

Correlates of Sex Trading Among Drug-Using Men Who Have Sex With Men

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Men who have sex with men (MSM) have accounted for the largest proportion of persons living with AIDS in the United States since the inception of the epidemic,^{1,2} and an increasing proportion of AIDS diagnoses are among ethnic minority MSM.³ Although the incidence of AIDS among MSM has decreased over time,^{1,2,4} newly increasing incidence rates of HIV⁵ and sexually transmitted infections^{6,7} among MSM suggest a resurgence in the epidemic among this population.

The term “sex trading,” as used in this article, is defined as engaging in sex in exchange for money, drugs, shelter, or food. Individuals who engage in sex trading are at elevated risk for HIV infection. Sex trading was the single greatest predictor of HIV risk behaviors at baseline among the 6025 National Institute of Mental Health Multi-Site HIV Prevention Trial participants.⁸ Evidence across several populations, including adult male^{9,10} and female^{9–12} drug-using and alcoholic inpatients¹³ and homeless and drug-using youths,^{14,15} indicates that sex trading is associated with higher HIV seroprevalence rates. Among MSM, those who engage in sex trading have been found to be more likely than non-sex-trading MSM to engage in unprotected sex with non-sex-trade male^{16–18} and female¹⁷ partners, leading to increased risk for HIV transmission in non-sex-trade encounters. Thus, in addition to increasing their own risk for contracting HIV, sex-trading MSM may infect their non-sex-trade male and female partners. However, scant research has addressed factors associated with sex trading among MSM.

In one study that addressed correlates of sex trading among predominantly white MSM (n=1290) recruited from high-risk environments (such as parks or walkways where men go to meet male sexual partners), younger age, self-identification as bisexual or heterosexual (i.e., not gay), and injection

Objectives. We examined correlates of trading sex for money, drugs, and shelter, or food among drug-using men who have sex with men (MSM).

Methods. Audio computer-assisted self-interviewing questionnaires were completed by 387 MSM. The association of predictors with sex trading was assessed with χ^2 tests and multiple logistic regression.

Results. Sex-trading prevalence was 62.5% (95% confidence interval=57.7%, 67.4%). Sex trading was associated with crack use, injection drug use, childhood maltreatment, nongay self-identification, and homelessness (adjusted odds ratios=3.72, 2.28, 2.62, 2.21, and 1.88, respectively).

Conclusions. Multiple risk factors are associated with sex trading among MSM. Interventions may need to address crack and injection drug use, homelessness, and childhood maltreatment and target non-gay-identified MSM who engage in sex trading. (*Am J Public Health.* 2004;94:1998–2003)

drug use were associated with higher levels of sex trading.¹⁶ Sex trading was associated with higher numbers of sexual partners and more frequent anal sex with men and women.¹⁶

Research in populations other than MSM suggests that several sociodemographic factors may be associated with sex trading. Homelessness is associated with sex trading among male¹⁷ and female^{17,19} adults and adolescents.²⁰ In one study, female crack users who were homeless were almost twice as likely to trade sex compared with those who were not homeless.¹⁹ We are aware of no published research on the relationship between homelessness and sex trading among MSM.

In addition to homelessness, childhood maltreatment may be associated with sex trading. Among women, childhood sexual abuse is positively associated with sex trading.^{21,22} Childhood physical abuse is associated with increased HIV seroprevalence among male street-based sex workers,²³ and childhood sexual abuse is associated with increased HIV risk behaviors among MSM,^{24–26} suggesting increased risk for HIV; however, the relationship between childhood abuse and sex trading among MSM is unclear.

In addition to demographic and personal characteristics, drug and alcohol use may be

associated with sex trading among MSM. In a qualitative study of sex workers in the Netherlands, financing one’s drug addiction was the reason most frequently cited by drug-using males for engaging in sex trading.²⁷ Methamphetamine,^{28–32} alcohol,^{28,31,33–36} and marijuana²⁸ use are each associated with higher levels of HIV risk behaviors among MSM, but their relationship with sex trading is unclear. Several studies indicate a positive correlation between crack use and sex trading among high-risk women,^{11,17,37} as well as among HIV-seropositive heterosexual men, women, and MSM³⁸ and among adults in general.³⁹ In fact, terms such as “strawberry”—which refers to a person who exchanges sex for drugs—have been coined to codify the relationship between sex trading and crack use, particularly among high-risk African American women.¹⁷ Crack use has not often been assessed, however, in published studies on MSM.

