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Transactional Sex, Substance Use, and Sexual Risk: Comparing Pay Direction for an Internet-Based U.S. Sample of Men Who Have Sex with Men

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Abstract

Demographic, behavioral, and structural factors among four mutually exclusive transactional sex categories were assessed in an online sample of 7217 sexually active US men who have sex with men (MSM): (1) *No Trade Sex* group (87%); (2) *Sellers*, accepting money or drugs for sex (5%); (3) *Buyers*, giving money or drugs for sex (6%); and (4) *Sellers and Buyers*, accepting and giving money or drugs for sex (2%). Separate multivariable logistic regressions compared men who did not report past 60-day transactional sex with men in the three transactional sex groups. *Sellers* were more likely to report being black or Asian (versus white), low income, a recent STI diagnosis, six or more recent male anal sex partners, and polydrug use. *Buyers* were more likely to report being older, higher income, urban residence, incarceration history, a recent STI diagnosis, and having non-main sex partners. *Sellers and Buyers* were more likely to report a higher income, incarceration history, six or more recent male anal sex partners, and polydrug use. Findings suggest that public health policy and HIV prevention harm reduction strategies should address the distinct sexual and behavioral risk patterns among MSM who engage in transactional sex based on payment direction.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all individual participants included in the study.

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Keywords

Sex work; Gay/bisexual men; Drug abuse; HIV/AIDS

Introduction

Transactional sex, defined as the trading (buying or selling) of sex for money, goods, drugs, or other items of value (including protection, housing, or food), is associated with increased vulnerability to HIV among men who have sex with men (MSM) (Jeness et al., 2011; Oldenburg, Perez-Brumer, Reisner, & Mimiaga, 2015). Some men who engage in transactional sex may be engaged in professional commercial sex work (in which transactional sex is a primary source of income and individuals self-identify as sex workers). However, there are men who may also engage in opportunistic transactional sex (informal bartering of sex) (Harcourt & Donovan, 2005; Masvawure, Sandfort, Reddy, Collier, & Lane, 2015; Grov, Koken, Smith, & Parsons, 2017). Regardless, MSM who engage in transactional sex have been found to have a higher prevalence of HIV than those who do not report transactional sex (Oldenburg et al., 2014). With much of the focus of research on MSM who engage in transactional sex concentrated on their risk for HIV and STI transmissions, they have been reduced to “vectors” of HIV and STI transmission (Bimbi, 2007). This has led to a limited understanding of how these men may be vulnerable in other aspects of their lives (Prestage et al., 2007; Smith & Seal, 2008).

In practice, transactional sex is usually driven by a combination of the seller’s need for subsistence and a client’s desire for consumption, linking it to a purely economic consequence instead of complex socio-sexual interaction (Masvawure et al., 2015; Shefer, Clowes, & Vergnani, 2012). However, motivations for engaging in transactional sex may differ based on the payment direction (sellers vs. buyers). Sex sellers usually engage in transactional sex as a result of economic insecurity, poverty, or coercion, with many who engage in transactional sex having minimal economic options (Vanwesenbeeck, 2013; Oldenburg, Perez-Brumer, Biello et al., 2015b). In previous research, MSM who traded sex were significantly different from MSM buyers in terms of socio-demographic and sexual behaviors (Pitts, Smith, Grierson, O’Brien, & Misson, 2004; Koken, Parsons, Severino, & Bimbi, 2005). Those who sell sex are usually younger, perceive themselves to be more sexually attractive, less educated, and highly migratory (Prestage, Jin, Bavinton, & Hurley, 2014). MSM who sell sex also have the tendency to engage in higher levels of recreational drug use and have more recent and lifetime sex partners compared to MSM who buy sex and those who do not engage in transactional sex (Harawa et al., 2008; Baral et al., 2015). In addition to subsisting, excitement, power, and social norms have also been considered motivators for selling sex (Mimiaga, Reisner, Tinsley, Mayer, & Safren, 2009). Comparatively, Weitzer (2005) found that MSM buyers not only identified sexual gratification and excitement as motivators for engaging in transactional sex but also companionship and emotional support. Regarding safer sex practices, MSM who engage in transactional sex may have differential condom use patterns with transactional and “steady” partners, which has implications for HIV-prevention strategies (Guadamuz et al., 2010; Cambou et al., 2014). Recent studies looking at male escorts found that condomless anal sex

was less common with clients compared to private encounters (Groves, Rodriguez-Diaz, Jovet-Toledo, & Parsons, 2015; Groves, Rodriguez-Diaz, & Jovet-Toledo, 2016). This tendency was also found by Cambou et al. (2014) and attributed to the greater sense of familiarity, commitment, and/or intimacy common in these relationships. Furthermore, MSM who buy sex may offer a greater monetary incentive for condomless sex or may react violently if men insist on using a condom, thus increasing both buyers' and sellers' HIV risk (Harcourt & Donovan, 2005; Prestage et al., 2014).

The boundaries of transactional sex are constantly being blurred from the perspective of roles (buyers vs. sellers) since some men engage in both selling and buying sex. Few studies have examined the context and relevant factors for MSM who both purchase and sell sex (Koken et al., 2005). Some researchers postulate that men who both purchase and sell sex with other men may do so in particular contexts, such as in homeless shelters, where goods are regularly bartered as part of the social economy (Bobashev, Zule, Osilla, Kline, & Wechsberg, 2009), as a form of alternative currency in high poverty areas (Reilly et al., 2014) or because of their own sexual exploration (Prestage et al., 2014; Koken et al., 2005). Reasons for MSM engaging in transactional sex may be reflective of the individual's sexuality as well as material and circumstantial factors (Prestage et al., 2014). There are various motivations behind transactional sex, which compromise protective factors when addressing HIV risk. Few research studies have considered the roles, buying and selling sex, among MSM in exchange sex partnerships.

