



Published in final edited form as:

Int J Sex Health. 2015 ; 27(2): 145–155. doi:10.1080/19317611.2014.947055.

Prevalence and Behavioral Correlates of Depression and Anxiety Among Male Sex Workers in Vietnam

Lloyd A. Goldsamt¹, Michael C. Clatts², Le Minh Giang³, and Gary Yu¹

¹New York University College of Nursing, New York, NY

²School of Public Health, University of Puerto Rico, San Juan, PR

³Hanoi Medical University, Hanoi, Vietnam

Abstract

Objectives—This study assessed depression and anxiety symptoms, and their association with high-risk sexual and drug behaviors, among male sex workers in three Vietnamese cities.

Methods—Male sex workers ages 16 to 35 completed an interview that included the CES-D to assess depressive symptoms and the BAI to assess anxiety symptoms, as well as questions assessing drug and sexual risk practices.

Results—A majority of participants reported depressive symptomatology although fewer report symptoms of anxiety. Risky sexual and drug use practices predicted both types of symptoms.

Conclusions—Mental distress is associated with drug and sexual risk among male sex workers.

Keywords

Depression; Anxiety; Male sex workers; Vietnam

Introduction

The most common mental disorders worldwide are mood and anxiety disorders (World Health Organization, 2004), and when these disorders go undetected and thus untreated, they impose substantial economic and social costs in both the developed and developing world (Candalis and Pollack, 1997; Hu, 2004). Some types of mental disorders, notably depression and anxiety, have been shown to contribute to sexual risk behaviors in vulnerable Western populations, including men who have sex with men (MSM) (Parsons et al., 2013; Salomon et al., 2009). Similar findings have been seen in developing countries. In Vietnam, relatively high rates of clinical depression have been found among HIV+ men (Esposito, et al., 2009) while high rates of depression have also been seen in MSM in Chennai, India, where a history of sex work was associated with depressive symptoms (Safren et al., 2009).

This latter finding is notable as the stigma associated with sex work is associated with symptoms of both depression and anxiety among men who have sex with men

(Hatzenbuehler et al., 2011). This stigma limits health-seeking behavior (Liu, et al., 2010), and this may be especially true for male sex workers (Padilla et al., 2008), who are also stigmatized for homosexual sexual practices.

While there is growing attention to health disparities among MSM, research on the mental health characteristics of sex worker populations in non-industrialized countries is limited. Most of what has been done, in both industrialized and non-industrialized countries alike, has focused on adult female sex workers and data on male sex worker populations is especially lacking. For example, research in China has shown high rates of depressive symptoms in female sex workers (Gu, et al., 2010), and these symptoms were associated with inconsistent condom use (Hong et al., 2010). Female sex workers who were immigrants in Israel also had high rates of depression (19%) and post-traumatic stress disorder (PTSD; 17%). A study in Zurich, Switzerland, which assessed for actual DSM-IV diagnoses, reported a 30% one-year prevalence for mood disorders and a 33.7% prevalence rate for anxiety disorders among female sex workers (Rossler et al., 2010). However, research on male sex workers has focused mostly on stigma (Morrison et al., 2008; Ross et al., 2007, Smith et al., 2008). Among the few studies to assess mental health symptoms in male sex workers, more than 60% of a money boys interviewed in Shanghai had high levels of depressive symptomatology as measured by the CES-D (Wong et al., 2010). A more recent study by this same group showed that social support was a protective factor for depressive symptoms (Yan et al., in press). A study conducted in a small U.S. city showed high rates of psychological distress in a small sample of agency-based male escorts (measured by scores on the SCL-90) (Smith and Seal, 2008).

Vietnam is a country in which MSM in general, and male sex workers in particular, are vulnerable to both acquiring and transmitting HIV and other sexually transmitted infections. Homosexuality remains highly stigmatized (Berry et al., 2013), and high HIV prevalence rates are seen among MSM, including male sex workers (Nguyen et al., 2008).

