced enough substance use problems during the month prior to interview to merit being labeled as a substance abusers *or* as being substance dependent. This figure compares to approximately 11.6% of adult men in the population-at-large (SAMHSA 2009).

Despite widespread drug use and its attendant problems in respondents' lives, drug treatment was not the norm among the men participating in this study (although it was far more prevalent than in the adult male general population). Overall, 18.4% of the men had gone to a formal drug treatment program (not merely to a self-help or Twelve Step group such as Alcoholics Anonymous or Narcotics Anonymous) at some point during their lifetimes. Among men who had been to drug treatment at some point during their lives, more than half (56.7%) reported at least some illegal drug use during the month prior to interview—comparable to the percentage for men who had never been in treatment (60.2%). Previous treatment attendees were twice as likely as their counterparts who had never been to treatment to report having used an illegal drug other than marijuana during the month prior to interview (38.3% versus 19.9%,  $p < 0.01$ ).

### Drug Use During Sex

When asked about their preferences for having sex while high or sober, most study participants (56.4%) said that they would prefer to have sex while under the influence of alcohol and/or an illegal drug. The large majority of these persons (85.9% of them, or 48.5% of the total sample) said that they would prefer to have sex while under the influence of at least one illegal drug, and most of *these* persons (64.5% of them, or 31.3% of the total sample) said that they would prefer this drug to be something “harder” than marijuana. Wanting to be “under the influence” during sex was associated with a greater number of times having sex while “under the influence” ( $p < 0.0001$ ), and it was linked with a greater frequency of engaging in unprotected anal sex when the expressed preference was for having sex while being high on an illegal drug ( $p < 0.01$ ).

Moreover, 41.7% of the *Bareback Project* respondents indicated a preference that both they themselves *and* their sex partners to be “under the influence” during sex. Most of these men (72.8% of them, or 30.4% of the sample) preferred both they themselves and their sex partners to be high on an illegal drug during sex, with half of these individuals (14.7% of the total sample) expressing a desire for both partners to be high on a “harder” drug than marijuana. Wanting both oneself and one's sex partner(s) to be “under the influence” during



sex was associated with approximately a three-fold increase in the number of times engaging in sex while high ( $p < 0.001$ ).

## DISCUSSION

As with any research study, the present study has a few potential limitations. First, as with most research data on sexual behaviors, the data in this study are based on uncorroborated self-reports. Therefore, it is unknown whether participants underreported or overreported their involvement in risky behaviors. The study's reliance upon self-reported data is acceptable, however, as other authors of previous studies conducted with similar populations have reported good levels of data quality (e.g., reliability and validity) in their research (Schrimshaw et al. 2006). This is particularly relevant for self-reported measures that involve relatively small occurrences (e.g., number of times having a particular kind of sex during the previous 30 days), which characterize the substantial majority of the data collected in this study (Bogart et al. 2007). Other researchers have also commented favorably on the reliability and/or the validity of self-reported information in their studies regarding topics such as condom use (Morisky, Ang & Sneed 2002) and substance use/abuse (Anglin, Hser & Chou 1993; Jackson et al. 2004; Yacoubian & Wish 2006).

A second potential limitation is the possibility of recall bias. For most of the measures used, respondents were asked about their beliefs, attitudes, and behaviors during the past seven or 30 days. These time frames were chosen specifically: (1) to incorporate a large enough time frame in order to facilitate meaningful variability from person to person, and (2) to minimize recall bias. Although the author cannot determine the exact extent to which recall bias affected the data, other researchers who have used similar measures have reported that recall bias is sufficiently minimal that its impact upon study findings is likely to be negligible (Kauth, St. Lawrence & Kelly 1991). This seems to be especially true when the recall period is small (Fenton et al. 2001; Weir et al. 1999), as was the case for most of the main measures used in the present study.

A third limitation is that the information pertaining to drug problems was not asked in a manner that facilitates direct comparisons with the DSM-IV diagnostic criteria for substance abuse and substance dependency. Although almost all of the same components listed in the DSM-IV were inquired about in this study, not all of the diagnostic criteria were included, nor were details about the clustering of substance abuse-related symptoms within the DSM-IV's specified 12-month period. This precluded the author from making direct comparisons of the prevalence of substance dependence in the *Bareback Project* population and those in the general population of adult men.

Despite these potential limitations, the present study still yielded a number of interesting and important results. First, unmistakably, this population of men using the Internet to find other men for unprotected sex is a population that experiments with and continues to use illegal drugs. These men were considerably more likely than those in the population-at-large to have tried an illegal drug at some point in their lifetimes, and they were more likely to report recent drug use as well. Over the years, a number of studies have discussed the fact that gay men are more likely than their heterosexual counterparts to use and abuse illegal drugs

(McCabe et al. 2009; Cochran et al. 2004; Stall et al. 2001). The present research is consistent with these reports, and contributes to the scholarly literature by demonstrating that substance use and abuse are even more highly prevalent among men using the Internet to find other men for unprotected sex. Not only are these men at risk for contracting or transmitting HIV and other sexually-transmitted infections by virtue of their unprotected sex-seeking practices online, but also because of their greater propensity for drug use, which numerous studies have shown is a practice associated with greater HIV risk among MSM (Carey et al. 2009; Halkitis, Mukherjee & Palamar 2009; Semple et al. 2009).

