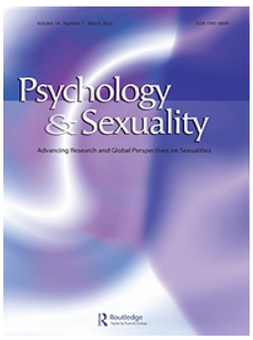

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Examining substance-involved sexual experiences and consent communication by sexual identity

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ABSTRACT

Substance use can occur prior to nonconsensual and consensual sexual activity and affect how sexual consent is communicated and felt. Yet, researchers' understanding of how substance use relates to these sexual experiences is still developing. Few researchers examine these behaviors among the intersection of sexual minority (SM) identity and gender. The goal of this study was to assess if experiences of nonconsensual and consensual substance-involved sexual activity, consent communication and feelings varied by the intersection of SM identity and identifying as a woman. Participants were recruited from a Prolific Academic panel to complete a survey about their substance use, sexual experiences, and sexual consent. SM persons and SM women reported more nonconsensual and consensual substance involved sexual experiences than heterosexual participants and SM men. Consent communication and feelings did not differ by across groups. Prevention initiatives for substance use and sexual activity may want to take an intersectional approach that addresses why different subgroups are at elevated risk to coalesce these two behaviors. Because consent feelings and communication did not differ by SM identity and gender, consent initiatives should expand their discussion to be inclusive of SM as these initiatives are often presented within a heteronormative framework.

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Sexual consent; substance use; nonconsensual sex; sexual minority; gender

Introduction

Combining substance use (i.e. alcohol or drugs) with sexual activity is complicated because substance use can increase the risk of nonconsensual sexual activity occurring (Abbey, 2002; Lorenz & Ullman, 2016), but substances are also frequently used during consensual sexual activity (Herbenick et al., 2019; Jozkowski & Wiersma, 2015). People may use substances prior to sexual activity because they do not perceive substances as impeding their ability to consent to sexual activity (Drouin et al., 2018). Yet, researchers' understanding of how substance use relates to nonconsensual and consensual sexual activity is still developing. Additionally,few researchers have examined these behaviours among people who identify as a sexual orientation other than heterosexual. Thus, we aimed to examine substance-involved nonconsensual and consensual sexual experiences, including consent communication and internal consent feelings, for women and men who identify as a sexual minority (SM) and compare them with those who identify as heterosexual.

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Sexual consent communication and feelings

Sexual consent communication is part of a healthy and safe sexual encounter (Marcantonio et al., 2020; Muehlenhard et al., 2016). Sexual consent can be defined as one's freely given verbal or nonverbal communication of their sober and conscious feelings of willingness to engage in a particular sexual behaviour with a particular person within a particular context (Hickman & Muehlenhard, 1999; Willis & Jozkowski, 2019). People's internalised consent feelings assist them with determining if a sexual encounter is consensual (Muehlenhard et al., 2016) and include five different feelings (physical response, safety and comfort, arousal, consent, wantedness, and readiness; Jozkowski et al., 2014). These feelings are related to people's consent communication and different sexual health outcomes (Marcantonio et al., 2020; Willis et al., 2021). For instance, having stronger internal feelings related to consent during sexual activity was associated with using active consent communication cues during sexual activity (Willis, Blunt-Vinti et al., 2019).

People communicate their external consent via various nonverbal and verbal cues that may include explicit cues (i.e. straightforward or direct cues) or implicit cues (i.e. subtle, indirect, or suggestive cues; Jozkowski et al., 2014; Muehlenhard et al., 2016; Willis, Hunt et al., 2019). For instance, people can communicate consent with an explicit verbal cue, such as saying 'yes' or an implicit verbal cue that references sex but does not explicitly use the word sex, such as 'do you want to move to the bedroom?' People can also communicate consent via explicit nonverbal cues such as taking off their clothes or pulling out a condom or via implicit nonverbal cues such as making inviting facial expressions. More often, people tend to communicate their consent nonverbally and implicitly rather than verbally and explicitly (Muehlenhard et al., 2016).

Sexual consent communication, feelings, and sexual minorities

Few researchers have examined how SM persons communicate or conceptualise sexual consent (Beres et al., 2004; Griner et al., 2021; Sternin et al., 2021; Walsh et al., 2019), and none have examined the relationship between substance use and sexual consent among SM persons. One reason that SM persons may not have been included in prior consent research is because much of the theoretical foundation for research on consent communication has focused on traditional gender norms (Hickman & Muehlenhard, 1999; Jozkowski et al., 2014) – with women being the gatekeepers (the person who agrees/denies sex) and men being the initiators (the person who pursues/asks for sex). Additionally, consent initiatives flourished on campuses to address the endemic of sexual assaults committed by men against women (Jozkowski, 2017, 2015). With consent research being theoretically grounded in a heteronormative framework and focused on heterosexual sexual encounters, SM persons have not been included in much of this work or programming related to sexual consent.