Male sex work is also increasingly seen in drug injecting populations in Vietnam (Clatts et al., 2007; Vu et al., 2012), highlighting the overlap of sexual and injection risk, and the potential for increased HIV and STI transmission across different populations. While it is likely that these vulnerable populations are experiencing depression and anxiety, and that these disorders may be contributing to both drug and sexual risk practices, research on mental health disorders has largely focused on other populations, including community samples of men (Fisher et al., 2012), women (Tran et al., 2011) and adolescents (Le et al., 2012). Research on mental health issues among vulnerable populations in Vietnam is very limited.

In light of the scarcity of mental health data available on male sex workers, the behavioral risk associated with anxiety and depression in these populations, and the difficulty of assessing these disorders in Vietnam, this paper presents data from an epidemiological study of out-of-treatment, young male sex workers in three Vietnamese cities in which measures of depression and anxiety were included as part of a large epidemiological study of behavioral risk.

Methods

Study participants were recruited from public and semi-public venues (streets, parks, massage parlors) located in three Vietnamese cities: Hanoi, the capital, located in the north; Nha Trang, a coastal city in the central part of the country frequented by tourists; and Ho Chi Minh City, the financial and business center of the country, located in the south. In each city, interview teams first conducted ethnographic mapping to identify venues in which male sex workers could be located. They then visited venues using a targeted sampling plan that varied time of day and day of week to maximize theoretical variability and wide representation.

In each venue, young men who appeared to be between the ages of 16 and 35 were approached and asked to participate in a brief screening interview. Those who were eligible for the study (between ages 16 and 35, self-reported sex with a man in the past 90 days which involved the expectation of monetary or non-monetary material reward in exchange for sex) were invited to a local research station to complete a behavioral survey interview as well as screening for STIs and HIV. All participants were paid a modest amount of cash equivalent to \$US10 for the behavioral survey (in local currency) for the time spent completing study protocols.

U.S. and Vietnamese Internal Review Boards approved all study procedures.

The behavioral survey interview consisted of the following six domains: demographics, lifetime and current drug and alcohol use, current and lifetime sexual practices, health services utilization, HIV/STI knowledge, and mental health indicators. The mental health indicators included the 20-item version of the Center for Epidemiological Studies Depression Scale (CES-D) (Radoff, 1977) and the Beck Anxiety Inventory (BAI) (Beck et al., 1998). Following completion of the survey, participants met with a staff physician, who administered a brief physical exam, pre-test counseling for HIV and STIs (a standard HIV pre-test counseling protocol adapted to include information about STIs), and collected blood and urine samples (including oral, rectal and genital swabs). Specimens were then tested for chlamydia, gonorrhea, hepatitis B (HBV), hepatitis C (HCV), HIV, human papilloma virus (HPV) and syphilis. Participants who tested positive for an STI were given the option of on-site STI treatment or referral to a local community treatment facility and those who tested positive for HIV were similarly referred for treatment enrollment in the community.

For between city data comparisons, chi-square tests were used for categorical data and one-way analyses of variance were conducted for continuous variables. To determine predictors of CES-D and BAI scores multivariate linear regression equations were computed for each measure, with city entered as a covariate in all analyses. To construct the adjusted multivariate model, we included a set of basic predictors from the univariate analyses consisting of: years of sex work, sexual attraction, gender identity, current elective sexual partners, UAI at last sex work, migration status and current drug use. Data were analyzed using SPSS version 20.

Results

Demographics

The sample includes a total of 710 MSWs; 250 (35.2%) in Hanoi, 154 (21.7%) in Nha Trang and 306 (43.1%) in Ho Chi Minh City. On average, these men were 22.2 years of age (range 16–35) and nearly all (96.8%) were single. Participants had received an average of 10.0 years of education (range 0–15) and 19.7% were still enrolled in school at the time of the interview. Average income for the past month was 5.1 million Vietnamese Dong, or approximately \$243. Most participants reported that they had a stable place to live, although a minority (6.5%) said they did not have a stable place to sleep at night and 4.8% indicated that they most often slept in a public place. Slightly more than half (54.3%) had migrated to the city in which they were interviewed, primarily from rural areas.

