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Unevenness in Health at the Intersection of Gender and Sexuality: Sexual minority disparities in alcohol and drug use among transwomen in the San Francisco Bay Area

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Abstract

Research on the health of transwomen is largely focused on heterosexual HIV risk. Little is known about the health of sexual minority transwomen. We conducted a secondary cross-sectional analysis of data from a HIV risk and resilience study of transwomen aged 16 to 24 years in the San Francisco Bay Area (N=259). Prevalence and demographic characteristics of sexual minority transwomen was assessed and logistic regression models were used to examine the relationship between sexual minority status and alcohol and drug use. In logistic regression models, sexual minority transwomen had greater fold odds of heavy episodic drinking and illicit prescription drug use compared to their heterosexual counterparts, controlling for race/ethnicity, age, income, nativity, hormone status and history of feminization procedures. These results suggest that sexual minority status may be an important social determinant of health among gender minorities. Populations of transwomen are heterogeneous; effective interventions must consider sexual minority status.

Keywords

Transgender; transwomen; young adults; health disparities; alcohol use; substance use; LGBT health

1. Introduction

Transwomen are a gender minority group that experiences health disparities in a number of diseases areas, with much of the research focusing on HIV risk (Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013; Wilson et al., 2015; Xavier, Honnold, & Bradford,

2007). Disparities in HIV risk may be due to a syndemic among transwomen where many epidemics synergistically interact to negatively impact their health (Brennan et al., 2012; Operario & Nemoto, 2010). Numerous studies have found elevated rates of HIV among transwomen alongside other HIV-related health and social risk factors (Baral et al., 2014). For example, a study in Peru documented an HIV prevalence of 30% (Silva-Santisteban et al., 2012). Herpes simplex virus and syphilis were also endemic at 79% and 23% prevalence (Silva-Santisteban et al., 2012). A respondent-driven sampling study in San Francisco found an HIV prevalence of 39.5% among transwomen (Rapues, Wilson, Packer, Colfax, & Raymond, 2013). In that study, racial/ethnic minority status, injection drug use, and low educational attainment were associated with HIV acquisition (Rapues et al., 2013).

Transwomen also have elevated rates of substance use, mental health disorders and experiences of violence, which are all factors linked to engagement in sexual risk behavior and HIV. Recent studies have found high rates of alcohol, methamphetamine, injection drug and marijuana use among transwomen (Reback & Fletcher, 2014; Santos et al., 2014). A three year prospective study in New York City found that gender abuse, in the form of psychological and physical abuse, and major depression were endemic among transwomen (Nuttbrock et al., 2014). The National Transgender Discrimination Study found that 47% of previously incarcerated transwomen were victimized while in jail or prison (Reisner, Bailey, & Sevelius, 2014). A study in Colorado found that transgender people experienced greater lifetime intimate partner violence compared to their cisgender, or non-transgender, lesbian, gay and bisexual (LGB) counterparts (Langenderfer-Magruder, Whitfield, Walls, Kattari, & Ramos, 2014).

2. Minority stress frameworks, health disparities and gender minorities

Rooted in social stress theory, minority stress research has investigated the impact of stigmatization and chronic stress that sexual minorities experience within the context of living in a heterosexist society (Meyer, 1995, 2003). Conceptualized as a social psychological process, research on sexual minority stress has furthered our understanding of the consequences of stigma, prejudice and discrimination on mental health. The sexual minority stress framework posits that sexual minorities are exposed to excess stress related to a variety of stigma-related experiences (Meyer, 2003). These stigma experiences may include prejudice-related events such as being physically attacked or denied housing, everyday discrimination, self-devaluation and the anticipation of discrimination related to the internalization of homophobia and heterosexism (Meyer, 2003).

Though early sexual minority stress research has focused on gay men, this work has grown to include other sexual minorities, such as lesbian and bisexual women (Meyer, 2003), and intersecting minority status, primarily minority race/ethnicity and minority sexual orientation (Meyer, 2010; Meyer, Schwartz, & Frost, 2008). Compared to heterosexual women, sexual minority women are faced with higher rates of smoking and respiratory illnesses (Blosnich, Jarrett, & Horn, 2010; Johns et al., 2013). Disproportionate rates of substance use and alcohol use have also been shown to impact sexual minority women (Rosario, 2008; Rosario, Schrimshaw, & Hunter, 2008). An HIV risk study found sexual minority women were two to three times more likely than their heterosexual counterparts to

engage in HIV risk behavior and experience suicide ideation (Cochran, Mays, Alegria, Ortega, & Takeuchi, 2007; Lee & Hahm, 2012). Risk classifications tend to omit sexual minority status among women and perpetuate sexual orientation-related health disparities among women (Marrazzo, 2004). Left unaddressed, these health disparities have major ramifications for population health and perpetuate barriers to healthcare access for sexual minority women (Bernhard, 2001; Dearing & Hequembourg, 2014; McNair, 2003; Molina, Lehavot, Beadnell, & Simoni, 2014).