Despite consent work focusing on heterosexual persons, some researchers have begun to assess if there are similarities and differences between SM persons and heterosexual persons' sexual consent communication behaviours. SM persons and those who identify as heterosexual may communicate or conceptualise consent similarly. For instance, some researchers find that SM persons and heterosexual young adults use similar external consent cues (Beres et al., 2004; Marcantonio et al., 2021; Walsh et al., 2019). Specifically, researchers found that both SM persons and heterosexual persons will use explicit verbal and nonverbal cues and implicit verbal and nonverbal cues (Beres et al., 2004; Marcantonio et al., 2021; Walsh et al., 2019). Moreover, similar to heterosexual young adults, SM persons may enact an initiator and gatekeeper role where one partner explicitly requests sex and another responds with an implicit cue (Beres et al., 2004; Marcantonio et al., 2021). Some researchers suggest that the gatekeeper and initiator role within SM relationships may be based on behaviour rather than gender (e.g. consent communication for penetrative sex may vary by which partner is inserting and which partner is receiving; Marcantonio et al., 2021). Yet, others have found that SM persons may be perceived as more agentic and use more explicit consent communication than heterosexual persons (Sternin et al., 2021).

Regarding internal consent feelings, only one study has examined whether these feelings differed between people who identified as bisexual, lesbian, gay, or heterosexual, finding no difference in internal consent feelings between the groups (Walsh et al., 2019). Contrary to these findings, Sternin et al. (2021) found that heterosexual and non-heterosexual men discussed differences in emotional connection during sexual activity. Specifically, there was a perception from heterosexual and non-heterosexual men that having sex with women involved more emotion, especially regarding consent communication, than if someone had sex with a man. Thus, the preliminary research examining if SM persons and heterosexual persons are more similar or different in their consent communication and feelings is mixed.

Sexual consent communication, feelings, and substance use

Sexual consent feelings and communication are influenced by different contextual factors, such as substance use (Herbenick et al., 2019; Jozkowski & Wiersma, 2015). For instance, for both women and men, consuming alcohol prior to sexual activity was associated with reduced feelings of internal consent and fewer reports of using direct nonverbal behaviours and initiator/communication cues to communicate consent. These findings only emerged for participants who engaged in sexual activity with first time or casual partners (Jozkowski & Wiersma, 2015). Willis et al., (2021) built on these findings and examined if internal consent feelings and external consent communication differed by women and men's alcohol and cannabis use prior to sexual activity. The authors found that cannabis and alcohol use prior to sexual activity resulted in diminished internal consent feelings but was not related to people's external consent communication. Yet, as alcohol consumption increased for both women and men, both reported more implicit and less explicit consent communication.

Despite alcohol consumption being associated with less explicit communication, both women and men reported that they felt confident in consenting to sex after consuming alcohol (Marcantonio & Jozkowski, 2021) and that they did not perceive alcohol consumption as impeding their ability to consent (Drouin et al., 2019). Women and men, however, report different reasons for why they think they can consent after consuming alcohol. Women more frequently suggested that their confidence in consent after consuming alcohol varied based upon who their sexual partner was and how much alcohol they had consumed prior to sex. Regarding the sexual partner, women reported that knowing their sexual partner or having a romantic or established relationship with them made them more confident in consenting to sex after consuming alcohol. For men, they more frequently suggested that alcohol was irrelevant to their ability to consent because alcohol did not impact their judgement and decision-making (Marcantonio & Jozkowski, 2021). Men were also more likely to view alcohol consumption as an *absolute* indicator of consent and women tended to view alcohol consumption as a *potential* indicator of consent (Jozkowski et al., 2018). Thus, how women and men perceive the role of alcohol in their consent communication and behaviours appears to vary by gender.

There is a focus on substance use and sexual consent because increasing explicit and verbal consent communication is posited to help decrease rates of nonconsensual sex by ensuring that everyone is engaging in the sexual activity they want. Yet, substance use prior to sexual activity can cause cognitive deficits that make it difficult for people to interpret complex stimuli (Steele & Josephs, 1990), such as someone's nonverbal and implicit consent cues. Indeed, people tend to communicate consent nonverbally and implicitly (Jozkowski et al., 2014; Muehlenhard et al., 2016) and substance use appears to increase the use of implicit cues (Willis, Marcantonio et al., 2021). Thus, these cues could be difficult to interpret when intoxicated. Moreover, researchers have found that, for men, they tend to misperceive and overperceive women's sexual interest when intoxicated (Abbey, 1982; Abbey et al., 2003; Benbouriche et al., 2019; Farris et al., 2010). These misperceptions could increase the risk of men perpetrating sexual assault. To date though, the role that substance use has in consent communication and consensual and nonconsensual sexual encounters for other

groups, such as SM persons, is understudied; however, it is important if researchers aim to prevent substance facilitated sexual assault for all persons and increase pleasurable, healthy, and safe sexual encounters.