Several differences were found between cities. MSWs in Hanoi had more years of education (10.8, $F=15.6$, $p<.001$) than those in Nha Trang (9.9) or Ho Chi Minh City (9.4), and were more likely to still be enrolled in school (27.2% vs. 14.3% in Nha Trang and 16.3% in Ho Chi Minh City, overall $\chi^2=13.9$, $p=.001$). Participants in Nha Trang were most likely to live with relatives or sex partners (52.9%), while those in Ho Chi Minh City were most likely to live with non-relatives or partners (43.8%) and those in Hanoi were most likely to live with either non-relatives/partners or others (23.6% each, overall $\chi^2=210.9$, $p<.001$). MSWs in Hanoi were more likely to be migrants (71.6%) than those in Ho Chi Minh City (53.6%), all of whom were more likely to be migrants than participants from Nha Trang (23.4%, overall $\chi^2 = 89.06$, $p<.001$). These data are shown in Table 1.

Mental Health Indicators

The mean score on the CES-D was 19.5 (range 0–59). Using a cutoff score of 16 or greater, more than half (58.2%) had clinically moderate levels of depression. Significant differences were seen between cities on CES-D scores, with MSWs in Ho Chi Minh City having lower mean scores than those in Hanoi and Nha Trang ($F=14.39$, $p<.001$).

The mean BAI score across the entire sample was 12.4 (range 0–63). Using a cutoff score of 36 or higher, 4.9% met criteria for high anxiety and an additional 14.1% met criteria for moderate anxiety (scores ranging from 22 to 35). Significant differences were seen between cities ($F=22.61$, $p<.001$), with MSWs in Nha Trang having the highest scores (16.8), followed by those in Hanoi (12.9) and Ho Chi Minh City (9.7). These data are shown in table 2.

Scores on the CES-D and BAI were highly correlated ($r=.622$, $p<.001$, controlling for city).

Sexual attraction, sex work and sexual behaviors

MSWs were asked a series of detailed questions about their sexual attraction and sexual practices with both male and female elective partners as well as male commercial sex partners. Most described themselves as sexually attracted to both men and women (46.0%), although a substantial proportion were attracted exclusively or mostly to either women (30.5%) or men (23.4%). The majority defined themselves as “men” (62.2%). On average,

MSWs had been engaging in sex work for 2.45 years (range 0–17 years). Less than half (42.5%) had either lifetime (42.5%) or current (past 30 days; 27.2%) elective male sexual partners, a majority had both lifetime (75.1%) and recent (past 90 days; 54.8%) elective female sexual partners. Overall, 32.7% had engaged in unprotected anal intercourse (UAI) at last sex with a Vietnamese client partner (questions were asked independently for Vietnamese and non-Vietnamese clients, but less than 25% engaged in sex work with non-Vietnamese clients).

Between-city differences were seen on most of variables related to sexuality and sexual behaviors. MSWs in Nha Trang were more likely than those in other cities (60.4%) to be attracted to both men and women, while those in Hanoi were more likely to be attracted exclusively to women (34.5%) and those in Ho Chi Minh City more likely to be attracted exclusively to men (30.5%, overall $\chi^2=38.6$, $p<.001$). Similarly, when asked to define themselves, MSWs in Hanoi were more likely than those in other cities to define themselves as a man (68.4%), while those in Nha Trang were more likely to define themselves as transgender (14.9%) and those in Ho Chi Minh City were more likely to define themselves as “other” (16.7%, overall $\chi^2=101.1$, $p<.001$). MSWs in Hanoi had less sex work experience (1.97 years) than those in Nha Trang (2.50 years) or Ho Chi Minh City (2.82 years, $F=6.32$, $p=.002$). MSWs in Hanoi were least likely to have elective male sex partners, both lifetime (30.8% vs. 52.6% in Nha Trang and 47.1% in Ho Chi Minh City, overall $\chi^2=23.0$, $p<.001$) and within the past 30 days (18.0% vs. 35.1% and 30.7%, overall $\chi^2=17.4$, $p<.001$). MSWs in Ho Chi Minh City were least likely to have elective female sex partners, both lifetime (65.0% vs. 83.2% in Hanoi and 81.8% in Nha Trang, overall $\chi^2=29.1$, $p<.001$) and within the past 90 days (43.5% vs. 64.8% and 61.0%, overall $\chi^2=28.4$, $p<.001$). MSWs in Nha Trang were also much more likely to report having engaged in unprotected anal intercourse the last time they engaged in sex work with a Vietnamese client (54.5%) than those in Hanoi (28.2%) or Ho Chi Minh City (24.8%, overall $\chi^2=43.7$, $p<.001$). These data are shown in Table 3.

