



Linking minority stress to substance abuse in LGB adults: the mediating effect of sexual harassment

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Abstract

Objective: Employing a psychological mediation framework, the study investigated the interaction between minority stress and psychoactive substance abuse mediated by sexual harassment among LGB individuals. **Method:** One hundred and forty-seven LGB individuals answered a questionnaire measuring internalized homophobia, concealment, discrimination, sexual harassment, and psychoactive substance abuse. Logistic hierarchical regression models were conducted to test the proposed relations and mediating hypotheses. **Findings:** Incidents of discrimination and internalized homophobia correlated with cigarette smoking and alcohol drinking. Sexual harassment was related to the use of cannabis and hard drugs. Sexual harassment mediated the relationships between the dimensions of minority stress and the use of cannabis and hard drugs. **Conclusion:** Minority stress appears to be linked directly and indirectly, via sexual harassment, to the use of psychoactive substances by LGB individuals. Interventions addressing the prevention or mitigation of sexual harassment experienced by LGB individuals are likely to attenuate the negative effects of minority stress on their levels of substance use.

Keywords Substance abuse · Minority stress · Discrimination · Sexual harassment · LGB

Introduction

Several decades of research have shown that lesbian, gay, and bisexual (LGB) adults are at high risk of substance use and its associated disorders (Bonny-Noach & Shechory-Biton, 2020). Research has shown that there are higher rates of alcohol and illicit drug use by sexual minorities than by heterosexuals, and the former have a higher chance of developing substance use problems, possibly because of the stigma and discrimination to which they are exposed (Green & Feinstein, 2012; McCabe et al., 2009; Scheer et al., 2022).

According to Meyer (2003), LGB individuals suffer from minority stress, which results in stressful and negative experiences. These experiences, together with low levels of social support (Hillier, 2007; Subhrajit, 2014), can be linked to psychological distress, which in turn can lead to negative health outcomes, such as various mental health symptoms, suicidality (Huebner et al., 2004; Kelleher, 2009), and

substance use (McCabe et al., 2010; Wilkinson & Marmot, 2003).

LGB individuals also suffer from sexual harassment in schools, universities, and workplaces at rates that are alarming compared to heterosexual individuals (Brassel et al., 2019; Canan et al., 2019). Sexual harassment is associated with far-reaching health repercussions for victims, including substance use.

The present study investigated the relations between minority stress, sexual harassment, and substance abuse in a sample of LGB individuals. LGB individuals suffer from constant manifestations of minority stress and from sexual harassment. Surprisingly, the associations between sexual harassment and substance abuse in LGB adults received scarce research attention. Only a handful of studies investigated psychosocial mediators of the effects of stigma-related stress on substance abuse.

Minority stress

LGB individuals suffer from a unique form of stress—minority stress—because of their minority sexual identity (Meyer, 2003; Mongelli et al., 2019). They live in an environment characterized by stigma and discrimination enacted at all

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levels of the socio-ecological system. According to Meyer (2003), there are two broad types of stressors: distal, which include actual experiences of discrimination, harassment, violence, and victimization; and proximal, based mainly on individual perceptions and appraisals, such as internalized homophobia (i.e., internalized negative attitudes about homosexuality), stigma consciousness (i.e., expectations of rejection due to sexual orientation), and concealment of sexual identity.

Multiple studies have indicated that stigma, prejudice, and discrimination originating from a stressful and often hostile social environment can predict psychopathologies such as anxiety, depression, and substance abuse (Hatzenbuehler, 2009; Meyer & Northridge, 2007; Pachankis et al., 2020; Plöderl & Tremblay, 2015). But there has been less research on substance abuse (such as alcohol, marijuana, and non-marijuana illicit drugs) than on depression and anxiety.

Based on the theory and research cited above, our first hypothesis states that:

H1. Minority stressors (discrimination events, concealment, and internalized homophobia) are positively associated with substance abuse.

Recent studies have produced inconclusive results when examining disparities in substance abuse between LGBT and heterosexual individuals. Most studies (e.g., Bonny-Noach & Shechory-Bitton, 2020; Mongelli et al., 2019) found higher risk of abuse of alcohol and other drugs in LGBT individuals, but in a review, Plöderl and Tremblay (2015) found no elevated levels of alcohol-related problems in this population. Therefore, it is important to understand the conditions under which substance abuse is more prevalent in sexual minorities.