The objective of the current study is to explore transactional sex pay direction in relation to demographic (age, race/ethnicity, education, HIV status, and socioeconomic status), structural (housing and incarceration), and behavioral (sexual risk and substance use) characteristics. The present study expands on the existing literature on MSM and transactional sex by using an internet-based sample to compare a sexually active, non-transactional sex group of MSM with three subgroups of MSM who reported recent transactional sex activities: MSM who sell sex in exchange for goods, MSM who buy sex in exchange for goods, and MSM who both sell and buy sex in exchange for goods.

Methods

Participants and Procedures

The current study used data collected between April and June 2008 for an online cross-sectional health survey. Email invitations were sent to the US members of a popular sexual networking website for MSM ($n = 609,960$). Those who clicked on the recruitment banner were routed to a consent form, followed by a 15-min survey on a secure study website. No incentives were offered. The institutional review boards at Public Health Solutions and the Centers for Disease Control and Prevention (CDC) reviewed and approved all study procedures. Details of the overall sample, exclusion criteria, and non-response rates are described elsewhere (Hirshfield et al., 2012). In summary, 23,213 individuals clicked on the study recruitment email hyperlink or banner ad that took them to the study landing page. Of those, 13,674 individuals consented to participate, and 11,798 completed the online survey. Among survey completers, the following were excluded from analyses: non-male identified ($n = 46$), non-US residents ($n = 157$), duplicate cases ($n = 311$), and cases with incongruous

or inconsistent data based on responses to key questions ($n=28$). Of the remaining 11,256 cases, 2848 were excluded due to missing data on key outcomes, including age, race/ethnicity, sexual risk behaviors, and/or HIV status. Moreover, those who reported no sexual activity (oral, vaginal, and anal) with a male or female partner during the past 60 days ($n=1191$) were automatically skipped out of the transactional sex questions, and were thus excluded from overall analyses (though a brief description of this subgroup's demographic characteristics is provided in the Results to provide a full description of the sample population), resulting in an analytic sample of 7217. As a result of this review, this paper focuses on men who reported any sexual activity (oral, vaginal, and anal) with a male or female partner and their involvement in transactional sex with men (yes or no) during the past 60 days.

Measures

Demographic and Structural Variables—We assessed a comprehensive range of sociodemographic characteristics including age, race/ethnicity, education level, employment status, annual income, and self-reported HIV status. Sexual orientation was measured using the 7-point Kinsey scale (Kinsey et al., 1948). The survey included an item asking about any past-year change in housing as a proxy for housing stability. Geographic region was defined by the U.S. Census Bureau categorization and determined using participants' state of residence. Further structural factors included residential city size (< 1 million, > 1 million), which was dichotomized for analytic purposes but based on self-reported estimation of participants' city size of residence (< 5000 residents, 5000 to 49,999 residents, 50,000 to 249,999 residents, 250,000 to 1 million residents, Greater than 1 million residents, and I'm not sure/I don't know), and lifetime history of incarceration (Yes/ No).

Sexual Risk Behaviors—Participants were asked how many male partners (oral and anal) they had during the past 60 days, year, and lifetime. Regarding sexual behaviors in the past 60 days, participants were asked about the relationship type for up to three most recent partners (main only, non-main only, both main and non-main) and condom use for anal sex across the past three sex partners (none, at least once). Condom use was controlled for, regardless of partner type, for the past three partners.

Sexually Transmitted Infection (STI) Diagnoses—A yes/no checklist of STI diagnoses occurring in the past 60 days was provided, including chancroid, chlamydia, gonorrhea, hepatitis A, hepatitis B, hepatitis C, genital herpes, HPV, lymphogranuloma venereum (LGV), non-gonococcal urethritis (NGU), and syphilis.

Substance Use and Mental Health History—We measured past-60 day drug use including marijuana, cocaine, crystal methamphetamine, crack, heroin, gamma-hydroxybutyrate (GHB), ketamine, ecstasy (MDMA), poppers (alkyl nitrites), and erectile dysfunction medication (PDE-5 inhibitors). Participants were also asked about polydrug use in the past 60 days. Lifetime diagnosis of depression and anxiety was assessed using two separate items (Yes/No).

Transactional Sex Categories—Participation in transactional sex was ascertained using two questions: “In the past 60 days, did you accept anything (money, drugs, etc.) in exchange for sex?” and “In the past 60 days, did you give anything (money, drugs, etc.) in exchange for sex?” Response options (Yes, No) were used to group participants into one of the following four transactional sex categories: (1) *No Trade Sex*, sexual activity (including oral, vaginal, and anal with female and/or male sex partners), but no transactional sex; (2) *Sellers*, accepting money or drugs in exchange for sex; (3) *Buyers*, giving money or drugs in exchange for sex; or (4) *Sellers and Buyers*, accepting and giving money or drugs in exchange for sex. The *No Trade Sex* group answered the same survey questions as the other three transactional sex groups except for their engagement in past 60-day transactional sex activities. Those who reported no sexual activity in the past 60 days were excluded from analyses. The 60-day recall period and follow-up timeframe were developed in response to prior internet-based research with MSM that demonstrated low follow-up with 90-day recall and follow-up periods (Chiasson, Shuchat Shaw, Humberstone, Hirshfield, & Hartel, 2009).

Statistical Analysis

Data analyses were performed using IBM SPSS version 24 (IBM, Armonk, NY). Bivariate analysis was conducted to explore demographic, behavioral, and structural differences between transactional sex groups. Comparisons for categorical variables were made using Pearson’s chi-square. Comparisons for normally distributed, continuous variables were made using one-way analysis of variance (ANOVA) tests; only differences at the $p < .05$ level were considered statistically significant. These comparisons were then followed by Bonferroni-adjusted post hoc analyses using partial χ^2 . Separate bivariate and multivariable logistic regression analyses were conducted to assess sociodemographic, sexual risk, substance use, and mental health predictors of each transactional sex group, with no transactional sex as the referent group. Demographic and structural covariates known to be associated with HIV risk (age, race, income, HIV status, housing stability, history of incarceration, and city size) were included in all models. Sexual risk, substance use, and mental health predictor variables were included in logistic regression models if shown to be significant in bivariate analyses. We report adjusted odds ratios (AOR) and their 95% confidence intervals (CI) from multivariable logistic regression analyses.

