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Typologies and Correlates of Police Violence Against Female Sex Workers Who Inject Drugs at the México–United States Border: Limits of *De Jure* Decriminalization in Advancing Health and Human Rights

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Abstract

Decriminalization of sex work is increasingly promoted as a structural measure to improve the health of vulnerable groups. In México, sex work is not illegal, but knowledge of policies' street-level impact is limited. This study describes typologies of police violence against female sex workers who inject drugs (FSWID), identifying risk and protective factors for violence exposure to inform policy responses. Survey data were collected during 2008–2010 among HIV-negative FSWID in a behavioral intervention in Tijuana and Ciudad Juarez ($N = 584$). Latent class analysis identified typologies of police violence in the past 6 months: asked for money, money taken, syringes taken, asked for sex, and sexually assaulted. Structural equation modeling (SEM) predicted latent class membership using sociodemographic, behavioral and risk environment factors, controlling for age, education, marital status, and city. Recent police violence was reported by 68% of FSWID, with three typologies emerging: Low (36.6%); Material (47.8%): having money/syringes taken or being asked for money; and Material/Sexual (15.7%): material violence and being asked for sex or sexually assaulted. In multivariable SEM, Material Violence was associated with: being jailed [adjusted Odds Ratio (aOR) = 4.34], HIV testing (aOR = 2.18), and trading sex indoors (aOR = 1.66). Factors associated with Material/Sexual Violence included: being jailed (aOR = 41.18), injecting with clients (aOR = 3.12), earning more money for sex without a condom (aOR = 2.88), being raped by a client (aOR = 2.13), drinking with clients (aOR

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= 2.03), receiving substance use treatment (aOR = 1.95), being <18 when first trading sex (aOR = .43), trading sex outdoors (aOR = .53), and poor working conditions (aOR = .56). Despite de jure decriminalization of sex work, police violence against FSWID at the México–United States border is pervasive with implications for sex- and drug-related harms. Closing gaps in policy implementation and mitigating material/sexual violence from police is imperative to decreasing economic vulnerability, risk of overdose and HIV, and improving engagement in HIV and harm reduction services.

Keywords

violence; alcohol and drugs; community violence; criminology; prostitution/sex work; workplace violence

Introduction

Although female sex workers (FSW), people who inject drugs (PWID) and FSW who inject drugs (FSWID) are often the focus of HIV-related research and programming, less attention is paid to the extraordinarily high rates of harassment, abuse, and violence these groups face. In a recent systematic review of the prevalence and factors shaping sexual or physical violence against sex workers globally, prevalence of any workplace violence ranged from 45 to 75% over the life course and 32–55% in the past year; however, rates of violence among FSW who used alcohol and/or drugs were higher in multiple settings (Deering et al., 2014). Violence against FSW comes in many forms, including harassment, threats, condom refusal, rape, sexual assault, physical assault, drugging, abduction, trafficking, and murder, but also robbery, non-payment by clients (a form of rape), and extortion (Bungay & Guta, 2018; Conners et al., 2016; Ross et al., 2012). Such violence comes at the hands of clients, intimate partners, managers, pimps, landlords, strangers, neighbors, other sex workers, but also law enforcement (Conners et al., 2016; Lutnick & Cohan, 2009; Ross et al., 2012).

Police violence includes physical violence (e.g., use of excessive force and beatings), sexual violence (e.g., unlawful and/or invasive body searches, coerced sex, rape), material violence (e.g., fines and bribes without arrest or formal charges, taking money or other possessions like condoms, syringes or drugs), threats and intimidation, verbal and emotional harassment, and lawful and unlawful arrest or detainment (Rekart, 2005; Rhodes et al., 2008; Shannon, Kerr, et al., 2009). Among FSW populations, experiences of police violence are quite common, though limited data exist and experiences are likely to be under-reported. For instance, a 2009 survey in Central and Eastern Europe and Central Asia found that 42% of sex workers reported physical abuse by police and 37% reported having been assaulted sexually by police (Open Society Institute, 2009). More recently, a Russian study among FSW, half of whom injected drugs, found that police sexual coercion in the past month was reported by 38% of the sample (Odinokova et al., 2014). Many other studies show that police violence against PWID is endemic (Kutsa et al., 2016), including at the México–United States border (Pollini et al., 2008; Pollini et al., 2010; Ramos et al., 2009; Strathdee et al., 2011; Strathdee et al., 2008) where being beaten by police was a primary predictor of PWID mortality (West et al., 2020).

Understanding and addressing violence from law enforcement officials is of particular concern because of the unique ways in which it undermines the health and safety of FSW and FSWID. Violence from police pushes sex work underground, which makes sex work (and drug use) less safe by impinging on women's negotiation with clients (Blankenship & Koester, 2002). For instance, in a 2018 systematic review and meta-analysis, Platt et al. (2018) show how the threat and experience of police harassment displaces sex work to isolated areas, increases stress and poor emotional health, and interferes with service engagement. Numerous studies also show that police interactions, especially violent ones, increase the risk for other forms of violence against FSW, especially from clients (Deering, Bhattacharjee, et al., 2013; Erausquin et al., 2011; Platt et al., 2011; Shannon, Kerr, et al., 2009). Such experiences jeopardize women's health and increase risk for infectious diseases, but may also prevent FSW from accessing health or social services and impede them from reporting crimes against them to the police (Rhodes et al., 2008; Shannon & Csete, 2010; Simi & Rhodes, 2009).