Moreover, a substantial proportion of the men who took part in this study were sufficiently drug-involved as to be considered substance abusers or substance dependent. Despite this, nearly two-thirds of the *Bareback Project* participants who were sufficiently drug-involved that they were likely to meet the criteria for drug dependence had never received treatment for their drug problems. Clearly, there is a need for promoting substance abuse treatment among members of this population and for making treatment accessible (preferably “on demand”) to them. Other researchers as well have spoken of the need for drug treatment among MSM (Kelly & Parsons 2010; Mimiaga et al. 2008; Palamar, Mukherjee & Halkitis 2008); the present study supports their contention. Additionally, most of the men in this study who *had* been in a drug treatment program at some point during their lives reported current drug use, indicating an ongoing need for substance abuse education, intervention, and/or treatment services among those who had tried to stop using drugs at some previous time but who have been unsuccessful at doing so. Preventing relapse among MSM, as with members of all substance-abusing populations, is challenging. Successful approaches need to be sensitive to the needs of gay and bisexual men, and they need to be culturally appropriate if they are going to have a good chance of helping these men to recover from their substance abuse problems. In recent years, several such programs have evolved around the United States, offering treatment services specifically for gay men due to their unique substance abuse recovery needs. Examples include Freedom Rings (Jacksonville, FL), Michael’s House (Palm Springs, CA), Out Interventions (Venice, CA), Pride Institute (Dallas, TX), and Rainbow Recovery (Laguna Beach, CA), among others.

Another finding coming from the present study is the fact that, contrary to the maturation hypothesis or the maturing out hypothesis (Winick 1962)—that is, the notion that most people who use or abuse alcohol and/or other drugs during their younger years will stop, or mature out of, their drug-using behaviors sometime during their 20s or 30s, and almost always by age 40 (Jochman & Fromme 2010; O’Malley 2004–2005)—in this sample, a great many men in their 40s, 50s, 60s, and 70s continued to experiment with drugs they had never tried before. The fact that they had reached or exceeded the “typical” age for “maturing out” of drug use was *not* a factor associated with diminished drug use or with a diminished likelihood of experimenting with (and in many cases, continuing to use) previously-untried drugs. Very little has been written in the scientific literature about truly late-onset substance use and abuse. Little is known about why older men experiment with certain drugs for the first time during their middle-age and older-adult years. Little is known about the circumstances that increase their likelihood of engaging in this behavior. These are topics well worth exploring in future studies.

Information from the *Bareback Project*'s qualitative data component can shed some light on these subjects, as several explanations appear to be plausible and supported by the qualitative data. First, as with younger people who experiment with drugs they have never used before, *curiosity* seems to be one factor explaining later-life drug experimentation. The notes for one study participant in particular address this phenomenon:

[R543] stated that he rarely uses substances now, and if he does use, it is merely for experimentation. For example, he only tried crack once at the age of 40 and Ecstasy once at the age of 47. Additionally, he accepted two Xanax from a friend who he was letting stay at his apartment “just to see how they felt” and decided that all Xanax does is make one sleepy.

Coinciding with this, another reason for trying new drugs later in life appears to be *the reputation that a particular drug has* among the person's friends and sex partners. R993, who began using various types of club drugs during his 50s, was a case in point:

Although he has never used it thus far, he expressed considerable curiosity to try GHB “because I've heard great things about what it can do for you.” This would be his first drug of choice for himself during sex and for one of his partners to use during sex, even though he has not yet tried the drug. The implied message during that part of the interview was that this is a drug that he wishes to try, and plans to find a way to try, at some point in time.

*Living with an HIV-positive or AIDS diagnosis* seems to lead some men to develop a willingness to try new illegal drugs, either because of drugs' ability to help the person escape from thinking about health-related matters for awhile or because there is no longer a fear of harm associated with drug use when compared to the harms already experienced due to living with HIV.

[R817] has experimented with many types of illegal drugs over the course of his lifetime, and has increased his illegal drug use during the years since finding out that he has HIV. Regarding...men aged above their middle 40s, he attributes men's risk-taking to “having become deadened” to hearing about HIV and AIDS over the years. He commented that “these guys think ‘Enough already! I already know what you're saying and have known about it for years now, so stop talking to me about it.’”