Results

Sexually and Non-Sexually Active Participant Comparisons

This paper focuses on 7217 sexually active men who did and did not engage in recent transactional sex; therefore, men who were not sexually active in the past 60 days were excluded ($n = 1191$). Compared to sexually active men, men who reported no recent sexual activity reported similar demographic characteristics (i.e., mean age = 38 [SD= 11.9]; 80% white, 47% with a college degree or higher) but a lower risk profile. Specifically, a smaller proportion of non-sexually active men reported 10 or more anal sex partners in the past year (3 vs. 32%, $p < .001$) and more than 100 lifetime anal sex partners (12 vs. 27%, $p < .001$) compared to sexually active men. A smaller proportion of non-sexually active men reported past 60-day drug use (47 vs. 63%, $p < .001$) compared to sexually active men. Finally, although the proportion of men living with HIV was the same across the sexually and non-

sexually active groups, a higher proportion of non-sexually active men had never had an HIV test (19 vs. 8%, $p < .001$).

Sample Characteristics

Among those who reported engaging in any type of sexual activity (e.g., anal, oral, or vaginal sex) in the past 60 days ($n = 7217$), 87% did not participate in any transactional sex activities, while 13% participated in some transactional sex activity. Specifically, 5% reported being *Sellers* of sex in exchange for money or drugs, 6% reported being *Buyers* of sex in exchange for money or drugs, and 2% reported both *Sellers and Buyers* of sex in exchange for money or drugs (Table 1). The mean age of participants was 39 years ($SD = 11.8$; range 18–81). The sample predominately consisted of self-identified homosexual, white men. The majority of the participants reported being HIV-negative (74%), with smaller proportions being HIV-positive (16%), or unaware of their serostatus (10%). More than half of participants had a college degree or higher, were employed, and had an annual income of \$50,000 or more. A majority reported having stable housing and no history of incarceration, while close to a third lived in a city with one million or more people.

Participants reported on past-60 day sexual risk behaviors, drug use, and mental health diagnoses (Table 2). Almost half reported having at least 2 male anal sex partners and 14% reported having an STI diagnosis. Regarding their 3 most recent partners, 58% had only non-main partners and 44% reported no condom use. As shown in Table 2, men most frequently reported using marijuana, followed by poppers, erectile dysfunction medications, cocaine, ecstasy, and crystal methamphetamine, with 25% reporting polydrug use with three or more drugs. Approximately 30% of all participants self-reported a lifetime diagnosis of depression, while nearly 21% reported a lifetime diagnosis of anxiety.

Comparisons Between Transactional Sex Groups

Demographic, behavioral, and structural-level differences were found between the four transactional sex groups (Tables 1 and 2). Compared to all other groups, the *Sellers* were significantly more likely to be younger and have lower income, while the *Buyers* were significantly more likely to be older. *The Sellers* were also more likely to be non-White and unemployed compared to those reporting no transactional sex and also more likely to have less than a college degree and experience housing instability compared to the *Buyers* and those reporting no transactional sex.

Those who did not participate in any transactional sex activities (*No Trade Sex* group) were less likely to have been incarcerated than those reporting any transactional sex. Men in the *No Trade Sex* group were also significantly less likely to report an HIV-positive status compared to the *Buyers* and the *Sellers and Buyers* groups. With regard to city size, men reporting no transactional sex activities were significantly less likely to live in a large city (1 million) compared to *Buyers* (28.8 vs 35.8%); however, similar proportions of men among the *Sellers* (34.1%) and *Sellers and Buyers* (35.2%) groups also resided in large cities.

Important differences in sexual and psychosocial factors were found between transactional sex groups (Table 2). Men participating in any transactional sex activities were significantly more likely to have non-main partners only and report a recent STI diagnosis, compared to

men in the *No Trade Sex* group. Men in the *Sellers* group and the *Sellers and Buyers* group reported more past 60-day male anal sex partners compared to men in the *Buyers* group and men in the *No Trade Sex* group. The *Sellers and Buyers* sex group were more likely to report not using a condom with their last 3 partners.

With regard to drug use, men reporting *No Trade Sex* and *Buyers* groups were less likely to smoke or snort cocaine and crystal meth and use downers, ecstasy, and marijuana compared to the *Sellers* and the *Sellers and Buyers* sex groups. Importantly, the *Sellers* and the *Sellers and Buyers* sex groups both reported significantly more heroin use compared to the *No Trade Sex* group. Men participating in any transactional sex activities were more likely to use sexual dysfunction medications and report polydrug use with three or more drugs compared to men reporting no transactional sex activities. Furthermore, compared to the *No Trade Sex* group, the *Buyers* and the *Sellers and Buyers* sex groups were more likely to report ever having a lifetime diagnosis for depression, while the *Sellers* were more likely to report a lifetime diagnosis of anxiety.

Multivariable Logistic Regression Analysis

We ran three separate multivariable logistic regression models for each of the transactional sex groups, with the *No Trade Sex* group as the reference group, to determine whether and which independent predictors distinguished the groups from each other (Table 3). After controlling for covariates, men who self-identified as Black or Asian had increased odds (AOR 1.79, 95% CI 1.07–3.00 and AOR 1.59, 95% CI 1.00–2.51) of being *Sellers*, compared to men who self-identified as White. Older participants had increased odds of being *Buyers* (AOR 1.05, 95% CI 1.03–1.06) and decreased odds of being *Sellers* (AOR 0.93, 95% CI 0.92–0.94) and *Sellers and Buyers* (AOR 0.95, 95% CI 0.93–0.98). Low income (< \$30,000) was significantly associated with greater odds of being *Sellers* (AOR 1.60, 95% CI 1.14–2.23), and lower odds of being *Buyers* (AOR 0.50, 95% CI 0.34–0.73) and *Sellers and Buyers* (AOR 0.38, 95% CI 0.19–0.76). Men with a history of incarceration had increased odds of being *Buyers* (AOR 1.44, 95% CI 1.09–1.89) and *Sellers and Buyers* (AOR 1.70, 95% CI 1.03–2.80), while those living in a large city (> 1 million) had increased odds of being *Buyers* (AOR 1.32, 95% CI 1.04–1.68).