As literature on the physiology of stress has developed, research has established a link between sexual minority stress and poor physical health. One study of 396 lesbian, gay and bisexual individuals (LGBs) found greater odds of physical health problems among those who experienced a prejudice event compared to those who did not (Frost, Lehavot, & Meyer, 2015). While much of the minority stress literature addresses sexual minority disparities among cisgender LGB populations, few studies have applied the minority stress framework to gender minorities. Growing evidence suggests that minority gender identity, like other minority statuses, is a source of minority stress (Gamarel et al., 2016; Gamarel, Reisner, Laurenceau, Nemoto, & Operario, 2014; Reisner, Gamarel, Nemoto, & Operario, 2014; Reisner, Greytak, Parsons, & Ybarra, 2015; Reisner, Pardo, et al., 2015; Seelman, 2016). The National Transgender Discrimination Survey (n=2,578) assessed a gender minority stress model of substance use and found that discrimination by a medical provider was associated with substance use as a coping strategy (Reisner, Pardo, et al., 2015). Other studies have found that discrimination was associated with suicide ideation (Rood, Puckett, Pantalone, & Bradford, 2015) and greater odds of smoking and unsuccessful cessation attempts (Gamarel et al., 2016).

The health of sexual minority transwomen lies at the intersection of sexual and gender minority identity. While many studies have aggregated transwomen with gay and bisexual men (Andrinopoulos et al., 2015; Chariyalertsak et al., 2011; Kellogg, Clements-Nolle, Dille, Katz, & McFarland, 2001; Nemoto, Luke, Mamo, Ching, & Patria, 1999; Solomon et al., 2014) or high risk heterosexual cisgender women (Baral et al., 2014), it is rare for researchers to stratify results on the basis of sexual minority status among transwomen. In one study, transwomen were analyzed together with LGB cisgender women, perpetuating the conflation between sexual orientation and gender identity (Logie, James, Tharao, & Loutfy, 2012). In samples consisting of only transwomen, sexual minority transwomen are often lumped with heterosexual transwomen, primarily focused on heterosexual HIV risk (Nemoto, Bodeker, Iwamoto, & Sakata, 2014; Nuttbrock et al., 2014). For example, a study conducted in New York City measured the lifetime exposure of HIV/STI infection among transwomen. While they found that heterosexual transwomen bore the brunt of HIV and STI infection risk, almost a third of their sample (32.6%) identified as lesbian or bisexual (Nuttbrock et al., 2014). The authors' analysis, however, did not examine exposures or outcomes specific to sexual minority transwomen. As a result, the risk profile of sexual minority transwomen is unclear.

Informed by the sexual minority stress framework, this analysis examines differences in demographic characteristics and alcohol and drug use between sexual minority and heterosexual transwomen. We hypothesize that sexual minority transwomen are at greater

risk of alcohol and drug use compared to their heterosexual counterparts. It builds on both gender and sexual minority research by investigating sexual minority disparities in a sample of gender minorities.

3. Materials and methods

3.1 Study sample and data collection

This study is a cross-sectional secondary analysis of baseline data from a longitudinal study of HIV risk and resilience among young transwomen in the San Francisco Bay Area. Recruitment for the study consisted of a mix of peer referral, outreach on social networking sites and at in-person community-based events. Recruitment procedures are described in previously published research (Arayasirikul, Chen, Jin, & Wilson, 2015; Rowe, Santos, McFarland, & Wilson, 2014). Inclusion criteria for the study were: being 16 to 24 years old, identifying as transgender or any gender identity other than that typically associated with their male sex assigned at birth, and living in the San Francisco Bay Area. After being screened for eligibility, participants provided informed consent. The behavioral survey was administered in-person by an interviewer using a tablet computer. Research procedures were approved by the Institutional Review Board at the University of California, San Francisco.