For some older men, the use of previously-untried illegal drugs appears to be related to *sexual opportunities*, with the men perceiving themselves to have more opportunities to engage in sex if they are willing to use drugs along with their sex partners. Consider the situations reported by R916 and R810:

During the years since his HIV diagnosis, R916 continued to expand his drug experiences. During our interview, he mentioned that he would try—and pretty much has tried—just about any drug that one of his sex partners offered to him.

R810's first use of marijuana was in his mid-30s, but he reported first using Ecstasy, crack, and methamphetamine during his later 50s and earlier 60s.

Currently, he uses and injects methamphetamine when the opportunity for PNP<sup>2</sup>

sex presents itself, and he said that he prefers to use this drug (and/or Ecstasy) during sex whenever possible.

As mentioned above, very little has been written in the scientific literature about truly late-onset substance use and abuse. This is a subject well worth exploring in future research, particularly in studies of MSM, whose experimentation with and continued use of illegal drugs during their 40s, 50s, 60s, and beyond appears to be fairly prevalent.

Finally, this study's findings pertaining to men's preferences for combining drug use and sex merit discussion. Most of the men who took part in this study expressed a preference for having sex while under the influence of alcohol and/or illegal drugs, with nearly half of the study participants preferring to have sex while high on at least one illegal drug. Even among men who reported no illegal drug use during the month prior to interview, a sizable proportion (25.8%) said that they would prefer to be high on an illegal drug during sex rather than being sober while doing so. Given the well-established relationship between drug use and involvement in risky sex, and the heightened HIV-related risks (e.g., failure to use condoms, improper/ineffective use of condoms) associated with having sex while high (Carey et al. 2009; Halkitis, Mukherjee & Palamar 2009; Semple et al. 2009), the present study's findings are alarming. They indicate a great need for prevention and intervention campaigns to do more to inform gay and bisexual men about the dangers associated with having sex while under the influence of alcohol and/or other drugs. In particular, there is a need to change the way MSM feel about engaging in this behavior, perhaps by working to increase their sense of personal vulnerability to contracting and/or transmitting HIV. It is possible that, if we can find a way to help men to assess their risk for contracting or transmitting HIV more accurately, we might improve our chances of helping them to reduce their involvement in risky behaviors. Previous research supports this contention, having shown that people's perceptions of their personal vulnerability to contracting HIV are related to their risk practices (MacKellar et al. 2005; Parsons 2005; Halkitis et al. 2004).

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<sup>2</sup>-PNP stands for “party and play.” It is a behavior in which men get high together and then engage in sex with one another, stopping intermittently to boost their high with additional drug use before continuing with their sex act(s).

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TABLE 1

## Lifetime and Past 30 Days Prevalence of Drug Use

Drug Type	% Used–Lifetime U.S. Population	% Used–Lifetime Bareback Project	% Used–30 Days U.S. Population*	% Used–30 Days Bareback Project
Marijuana	51.9	81.6	7.9	51.1
Cocaine (Powder)	18.6	51.4	0.9	4.5
Crack Cocaine	4.3	20.2	0.2	2.4
Heroin or Other Opiates	1.9	12.4	0.1	0.9
Hallucinogens	18.2	37.5	0.5	0.0
Ecstasy	6.6	36.3	0.3	2.4
Club Drugs Other Than Ecstasy	—	24.5	—	3.0
Methamphetamine	6.3	43.5	0.2	16.0
Nonprescription Use of Sedatives or Depressant Drugs	4.6	15.1	3.4	3.3
Any Illegal Drug Use	59.5	85.2	9.9	60.1
Any Illegal Drug Use Other Than Marijuana	38.4	68.3	4.3	23.0

\*These data are based on data presented for male adults in the National Survey on Drug Use and Health (Substance Abuse and Mental Health Services Administration 2009).

TABLE 2

## Prevalence of Substance Abuse/Dependence Symptoms

Substance Abuse Symptom	Lifetime Prevalence (%)	Recent Prevalence (%)
Substance Use Caused Problems with Family Members	20.6	0.9
Substance Use Caused Problems with Friends	23.9	1.8
Substance Use Caused Problems at Work or School	12.3	0.3
Physical Fighting Due to Substance Use	17.5	0.3
Inability to Quit or Cut Down on Drug Use	20.6	6.4
Trying to Control Drug Use by Limiting When, Where, Etc.	39.9	17.2
Serious Physical Ailments Resulted From Substance Use	15.6	2.5
Arrested or Serious Legal Problems Resulted from Substance Use	23.6	0.0
Blackouts or Memory Lapses Due to Substance Use	35.9	5.5
Loss of Interest In Things/Activities Due to Substance Use	27.9	8.6
Continued Using Despite Becoming Sad or Depressed	27.9	9.5
Increased Tolerance	32.2	7.1
Experienced Withdrawal Symptoms When Unable to Use	14.4	2.8
At Least One Drug-Related Problem	75.1	28.0
At Least Two Drug-Related Problems	57.8	26.0
At Least Three Drug-Related Problems	46.8	9.2