Sexual activity, substance use, SM identity, and gender

The risks of combining substances and sexual activity may be further exacerbated for SM persons and women who identify as an SM. For example, SM persons are at elevated risk of experiencing nonconsensual sexual activity as well as use substances (Blayney et al., 2021; Coulter et al., 2017; Hequembourg et al., 2013, 2015, 2008; Hughes et al., 2010; Martin et al., 2011; Trottier et al., 2019). Furthermore, SM women appear to be at higher risk of experiencing nonconsensual sexual activity than their heterosexual counterparts and SM men (Coulter et al., 2017; Ford & Soto-Marquez, 2016; Herbenick et al., 2019; Martin et al., 2011).

Several theories are posited to explain why SM persons experience substance use and nonconsensual sexual activity at greater rates than their heterosexual peers, such as Minority Stress Theory. Minority Stress Theory suggests that stress related to stigmatised identities is related to increased health disparities (Meyer, 2003). A potential mechanism contributing to these health disparities, experiences of sexual stigma, which represents a socially understood knowledge that same-sex relationships are not valued (Herek, 2007) and can create stress for SM persons who could adopt to these stressors in maladaptive ways (Herek, 2007; Shorey et al., 2019). For women, they inhabit a society, which has a rape culture where violence against women is common (Black et al., 2011; Muehlenhard et al., 2017) and sexism is prevalent (Armstrong et al., 2018; Homan, 2019; Knuckey, 2019). Women are also viewed as sexual objects, which promote and support sexism, as well as violence against women, and impact how women view themselves (see, Ward, 2016 for review).

Given these layers of societal stigma and oppression, women, particularly those who identify as an SM, may use substances (e.g. alcohol) to cope with different oppressions, which could in turn increase their risk of nonconsensual sex (Lehavot & Simoni, 2011). SM persons' experiences with nonconsensual and consensual substance-involved sexual activity remain understudied – thus, limiting researchers' ability to inform inclusive intervention work on how substance use might affect sexual activity for SM persons (Coulter et al., 2017).

Current study

The goal of this study was to assess SM persons' and heterosexual persons' substance-involved nonconsensual and consensual sexual experiences – including their consent communication and internal consent feelings. To further understand certain subpopulations' experiences with nonconsensual substance-involved sexual activity, we also examined whether these sexual experiences and consent communication and feelings varied by the intersection of SM identity and gender (i.e. women and men). Based on prior research and theory described above, we had four hypotheses:

Hypothesis 1 (H1): SM persons would report more experiences of substance-involved sex than people who identified as heterosexual.

Hypothesis 2 (H2): SM persons would report more experiences of substance-involved nonconsensual sex than people who identified as heterosexual.

Hypothesis 3 (H3): Women who identified as an SM person would be most likely to report substance-involved sex compared with SM men as well as women and men who identified as heterosexual.

Hypothesis 4 (H4): Women who identified as an SM person would be most likely to report experiences of substance-involved nonconsensual sex compared with SM men as well as women and men who identified as heterosexual.

Because the relationship with substance use, internal consent feelings, and external consent communication are rarely examined with SM persons, we did not make any directional hypotheses. Instead, we examined whether internal and external consent for substance-involved sexual activity varied with sexual identity; we also examined the intersection of SM identity and identifying as a woman.

Method

Participants and procedure

Participants completed an online cross-sectional survey through Prolific Academic, which is a large-scale data collection service based in the UK.[1] In sum, 676 participants completed the survey; three were removed for missing data. Table 1 presents the sociodemographic characteristics for the full sample by gender. Regarding the SM status, 77 women (23.2%) and 40 men (12.3%) identified as an orientation other than heterosexual. The most common SM identity was bisexual, with 16.6% of women and 5.5% of men identifying as bisexual. Because 14 of the 15 (93.3%) participants who identified as a gender other than woman or man also identified as an orientation other than heterosexual, we were unable to evaluate the intersection of gender minority identity and SM identity.