Structural factors related to the policies and practices of state actors around sex work and substance use play a major role in increasing exposures to police violence and in limiting women's control over their work environments and health. For instance, in settings where sex work is criminalized or quasi-criminalized, carrying condoms is often used as evidence of engagement in sex work and can lead to arrest, which greatly diminishes women's ability to protect their health (Crago, 2009; Green et al., 1993; Open Society Institute, 2009; Rhodes et al., 2008). Given that some or all aspects of sex work are criminalized in most parts of the world, as is drug use, FSW and FSWID have few legal protections and little to no means of recourse when they experience abuse. In such contexts, violence against FSW is neither monitored nor appropriately responded to, as police have little motivation to address the concerns of sex workers (Shannon, 2010; Shannon & Csete, 2010). It also creates a culture of tolerance around violence against FSW. Notably, there is widespread consensus among sex work activists and public health and human rights organizations (e.g., UNAIDS, WHO, Amnesty International, etc.) that *full* decriminalization of all aspects of sex work is essential to promote the health and human rights of sex workers (Godwin, 2012; International, 2016; World Health Organization, 2016). This includes the removal of criminal penalties for consenting adults who sell and buy sex and all third parties (e.g., venue managers, drivers, advertisers) while also improving occupational health and safety and mitigating violence and coercion against sex workers (Abel, 2014; Platt et al., 2018).

Unlike most other contexts, where prohibition of both the selling and buying of sex predominates, México does not formally prohibit sex work at the national level, instead allowing local municipalities to regulate sex work on their own. In the two border cities discussed here, Tijuana and Ciudad Juarez, sex work regulation looks different; however, both cities have overlapping markets for sex work and drug use and draw sex tourists binationally. Tijuana is home to approximately 6,000 FSW and 10,000 PWID, and in Ciudad Juarez, there are around 4,000 FSW and 6,500 PWID (numbers of FSWID are unknown; Ramos et al., 2009; Strathdee et al., 2011). Tijuana has a red light district where sex work is quasi-legal, operating on a permit system that requires STI testing, but only about half of FSW are registered (Ramos et al., 2009). In Ciudad Juarez, a permit is not required and no formal framework exists to regulate sex work. At the time of the study, México border cities

were experiencing substantial drug-related violence and were on the verge of legislative changes aimed at decriminalization of carrying drugs for personal use (Moreno et al., 2010; Robertson et al., 2014); however, those laws were enacted after the data were collected for this study. Despite this, other studies at the México–United States border region from our group found that police interactions are common for FSW, PWID, and FSWID, with high levels of arrest, harassment, and abuse (Beletsky et al., 2013; Strathdee et al., 2011; West et al., 2020), which suggest a need for a deeper understanding of what this violence looks like and how best to address it.

In the context of decriminalization, this study describes typologies of police violence against FSWID in two México–United States border cities, identifying potential risk and protective factors for violence exposure to inform policy responses. FSWID, to an even greater extent than FSW, are placed at elevated risk for both police violence and HIV/STI, with overlapping risk factors for each (Strathdee et al., 2011). Although our previous work demonstrates the substantial structural vulnerabilities that FSWID face in this context, especially in relation to risk for HIV and police violence (Beletsky et al., 2013; Strathdee et al., 2011; Vera et al., 2012), this is the first to examine clusters of police violence exposures using latent class analysis and the factors associated with police violence profiles. Understanding patterns of police violence is an important step towards informing service delivery and policies that promote human rights and safety and reduce HIV/STI by addressing the structural vulnerabilities that undermine health.

Methods

Data for this study come from *Mujer Mas Segura* (MMS), a behavioral risk reduction intervention for HIV-negative FSWID in two México–United States border cities, Tijuana and Ciudad Juarez. Methods for MMS are described in detail elsewhere (Vera et al., 2012). To be eligible for the study, participants had to be: (a) 18 years or older; (b) a cisgender woman; (c) report having exchanged sex for money, drugs, shelter, or goods in the past month; (d) report having injected drugs at least once in the past month; (e) test HIV-negative at baseline; and (f) report having had unprotected vaginal or anal sex with male clients at least once during the previous month. Transwomen were not included in the intervention study given their unique needs, especially in terms of exposure to all forms of violence and risks for HIV; however, we note the crucial need for tailored interventions for this population. For this analysis, data came from the baseline MMS survey, which was collected using targeted sampling techniques between 2008 and 2010. Surveys were administered using computer-assisted personal interviewing (CAPI; NOVA software, MD, United States), and elicited information on sociodemographics, sex work characteristics (e.g., age of initiation, primary working location), alcohol and substance use behaviors (e.g., patterns of use, using drugs or alcohol with clients), sexual health and behaviors (e.g., STI status, number of clients by type, condom use), and experiences with violence (e.g., arrest history, physical or sexual abuse). This protocol was approved by the University of California San Diego ethics committee, The Centro Nacional para la Prevencion de VIH/SIDA (CENSIDA), The Universidad Autonoma de Ciudad Juarez, and The Hospital General de Tijuana.