Drug Use

MSWs reported use of a variety of substances, including alcohol, tobacco and illicit drugs. For these analyses, only data for substances used by at least 10% of participants are reported. The most commonly used substance during the prior 30 days was alcohol, which was used by 83.9% of participants. Tobacco was used by 72.7% of MSWs. For illicit substances, only three were used by at least 10% of the sample: marijuana (10%), ecstasy (12.3%) and amphetamines (16.9%). When use of any illicit substance was computed, 59.6% of MSWs used at least one illicit substance in their lifetime and 34.1% had used at least one of these substances in the past 30 days.

Differences in substance use were seen across cities, with MSWs in Nha Trang reporting the highest rate of current alcohol use (93.5% vs. 82.4% in Hanoi and 80.4% in Ho Chi Minh City, overall $\chi^2=13.75$, $p=.001$). MSWs in Ho Chi Minh City had the highest rate of current ecstasy use (15.7% vs. 8.0% in Hanoi and 12.3% in Nha Trang, overall $\chi^2=7.56$, $p=.023$) and current amphetamine use (32.0% vs. 3.6% and 8.4%, overall $\chi^2=89.18$, $p<.001$). MSWs in Ho Chi Minh City also had higher rates of any illicit drug use than in either Hanoi or Nha

Trang, both lifetime (66.0% vs. 52.0% and 59.1%, overall $\chi^2=11.24$, $p=.004$) and within the past 30 days (40.8% vs. 29.2% and 28.6%, overall $\chi^2=10.97$, $p=.004$). These data are shown in table 4.

Relationship between sexual and drug use variables and scores on mental health indicators

To assess the relationship between sexual and drug use variables and mental health indicators, multivariate linear regression equations were used, with city as a covariate in each analysis due to the between city differences described above. Separate regressions were run using CES-D and BAI scores as dependent variables. Predictors included variables related to sexuality (sexual attraction, gender identity), sexual risk (years sex work, current elective partners, UAI last sex work), and drug use (current use of alcohol, tobacco, marijuana, ecstasy and amphetamines).

Table 5 shows the results for the multivariate linear regression models for CES-D and BAI, adjusted for city. As in the unadjusted model, current tobacco use, sexual attraction to a woman and sexual identification as a woman resulted in an increase in depressive symptomology ($\beta=2.9$, $t=3.1$, $p=.002$; $\beta=3.3$, $t=2.2$, $p=0.031$; $\beta=6.2$, $t=3.4$, $p=.001$). While, living in HCMC resulted in a lower number of depression symptoms ($\beta=-5.1$, $t=-4.4$, $p<.001$). Similar to the unadjusted model, current tobacco and marijuana use were significant predictors of anxiety ($\beta=1.8$, $t=2.0$, $p=.05$; $\beta=3.8$, $t=2.8$, $p=.006$). Sexual attraction to both men and women and to women exclusively/mostly along with sexual identification as a woman or transgender were at significantly higher risk for anxiety ($\beta=3.6$, $t=2.9$, $p=.004$; $\beta=3.8$, $t=2.5$, $p=.013$; $\beta=9.3$, $t=5.0$, $p<.001$; $\beta=4.8$, $t=2.7$, $p=.007$). UAI at last sex work was predictive of greater anxiety ($\beta=2.2$, $t=2.6$, $p=.009$). While, living in both Hanoi and HCMC were less likely to report symptoms of anxiety ($\beta=-2.8$, $t=-2.4$, $p=.018$; $\beta=-6.2$, $t=-5.3$, $p<.001$).

Discussion

This is the first study to explore mental health indicators in male sex workers in Vietnam. Findings illustrate that a majority of young MSWs evidence moderate levels of depression and that a smaller (19%) but not insignificant proportion evidence moderate or severe levels of anxiety. Furthermore, controlling for differences across cities, anxiety, and depression to a somewhat lesser extent, are associated with both sexual and drug risk behaviors.