Based on the aims of the larger study on sexual consent for which these data were collected (Willis & Smith 2021), eligibility criteria included being at least 18 years old, identifying as female or male, and living in the UK or the US. The survey took about 10–15 minutes to complete. Participants received £2.92 GBP or $3.50 USD for their contribution. The procedure for this study was approved by the university's research ethics committee.[2]

Measures

Sociodemographics

Participants completed a series of sociodemographic questions for this study; see Table 1. Regarding gender, participants could identify as a woman, a man, or another gender. For sexual orientation, participants could select if they identified as bisexual, homosexual/lesbian/gay, heterosexual/straight, or another orientation. We collapsed sexual orientation into two groups: participants who identified as a sexual minority (SM) and those who identified as heterosexual.

Lifetime substance-involved sexual behaviour

We asked participants whether they had experienced substance-involved sexual activity at least at some points in their lives. First, participants responded separately to two items: (1) 'I have had drunk sex (i.e. under the influence of alcohol)' and (2) 'I have had high sex (i.e. under the influence of other drugs)'. Next, we asked participants if they experienced substance-involved sexual behaviours 'without their consent or against their will'. Based on an *a priori* research question outside the scope of the present study, we manipulated the presence of force in the items; participants randomly responded to either a set of behaviours that included force (e.g. 'Somebody has forced me to have drunk sex against my will') or a set that did not (e.g. 'I have had drunk sex against my will'). These conditions were collapsed in the present study because they did not significantly differ.

Table 1. Sample characteristics by gender.

Variable	Women (n = 332)	Men (n = 326)	Another Gender (n = 15)
Age			
M (*SD*)	32.3 (11.6)	32.11 (11.8)	29.1 (11.5)
Country of Residence			
United Kingdom	169 (50.9%)	162 (49.7%)	5 (33.3%)
United States	163 (49.1)	164 (50.3)	10 (66.7)
Race/Ethnicity			
White	253 (76.2)	256 (78.5)	10 (66.7)
Black	25 (7.5)	15 (4.6)	–
Asian	23 (6.9)	24 (7.4)	–
Hispanic	12 (3.6)	15 (4.6)	–
Multiracial/Other	19 (5.7)	16 (4.9)	5 (33.3)
Education Level			
A-Levels/High School or less	72 (21.7)	76 (23.3)	4 (26.7)
Some university but no degree	81 (24.4)	77 (48.7)	6 (40.0)
Bachelor's degree	111 (33.4)	113 (34.7)	4 (26.7)
Master's degree	57 (17.2)	42 (12.9)	1 (6.7)
Doctoral/Professional degree	11 (3.3)	18 (5.6)	–
Student Status			
Currently a student	86 (25.9)	81 (24.8)	7 (46.7)
Not a student	246 (74.1)	245 (75.2)	8 (53.3)
Household Income			
Less than £/$20,000	71 (21.4)	63 (19.4)	9 (60.0)
£/$20,000 to £/$39,999	82 (24.6)	74 (22.7)	1 (6.7)
£/$40,000 to £/$59,999	74 (22.3)	70 (21.5)	1 (6.7)
£/$60,000 to £/$79,999	44 (13.2)	47 (14.4)	1 (6.7)
£/$80,000 to £/$99,999	22 (6.6)	27 (8.3)	2 (13.3)
£/$100,000 or more	39 (11.7)	45 (13.8)	1 (6.7)
Sexual Orientation[1]			
Heterosexual/Straight	255 (76.8)	286 (87.7)	1 (6.7)
Homosexual/Lesbian/Gay	9 (2.7)	17 (5.2)	3 (20.0)
Bisexual	55 (16.6)	18 (5.5)	6 (40.0)
Unsure/Questioning/Other	13 (3.9)	5 (1.5)	5 (33.3)
Current Sexual Partners[1]			
0 partners	83 (25.0)	101 (31.0)	4 (26.7)
1 partner	238 (71.7)	205 (62.9)	10 (66.7)
2+ partners	11 (3.3)	20 (6.2)	1 (6.7)

Gender was significantly associated with sexual orientation, $\chi^2(1) = 26.49$, $p < .001$, $\varphi_C = .20$, and number of sexual partners, $\chi^2(1) = 6.78$, $p = .034$, $\varphi_C = .10$. No other sociodemographic variables significantly differed by gender.

Event-level internal and external sexual consent

If participants reported they ever engaged in substance-involved sexual activity, they were asked to report their internal and external sexual consent during their most recent experience with those behaviours. We administered nine items that have been developed and validated as brief measures of sexual consent (Willis, Jozkowski et al., 2021). For internal consent, five items reflected the factors of the Internal Consent Scale: physical response, safety/comfort, arousal, agreement/want, and readiness (Jozkowski et al., 2014). For external consent, four items assessed the core aspects of active consent communication: explicit, implicit, verbal, and nonverbal (Willis, Hunt et al., 2019). All nine of these items were rated on a 4-point Likert-type scale (*Strongly disagree* to *Strongly agree*). We created composite scores by averaging item scores that mapped onto each construct: internal sexual consent (sample $\alpha = .92$) and external sexual consent (sample $\alpha = .76$). Higher scores indicate greater levels of sexual consent feelings or greater use of active consent communication, respectively.