Latent Class Indicators for Primary Outcome of Police Violence

The primary outcome of interest was experiences of police violence. Variables used to construct latent classes included five measures of police violence, which were derived from the following survey questions asking about experiences in the previous 6 months: (a) Has a police officer asked you for sexual favors? (b) Has a police officer sexually abused you? (c) Has a police officer asked you for money? (d) Has a police officer forcibly taken your money? and (e) Has a police officer taken your syringes? Responses for each variable were coded as positive for women responding yes to the question. Once constructed, latent classes of police violence were used as dependent variables in analysis.

Independent Variables

Independent variables were categorized based on the Risk Environment framework (Rhodes, 2002), which guided the study. The framework assesses aspects of the economic, social, physical, and policy contexts in which people work and live that impact drug-related harm. In this analysis, economic factors included monthly income over 3,500 pesos and the number of people financially supported by the participant. Social factors included age at which sex was first traded (greater or less than age 18), ever physically abused (“Have you ever been physically abused (i.e., hit or assaulted)?”), ever raped (“Have you ever been forced or coerced to have non-consensual sex against your will? This can be any sexual activity.”), the number of casual male clients in the past month, and having a pimp or manager (“Right now, do you have to pay someone like a manager, administrator or pimp, or do you have to share with someone a percentage of the money that you receive from clients?”). The physical risk environment encompassed always drinking alcohol with clients in the past month, ever injecting drugs with a client in the past month, trading sex indoors, overall working conditions (an ordinal scale ranging from 0 = extremely bad to 4 = extremely good), and whether they lived in the city their entire life. The policy context included measures of ever being HIV tested, ever having drug treatment, and ever being jailed. We also examined health behaviors and outcomes, including having any STI (i.e., chlamydia, gonorrhea, trichomoniasis, or syphilis), binge drinking in the past month, and substance use behaviors, like recent use of methamphetamine and frequency of drug injection. Sociodemographic factors included age, current marital status (married/living as married vs. anything else), completion of secondary school, and interview location (Tijuana vs. Ciudad Juarez).

Statistical Analyses

Analyses were conducted using baseline data to examine typologies and correlates of police violence among FSWID. Bivariate statistics (frequencies, means, and correlations) were used to describe the sample and identify how experiences of police violence might be related to each other. Latent class analysis was then conducted to identify patterns of shared police violence experiences. Previous research has identified that adverse experiences, including violence, are best measured as latent classes, rather than through an additive construct (Henry, 2020). Latent class modeling began with a single class and then systematically added additional classes. The final latent class solution was selected based on AIC and BIC fit statistics which compared models until fit statistics were not improved by the addition

of additional classes (Cloitre et al., 2014). Once latent classes were established, individuals were assigned to a latent class for further analysis. Latent class assignment was made based on the highest probability of class membership.

Finally, multivariable generalized structural equation modeling (GSEM) was used to simultaneously predict latent class membership in each of the three classes using logistic regression. Previously described dependent variables served as predictors, while age, education, marital status, and city were controlled for. GSEM also identifies potential problems with multicollinearity and resolves these problems by dropping collinear predictors from models (StataCorp, 2013). All analysis was conducted in Stata 16 (StataCorp, 2019).

Results

The total sample included 584 women whose ages ranged from 18 to 60 years old, with an average of 34 years, and a standard deviation of 9 years. Over a third (37.3%) of women were married and less than a third (28.6%) had more than a secondary education. Women were split roughly evenly between the two sites (Tijuana 48.6% and Ciudad Juarez 51.4%).

Women in the sample had high rates of disadvantage. As shown in Table 1, less than half of the total sample earned more than 3,500 pesos per month (47.6%). On average, about one person (1.2) financially relied on each woman. About 15% of women earned more money for having vaginal sex without a condom. Only about a fifth of women reported first trading sex as an adult (20.1%), and about half had been physically abused (48.5%) or raped (50.7%) in their lifetime, while about a fifth had ever been abused (20.0%) or raped (22.6%) by a client. The average number of casual male clients in the last month was 39.3 (standard deviation = 47.3) and 4.6% had a pimp. Over the past month, about half of women always drank alcohol with clients (50.8%), and nearly three-quarters (72.1%) injected drugs with a client. Only 28.4% of women traded sex indoors. The average perception of the overall working conditions was poor (average rating = 1.6 on an ordinal scale ranging from 0 = extremely bad to 4 = extremely good). Almost half (43.0%) had lived in the city their whole life.

About half of women had been HIV tested (50.1%) or ever had drug treatment (50.9%). Most women had been previously jailed (72.4%) and only 3.4% were licensed as a sex worker. About a third of the women had an STI. In the past month, about half had binge drank (54.1%), while about a quarter of them used methamphetamine (21.8% injected, 28.1% smoked). Nearly all of the women had injected heroin in the last month (96.9%).

Over two-thirds of women experienced some form of police violence in the past 6 months (68.4%). Well over half (61.3%) of women were asked by the police for money and nearly half had their money (42.4%) or syringes (42.3%) taken by the police. A third (33.0%) of the women were asked to provide sexual favors for the police and nearly a fifth (17.0%) had been sexually assaulted (data not shown in tables). As shown in Table 2, all experiences of police violence were positively and significantly correlated with each other ($p < .001$), although these associations were of moderate strength.