A number of limitations should be noted. First, the assessment measures that were employed would normally be used as the basis for determining the need for further clinical evaluation and cannot be used as the basis for diagnoses of specific mental illnesses. Thus, it is possible that data from the CES-D and the BAI may over- or underestimate the actual prevalence of depression and anxiety disorders in this group. As in many countries, sexual and drug risk behaviors are highly stigmatized in Vietnam, and it is also possible that these behaviors were under-reported. However, interviewers were experienced and well known in the venues in which male sex workers were recruited, and we are confident that self-report biases are limited. While we did not record refusal rates in this study, in our subsequent and ongoing research with male sex workers in Hanoi and Ho Chi Minh City nearly 100% of eligible

participants agree to complete field-based interviews, so this is an unlikely source of bias in the reported data.

Significant differences were also seen between the three cities, and likely reflect salient differences in the sex worker populations in each city. In fact, these cities were selected because it was anticipated that they would have different environments, and thus would provide greater variability in male sex workers who would be recruited for a preliminary study of this population. In Hanoi, the capital, the male sex worker population is small compared to Ho Chi Minh City, and confined to a limited number of public venues, although this is likely changing due to the increased use of internet-based partnering among msm and male sex workers in Vietnam. Nha Trang is a relatively small city, and many sex workers reside in rural communities adjacent to the city, some later migrating to larger cities (including Hanoi and Ho Chi Minh City). Ho Chi Minh City, in contrast, is a larger city with numerous sex work venues and a larger population of male sex workers. Our statistical analyses controlled for city to determine differences in mental health indicators that could be attributed to specific sexual and drug risk behaviors but there are likely social and cultural factors in the male sex worker environment that could not be captured in the types of survey-based assessments used in the present study. In light of the between-city differences found in this study, more detailed qualitative exploration of the male sex work environments in each city is warranted.

The relationship between CES-D scores, BAI scores, and sexual and drug risk variables revealed that, while anxiety symptoms were more likely to be related to specific sex and drug variables, it was the depression scores that were more likely to suggest clinical significance. Although it is difficult to interpret scores on these measures in the context of male sex workers in Vietnam, where few studies have described the social and cultural environments in which male sex work occurs, it is possible that these findings reflect the impact of stigma among this group, leading to relatively high overall indicators of depression across the entire sample. There have been no published studies of stigma among male sex workers in Vietnam, and only a single study of stigma among female sex workers has been reported (Ngo et al., 2007). Thi and colleagues reported high levels of stigma among persons living with HIV in Vietnam, who are often assumed to be engaged in sex work and/or injection drug use (Thi et al., 2008), suggesting that male sex work is highly stigmatized.

The highest indicators of both anxiety and depression were seen in Nha Trang, where the small size of the city (and attendant concentration in the sexual networks of local male sex workers) may contribute to greater risk for identification and hence increased risk for social stigma and alienation. This is consistent with the comparatively lower rates found in Ho Chi Minh City, where the overall size of the city, including less concentrated MSM networks) may afford greater opportunity for anonymity (and hence, possibly lower perceived risk for stigma). While this is an ex post facto explanation of data from the present study, future research on the lived experience of male sex workers, including exposure to stigma and other social harms, can shed light on mental health differences seen across different geographic and social groups of male sex workers.

Participants who were attracted to both men and women, and those who do not identify as a “man,” had the highest BAI scores, as do male sex workers who engage in UAI at the last sex work, suggesting that internal conflict around sexual identity, expression and behavior may be related to these symptoms. Similarly, tobacco and marijuana use was also associated with higher BAI scores, suggesting that participants may be using these substances in an attempt to manage the anxiety associated with this conflict, as well as with male sex work in general. Tobacco drug use was also associated with CES-D scores as well, which may further support this hypothesis.