3.2 Measures

Sexual minority status was determined by asking participants what was their sexual orientation. Forty-one individuals identified as questioning or unknown in terms with their sexual orientation and were excluded because their sexual orientation could not be determined. The final sample included 259 participants. The majority of participants (35.1% or 91) identified as heterosexual whereas 22.4% (or 58) identified as gay/lesbian, 8.9% (or 23) as bisexual, 17.4% (or 45) as queer, and 16.2% (or 42) as pansexual. Participants who identified as anything other than heterosexual were coded as a sexual minority. While all participants identified as transgender or any gender identity other than that typically associated with their male sex assigned at birth, we assessed the types of gender identity labels participants identified with – these included the following: female, transwoman, genderqueer, and questioning/other. Socioeconomic status was determined using self-reported monthly income. Age, race/ethnicity, highest level of education completed, and foreign born status are reported. We assessed access to gender affirmative care through asking participants whether or not they are currently taking hormones and if they have ever had feminization procedures (FP) such as laser hair removal, breast augmentation, facial feminization surgery, or gender confirmation surgeries such as a penectomy, orchiectomy, or vaginoplasty.

3.3 Outcomes

Alcohol use was measured by assessing for heavy episodic drinking (HED). HED was measured as a dichotomous outcome indicating if participants reported any or no occasion of consuming 5 or more drinks in one episode during the past six months (Wechsler & Nelson, 2006). We assessed use of methamphetamine, crack/cocaine, and illicit prescription drug use as dichotomous variables indicating whether or not participants reported any or no drug use during the past six months.

3.4 Statistical analysis

We used univariate and bivariate statistics to determine differences in demographic characteristics between sexual minority and heterosexual transwomen. We used logistic regression models to examine the relationship between sexual minority status and alcohol and drug use, controlling for potential confounders such as age, race/ethnicity and socioeconomic status. Regression models were constructed for each outcome for which there was a statistically significant difference in demographic characteristics at the bivariate level between sexual minority and heterosexual transwomen. Stepwise models were built to consider the effects of demographic and gender transition related variables on the other variables in the model.

4. Results

4.1 Sample characteristics

The sample for this secondary analysis included 259 transwomen. Table 1 describes overall demographic characteristics and those for sexual minority and heterosexual participants. Nearly two-thirds of participants (64.9%) identified as a sexual minority. Overall, the sample was racially diverse with 39.8% whites, 28.6% Latina, 12.7% Black 8.5% Asian and 10.4% other race. A little over two-thirds of participants were aged 21–24 years. The majority of participants identified as female or transwoman (78.3%). Other gender identity labels that participants used included genderqueer and questioning/other. Most had a high school diploma or less education (54.1%), were born in the United States (83.0%), made \$1000 or less a month (72.2%), were currently taking hormones (57.5%) and had not undergone gender feminization procedures (69.5%).

Compared to heterosexuals, a greater proportion of sexual minority transwomen identified as white (50.0% vs. 20.9%), and genderqueer or questioning (25.0% vs. 2.2% and 7.1% vs. 0.0%, respectively). Greater proportions of sexual minority transwomen were born in the United States (88.1% vs. 73.6%) and had some college or a Bachelor's degree (40.5% vs. 27.5% and 15.5% vs. 0.0%). Additionally, a greater proportion of sexual minority transwomen were not currently taking hormones compared to their heterosexual counterparts (50.0% vs. 28.6%).

4.2 Alcohol use and drug use outcomes

Table 2 describes overall alcohol and drug use and differences by sexual minority status. A little over half of participants (54.1%) reported any heavy episodic drinking episodes in the last six months. 13.5% of participants reported any methamphetamine use. 16.6% of participants reported any crack/cocaine use and 20.8% reported any illicit prescription drug use. Statistically significant differences between sexual minority transwomen and heterosexual transwomen were found in alcohol use and illicit prescription drug use. Significantly greater proportions of sexual minority transwomen reported any heavy episodic drinking episodes (61.3% vs. 40.7%) and any illicit prescription drug use (28.0% vs. 7.7%) in the last six months compared to their heterosexual counterparts.

4.3 Multivariable analysis

The results of the multivariable analyses are summarized in Tables 3. Sexual minority transwomen had more than two fold greater odds of engaging in heavy episodic drinking in the past six months compared to heterosexual transwomen [AOR, 2.294 (95% CI, 1.212–4.232; p-value = 0.008)], independent of race/ethnicity, age, income, nativity, hormone status and history of feminization procedures. Sexual minority transwomen had 3.6 fold greater odds of recent illicit prescription drug use compared to heterosexual transwomen [AOR, 3.617 (95% CI, 1.438–9.098; p-value = 0.006)], controlling for all other potential confounders. Additionally, transwomen aged 16 and 17 years old were less likely to engage in heavy episodic drinking in the past six months compared to transwomen aged 21 and older [AOR, 0.161 (95% CI, 0.041–0.627; p-value = 0.009)], controlling for all other potential confounders.