Analysis

To assess whether SM persons differed from heterosexual people regarding their lifetime experiences with substance-involved sex and nonconsensual substance-involved sex, we conducted chi-squared tests of independence. *T*-tests assessed whether these groups differed in their event-level internal and

external sexual consent for the most recent experiences of substance-involved sexual activity. All tests of significance were conducted at an α-level of .05. We reported Cramér's V (φ_C) as an effect size for each of the chi-squared tests and Cohen's *d* for each *t*-test. According to Cohen (1988), a φ_C-value of .1 indicates a small effect size, .3 medium, and .5 large; corresponding values for Cohen's *d* are .2, .5, and .8, respectively. All data preparation and analyses were conducted using SPSS 27.

Results

Descriptive statistics

Overall, 447 (67.9%) of participants had ever engaged in substance-involved sex (i.e. sex under the influence of alcohol or other drugs). Of those, 54 (12.1%) had ever experienced nonconsensual sex under the influence of alcohol or other drugs – suggesting that 87.9% of participants who reported ever engaging in substance-involved sex had only experienced what they identified as consensual sex while under the influence of alcohol or other drugs.

For their most recent substance-involved sexual experiences, participants tended to agree that they experienced internal sexual consent feelings during drunk ($M = 3.50$, $SD = .56$) and high sex ($M = 3.53$, $SD = .63$). They similarly agreed that they actively communicated their sexual consent to their most recent sexual experiences under the influence of alcohol ($M = 3.26$, $SD = .61$) or other drugs ($M = 3.26$, $SD = .64$).

Lifetime substance-involved sexual behaviour

Inconsistent with H1, SM participants (67.5%) and heterosexual participants (64.5%) had similar lifetime prevalence rates of engaging in drunk sex, $\chi^2(1) = 0.38$, $p = .536$, $\varphi_C = .02$. However, supporting H1, more SM participants (37.6%) had ever engaged in high sex than heterosexual participants (28.3%), $\chi^2(1) = 3.99$, $p = .046$, $\varphi_C = .08$.

Supporting H2, SM participants were more likely to have had nonconsensual drunk or high sex. Specifically, 13.7% of SM participants had ever experienced nonconsensual drunk sex versus 5.9% heterosexual participants, $\chi^2(1) = 8.57$, $p = .003$, $\varphi_C = .11$. Similarly, 5.1% of SM participants had ever experienced nonconsensual high sex versus 1.8% of heterosexual people, $\chi^2(1) = 4.36$, $p = .037$, $\varphi_C = .08$.

H3 was partially supported. The differences in experiences of lifetime drunk sex did not vary by gender and sexual minority identity, $\chi^2(3) = 6.41$, $p = .093$, $\varphi_C = .10$. Descriptive statistics did suggest that SM women (74.0%) reported the highest rates of lifetime drunk sex compared with SM men (55.0%), heterosexual women (67.5%) and men (61.9%). However, there was a significant difference in lifetime experiences of high sex. SM women (45.5%) were most likely to report ever-experiencing high sex; only 22.5% of SM men, 27.1% of heterosexual women, and 29.4% of heterosexual men reported the same, $\chi^2(3) = 10.94$, $p = .012$, $\varphi_C = .13$.

Supporting H4, SM women (16.9%) were at greatest risk of experiencing nonconsensual drunk sex compared with SM men (7.5%), heterosexual women (9.0%), and heterosexual men (3.1%), $\chi^2(3) = 18.87$, $p < .001$, $\varphi_C = .17$. However, there were not significant group differences for rates of nonconsensual high sex, $\chi^2(3) = 4.39$, $p = .222$, $\varphi_C = .08$: 5.2% of SM women, 5.0% of SM men, 2.0% of heterosexual women, and 1.7% of heterosexual men.

A post hoc analysis suggested that SM women's experiences of nonconsensual substance-involved sexual activity were most often committed by men. Specifically, 27.3% of SM women reported experiencing nonconsensual sexual activity with somebody of a different sex or gender, but only 1.3% had experienced nonconsensual sexual activity with somebody of the same sex or gender.

Finally, a descriptive analysis of the 15 participants who identified as a gender other than woman or man showed that 8 (53.3%) had ever engaged in drunk sex and 6 (40.0%) and ever engaged in high sex. Further, 2 (13.3%) had experienced nonconsensual drunk sex and none had experienced nonconsensual high sex.