Overall, these results highlight the need to address potential mental health issues in vulnerable populations such as male sex workers in Vietnam. However, this poses a particular challenge in Vietnam, because research has indicated that Vietnamese people do not differentiate clearly between stress, depression and anxiety (Wagner, et al., 2006). In addition, in developing countries such as Vietnam that do not have a large mental health system (less than 1% of the healthcare budget in Vietnam is spent on mental health) (Ng et al., 2011), psychiatric care may be exclusively provided to patients with psychotic disorders such as schizophrenia or psychotic depression; those with less severe mood or anxiety disorders may not be referred to, or receive, psychiatric care (Thanh et al., 2006). The high rates of depression and anxiety disorders found in the present study, and the association between these symptoms and sexual and drug risk, illustrate the urgent need for further research in understanding on the role of mental health distress in behavioral decision-making among high risk populations in Vietnam and also for the need for greater integration of mental health issues within public health programs, notably HIV prevention and treatment services.

Acknowledgments

This project was supported by a grant from the National Institute on Drug Abuse (NIDA; R01DA022170). In addition, we would like to acknowledge the effort of the research teams in Hanoi, Nha Trang and Ho Chi Minh City, and the men who participated in the study.

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Table 1

Demographics

	Hanoi	Nha Trang	HCMC	Overall	Significance
Age					
Mean	22.0	22.2	22.3	22.2	n.s.
Range	16–35	16–35	16–35	16–35	
Relationship status					
Single, never married	94.4%	97.4%	98.4%	96.8%	n.s.
Married/live with domestic partner	4.4%	1.9%	1.0%	2.8%	
Separated/divorced	1.2%	0.6%	0.7%	0.4%	
Education					
Mean number of years	10.8	9.9	9.4	10.0	F=15.6, p<.001
Still in school	27.2%	14.3%	16.3%	19.7%	$\chi^2=13.9$, p=.001
Income (Vietnamese Dong, VND)					
Average	5,163,000	5,137,338	5,056,046	5,111,338	n.s.
Housing (past month)					$\chi^2 = 210.9$, p<.001
Family/relative/sex partner's house	15.2%	52.9%	36.3%	32.3%	
Own house/apartment	3.2%	2.6%	1.6%	2.4%	
Hotel/guest house/temporary room	15.2%	5.2%	2.0%	7.3%	
School dorm	4.4%	0.0%	0.3%	1.7%	
Live with non-relatives, non-partners	23.6%	38.5%	43.8%	35.5%	
No stable housing	7.2%	1.3%	8.5%	6.5%	
Public places	7.6%	0.0%	4.9%	4.8%	
Other	23.6%	0.6%	2.6%	9.6%	
Migrants	71.6%	23.4%	53.6%	54.3%	$\chi^2 = 89.06$, p<.001

Table 2

CES-D and BAI scores

	Hanoi	Nha Trang	HCMC	Overall	Significance
CES-D					
Average Score	20.4	22.4	17.2	19.5	F=14.39, p<.001
Range	0-59	4-55	0-46	0-59	
Meet cutoff for depression (>15)	61.2%	71.4%	49.0%	58.2%	$\chi^2=22.6$, p<.001
BAI					
Average score	12.9	16.8	9.7	12.4	F=22.61, p<.001
Range	0-58	0-63	0-43	0-63	
Low anxiety range (<22)	82.4%	67.5%	86.6%	81.0%	$\chi^2=244.7$, p<.001
Moderate anxiety range (22-35)	13.2%	24.0%	9.8%	14.1%	
High anxiety range (>35)	4.4%	8.4%	3.6%	4.9%	

Table 3

Sexual attraction, sexual identity and sexual behaviors by city

	Hanoi	Nha Trang	HCMC	Overall	Significance
Sexual attraction					
Exclusively/mostly men	15.7%	22.1%	30.5%	23.4%	$\chi^2=38.6, p<.001$
Both men and women	49.8%	60.4%	35.7%	46.0%	
Exclusively women	34.5%	17.5%	33.8%	30.5%	
Sexual identity					
Think of myself as a man	68.4%	55.8%	60.3%	62.2%	$\chi^2=101.1, p<.001$
Think of myself as a woman	5.2%	2.6%	8.9%	6.2%	
Think of myself as a transgender person	4.8%	14.9%	3.0%	6.2%	
Other	1.2%	1.3%	16.7%	7.9%	
Not sure	20.4%	25.3%	11.1%	17.5%	
Years since first sex work	1.97	2.50	2.82	2.45	$F=6.32, p=.002$
Elective male partners					
Lifetime	30.8%	52.6%	47.1%	42.5%	$\chi^2=23.0, p<.001$
Current (past 30 days)	18.0%	35.1%	30.7%	27.2%	$\chi^2=17.4, p<.001$
Elective female partners					
Lifetime	83.2%	81.8%	65.0%	75.1%	$\chi^2=29.1, p<.001$
Recent (past 90 days)	64.8%	61.0%	43.5%	54.8%	$\chi^2=28.4, p<.001$
UAI last sex work	28.2%	54.5%	24.8%	32.7%	$\chi^2=43.7, p<.001$