Results of latent class analysis indicated that a three-class solution best fit the data. The BIC fit index demonstrated that the three-class solution was optimal, although, the AIC index indicated that a four-class solution was better. However, conceptually, the four-class solution was not acceptable, as it was the only model where sexual assault could not be fit into all classes due to multicollinearity. Therefore, a three-class model was accepted (Table 3).

As shown in Figure 1, classes of police violence varied dramatically. Class 1, labeled Low Violence, represented approximately a third of women (36.6%) and represented women who had very low (<8.0%) rates of all violence experiences. Women in Class 2, called Material Violence, experienced high levels of material violence and comprised about half of the sample (47.8%). Women in this group had high rates (over 55%) of violence related to theft (police asked for money, took money, or took syringes), but low rates of sexual violence (police asked for sex, sexual assault). Class 3, labeled Material/Sexual Violence, included 15.7% of the sample and was comprised of women reporting the highest levels all forms of violence (>91%), including high rates of material violence, but also high rates of sexual violence (described above).

GSEM indicated that membership in the Low Violence class was associated with having fewer casual male clients [adjusted Odds Ratio (aOR) = .99], never having an HIV test (aOR = .46), and never being jailed (aOR = .09). Belonging to the Material Violence class was associated with financially supporting less people (aOR = .86), trading sex indoors (aOR = 1.66), not living in the city their whole life (aOR = .55), ever being HIV tested (aOR = 2.18), and ever being jailed (aOR = 4.34) (see Table 4). Finally, significant factors associated with membership in the Material/Sexual Violence class included: financially supporting more people (aOR = 1.25), earning more money for having vaginal sex without a condom (aOR = 2.88), being younger than 18 when first trading sex (aOR = .43), ever being raped by a client (aOR = 2.13), always drinking with clients (in the past month; aOR = 2.03), ever injecting with clients (in the past month; aOR = 3.12), trading sex outdoors (aOR = .53), having worse overall working conditions (aOR = .56), having lived in the city their whole life (aOR = 2.01), ever receiving substance use treatment (aOR = 1.95), never binge drinking in the past month (aOR = .43), ever being jailed (aOR = 41.18), and not binge drinking in the last month (aOR = .43).

Discussion

This study examined police violence against FSWID to identify patterns and sociodemographic, behavioral, and structural factors associated with violence exposure. We found that experiences of police violence varied in type but were endemic for FWSID at the México–United States border, suggesting an urgent need for policy change and police intervention to ensure women’s health and safety. Although sex work is not illegal in México, unlike most other contexts, it is still regulated on the street by police whose practices do not match the laws on the books. As these data show, even in the context of sex work decriminalization, police abuse, and corruption are pervasive and have a profound impact on the health and well-being of FSW.

Overall levels of police violence exposure were startlingly high, with over two-thirds of the sample reporting one or more forms of violence in the past 6 months, which is higher than many other settings (Footer et al., 2016). These experiences ranged from financial extortion, theft of money or syringes, requests for free sexual services, and sexual assault. Latent class analysis revealed that violence exposure clustered into three groups: Material/Sexual Violence, Material Violence, and Low Violence. Although a third of women in the sample were in the Low Violence category, almost half experienced Material Violence, and the remaining (~16%) reported both material and sexual violence in the past 6 months. The human rights and public health consequences of these abuses are severe, leading to greater risk for PTSD, depression, anxiety, suicidality, alcohol and drug disorders (Puri et al., 2017; Ross et al., 2012), as well as increasing exposure to violence from others and deterring engagement in necessary health and social services (Deering, Bhattacharjee, et al., 2013; Erausquin et al., 2011; Platt et al., 2011; Shannon, Strathdee, et al., 2009). Exposure to police violence also interferes with condom use and safe injection practices, which leads to higher rates of infectious diseases, like HIV/STI (Deering et al., 2014; Shannon & Csete, 2010). Although similar analyses looking at clusters of police violence have not been conducted, to the best of our knowledge, the patterns of abuse we found here suggest that police likely target FSWID in different, but perhaps strategic ways. Understanding these patterns, and who is targeted, may help to illuminate appropriate responses to mitigate this violence.

In this analysis, we found that FSWID who experienced predominately material violence from police reported having money or syringes stolen or being financially exploited. In particular, we found that FSWID experiencing material violence were less likely to have been jailed, likely in exchange for police taking their money, and that such experiences were associated with working in indoor, rather than outdoor, sex work venues. In conjunction, these findings suggest that material violence by police may be targeted toward particular FSW. For instance, working in indoor venues, including bars, clubs, or brothels, can lead to higher earnings among FSW, making this setting ideal for extortion. In other studies, paying police to avoid arrest or having money taken is normative, especially in entertainment settings (Biradavolu et al., 2009; Decker et al., 2012; Erausquin et al., 2011; Popoola, 2013; Shannon & Csete, 2010). This may also, in part, explain our finding that women experiencing material violence also had a higher likelihood of having an HIV test as indoor establishments often require such testing (Sirotnin, Strathdee, Lozada, Abramovitz, et al., 2010; Sirotnin, Strathdee, Lozada, Nguyen, et al., 2010). It may also be the case that police sexual violence is harder to get away with in indoor sex work settings because there is more oversight by management or others to impede them from committing greater abuse.