Event-level sexual consent for substance-involved sexual behaviour

At the event-level, there were no differences regarding how these groups internally felt or communicated their willingness to engage in drunk or high sex. For their most recent experience of drunk sex, SM participants did not differ from heterosexual participants on their internal sexual consent, $t(426) = -.46$, $p = .644$, Cohen's $d = .06$, or external sexual consent, $t(426) = -1.05$, $p = .294$, Cohen's $d = .13$. Similarly, internal sexual consent, $t(195) = -1.95$, $p = .053$, Cohen's $d = .33$, and external sexual consent, $t(195) = 1.10$, $p = .273$, Cohen's $d = .19$, did not significantly differ at the event-level for high sex between either group. Further, SM status did not interact with gender for any of these experiences with substance-involved sexual activity.

There was a pattern of greater levels of event-level internal sexual consent associated with greater levels of active consent communication. Indeed, internal and external sexual consents were significantly and positively correlated for the most recent sexual activity under the influence of alcohol, $r = .65$, $p < .001$, as well as the most recent sexual activity under the influence of other drugs, $r = .66$, $p < .001$. Active consent communication was slightly more strongly related with internal consent feelings for SM participants (drunk sex: $r = .71$; high sex: $r = .73$) compared with heterosexual participants (drunk sex: $r = .63$; high sex: $r = .63$).

Discussion

The goal of this study was to assess the intersection of SM identity and gender on experiences with substance-involved nonconsensual and consensual sexual activity – including internal and external consent during substance-involved sexual activity. Compared with heterosexual persons, SM persons reported more experiences of lifetime sexual activity while high, as well as nonconsensual substance-involved sexual experiences (partially supporting H1 and supporting H2). Women who identified as an SM also reported more sexual activity while high and more drunk nonconsensual sexual activity compared with SM men, as well as women and men who identified as heterosexual (partially supporting H3 and H4). Regarding internal and external consent communication for substance-involved sexual activity, we did not find any differences between SM persons and heterosexual people, nor any differences by the intersection of SM identity and gender.

Substance use and nonconsensual sex

More SM persons, and women who identified as an SM, experienced nonconsensual substance-involved sexual activity than their heterosexual counterparts. In line with Minority Stress Theory and sexual stigma (Herek, 2007; Meyer, 2003), SM persons may be more likely to use substances to cope with external and internalised stigma, which could increase their risk of experiencing nonconsensual sex. Indeed, SM persons are at greater risk of using substances (Hughes et al., 2010; Schuler et al., 2018) and experience nonconsensual sex (Coulter et al., 2017; Hughes et al., 2010; Martin et al., 2011), compared with their heterosexual counterparts. Substance use prior to sexual activity also increases the risk of nonconsensual sex (Abbey, 2011; Lorenz & Ullman, 2016). Furthermore, SM women are at elevated risk of engaging in problematic substance use behaviours (Hughes et al., 2010; Schuler et al., 2018) and experience nonconsensual sexual activity (Coulter et al., 2017; Herbenick et al., 2019; Martin et al., 2011). Therefore, SM persons and women who identify as an SM may be at elevated risk of experiencing substance-involved nonconsensual sex because of these intersecting and compounding risk factors.

Given intersecting risks and stressors for SM persons and women, sexual assault prevention programmes may want to include a broader focus on stigma and the role this has in increasing the likelihood that SM persons and women use substances prior to sexual activity. Indeed, decreasing substance use could help reduce the risk of nonconsensual sex; however, addressing *why* someone may feel the need to use substances prior to sexual activity (i.e. feeling stigmatised, alone, ostracised from the larger community) may assist with creating more meaningful behavioural change. For instance, if an SM person uses substances prior to sexual activity because they feel internalised stigma from society, then greater structural changes are needed to address stigma. Certainly, at the individual level, educators can work to adjust attitudes and empower SM persons and women to own their space and right in society; however, to truly address stigma greater efforts at the structural and organisational levels are needed – such as policies that prevent discrimination and inclusion of SM persons in society and programming, which challenges traditional heterosexual gender norms.

Additionally, we found that nonconsensual sexual experiences of women tended to happen with a partner of a different sex or gender than themselves. These preliminary findings suggest that SM women are not being assaulted by other women, but rather men. Our findings reflect prior research (Flanders et al., 2020). SM women's sexual perpetrators may be more likely to be men because our SM group is primarily comprised of women who identify as bisexual (16% of women in the SM group identified as bisexual) and bisexual women are at the highest risk of experiencing sexual assault compared with other SM identities (Canan et al., 2019; Flanders et al., 2019; Hequembourg et al., 2013).