5. Discussion

Transwomen are not a homogenous population. In this analysis, we found that sexual minority transwomen were significantly more likely to report recent heavy episodic drinking and illicit prescription drug use compared to their heterosexual counterparts. While the majority of research with transwomen has taken on a heterosexist lens to understand HIV risk by failing to disaggregate samples by sexual identity, these findings support investigating sexual minority status as a source of health disparities among transwomen.

Our findings on alcohol and drug use among sexual minority transwomen are consistent with research conducted among sexual minority cisgender women (Kerby, Wilson, Nicholson, & White, 2005; Trocki, Drabble, & Midanik, 2009). Research from the National Alcohol Survey, a national population-based survey of adults in the United States, found that sexual minority cisgender women had lower alcohol abstention rates, greater odds of alcohol dependence and greater reporting of an alcohol-related social consequence compared to heterosexual cisgender women (Drabble, Midanik, & Trocki, 2005; Drabble & Trocki, 2005). These findings have persisted through three waves of the National Alcohol Survey (Drabble, Trocki, Hughes, Korcha, & Lown, 2013). A study on drinking context among bar patrons in Northern California found that sexual minority status among cisgender women was associated with higher risk of excessive alcohol consumption (Trocki & Drabble, 2008).

While these findings suggest that sexual minority transwomen are at elevated risk for hazardous drinking and drug use, it is important to interrogate heterosexuality among transwomen and understand the context and mechanisms embedded within heterosexuality that may be protective against risk. A qualitative study conducted with sexual minority and heterosexual cisgender women found that the meaning of alcohol consumption in fostering community connection was more salient for sexual minority cisgender women and similar meanings may help understand alcohol and drug use in sexual minority transwomen (Drabble & Trocki, 2014). Are there specific environments and conditions – physical, discursive, or ideological – embedded within hegemonic heteronormativity that protects heterosexual transwomen from the sexual minority health disparities identified in this study? Furthermore, this study contests the systematic lumping of sexual minority transwomen in inference based on the health outcomes of heterosexual transwomen. Doing so potentially

perpetuates an ecological fallacy of transwomen's health research, where health outcomes specific to heteronormativity at the aggregate level are then inferred at the individual level independent of sexual minority status and applied erroneously to sexual minority transwomen. For this reason, we recommend future research studies collect sexual minority status data separate from and in addition to gender identity data and that transgender health care providers and interventionists screen for sexual minority status as an indicator of heavy episodic drinking and drug use.

This study is not without limitations. This study did not employ probability-based sampling and was limited to the San Francisco Bay Area. Therefore, these findings are not generalizable to all transwomen or those in other geographic regions. Sexual minority status in this study was operationalized using sexual identity as a measure rather than a measure of same sex behavior. Previous research among cisgender populations has found that for sexual minority cisgender men, alcohol use did not vary by identity or behavior measures of sexual minority status; however, for sexual minority cisgender women, use of behavior measures alone provided lower estimates of alcohol related outcomes (Midanik, Drabble, Trocki, & Sell, 2007). There are no established best practices specific to the measurement of sexual minority status among gender minorities, especially with regard to identities that are non-binary (e.g. pansexual, queer) and additional research is needed. Moreover, identity stability over time and into adulthood for transwomen remains unexplored.

Despite limitations, this study is the first to demonstrate sexual minority health disparities in alcohol and drug use in a gender minority group of transwomen and suggests that sexual minority stress may play an important role in disparities among transwomen. However, we caution merely reproducing conceptions of sexual minority stress based on cisgender populations; instead, robust qualitative research is necessary to understand not only how sexual minority stress is framed among gender minorities but also how gender minority identity intersects with sexual minority identity. Future work must address measurement of gender minority stress as well as its relationship to sexual minority identity and sexual minority stress.

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Table 1

Overall sample demographics stratified by heterosexual or sexual minority status among young transwomen aged 16–24 in the San Francisco Bay Area, 2012–2014.