Importantly, financial extortion and robbery by police increase economic vulnerability, making it necessary to take on more or riskier clients or to take more money for sex without a condom (Choi, 2011; Ntumbanzondo et al., 2006; Reed et al., 2010). The impact of this violence may also exacerbate existing vulnerabilities, including homelessness and poverty (Goldenberg et al., 2015; Shannon et al., 2008). This may be especially true for FSWID who face greater economic marginalization, on the whole, and must also contend with the need to procure drugs and avoid withdrawal (Strathdee et al., 2011). Previous work among FSWID from our group also showed that confiscation of syringes was associated with HIV

seropositivity, as it leads to injection practices that increase harm (Beletsky et al., 2013; Philbin et al., 2008; Pollini et al., 2008; Rhodes et al., 2006; Werb et al., 2008). Mitigating material violence by police in all its forms is therefore a necessary step towards advancing human rights, but also towards improving the health and safety of FSWID.

In addition to experiences of material violence, a subset of women in the sample also experienced sexual violence from police, either in being asked to exchange sex to avoid arrest or through sexual assault. Women who reported *both* material and sexual violence were notably more marginalized in ways that, in combination with pervasive police violence, may compound risk for HIV/STI and other harms. For instance, FSWID in this high exposure group (relative to lower violence groups) were more likely to have started sex work younger than 18, which is defined by the United Nations as being trafficked (United Nations, 2000). Entry into sex work under the age of 18 is a major risk factor for HIV/STI, but it also places women at greater risk for sexual violence, workplace mistreatment, and threatens reproductive health (Decker et al., 2011; Loza et al., 2010). This occurs mainly as a result of more limited agency to refuse sex or negotiate condom use, greater isolation, and more limited access to health services (Ainsworth et al., 2003; GIFT, 2008, pp. 71–75; Huda, 2006; Zimmerman et al., 2008). Additionally, FSWID experiencing material and sexual violence were more likely to both drink and do drugs with clients in the context of sex work, which can inhibit women’s ability to negotiate safety with clients, increasing condomless sex and placing women at greater risk for HIV/STI (Duff et al., 2018). Women also reported poorer working conditions, which can have widespread implications on health. FSW workplaces are key sites for the production of risk and poor working conditions can undermine women’s control over their bodies and work and increase the chances of harm occurring (Andrade et al., 2019; Goldenberg et al., 2015; Krüsi et al., 2012; Maher et al., 2011). Finally, FSWID experiencing both sexual and material violence from police were also more likely to have been jailed, which has been shown to deter PWID from accessing substance use treatment and lead to heightened risk for HIV/STI, overdose, and mortality (Strathdee et al., 2010).

As discussed above, material violence from police is associated with a myriad of public health concerns, but the addition of sexual assault by police is also tied to increased exposure to violence from other parties, especially clients (Deering, Bhattacharjee, et al., 2013; Erausquin et al., 2011; Odinkova et al., 2014; Shannon, Kerr, et al., 2009). For instance, fear of police violence can displace FSWID to more remote locations where women confront, and are unable to get away from, more dangerous clients (Strathdee et al., 2015). However, when police are a source of violence, this has the added effect of limiting women’s recourse for action when they experience violence from others (Rhodes et al., 2008; Shannon & Csete, 2010; Simi & Rhodes, 2009), creating a complex and systemic cycle of violence against women. Collectively, such experiences violate women’s rights, but they can also traumatize women, creating a need for alcohol or substances to cope, and increasing HIV/STI and overdose (Puri et al., 2017; Ross et al., 2012). Overall, these data point to a troubling pattern whereby more marginalized women are targeted by police, experiencing multiple forms of police abuse that compound vulnerabilities. Responding to police violence alongside other structural factors that place women at risk is thus necessary to ensure FSWID rights and health.

Finally, women in the low violence category reported having fewer casual clients, not being tested for HIV, and not being jailed. The reason for this association may be that having fewer casual clients and not being jailed is related to having more social capital and less police interaction or to more peripheral involvement in sex work. The association with not being tested for HIV may stem from this group having a lower need for HIV testing, due to being at lower risk; however, it could be the case that they have a lower level of access to services if they are not targeted by sex worker interventions due to peripheral involvement. In general, FSWID have limited access to needed health and social services due to low availability, prohibitive costs, and discriminatory practices that prevent women from receiving or seeking quality care (Duff et al., 2015).

The pervasiveness of police violence found here jeopardizes women's health and rights on its own, but also creates a context where violence against FSW is normative, especially if women do not feel like they can report violence from others. These findings suggest that even in the context of decriminalization, police abuses against FSWID persist and do so in patterned ways that require a multipronged response. Although full decriminalization of *all aspects* of sex work is widely argued to be essential to promoting the health and human rights of FSW (Godwin, 2012; International, 2016; World Health Organization, 2016), policies must filter down to police. But as seen here, and in other contexts, the reality is that the law on the books frequently does not match the law on the streets (Footer et al., 2016; Platt et al., 2011). Notably, in contexts where sex work has been fully decriminalized, like in New Zealand, there have been many successes in making sex work safer and improving human rights across various sectors of the sex industry (Abel, 2014). Evidence from other contexts where sex work is partially decriminalized also suggests that such measures can open doors to greater safety, but that quasi-criminalization still poses challenges to the full actualization of sex worker rights and control over their bodies, working conditions, health, and safety (Deering et al., 2014). Even in contexts without federal decriminalization, changes in municipal laws or policing practices—such as ending the targeting of public solicitation, stopping workplace raids, eliminating sex work licensing practices or high fees for licenses, getting rid of employee registration requirements, and helping with violent clients—can have significant impacts on women's health and safety (Anderson et al., 2015; Deering, Lyons, et al., 2013; Gaines et al., 2013). In the México–United States border context, such changes would likely have a substantial impact on women's health.