We assessed the association of sex trading with age, ethnicity, self-identified sexual orientation, formal education, homelessness, and childhood maltreatment among a high-risk sample of predominantly ethnic minority, urban MSM. In addition, we investigated crack cocaine, methamphetamine, alcohol, marijuana, and injection drug use as correlates of sex trading within this population.

METHODS

Participants

African American, Latino, and White MSM (N=387) were recruited with street-based outreach from public parks, beaches, and street corners in Long Beach, California, combined with limited “snowball sampling.” In addition, some participants were recruited through flyers posted at social service agencies. Participants were recruited for a randomized trial of an HIV prevention intervention for MSM who engage in illicit drug use. Eligibility criteria included use of illicit drugs (not including marijuana) at least once in the past 30 days and for at least 2 days of the past 90 days, having engaged in sexual behavior with another male in the past 60 days, and being at least 18 years of age. The present study is derived from baseline data for men who met the eligibility criteria.

Procedures

Participants were offered \$30 to participate in a 90-minute interview. The interview was self-administered in a private room with audio computer-assisted self-interviewing. The Questionnaire Development System (QDS) software package (NOVA Research, Bethesda, Md) was used to construct the audio computer-assisted self-interviewing questionnaire. Questions were presented on a laptop computer screen to the participant and verbalized by the computer over headphones. Participants were prompted to check off a box on the computer screen to indicate their desired response, a process requiring only limited literacy. Interviewers were on hand to provide technical assistance and quality assurance. Several practice questions using audio computer-assisted self-interviewing were administered before the actual interview began to familiarize participants with the procedures. Individuals who were judged to be too intoxicated to complete the interview were rescheduled for a later date. Individuals who were unable to understand the instructions or the informed consent were excluded from the study.

Questions were pilot tested among respondents from the target population and revised as needed to ensure comprehensibility. A community advisory board participated in the

study planning process and reviewed the questionnaire.

Dependent Variable

In the assessment instrument, respondents were asked in 3 separate questions whether they had ever traded sex for money, drugs, or shelter/food (yes/no). Respondents were further queried about whether they had traded sex for money, drugs, or shelter/food in the past 30 days (yes/no). The 3 dichotomous 30-day sex-trading questions were aggregated to form a single dichotomous variable; an affirmative response to at least 1 of the 3 questions was categorized as recent sex trading, hereafter simply “sex trading.”

Independent Variables

Sociodemographic variables. Variables included age, race/ethnicity, self-identified sexual (gay, bisexual, heterosexual) and gender (transgender) orientation, formal educational attainment (high school diploma or less vs some college or more), and current homelessness (self-identified as without permanent shelter).

Childhood maltreatment. On the basis of previous research with gay and bisexual males that suggests shortcomings of a definition of sexual abuse based solely on age differential between partners,^{26,40} we selected a definition of sexual abuse according to role differential (child vs adult) and advances by the adult perpetrator. Two questions assessed sexual abuse (yes/no) and frequency of sexual abuse. Any sexual abuse was coded as yes. Two questions assessed experience of parental violence in childhood with frequency of being hit by parents and frequency of exposure to interparental physical violence. Each of these variables was dichotomized, and the highest level (i.e., once a week or more often for either variable) was defined as parental violence.

Drug and alcohol use. Crack, methamphetamine, and marijuana use were assessed by use within the past week (yes/no). Injection drug use (heroin, cocaine, speedball, pharmaceuticals) was assessed by use in the past 30 days (yes/no). Alcohol abuse, specifically binge drinking, was assessed on the basis of how many drinks were consumed the last time (within the past 3 months) the partici-

pant drank alcohol (≥ 5 =yes). Substance use questions were adapted from a National Institute on Drug Abuse instrument.⁴¹