Men who reported having 6 or more male anal sex partners in the past 60 days had significantly higher odds of being *Sellers* (AOR 3.19, 95% CI 2.01–5.00) and *Sellers and Buyers* (AOR 2.56, 95% CI 1.02–6.40), and lower odds of being *Buyers* (AOR 0.61, 95% CI 0.41–0.91). Furthermore, men who had a recent STI diagnosis were more likely to report being *Buyers* (AOR 1.35, 95% CI 1.01–1.81) and *Sellers* (AOR 1.76, 95% CI 1.30–2.39). Men who reported having any non-main partners had more than twice the odds of being *Buyers* (Non-main partners only: AOR 2.38, 95% CI 1.43–3.98; both main and non-main partners: AOR 2.31, 95% CI 1.35–3.93). Men who reported polydrug use with three or more drugs had significantly greater odds of participating in any transactional sex activity, with more than 6 times the odds of being both *Sellers and Buyers* (AOR 6.73, 95% CI 3.10–14.61). Transactional sex was not associated with HIV status, past year housing stability, or lifetime diagnosis of depression or anxiety in any of the multivariable models.

Discussion

The current study examined transactional sex pay direction (*Sellers, Buyers, Sellers and Buyers*) in relation to demographic, structural, and behavioral characteristics among a large, online convenience sample of US MSM who reported transactional sex in the past 60 days (12.5%). Multivariable logistic regression models for each of the transactional sex groups were compared with men who did not participate in past 60-day transactional sex activities. Predictors associated with being *Sellers* included being Black or Asian (compared to white), earning less than \$30,000 per year, reporting six or more male anal sex partners in the past 60 days, and polydrug use. Predictors associated with being a *Buyer* included earning \$50,000 or more per year, ever being incarcerated, living in a city with at least one million residents, being less likely to report six or more past 60-day male anal sex partners, and to report past 60-day polydrug use. Finally, predictors associated with being in the *Sellers and Buyers* sex group in the past 60 days included earning \$50,000 or more annually, ever being incarcerated, reporting six or more past 60-day male anal sex partners, and past 60-day polydrug use. Of note, older participants had increased odds of being a *Buyer* and decreased odds of being a *Seller* or being in the *Sellers and Buyers* group. Transactional sex was not associated with HIV status, past-year housing stability, or lifetime diagnosis of depression or anxiety in any of the multivariable models.

As men in the current study reported selling, buying, or selling and buying sex for money or drugs, it is important to acknowledge that men who engage in transactional sex are not a homogenous population (Minichiello, Scott, & Callander, 2015). Engaging in transactional sex is a somewhat frequent behavior among MSM and may occur as a matter of opportunity, for financial incentives, to obtain drugs or other goods, or because of social norms in the gay community (Berg et al., 2015; Bowring et al., 2016; Smith & Grov, 2011; Smith, Grov, & Seal, 2008). For these reasons, we used a broad definition of transactional sex that included informal trading since we did not inquire whether participants identified as sex workers or if they sought to buy sex from individuals who identified as sex workers. This study adds to the literature by assessing demographic (age, race/ethnicity, education, HIV status, and socioeconomic characteristics), structural (housing, incarceration), and behavioral (sexual risk, substance use) characteristics of the subgroups of men who reported recent transactional sex by payment direction.

Previous research has found significant differences between men who buy sex and those who sell sex with respect to sociodemographic characteristics as well as sexual risk behaviors (Minichiello et al., 2015; Berg et al., 2015; Koken et al., 2005; Mimiaga et al., 2009; Grov et al., 2016). The men who reported only paying for sex in our study tended to be older, more educated, identified as white and had higher income, while men who reported only selling sex in exchange for money or drugs were younger, non-white, had less stable housing, and lower income compared to the other three groups. In our study, selling sex may be partially motivated by financial need, but it is not necessarily the principal source of income. These findings are similar to previous studies exploring the characteristics of male sex workers and their clients, where the sex workers were identified as younger with low education, less full-time employment, and less economic stability (Prestage et al., 2014; Weber et al., 2001). The patterning of transactional sex by sociodemographic characteristics may indicate that MSM

engage in transactional sex as a response to an economic imperative that is driven by lower levels of human capital (McCarthy, Benoit, & Jansson, 2014). Previous studies have presented the socioeconomic difference in transactional sex payment direction as a reflection of power differential and social hierarchy between two men having sex (Berg et al., 2015). These vulnerabilities can result in difficulties for men selling sex to access and use condoms, negotiate safer sex with clients without the threat of violence or lost revenue, and access healthcare services (Rekart, 2005).

Although buyers in male-to-male transactional sex dyads generally have more economic advantages over those who sell sex (Braine, van Sluytman, Acker, Friedman, & DesJarlais, 2010), research has shown that MSM who give money or drugs in exchange for sex demonstrate a power imbalance that fosters condomless sex, and which has been linked to expressions of masculinity and dominance for both sellers and buyers of sex (Braine et al., 2010). In some cases, the desire for intimacy and fulfillment may exceed the desire for protection (Minichiello et al., 2015). Furthermore, some men who buy sex fear that their sexual encounter may become volatile if they do not compensate the sex trader after sex, which is a risk in the absence of communication (Braine et al., 2010).