Additionally, working directly with police to change their treatment of FSWID, including an emphasis on the provision of support rather than abuse or arrest, could make the everyday lives of sex workers safer (Gaines et al., 2013). In particular, police training and professionalization could shift law enforcement interactions from something exploitative and abusive to one framed in a public health and harm reduction model (Arredondo et al., 2019). This is especially important in the context of intersecting substance use and sex work since people who use drugs are also primary targets of policing and police violence, especially if they use or inject in public spaces (Miller et al., 2008; Morales et al., 2020; Strathdee et al., 2011; Werb et al., 2008; West et al., 2020). Given this, decriminalization of sex work must also go hand in hand with decriminalization of drug use; however, laws must filter down to how police engage with community members, which happens infrequently (Arredondo et al., 2018; Beletsky et al., 2016). When violence does occur, there must also be a way to litigate

against police abuse, which requires buy in from municipal and federal government entities. Sex worker collectives are especially important to this process, as they are a powerful force for creating change and for holding law enforcement accountable for their actions against FSW (Gaines et al., 2013); however, the onus cannot fall on women to right the wrongs of the state. Importantly, since the violence discussed here is rooted in the oppression of systems of policing, recent calls to abolish police are the most straightforward way to stop police violence in all its forms.

Alongside these systemic changes to criminal justice policy and practices, there is also need for the expansion of health and social services that meet the unique needs of FSWID. In particular, trauma-informed care for women experiencing violence, particularly at the hands of state actors, may be necessary to mitigate its harmful impacts (Reeves, 2015). Such care could be integrated into HIV/STI prevention and treatment services (Sales et al., 2016), for example, but also into tailored drug treatment services (Covington, 2008), which are rarely designed for women or for FSWID who are placed in positions of substantial marginality (Decker et al., 2018; Greenfield & Grella, 2009). FSWID may also benefit from non-judgmental legal support to better navigate experiences of oppression within the criminal justice system, particularly violence, and other harms inflicted by state actors (Sloss & Harper, 2010). Finally, financial programs to support FSWID experiencing economic vulnerability as a result of police violence, or more broadly, may be better able to protect their health and support their families (Reed et al., 2010; Strathdee et al., 2015). Overall, enhanced health and social services could help to reduce some, though not all, of the harms that FSWID experience as a result of police violence.

This study is subject to several limitations. The data were collected between 2008 and 2010, so they may not represent the most up to date prevalence estimates of police violence against FSWID; yet, they are the most recent available data on FSWID in this context and provide useful information for improving public health efforts. Importantly, after the data for this study were collected, México changed their drug policy to decriminalize the possession of small amounts of drugs. Despite this policy change, data from our team continues to find high rates of police violence against the PWID community and suggests that drug reform has had a limited impact on HIV among PWID in Tijuana (Borquez et al., 2018). This indicates that the need for a public health response to police abuse is still very much needed, making the findings from this study important. Additionally, we are limited by our violence data, including that we do not ask if experiences of violence happened in the context of sex work, but also the lack of data on other forms of violence against FSWID in this context, including physical violence, verbal and emotional harassment, and invasive body searches. These are important elements of police abuse that must be addressed and that we know are common in this context. The inability to measure these additional forms of violence likely underestimates our assessment of police violence, but may also mean that we potentially miss a class of violence that may behave differently. Future work should more thoroughly assess all forms of police violence against FSW to create more comprehensive measures of police abuse. Finally, our study sample was composed of FSWID, so results may not be extrapolated to the general population and likely overestimate the prevalence of police violence in the general population. Despite this, our findings are the first to examine typologies of police violence against FSW at the México-United States border and could

help to inform policy and prevention efforts in this and other contexts. They also draw attention to the need for scrutiny of how policies are enacted on the street in ways that harm communities.

Conclusions

Despite *de jure* decriminalization of sex work, police violence against FSWID at México's Northern Border is pervasive; this has direct implications for sex-related and drug-related health harms. Experiences of police violence varied in type but were widespread for FWSID, which may compound HIV risk through economic insecurity, substance use, and social vulnerability. Additional efforts are necessary to close wide gaps in policy implementation. In particular, mitigating material and sexual violence from police is imperative to reduce harms by decreasing economic vulnerability, risk of overdose and HIV, and improving engagement in HIV and harm reduction services.