Data Analysis

We used χ^2 tests of independence to assess univariate associations between predictors and sex trading. Multiple logistic regression was then used to calculate odds ratios, 95% confidence intervals (CIs), and the net predictive value of each variable (i.e., adjusted for other variables in the model) for sex trading. All initial predictors in the univariate model were included in the multiple logistic regression, except for the following changes. The χ^2 analysis of sexual orientation revealed significant differences in sex trading only between self-identified gay versus the other 3 categories, among which there were no significant differences (Table 1). Consequently, we collapsed sexual orientation into a single dichotomous variable, gay-identified versus heterosexual/bisexual/transgender, for the multiple logistic regression analysis. Childhood sexual abuse and parental violence were found to be equally predictive of sex trading, and the proportion of sex trading was about the same for either alone or both together; thus, we combined the 2 into a single construct, childhood maltreatment, for the multiple logistic regression. Because the results of the adjusted analyses differed from those of the univariate analyses on injection drug use, alcohol abuse, and formal education, χ^2 subanalyses were conducted on each of these variables and sex trading for both levels (yes/no) of crack cocaine use. We performed identical analyses for sexual identification, homelessness, childhood maltreatment, and methamphetamine and marijuana use variables on both levels (yes/no) of crack use to explore the effects of possible interactions in the model. We chose crack use because it was overwhelmingly the most predictive variable.

RESULTS

The mean age of the participants was 37.8 (SD=8.9) years. More than half (57.6%) were African American, almost one third (29.7%) were white, and 12.7% were Latino. Most self-identified as bisexual (43.8%); 39.1%, as

TABLE 1—Frequency and Prevalence of Sex Trading Among Men Who Have Sex With Men, by Sociodemographic Characteristics, Drug Use, and Alcohol Use

	No. (%)	Percentage Engaging in Sex Trading	χ^2
Sociodemographic characteristics			
Age, y			0.64
18–34	130 (33.9)	60	
≥ 35	254 (66.1)	64.2	
Racial/ethnic background			3.52
White	115 (29.7)	59.1	
African American	223 (57.6)	65.9	
Latino	49 (12.7)	53.1	
Sexual/gender orientation			25.59***
Gay-identified	151 (39.1)	47.0 ^a	
Heterosexual	54 (14.0)	75.9	
Bisexual	169 (43.8)	71.4	
Transgender	12 (3.1)	75	
Formal education			6.42*
Some college or college degree	144 (37.2)	54.2	
High school diploma or less	243 (62.8)	67.1	
Homeless			14.57***
No	231 (59.7)	54.5	
Yes	156 (40.3)	73.7	
Childhood maltreatment			14.65***
No	69 (17.8)	42	
Yes	318 (82.2)	66.7	
Drug and alcohol use			
Crack use, past week			44.63***
No	139 (35.9)	40.3	
Yes	248 (64.1)	70.6	
Methamphetamine use, past week			1.35
No	268 (69.3)	64.2	
Yes	119 (30.7)	58	
Marijuana use, past week			0.02
No	174 (45.0)	54.8	
Yes	213 (55.0)	55.5	
Injection drug use, past 30 days			2.88
No	286 (73.9)	59.8	
Yes	101 (26.1)	69.3	
Binge alcohol use, past 3 months ^b			9.00**
No	225 (58.1)	32.2	
Yes	162 (41.9)	47.7	

^aHeterosexual vs gay ($P < .001$); bisexual vs gay ($P < .001$).

^b≥ 5 drinks on last drinking occasion.

* $P < .05$; ** $P < .01$; *** $P < .001$.

gay; 14.0%, as heterosexual; and 3.1%, as transgender. Just under two thirds (62.8%) reported a high school education or less. Nearly 60% reported current homelessness. The majority of participants reported experiencing

childhood sexual abuse (53.0%) or parental violence (70.0%); 82.2% reported childhood sexual abuse, parental violence, or both.

The prevalence of sex trading in our sample ($N = 387$) was estimated to be 62.5%

(95% CI = 57.7%, 67.4%). MSM who engaged in sex trading were less likely to self-identify as gay, had lower levels of formal education, and were more likely to be homeless (Table 1). Those who engaged in sex trading were also more likely to report childhood maltreatment. We found no differences in sex trading by age or ethnicity.

Univariate analyses of drug and alcohol use (see Table 1) indicated that MSM who engaged in sex trading were significantly more likely to report recent crack use and binge drinking. No differences were found in methamphetamine, marijuana, or injection drug use between sex-trading and non-sex-trading MSM.