Women who identify as bisexual may be at an elevated risk of experiencing sexual assault because of bisexual stigma or binegativity. For instance, women's internalisation of bisexual stigma (e.g. 'people do not take me seriously when I tell them I am bisexual') was associated with an increased risk of sexual assault victimisation (Flanders et al., 2020). Additionally, having experiences where someone else stigmatised or mistreated someone who identified as bisexual was also associated with an increased risk of sexual victimisation for the person who identified as bisexual (Flanders et al., 2020, 2019).

Bisexual stigma may correlate to victimisation experiences because women who identify as bisexual may feel internalised pressure to 'prove' they are bisexual by engaging in more sexual encounters – a coping strategy that could be associated with greater risk of encountering an aggressive partner. These women may also be perceived as being 'open to having sex' with anyone given that they are sexually and romantically interested in women and men (Flanders et al., 2020, 2015, 2017). Thus, their sexual communication cues (both consent and refusals) may be discounted and ignored during sexual activity. Given the social inequalities that exist for SM persons and women (Armstrong et al., 2018) and that SM women had the highest percentages of nonconsensual substance-involved sex, greater prevention efforts are needed to address these concerns. Indeed, sexual health education can take an intersectional approach in teaching others (both SM and heterosexual persons of various gender identities) about implicit biases that may result in men making assumptions or ignoring a person's refusals because of their gender and SM identity. These initiatives should also consider the differential risk associated with different SM identities (e.g. identifying as bisexual compared with identifying as a lesbian or gay).

Finally, we have discussed different societal and individual factors that may explain why SM persons reported more experiences with substance-involved nonconsensual sexual activity than their heterosexual peers. However, in recent work by Hirsch and Khan (2020), they posited that the differences in nonconsensual sexual experiences between lesbian, gay, bisexual, transgender, and queer (LGBTQ) students and heterosexual students may also result, in part, because LGBTQ students refuse to accept a heterosexual script that normalises violence as part of sexual activity. Indeed, this traditional (hetero)sexual script suggests that men can pursue sex until women refuse in a way that is deemed socially 'understood' (e.g. a verbal no). Yet, for women their refusals are more often nonverbal and implicit (Marcantonio et al., 2020) and are perceived as insincere by some men

(Jozkowski et al., 2017; O'Byrne et al., 2008, 2006). Thus, cultural norms support violence in heterosexual encounters by denying credibility to women's communication patterns and allowing men to suggest they have insufficient knowledge of sexual communication patterns (O'Byrne et al., 2008, 2006). Given that LGBTQ students are forced to navigate a heterosexual script that does not acknowledge them, rates of nonconsensual sex found in survey research may be higher because SM persons, in particular SM women, denounce the 'normative' (hetero)sexual script, which accepts violence as part of it (Hirsch & Khan, 2020).

Substance use and sexual activity

More SM persons used substances prior to sexual activity than heterosexual persons. Combining substances with sexual activity does not inherently have to be negative. Indeed, people engage in substance-involved sexual activity that does not result in a sexual assault (Herbenick et al., 2019). Because eliminating any coalescing of substance use and sexual activity is unrealistic, prevention programmes should discuss how substances *could* be involved in sexual activity and ways people can ensure that substance-involved sexual activity is consensual and pleasurable. Indeed, using substances prior to sexual activity is associated with decreases in sexual pleasure (Herbenick et al., 2019) and feeling ready and comfortable for sex (Jozkowski & Wiersma, 2015), perhaps because people are too intoxicated prior to sexual activity. Given some of these negative outcomes from substance-involved sexual activity, sexual assault prevention programmes may want to take a harm reduction approach that focuses on reducing the quantity of substances used prior to sexual activity. By decreasing the quantity of substances used prior to sex, we may see more positive outcomes associated with substance-involved consensual sex (Marcantonio & Jozkowski, 2021). Sexual assault programmes may want to focus more on alcohol than cannabis or other drugs given that the proportions of drunk nonconsensual sex were substantially higher in our data than high nonconsensual sex.