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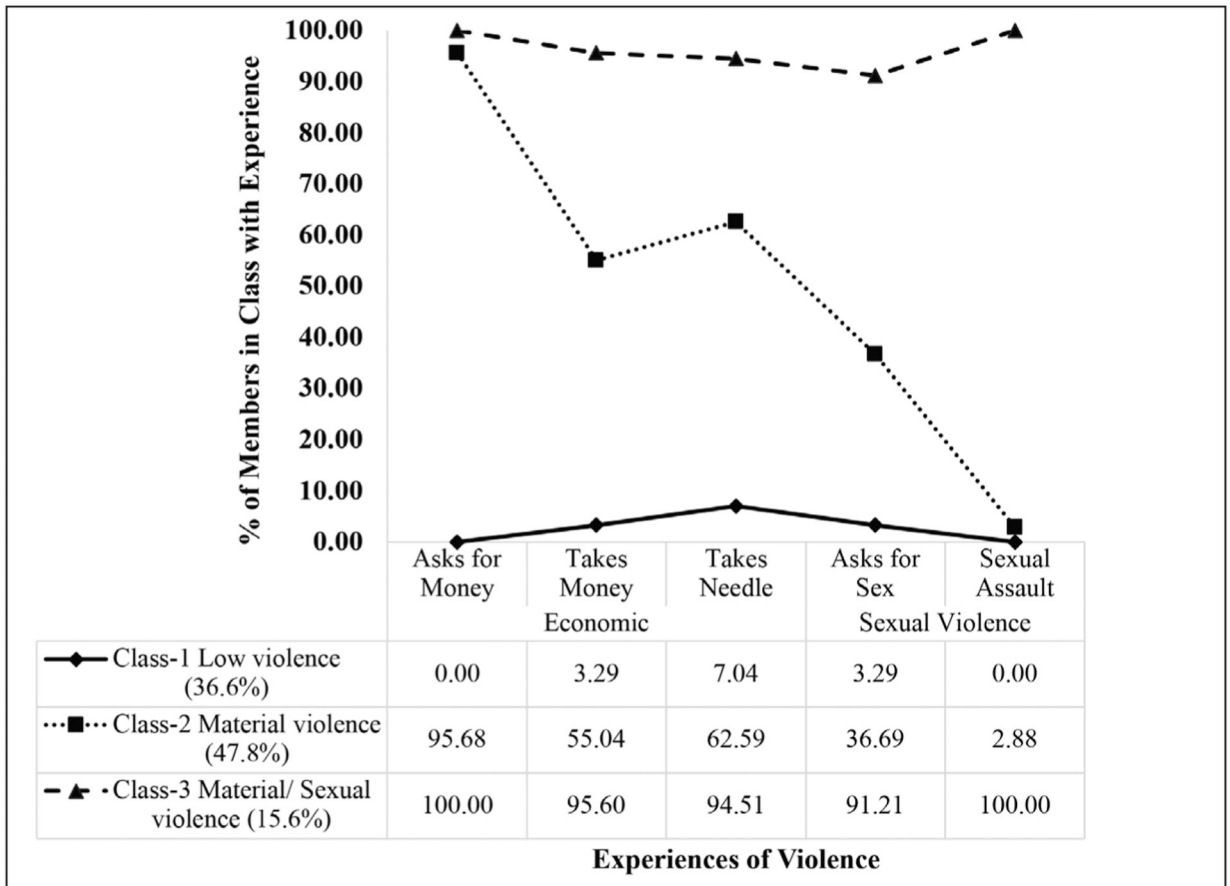


Figure 1.
Conditional probabilities of latent classes of police violence.

Table 1.

Description of Sample Characteristics for Total Sample and by Latent Class.

	Total Sample % Yes or Mean (n)	Class 1: Low Violence % Yes or Mean (n)	Class 2: Material Violence % Yes or Mean (n)	Class 3: Material/Sexual Violence % Yes or Mean (n)
Sociodemographic Factors				
Age	33.8 (584)	35.4 (213)	33.0 (278)	32.4 (91)
Married now	37.3 (218)	32.9 (70)	40.3 (112)	37.4 (34)
Completed secondary school	28.6 (167)	36.6 (78)	23.0 (64)	27.5 (25)
Tijuana resident (vs. Cd. Juarez)	48.6 (284)	67.6 (144)	34.9 (97)	45.1 (41)
Economic Factors				
Monthly income > 3,500 pesos	47.6 (276)	36.3 (77)	56.7 (156)	46.2 (42)
# people financially supporting	1.2 (584)	1.0 (213)	1.3 (278)	1.3 (91)
Earns more \$ for sex w/o condom	14.9 (87)	7.5 (16)	17.3 (48)	25.3 (23)
Social Factors				
First traded sex > 18 years old	20.1 (342)	64.3 (137)	60.5 (167)	40.7 (37)
Ever physically abused	48.5 (280)	36.2 (77)	53.8 (147)	62.2 (56)
Ever raped	50.7 (293)	37.9 (80)	54.7 (151)	68.9 (62)
Ever physically abused by client	20.0 (116)	7.5 (16)	23.3 (64)	40.0 (36)
Ever raped by client	22.6 (129)	12.7 (27)	22.3 (60)	46.7 (42)
In past month # casual male clients	39.3 (581)	24.3 (213)	47.4 (275)	50.1 (91)
Had a pimp	4.6 (27)	6.5 (14)	2.2 (6)	6.6 (6)
Physical Factors				
Past month always drinks w/client	50.8 (296)	50.2 (107)	51.1 (142)	51.6 (47)
Past month ever inject w/client	72.1 (383)	77.0 (147)	64.5 (162)	83.0 (73)
Trade sex indoors	28.4 (165)	27.0 (57)	30.1 (83)	27.5 (25)
Overall working conditions	1.6 (584)	1.6 (213)	1.7 (278)	1.5 (91)
Lived in city whole life	43.0 (251)	40.4 (86)	42.8 (119)	50.5 (46)
Policy Factors				
Ever HIV tested	50.1 (292)	37.6 (80)	59.6 (165)	50.5 (46)
Ever received drug treatment	50.9 (297)	38.0 (81)	57.6 (160)	61.5 (56)
Ever jailed	72.4 (423)	42.3 (90)	87.8 (244)	97.8 (89)
Licensed as sex worker	3.4 (20)	4.2 (9)	3.2 (9)	2.2 (2)