The adjusted odds ratios shown in Table 2 indicate that significant effects on sex trading were observed for self-identified sexual orientation, homelessness, and childhood maltreatment. MSM who self-identified as other than gay (heterosexual, bisexual, or transgender) were more than twice as likely to engage in sex trading compared with those who self-identified as gay. Homelessness was associated with an almost 2-fold increase in the odds of sex trading. Those who reported experiencing childhood maltreatment were more than 2.5 times as likely to engage in sex trading.

Adjusted odds ratios of drug and alcohol use indicated that crack use was associated with an almost 4-fold increase and injection drug use with a 2-fold increase in the odds of engaging in sex trading. Methamphetamine, marijuana, and binge alcohol use were not associated with sex trading after adjustment for the other variables in the model. The subanalysis of injection drug use and crack use revealed that whereas injection drug use was unrelated to sex trading among MSM who used crack ($\chi^2 = 0$; NS), such use was significantly associated with sex trading among those who did not use crack ($\chi^2 = 11.69$; $P < .01$). The subanalysis of alcohol abuse revealed a significant association between binge drinking and sex trading among MSM who used crack ($\chi^2 = 5.09$; $P < .05$) but not among those who did not use crack ($\chi^2 = .48$; NS). We performed stratified analyses of methamphetamine and marijuana use on sex trading by level of crack use. The effects of methamphetamine and marijuana use on sex trading

TABLE 2—Results of Multiple Logistic Regression on Sociodemographic Characteristics, Drug Use, and Alcohol Use for Sex Trading Among Men Who Have Sex With Men

	Odds Ratio (95% Confidence Interval)
Sociodemographic characteristics	
Age: 18–34 y vs ≥ 35 y	0.94 (0.55, 1.61)
Ethnicity	
African American vs White	1.3 (0.73, 2.32)
Latino vs White	0.65 (0.29, 1.44)
Sexual orientation: nongay vs gay	2.21** (1.35, 3.61)
Formal education: high school diploma or less vs some college/college degree	1.56 (0.96, 2.55)
Homeless: yes vs no	1.88* (1.14, 3.09)
Childhood maltreatment: yes vs no	2.62** (1.41, 4.89)
Drug and alcohol use, yes vs no	
Crack use, past week	3.72*** (2.24, 6.18)
Methamphetamine use, past week	1 (0.55, 1.83)
Marijuana use, past week	0.8 (0.49, 1.32)
Injection drug use, past 30 days	2.28* (1.19, 4.37)
Binge alcohol use, past 3 months ^a	1.42 (0.86, 2.35)

Note. Nongay = heterosexual/bisexual.

^a≥ 5 drinks on last drinking occasion.

* $P < .05$; ** $P < .01$; *** $P < .001$.

were the same regardless of crack use or nonuse. Similarly, stratified analyses of sexual self-identification, homelessness, and childhood maltreatment on sex trading revealed no interactions with crack use.

DISCUSSION

In this study of MSM recruited from street-based venues and community agencies, sex trading was strongly associated with crack use, and with injection drug use. We also found significant associations between sex trading and nongay self-identification, homelessness, and childhood maltreatment.

Our findings indicate that crack use is strongly associated with sex trading among MSM. Although methamphetamine has been identified as a drug of choice among MSM at high risk for HIV,^{28–30,42,43} no association of methamphetamine use with sex trading was observed in this study. In fact, there was a nonsignificant trend of greater methamphetamine use among MSM who did not engage in sex trading. These findings suggest that preventive interventions that address sex trading among MSM must also target use of crack rather than focusing exclusively on methamphetamine.

Although we found a univariate association between sex trading and binge alcohol use, multivariate analysis indicated no significant relationships between these variables. Subanalyses revealed that the lack of a significant relationship between binge alcohol use and sex trading in the multivariate analysis may have resulted from an interaction with crack use. Binge alcohol use was associated with sex trading only among MSM who used crack. Also, we found no univariate association between sex trading and injection drug use, but the multivariate analysis revealed a significant association between these variables. Subanalyses revealed an association between injection drug use and sex trading only among MSM who did not use crack. These findings suggest that alcohol abuse may be a problem among MSM who trade sex and use crack; injection drug use may be a problem among MSM who trade sex but do not use crack. These findings also suggest that preventive interventions may need to target specific types of substance users—crack or injection drug users, and especially users of both crack and alcohol—among MSM who trade sex.