Previous studies have identified subgroups of men who both sold and bought sex (Koken et al., 2005; Prestage et al., 2014), only highlighting certain behaviors related to it. To our knowledge, this is the first study to examine demographic, structural, and behavioral characteristics of MSM who engaged in both selling and buying sex in the United States. Men in the *Sellers and Buyers* group had similar socioeconomic characteristics to men in the *Buyers* group and similar sexual risk behaviors to men in the *Sellers* group. Further, despite the fact that most men in the current study used drugs regardless of payment direction, men in the *Sellers and Buyers* sex group were more likely to report more drug use, polydrug use, and a history of depression compared to the other two groups. The confounding effects of drug use on psychological distress may contribute to correlations between sex trading and psychological status such as depression among drug-using populations (El-Bassel, Simoni, Cooper, Gilbert, & Schilling, 2001). In addition, research has shown that drug users who also engage in transactional sex are more likely to report having an STI history which places them at higher risk of HIV infection (Oldenburg, Perez-Brumer, Reisner, & Mimiaga, 2015).

Previous research with MSM who engage in transactional sex indicates that their increased risk of HIV infection may not be exclusively related to the sex work itself, but rather their involvement in the sexually adventurous, gay party subcultures (Prestage et al., 2007). Along with the stigma associated with having sex with other men, men who engage in transactional sex face additional stigma associated with engaging in an illegal sexual activity, presumption of HIV infection or drug use, and differential socio-economic status (Baral et al., 2015). This suggests that transactional sex may be a marker of increased risk of STI and HIV infection, rather than a risk factor, indicating they may benefit greatly from sexual health interventions (Prestage et al., 2007). The risk may be lessened by available HIV prevention, treatment, and care services at the community level if barriers to the uptake of those services are removed. Previous research has reported that MSM face sexual stigma on multiple levels including anticipated discrimination from health care providers for disclosure of their HIV status, sexual orientation, or behaviors (Biello et al., 2016).

Despite higher social acceptability of sex work in gay communities (Minichiello & Scott, 2014; Smith & Grov, 2011), it is still stigmatized because it is illegal and/or socially unacceptable in the US (Biello et al., 2016). Addressing stigma and discrimination associated with sex work, particularly in public health efforts, is a critical component to eliminating barriers to accessing HIV prevention services (Baral et al., 2015). Individuals who engage in sex work experience a disproportionately high burden of HIV that is driven by structural factors, such as criminalization, physical and sexual violence, stigma, and lack of access to services. There is growing evidence that criminalization of sex work is more than the existence of laws, but the policing and prosecutorial practices in some US jurisdictions that result in individuals having to conduct business in more hidden locations, thus reducing their ability to screen prospective clients (Jackman, 2018) and to negotiate terms of sexual transaction, such as condom use (Baskin et al., 2016).

The HIV prevention field has expanded significantly with new prevention strategies, such as pre-exposure prophylaxis (PrEP) for HIV negative individuals (Baeten et al., 2012; Grant et al., 2010) and approval of over-the-counter HIV self-testing kits (U.S. Food and Drug Administration, 2012). Although PrEP was not FDA approved at the time of this study, we highlight that PrEP does present as a viable HIV prevention strategy for men who engage in transactional sex. The few studies that have examined barriers to PrEP among men who engage in transactional sex have identified stigma associated with substance use, fear of the negative impact their relationships with their non-transactional sex partners and their economic livelihood as a barrier to PrEP initiation and healthcare access (Underhill et al., 2015; Biello et al., 2017). Despite these barriers, the combination of PrEP, regular STI and HIV screening and care, along with antiretroviral treatment as prevention for HIV-positive individuals, may reduce HIV infection among MSM who engage in transactional sex at the individual level as well as the community level (Levy et al., 2014). This strategy may be empowering to a population that experiences structural vulnerabilities to HIV infection. With the introduction of state-level PrEP assistance and patient navigation programs to address structural barriers to HIV prevention care (e.g., lack of health insurance) (CDC, 2015) and connecting HIV-positive individuals to treatment and antiretroviral therapy support can have a population-level impact (Chang et al., 2013). Individual biomedical and behavioral interventions can only have a modest impact in shifting the course of the HIV epidemic among those who engage in sex work in the absence of structural changes, such as laws that allow linkage to STI and HIV preventive and treatment services (Rekart, 2005). It is important that these factors are taken into account to develop culturally appropriate, combination, HIV prevention interventions which may include community mobilization and empowerment activities for men who engage in transactional sex (Shahmanesh, Patel, Mabey, & Cowan, 2008).

Limitations

This study is not without limitations, including the use of a cross-sectional study design and a convenience sample. Our cross-sectional design limits our ability to make causal assertions about our findings. In addition, it is possible that a proportion of men who were excluded from this analysis would have been eligible if the question about transactional sex had a longer window period than 60 days. Further, we did not inquire about the past history of

transactional sex, where participants engaged in transactional sex (e.g., did they travel for sex?), or whether sexual transactions were consensual. The use of a convenience sample also precludes us from generalizing our findings to MSM who do not use the internet to find sexual partners, to MSM who used other sexual networking websites but were not members of the sexual networking site from which we recruited (and were therefore not exposed to the online recruitment ads), or to members of the sexual networking website who may have been unwilling to participate in our study. The use of an online technology in this investigation is another potential limitation for this study, as men who did not have access to a computer and the internet may have a lower socioeconomic status; however, almost a quarter of the sample reported less than \$30,000 per year. Other study limitations include the lack of data about the type of partnership in which the transactional sex occurred. We did not distinguish whether one of the last sexual partners was a transactional sex encounter or the number of sexual encounters that could be identified as transactional sex. In addition, there is no real distinction between opportunistic (informal) or commercial (formal) transactional sex for this analysis. It should also be noted that some marginally significant findings may be the result of Type I error and some of the differences in the results with the *Buyers and Sellers* group may be related to its smaller sample size. Hence, there is a need for similar studies, but with larger sub-samples, that address all three transactional sex groups. Our findings that *Buyers* may differ from *Sellers* and from *Buyers and Sellers* suggest that it is important to investigate this in future research. Finally, as these data were collected in 2008, they do not reflect data collection occurring on mobile devices or from men using sexual networking apps, which may have increased the ease of meeting for transactional sex using GPS software (Groves, Breslow, Newcomb, Rosenberger, & Bauermeister, 2014).