Finally, for SM persons (but also young adults more broadly), many of the environments where they may meet a sexual partner can be alcohol-intensive environments (gay bars, clubs, parties), which inherently link substance use and sexual activity. People may visit these alcohol-intensive settings because they feel uncomfortable with dating and sexual activity; alcohol could also provide a social lubricant to ease the awkwardness during these encounters (Abbey, 2017). Further, SM persons may seek LGBTQ alcohol-intensive environments because they provide a sense of community, belongingness, and safety; however, having an environment comprising people similar to oneself does not inherently ensure safety. Indeed, some SM persons may minimise their experiences of violence that occur in LGBTQ alcohol-intensive settings because they do not want to bring negative attention to LGBTQ settings (Fileborn, 2014). Therefore, if researchers and educators intend to decrease the use of substances prior to sexual activity two actions need to occur. First, greater efforts are needed to create safe, comfortable, and substance-free spaces where someone could meet a sexual partner (Hirsch & Khan, 2020). Second, people must be provided comprehensive and non-judgemental sexual health education at an earlier age to facilitate individual- and societal-level changes. Sexual health education should focus on destigmatizing sexuality and sexual communication so that people feel more comfortable discussing and engaging in sex without the need for substances. Providing sexual health education earlier may also be valuable as this education can be a protective factor against experiences of nonconsensual sex in adulthood (Santelli et al., 2018).

Substance use, consent communication, and consent feelings

We found that internal and external consent did not differ by SM identity and gender for substance-involved sexual encounters. Some researchers have found that SM persons and heterosexual persons communicate and feel similarly about their consent (Walsh et al., 2019). Our findings contribute to this literature in that consent feelings and communication may also

be similar when substances are involved in sexual activity for SM and heterosexual people. Further, even when alcohol or drugs were involved, if internal consent feelings were stronger, more active communication was used for both SM persons and heterosexual people. Given these similarities, sexual health and consent initiatives should ensure they are expanding their educational content on consent, substance use, and sexual activity to include SM persons. For instance, these initiatives could highlight the intersecting reasons an SM person may use substances prior to sexual activity. Because there are several different reasons *why* someone may use substances prior to sex (e.g. feeling stigma, discomfort, or obligation, wanting to use substances), one should never assume that substance use is an indicator of consent. Instead, people should acknowledge that if substances are used, there is a need for open and ongoing communication between the two. Indeed, if promoting active sexual consent communication is part of sexual assault prevention and a larger sexual health initiative that intends to encourage all people to be more sexually open, then SM persons should be included in this conversation (Marcantonio et al., 2021).

Limitations and future directions

This study is not without limitations. First, while the focus of this paper was on SM persons and identifying as a woman or man, race/ethnicity and class are also social identities that contribute to our health. Within our study, we were unable to examine the intersection of SM identity, gender, and race/ethnicity due to sample size restraints. As the field moves forward, greater efforts will be needed to assess how these multiple identities influence the risk of nonconsensual sex, especially since rates of nonconsensual sex differ by various social identities (Marcantonio et al., 2022).

Second, our primary analyses used a binary view of gender (identifying as a woman or man); however, gender identity is larger than just identifying as a woman or man. Moving forward, more efforts will be needed to examine how trans and gender non-binary persons feel and communicate their consent during sexual activity to develop more inclusive programming and initiatives. Including more trans and gender non-binary persons in sexual consent research is important because most research with consent communication has focused on cis gender women and men, making it difficult to generalise to trans and non-binary communities.

Third, our SM sample consisted of 117 people, leaving us unable to explore how different SM identities (i.e. identifying as bisexual compared with lesbian or gay) related to gender and then substance and sexual behaviours. This is problematic because rates of nonconsensual sex differ by gender and sexual identity (Canan et al., 2019; Flanders et al., 2019; Grant et al., 2016; Hequembourg et al., 2013). Additionally, because gender minority groups face unique and different forms of oppressions from SM groups, future researchers may want to collect larger sample sizes of SM and gender minority persons so they can assess how different identities interact with other social identities to impact substance and sexual behaviours.

Finally, our measurement was limited in several ways. For example, we only assessed experiences of drunk or high sex, but not the quantity of substances used, type of substance consumed, or how subjectively intoxicated people felt prior to sexual activity. We also did not assess consent communication and feelings for sexual activity that did not involve substances. Thus, we cannot compare if participants consent behaviours differed when substances were involved or not. Moving forward, assessing within and between effects of substance and substance-free sexual activity on consent communication would be beneficial. Furthermore, we do not have additional contextual information about these sexual experiences that might influence consent communication, such as age difference between partners, relationship status, history of sexual activity, contraceptive use, or location of sexual activity (Walsh et al., 2019; Willis, Blunt-Vinti et al., 2019; Willis, Hunt et al., 2019; Willis, Marcantonio et al., 2021). Future researchers may want to assess these additional factors to understand how they influence consent communication and feelings during substance-involved sexual encounters.

Notes

1. Compared with other platforms (Amazon's MTurk or CrowdFlower), there is evidence that participants on Prolific Academic are less dishonest, produce higher data quality, are more naïve, fail fewer attention-check questions, and are more diverse (Peer et al., 2017).
2. Derived data supporting the findings of this study are available from the second author (MW) upon request.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

If you would like to access the dataset, please email the corresponding author.

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