Our findings on homelessness as a predictor of sex trading among MSM extend re-

search findings among high-risk women who trade sex. Overall, the associations between crack use, injection drug use, and homelessness, respectively, and sex trading among MSM suggests an economic imperative to which sex trading is a response. Sex trading may be primarily an economic response driven by the need to obtain drugs or shelter. The high prevalence of sex trading by non-gay-identified men also lends support to an economic hypothesis that these men may be responding to a market for male sex workers among men.

Our findings also extend to the MSM population previous research among women that has documented an association between sex trading and childhood sexual and physical abuse. The more than 2-fold higher odds of sex trading among MSM who experienced childhood maltreatment suggests that prevention of sexual abuse and parental violence and early intervention to address the sequelae of abuse among young men may protect against sex trading in adulthood.

Our study suggests that a segment of drug-using MSM engage in sex trading; this population may represent an important epidemiological link between the broader MSM and heterosexual communities.⁴⁴ Most of the MSM who engaged in sex trading self-identified as heterosexual or bisexual rather than gay, and thus may transmit HIV infection to male and female partners. Previous research has suggested that many male clients of male sex workers also do not self-identify as gay; these clients may also represent vectors for HIV infection to their other male and female partners.^{45,46}

One limitation of our findings is the use of retrospective measures (e.g., childhood maltreatment). Prior reports have found good reliability and validity, however, in retrospective reports of childhood sexual abuse.⁴⁷ Nonetheless, childhood maltreatment may be underreported. In addition, sex trading, as well as sexual risk behaviors and alcohol and illicit drug use, may be subject to reporting bias. We used audio computer-assisted self-interviewing in a private setting to reduce underreporting of sensitive behaviors.^{48–50} Another important caveat is that our nonrandom sample limits the generalizability of the results. Furthermore, eligibility criteria included recent illicit

drug use, which limits generalizability to non-drug-using MSM. The relatively older age (i.e., mean=38 years) of our sample compared with samples in other studies (e.g., Reitsemeijer et al.¹⁶) of MSM recruited through street-based outreach at public venues may result from several factors. First, the HIV prevention intervention for which recruitment was conducted may not have been as appealing to younger compared with older MSM. Second, the \$30 incentive for the 90-minute baseline interview may not have been as attractive to younger men. Third, recruitment venues did not include gay/bisexual youth programs or raves, which might attract a younger group. Thus, our results may not reflect younger MSM. Efforts were made, however, through street-based outreach, to recruit from across a variety of public venues in which hard-to-reach MSM could be found and to sample ethnic minority MSM, who have been underrepresented in HIV/AIDS behavioral research. Nevertheless, our findings cannot be generalized to all MSM. These limitations notwithstanding, our data provide insight into patterns of risk behaviors among an understudied group of MSM at elevated risk for HIV.

The major findings of this study are the associations between crack and injection drug use, nongay self-identification, childhood maltreatment, and homelessness, respectively, and sex trading among MSM. These risk factors suggest that the majority of HIV prevention programs, which rely on social-cognitive, individual, or small-group models, may be inadequate for addressing high-risk behaviors among MSM who trade sex. Interventions for MSM who trade sex may need to target drug dependence and economic hardship to prevent HIV infection risk behaviors. In addition, programs that are overtly identified as gay (e.g., housed in gay service organizations) may be unlikely to reach the high proportion of MSM who trade sex but do not self-identify as gay. Our largely African American sample of MSM also suggests that we may need to overcome the frequent stereotyping of high-risk, drug-using MSM as European American methamphetamine users to facilitate innovations in targeted HIV prevention interventions for men who engage in sex trading. ■

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Contributors

P. Newman conceptualized and conducted the analyses and wrote the article. F. Rhodes designed the study, contributed to interpretation of the analyses, and edited the article. R. Weiss assisted with the analyses, interpretation of the analyses, and editing of the article.

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Human Participant Protection

The study was approved by the institutional review board of California State University, Long Beach. All participants provided written informed consent.

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