	Overall (N=259) N (%)	Heterosexual Transwomen (n=91) N (%)	Sexual Minority Transwomen (n=168) N (%)	X ²	P-value
Race					
White	103 (39.8)	19 (20.9)	84 (50.0)	25.337	0.0001
Latino	74 (28.6)	39 (42.9)	35 (20.8)		
Black	33 (12.7)	16 (17.6)	17 (10.1)		
Asian	22 (8.5)	7 (7.7)	15 (8.9)		
Other	27 (10.4)	10 (11.0)	17 (10.1)		
Age					
16–17	18 (6.9)	8 (8.8)	10 (6.0)	0.976	0.614
18–20	65 (25.1)	24 (26.4)	41 (24.4)		
21–24	176 (68.0)	59 (64.8)	117 (69.6)		
Gender identity					
Female	119 (45.9)	48 (52.7)	71 (42.3)	32.87	0.000
Transwoman	84 (32.4)	41 (45.1)	43 (25.6)		
Genderqueer	44 (17.0)	2 (2.2)	42 (25.0)		
Questioning or Other	12 (4.6)	0 (0.0)	12 (7.1)		
Education					
Some high school or less	52 (20.1)	29 (31.9)	23 (13.7)	28.421	0.0001
High school diploma or GED	88 (34.0)	37 (40.7)	51 (30.4)		
Some college	93 (35.9)	25 (27.5)	68 (40.5)		
Bachelor's degree or more	26 (10.0)	0 (0.0)	26 (15.5)		
Nativity					
Foreign born	44 (17.0)	24 (26.4)	20 (11.9)	8.763	0.003
US born	215 (83.0)	67 (73.6)	148 (88.1)		
Monthly Income					
\$1000 or less a month	187 (72.2)	64 (71.1)	123 (74.1)	0.264	0.607

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	Overall (N=259) N (%)	Heterosexual Transwomen (n=91) N (%)	Sexual Minority Transwomen (n=168) N (%)	X ²	P-value
More than \$1000 a month	69 (26.6)	29 (28.9)	43 (25.9)		
Missing	3 (1.2)				
Currently taking hormones					
No	110 (42.5)	26 (28.6)	84 (50.0)	11.093	0.001
Yes	149 (57.5)	65 (71.4)	84 (50.0)		
Ever had feminization procedures					
No	180 (69.5)	60 (65.9)	120 (71.4)	0.841	0.359
Yes	79 (30.5)	31 (34.1)	48 (28.6)		

Table 2

Differences in alcohol and substance use by sexual minority status among young transwomen in the San Francisco Bay Area, 2012–2014.

	Overall (N=259) N (%)	Heterosexual Transwomen (n=91) N (%)	Sexual Minority Transwomen (n=168) N (%)	X ²	P-value
Alcohol Use (Last 6 mo)					
Heavy Episodic Drinking	140 (54.1)	37 (40.7)	103 (61.3)	10.135	0.001
Substance Use (Last 6 mo)					
Methamphetamine Use	35 (13.5)	14 (15.4)	21 (12.5)	0.420	0.517
Crack/Cocaine Use	43 (16.6)	12 (13.2)	31 (18.5)	1.182	0.277
Illicit Prescription Drug Use	54 (20.8)	7 (7.7)	47 (28.0)	14.717	0.0001

Table 3

Binary logistic regression analyses: alcohol and drug use outcomes by sexual minority status among young transwomen in the San Francisco Bay Area.

	Heavy Episodic Drinking		Illicit Prescription Drug Use			
	OR	95% CI	P-value	OR	95% CI	P-value
Sexual Minority Status						
No	REF			REF		
Yes	2.294	(1.212, 4.232)	0.008	3.617	(1.438, 9.098)	0.006
Race						
White	REF			REF		
Latino	1.625	(0.767, 3.443)	0.205	0.563	(0.228, 1.391)	0.213
Asian	0.361	(0.118, 1.101)	0.073	0.420	(0.101, 1.755)	0.234
Black	0.683	(0.282, 1.652)	0.397	0.229	(0.049, 1.076)	0.062
Other Race	0.679	(0.273, 1.690)	0.405	0.787	(0.270, 2.291)	0.661
Age						
16–17 years old	0.161	(0.041, 0.627)	0.009	0.345	(0.041, 2.913)	0.328
18–20 years old	0.654	(0.353, 1.213)	0.178	0.540	(0.235, 1.241)	0.147
21–24 years old	REF			REF		
Monthly Income						
\$1000 or less	0.612	(0.328, 1.140)	0.121	0.635	(0.309, 1.308)	0.218
\$1001 or more	REF			REF		
Nativity						
US Born	REF			REF		
Foreign Born	0.760	(0.329, 1.759)	0.522	0.725	(0.226, 2.320)	0.588
Currently taking hormones						
No	1.270	(0.687, 2.347)	0.446	0.755	(0.348, 1.637)	0.477
Yes	REF			REF		
Ever had feminization procedures						
No	0.984	(0.533, 1.815)	0.958	1.283	(0.586, 2.810)	0.533
Yes	REF			REF		