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	Total Sample % Yes or Mean (n)	Class 1: Low Violence % Yes or Mean (n)	Class 2: Material Violence % Yes or Mean (n)	Class 3: Material/Sexual Violence % Yes or Mean (n)
Health Behaviors/Outcomes				
Tested positive for any STI	33.7 (197)	26.8 (57)	36.3 (101)	41.8 (38)
Past month binge drinking	54.1 (271)	52.0 (91)	56.4 (141)	51.3 (39)
Past month injected Methamphetamine	21.8 (127)	29.1 (62)	16.6 (46)	20.9 (19)
Past month injected heroin	96.9 (566)	96.7 (206)	96.8 (269)	98.9 (90)

Note. N = 584.

Missing = <1% except binge drinking where missing = 14%.

Table 2.

Correlations Between Police Violence Indicators.

	Sexual Favors	Sexual Assault	Asked for Money	Money Taken
	<i>r</i> (p)	<i>r</i> (P)	<i>r</i> (P)	<i>r</i> (P)
Sexual assault	.53 (<.001)	-	-	-
Asked for money	.45 (<.001)	.34 (<.001)	-	-
Money taken	.40 (<.001)	.43 (<.001)	.57 (<.001)	-
Syringes taken	.39 (<.001)	.38 (<.001)	.58 (<.001)	.55 (<.001)

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Table 3.

Comparison of Latent Class Solutions.

Model	<i>N</i>	<i>df</i>	LL	AIC	BIC
1-Class	582	5	-1822.047	3654.093	3675.925
2-Class	582	11	-1448.793	2919.587	2967.618
3-Class	582	17	-1389.847	2813.693	2887.923
4-Class	582	22	-1380.753	2805.506	2901.568
5-Class	582	29	-1380.166	2818.332	2944.960

Note. Bold font indicates the selected class solution.

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Table 4. Multivariable Generalized Structural Equation Models Using Logistic Regression to Examine Association Between Latent Class Membership and Sociodemographic, Behavioral and Risk Environment Factors.

	Class 1: Low Violence			Class 2: Material Violence			Class 3: Material/Sexual Violence		
	aOR	SE	P	aOR	SE	P	aOR	SE	P
Economic Factors									
Monthly income > 3,500 pesos	1.14	.35	.66	1.29	.32	.30	.68	.24	.28
# people financially supporting	1.11	.11	.27	.86	.06	.04	1.25	.12	.03
Earns more \$ without condom	.50	.22	.12	.81	.26	.51	2.88	1.18	.01
Social Factors									
First traded sex > 18 years old	1.20	.35	.52	1.28	.31	.30	.43	.14	.01
Ever physically abused	1.27	.40	.45	.84	.22	.50	.96	.37	.91
Ever raped	.74	.23	.32	1.14	.30	.63	1.43	.57	.37
Ever abused by client	.49	.22	.12	1.03	.34	.92	1.58	.66	.27
Ever raped by client	.87	.35	.73	.62	.20	.13	2.13	.85	.06
In past month # casual clients	.99	.00	.01	1.00	.00	.29	1.00	.00	.74
Had a pimp	2.55	1.76	.18	.38	.23	.10	1.14	.75	.84
Physical Factors									
Past month always drinks w/client	.79	.29	.52	.70	.21	.25	2.03	.82	.08
Past month ever inject w/client	.69	.21	.23	.73	.18	.21	3.12	1.26	.01
Trade sex indoors	.68	.21	.23	1.66	.43	.05	.53	.20	.09
Working conditions	1.28	.27	.23	1.14	.20	.46	.56	.13	.01
Lived in city whole life	1.32	.40	.36	.55	.14	.02	2.01	.70	.04
Policy Factors									
Ever HIV tested	.46	.13	.01	2.18	.53	.00	.66	.23	.22
Ever received drug treatment	.98	.29	.95	.69	.17	.14	1.95	.69	.06
Ever jailed	.09	.03	.00	4.34	1.26	.00	41.18	43.58	.00
Licensed as sex worker	.53	.40	.40	2.09	1.32	.24	.52	.62	.58
Health Behaviors/Outcomes									
Tested positive for any STI	.86	.24	.59	.85	.20	.47	1.67	.55	.12
Past month binge drinking	1.64	.63	.20	1.23	.38	.50	.43	.17	.03

	Class 1: Low Violence			Class 2: Material Violence			Class 3: Material/Sexual Violence		
	aOR	SE	P	aOR	SE	P	aOR	SE	P
Past month injected									
Methamphetamine	1.18	.45	.65	1.01	.37	.98	.56	.29	.27
Past month injected heroin	1.54	1.15	.57	.49	.33	.29	2.46	2.84	.44
Constant	.38	.46	.01	2.66	2.71	.34	.00	.00	.00

Note. Missing = <1% except binge drinking where missing = 14%.

Results are adjusted for age, education, marital status, and city of residence.