Conclusion

Transactional sex varies in its forms and social contexts, which can influence the individual's autonomy and ability to engage in safer sex practices. However, rigid definitions of transactional sex that may exclude indirect and covert sex work may under-represent those who engage in transactional sex in disease surveillance and safer sex outreach initiatives, despite their elevated risk of STIs and HIV and need for prevention services. Our results argue for a continued social and cultural focus on MSM who engage in transactional sex. However, although more research is needed that addresses MSM who engage in transactional sex within a structural and individual socioeconomic context, it is critical to examine transactional sex within a broader health context (e.g., access to culturally competent care) to provide a comprehensive picture for HIV prevention strategies. Safer sex must be negotiated alongside fantasies, motivations, power, and desire. The application of multiple HIV prevention strategies, which may include both behavioral and biomedical strategies, such as PrEP, can be empowering particularly among high-risk populations. However, it is becoming more difficult to distinguish between consensual and exploitative sex work since many individuals who engage in sex work are often forced into the trade sex industry because of social and economic inequity, structural violence, or as a means of survival. Furthermore, these distinctions signal a need for public health approaches based on harm reduction, which is a first step in addressing the underlying circumstances that result in participation in transactional sex and vulnerability to sex trafficking. This approach will

support the development of more effective public health policies and interventions for men who engage in both formal and informal transactional sex.

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Table 1
Demographic and structural characteristics in a sample of MSM engaging in transactional sex

Characteristic	Total sample (n = 7217)	Past 60 days				Omnibus χ^2	P	Post hoc (sig level = .008)
		(A) No trade sex (n = 6311)	(B) Sellers (n = 368)	(C) Buyers (n = 404)	(D) Sellers and buyers (n = 134)			
Mean age (SD) (n = 7217) ^a	38.7 (11.8)	38.8 (11.7)	30.8 (10.1)	45.7 (10.4)	38.2 (10.0)	106.643	0.000	B < A, D < C
Race/ethnicity (n = 7187)						48.082	0.047	0.000
White	5905 (82.2)	5197 (82.7)	258 (70.3)	344 (85.8)	106 (79.7)			A, C > B
Black	285 (4.0)	236 (3.8)	27 (7.4)	16 (4.0)	6 (4.5)			A < B
Hispanic	609 (8.5)	520 (8.3)	46 (12.5)	32 (8.0)	11 (8.3)			A < B
Asian/other	388 (5.4)	333 (5.3)	36 (9.8)	9 (2.2)	10 (7.5)			A < B; A, B, D > C
Education (n = 7192)						65.240	0.067	0.000
High school or less	726 (10.1)	618 (9.8)	56 (15.2)	29 (7.2)	23 (17.3)			A, C < B, D
Some college/trade school	2490 (34.6)	2136 (34.0)	172 (46.7)	129 (31.9)	53 (39.8)			A, C < B
College degree or more	3976 (55.3)	3533 (56.2)	140 (38.0)	246 (60.9)	57 (42.9)			
Employment (n = 7148)						14.475	0.045	0.002
Yes	6249 (87.4)	5494 (87.9)	301 (82.2)	347 (86.5)	107 (81.7)			A > B
No	899 (12.6)	756 (12.1)	65 (17.8)	54 (13.5)	24 (18.3)			
Income (n = 6514)						149.860	0.107	0.000
< \$30,000	1571 (24.1)	1360 (23.9)	153 (46.4)	37 (10.1)	21 (17.4)			A, C, D < B
\$30,000 to \$49,999	1662 (25.5)	1467 (25.8)	78 (23.6)	84 (22.9)	33 (27.3)			
\$50,000 or more	3281 (50.4)	2869 (50.4)	99 (30.0)	246 (67.0)	67 (55.4)			A, C, D > B; A < C
HIV status (n = 7156)						36.395	0.050	0.000
Negative	541 (74.2)	4781 (76.4)	265 (72.6)	281 (70.3)	85 (63.9)			A > C, D
Positive	1151 (16.1)	952 (15.2)	71 (19.5)	88 (22.0)	40 (30.1)			A < C, D
Unknown	593 (9.8)	525 (8.4)	29 (7.9)	31 (7.8)	8 (6.0)			
Sexual orientation (n = 7187)						4.250	0.017	0.643

Characteristic	Total sample (n = 7217)	Past 60 days				Omnibus χ^2	P	Post hoc (sig level = .008)
		(A) No trade sex (n = 6311)	(B) Sellers (n = 368)	(C) Buyers (n = 404)	(D) Sellers and buyers (n = 134)			
Homosexual	6086 (84.7)	5328 (84.7)	308 (84.6)	338 (84.3)	112(83.6)			
Bisexual	1041 (14.5)	909 (14.5)	52 (14.3)	61 (15.2)	19 (14.2)			
Heterosexual	60 (0.8)	51 (0.8)	4(1.1)	2 (0.5)	3 (2.2)			
Past year change in housing (n = 7191)						77.174	0.073 0.000	
None	5104 (71.0)	4501 (71.6)	197 (53.7)	316 (78.2)	90 (67.2)		A, C, D > B; A < C	
Once	1540 (21.4)	1325 (21.1)	112(30.5)	72 (17.8)	31 (23.1)		A, C < B	
Two or more times	547 (7.6)	460 (7.3)	58(15.8)	16 (4.0)	13 (9.7)		A, C < B	
Ever incarcerated (n = 7162) ^b						42.248	0.077 0.000	
Yes	1237 (17.3)	1019 (16.3)	82 (22.5)	93 (23.3)	43 (32.1)		A < B, C, D	
No	5925 (82.7)	5246 (83.7)	282 (77.5)	306 (76.7)	91 (67.9)			
Geographic region (n = 7217)						23.082	0.033 0.082	
Northeast	1707 (23.7)	1474 (23.4)	93 (25.3)	112(27.7)	28 (20.9)			
South Atlantic	1424 (19.7)	1258 (19.9)	67 (18.2)	72 (17.8)	27(20.1)			
North Central	1160 (16.1)	1018 (16.1)	58(15.8)	58 (14.4)	26 (19.4)			
South Central	1242 (17.2)	1099 (17.4)	61 (16.6)	59 (14.6)	23 (17.2)			
Mountain	640 (8.9)	569 (9.0)	18(4.9)	40 (9.9)	13 (9.7)			
Pacific	1044 (14.5)	893 (14.1)	71 (19.3)	63 (15.6)	17 (12.7)			
City size (n = 6675)						13.983	0.046 0.003	
1 million	1977 (29.6)	1683 (28.8)	113 (34.1)	138 (35.8)	43 (35.2)		A < C	
< 1 million	4698 (70.4)	4154 (71.2)	218 (65.9)	247 (64.2)	79 (64.8)			