Table 4

Drug use by city

	Hanoi	Nha Trang	HCMC	Overall	Significance
Current drug use (past 30 days)					
Alcohol	82.4%	93.5%	80.4%	83.9%	$\chi^2=13.75$, $p=.001$
Tobacco	74.4%	73.4%	70.9%	72.7%	n.s.
Marijuana	12.0%	13.0%	6.9%	10.0%	n.s.
Ecstasy	8.0%	12.3%	15.7%	12.3%	$\chi^2=7.56$, $p=.023$
Amphetamines	3.6%	8.4%	32.0%	16.9%	$\chi^2=89.18$, $p<.001$
Any illicit drug					
Lifetime use	52.0%	59.1%	66.0%	59.6%	$\chi^2=11.24$, $p=.004$
Current use (past 30 days)	29.2%	28.6%	40.8%	34.1%	$\chi^2=10.97$, $p=.004$

Table 5
Differences in CES-D and BAI scores by sexual and drug risk behaviors (controlling for city)

	n	CES-D				BAI			
		β	SE	t	p	β	SE	t	p
Sexual attraction									
Exclusively men	166	Ref				Ref			
Mostly men/Both men and women/Mostly women	326	1.6	1.3	1.2	n.s.	3.6	1.3	2.9	.004
Exclusively women	216	3.3	1.5	2.2	.031	3.8	1.5	2.5	.013
Gender identity									
Think of myself as a man	441	Ref				Ref			
Think of myself as a woman	44	6.2	1.9	3.4	.001	9.3	1.8	5.0	<.001
Think of myself as a transgender person	44	3.3	1.8	1.8	n.s.	4.8	1.8	2.7	.007
Other/Not Sure	180	1.3	1.1	1.2	n.s.	1.7	1.1	1.6	n.s.
Years since sex work	703	0.1	0.1	0.4	n.s.	0.2	0.1	1.4	n.s.
Current elective sexual partners									
None	56	Ref				Ref			
Both male and female	57	0.7	2.1	0.4	n.s.	-0.1	2.0	-0.1	n.s.
Female Only	306	0.0	1.6	0.0	n.s.	-0.5	1.6	-0.3	n.s.
Male Only	119	0.6	1.8	0.3	n.s.	-1.1	1.8	-0.6	n.s.
Male Clients Only	172	0.3	1.6	0.2	n.s.	-1.5	1.6	-0.9	n.s.
UAI last sex work									
Yes	283	0.7	0.9	0.8	n.s.	2.2	0.8	2.6	.009
No	427	Ref				Ref			
Current alcohol use									
Yes	596	0.2	1.1	0.2	n.s.	1.3	1.1	1.2	n.s.
No	114	Ref				Ref			
Current tobacco use									
Yes	516	2.9	0.9	3.1	.002	1.8	0.9	2.0	.050
No	194	Ref				Ref			
Marijuana									

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	n	CES-D				BAI			
		β	SE	t	p	β	SE	t	p
Yes	71	1.7	1.4	1.2	n.s.	3.8	1.4	2.8	.006
No	639	Ref				Ref			
Ecstasy									
Yes	87	0.2	1.3	0.2	n.s.	1.1	1.3	0.9	n.s.
No	623	Ref				Ref			
Amphetamines									
Yes	120	1.8	1.2	1.5	n.s.	2.2	1.2	1.8	n.s.
No	590	Ref				Ref			
City									
Hanoi	250	-1.3	1.2	-1.1	n.s.	-2.8	1.2	-2.4	.018
Nha Trang	154	Ref				Ref			
HCMC	306	-5.1	1.2	-4.4	<.001	-6.2	1.2	-5.3	<.001