n (column %) presented unless otherwise noted. Totals differ due to missing cases. Test statistics are derived from chi-square omnibus tests and effect sizes are reported using Cramer's V. Post-hoc comparisons were made using partial χ^2 . Bonferroni corrections were applied to post hoc comparisons at the $p < .008$ significance level. Missing cases were excluded from the analyses

^aMean age (SD, standard deviation) presented; We report F-values derived from a one-way ANOVA and eta-squared for effect sizes. Post-hoc comparisons were made using Tukey's HSD

^b n = 45 did not see the question

Table 2
Sexual and psychosocial factors reported in the past 60 days for a sample of MSM engaging in transactional sex

Past 60 days	Total sample (n = 7217)	Past 60 days				Omnibus χ^2	P	Post hoc (sig. level = .008)
		(A) No trade sex (n = 6311)	(B) Sellers (n = 368)	(C) Buyers (n = 404)	(D) Sellers and buyers (n = 134)			
Male anal sex partners (n = 7203)					152.385	0.000		
0	1522 (21.1)	1347 (21.4)	46 (12.5)	108 (26.8)	21 (15.9)		A, C > B	
1	2334 (32.4)	2107 (33.4)	87 (23.6)	115 (28.5)	25 (18.9)		A > B, D	
2 to 5	2419 (33.6)	2112 (33.5)	140 (38.0)	128(31.8)	39 (29.5)		-	
6+	928 (12.9)	734 (11.7)	95 (25.8)	52 (12.9)	47 (35.6)		A, C < B, D	
Type of sex partners (past 3 partners) (n = 7175)					34.063	0.000		
Main only	807 (11.2)	742 (11.8)	30 (8.2)	23 (5.7)	12 (9.1)		A > C	
Non-main only	4182 (58.3)	3585 (57.1)	237 (64.8)	269 (66.6)	91 (68.9)		A < B, C, D	
Both main and non-main	2186 (30.5)	1946 (31.0)	99 (27.0)	112 (27.7)	29 (22.0)			
Condom use (past 3 partners) (n = 4415)					11.555	0.009		
None	1957 (44.3)	1623 (43.5)	124 (45.8)	149 (48.5)	61 (58.1)		A < D	
At least once	2458 (55.7)	2109 (56.5)	147 (54.2)	158 (51.5)	44 (41.9)			
STI diagnosis (n = 7196)					36.365	0.000		
Yes	1036 (14.4)	849 (13.5)	78 (21.3)	77 (19.2)	32 (24.2)		A < B, C, D	
No	6160 (85.6)	5448 (86.5)	288 (78.7)	324 (80.8)	100 (75.8)			
Individual drug use (n = 7192)								
Cocaine, smoked or snorted	1434 (19.9)	1145 (18.2)	131 (35.7)	94 (23.3)	64 (47.8)	136.598	0.000 A, C < B, D	
Cocaine, injected	78 (1.1)	50 (0.8)	11 (3.0)	7 (1.7)	10 (7.5)	136.598	0.000 A < B, D; C < D	
Crack	204 (2.8)	138 (2.2)	31 (8.4)	16 (4.0)	19 (14.2)	115.706	0.000 A < B; A, C < D	
Crystal methamphetamine, smoked or snorted	879 (12.2)	685 (10.9)	97 (26.4)	49(12.1)	48 (35.8)	148.937	0.000 A, C < B, D	
Crystal methamphetamine, injected	198 (2.8)	124 (2.0)	28 (7.6)	17 (4.2)	29 (21.6)	228.678	0.000 A < B, C < D	

	Total sample (n = 7217)	Past 60 days				Omnibus χ^2	P	Post hoc (sig level = .008)
		(A) No trade sex (n = 6311)	(B) Sellers (n = 368)	(C) Buyers (n = 404)	(D) Sellers and buyers (n = 134)			
Downers	418 (5.8)	299 (4.8)	67 (18.3)	29 (7.2)	23 (17.2)	149.552	0.000	A, C < B, D
Ecstasy	979 (13.6)	768 (12.2)	102 (27.8)	60 (14.9)	49 (36.6)	133.758	0.000	A, C < B, D
GHB **	512 (7.1)	385 (6.1)	59 (16.1)	27 (6.7)	41 (30.6)	165.773	0.000	A, C < B < D
Heroin, smoked or snorted	72 (1.0)	48 (0.8)	14 (3.8)	5 (1.2)	5 (3.7)	43.203	0.000	A < B, D
Heroin, injected	23 (0.3)	14 (0.2)	5 (1.4)	2 (0.5)	2 (1.5)	20.545	0.000	A < B, D
Ketamine	359 (5.0)	283 (4.5)	31 (8.4)	24 (5.9)	21 (15.7)	45.421	0.000	A < B; A, C < D
Marijuana	2938 (40.9)	2472 (39.3)	211 (57.5)	173 (42.8)	82 (61.2)	71.771	0.000	A, C < B, D
Poppers	2616 (36.4)	2177 (34.6)	185 (50.4)	171 (42.3)	83 (61.9)	83.558	0.000	A < B, C, D; C < D
PDE-5 inhibitors	2003 (27.9)	1657 (26.4)	121 (33.0)	168 (41.6)	57 (42.5)	64.082	0.000	A < B, C, D
Polydrug use (n = 7190)						193.144	0.000	
None	2627 (36.5)	2409 (38.3)	79 (21.5)	117 (29.0)	22 (16.4)			A > B, C, D; C > D
1-2	2742 (38.1)	2429 (38.6)	122 (33.2)	157 (38.9)	34 (25.4)			A, C > D
3+	1821 (25.3)	1447 (23.0)	166 (45.2)	130 (32.2)	78 (58.2)			A < B, C, D; C < B, D
Lifetime mental health diagnoses								
Depression (n = 7203)	2181 (30.3)	1861 (29.5)	120 (32.7)	145 (35.9)	55 (41.0)	15.991	0.001	A < C, D
Anxiety (n = 7203)	1502 (20.9)	1267 (20.1)	104 (28.3)	101 (25.0)	30 (22.4)	18.923	0.000	A < B

n (column %) presented unless otherwise indicated; Totals differ due to missing cases. Chi-square omnibus tests with partial χ^2 for post hoc comparisons are reported with significant comparisons indicated in the last column. Bonferroni corrections are applied to post hoc comparisons at the $p < .008$ significance level. Missing cases were excluded from the analyses

Table 3

Adjusted odds ratios and 95% confidence intervals from separate multivariable logistic regression models predicting transactional sex activity

	Sellers ^a			Buyers ^b			Sellers and buyers ^c		
	AOR	95% CI	P	AOR	95% CI	P	AOR	95% CI	P
Age	0.93	0.92–0.94	0.00	1.05	1.03–1.06	0.00	0.95	0.93–0.98	0.00
Race/ethnicity									
White (base)	1.00			1.00			1.00		
Black	1.79	1.07–3.00	0.03	1.69	0.93–3.06	0.08	0.82	0.19–3.55	0.79
Hispanic	1.14	0.76–1.71	0.53	1.23	0.79–1.89	0.36	1.15	0.53–2.54	0.72
Asian/other	1.59	1.00–2.51	0.05	0.73	0.37–1.45	0.37	1.46	0.59–3.60	0.41
Income									
< \$30,000	1.60	1.14–2.23	0.01	0.50	0.34–0.73	0.00	0.38	0.19–0.76	0.01
\$30,000 to \$49,999	1.10	0.78–1.55	0.58	0.78	0.59–1.03	0.09	0.63	0.35–1.12	0.12
\$50,000 or more (base)	1.00			1.00			1.00		
HIV status									
Negative (base)	1.00			1.00			1.00		
Positive	1.07	0.75–1.53	0.69	1.11	0.83–1.49	0.47	1.41	0.82–2.41	0.21
Unknown	0.84	0.54–1.33	0.46	1.23	0.76–1.98	0.40	0.77	0.23–2.61	0.68
Past year change in housing									
None (base)	1.00			1.00			1.00		
Once	1.16	0.87–1.55	0.31	1.10	0.82–1.48	0.53	1.28	0.75–2.16	0.36
Two or more times	1.26	0.86–1.84	0.24	0.62	0.31–1.24	0.18	1.13	0.48–2.67	0.79
Ever incarcerated									
Yes	1.29	0.95–1.76	0.11	1.44	1.09–1.89	0.01	1.70	1.03–2.80	0.04
No (base)	1.00			1.00			1.00		
City size									
1 million	1.13	0.85–1.48	0.40	1.32	1.04–1.68	0.02	0.89	0.55–1.44	0.63
< 1 million (base)	1.00			1.00			1.00		
Male anal sex partners (past 60 days)									
0 (base)	1.00			1.00			1.00		

	Sellers ^a			Buyers ^b			Sellers and buyers ^c		
	AOR	95% CI	P	AOR	95% CI	P	AOR	95% CI	P
1	1.03	0.67–1.58	0.89	0.70	0.51–0.96	0.03	0.75	0.27–2.08	0.58
2 to 5	1.53	1.01–2.30	0.04	0.71	0.52–0.96	0.03	0.90	0.35–2.29	0.82
6+	3.19	2.01–5.00	0.00	0.61	0.41–0.91	0.02	2.56	1.02–6.40	0.04
Type of sex partners (past 3 partners)									
Main only (base)	1.00			1.00					
Non-main only	1.29	0.80–2.09	0.29	2.38	1.43–3.98	0.00			
Both main and non-main	1.18	0.71–1.94	0.53	2.31	1.35–3.93	0.00			
Condom use (past 3 partners)									
None							1.50	0.93–2.43	0.10
At least once (base)									1.00
STI diagnosis (past 60 days)									
Yes	1.76	1.30–2.39	0.00	1.35	1.01–1.81	0.04	1.39	0.81–2.37	0.23
No (base)	1.00			1.00			1.00		
Polydrug use (past 60 days)									
None (base)	1.00			1.00			1.00		
1–2	1.63	1.17–2.28	0.00	1.14	0.86–1.51	0.34	1.78	0.77–4.09	0.17
3+	3.25	2.31–4.57	0.00	1.48	1.10–2.01	0.01	6.73	3.10–14.61	0.00
Depression diagnosis (lifetime)									
Yes				1.10	0.84–1.44	0.50	1.30	0.81–2.08	0.27
No (base)	1.00			1.00			1.00		
Anxiety diagnosis (lifetime)									
Yes	1.25	0.94–1.67	0.12	1.29	0.96–1.74	0.09			
No (base)	1.00			1.00			1.00		

Multivariable adjusted odds ratios (AOR) and their 95% confidence intervals (CI) presented. Referent for all models is the *No Trade Sex* group. Dashes indicate variables excluded from the models due to no significance found in bivariate analysis

^aX² = 323.14, df = 21, p < .001, Nagelkerke R² = 0.17

^bX² = 189.31, df = 22, p < .001, Nagelkerke R² = 0.09

$\chi^2 = 121.13$, $df = 20$, $p < .001$, Nagelkerke $R^2 = 0.17$

Significant findings at $p < 0.05$

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