Based on clinical models of stress, recent elaborations on the original minority stress model have suggested a psychological mediation framework (Grant et al., 2003; Hatzenbuehler, 2009). This framework considers unique stressors, like minority stress that sexual minorities experience, emphasizing also the general psychological processes and vulnerabilities that sexual minorities and heterosexuals share. Hatzenbuehler (2009) argued that minority stressors increase general emotion dysregulation, cognitive processes, and social and interpersonal relations in the LGBT population, which in turn mediate the relationship between stigma-related stress and psychopathology. Hatzenbuehler (2009) underscored the importance of identifying mediators in the association between stigma-related stressors and mental health outcomes.

Several studies investigated whether social or interpersonal processes mediated the relationships between minority stress and mental health. On the positive side, LGBTQ-affirmative school climates were found to be associated

with fewer alcohol-related problems in lesbian, gay, bisexual, transgender, and queer (LGBTQ) adolescents (Coulter et al., 2016) than in schools without such climate. On the negative side, bullying mediated the relationship between minority stress and substance abuse in LGBT adolescents (Reisner et al., 2015).

In the present study, we explored the mediation of sexual harassment events. Although harassment and violence may include sexual harassment, the latter was seldom investigated among LGB individuals, and has never been investigated as a mediating variable between sexual minority stress and substance abuse.

Sexual harassment

In addition to minority stress, LGBT individuals also suffer from sexual harassment in school, university, and the workplace. According to studies, 50% of LGBTQ employees are harassed at work (Grant et al., 2011; Konik & Cortina, 2008), and 62% of LGBTQ adolescents and 73% of LGBTQ college students reported having been sexually harassed in schools or colleges (Hill & Silva, 2005; Mitchell et al., 2014). Despite these alarming numbers, sexual harassment of LGBT individuals received little research attention.

Sexual harassment is a behavior that derogates, demeans, or humiliates an individual based on that individual's sex (Berdahl, 2007), gender expression, or sexual orientation (Burn, 2019). Sexual harassment includes unwelcome sexual advances, requests for sexual favors, and other verbal or physical harassment of sexual nature. Sexual harassment can take different forms, such as sexual jokes and comments, physical actions, such as being touched, grabbed, or brushed against in a sexual way, the display of pornography, sexual or gender insults, and more (Herbenick et al., 2019). The harassment need not be of a sexual nature, however, and can include offensive remarks about a person's sex. Both the victim and the harasser can be either male or female, and the victim and harasser can be of the same sex (Knapp & Kustis, 2000).

Sexual harassment affects people in different positions and in different environments (Alrawadieh & Demirdelen, 2020; Paludi & Paludi, 2003). Fitzgerald et al. (1995) suggested three categories of sexual harassment: unwanted sexual attention, sexual coercion, and gender harassment. Sexual minority groups, such as LGBT people, might face higher rates of harassment because they are perceived as deviating from gender norms (Mahalik et al., 2003; Rabelo & Cortina, 2014). Among LGBQ undergraduates, internalized homophobia had a negative indirect effect on the risk of unwanted sexual experience through number of sexual partners (Murchison et al., 2017).

Table 1 Demographic characteristics of the participants ($N=147$)

	Range	
Gender $n(\%)$	Female	74 (50.3)
	Male	73 (49.7)
Age (years) $M (SD)$	18–59	28.11 (7.29)
Sexual orientation $n(\%)$	Totally homosexual or lesbian	92 (62.6)
	Mostly homosexual or lesbian	29 (19.7)
	Bisexual	26 (17.7)
Current intimate relationship $n(\%)$	yes	66 (44.9)
Length of current relationship (months) $M (SD)$	1–240	45.33 (60.97)
Education (years) $M (SD)$	11–20	12.99 (2.46)
Religiosity $n(\%)$	Secular	98 (67.6)
	Partly religious	23 (15.8)
	Religious	24 (16.6)
Economic status $n(\%)$	Below average	19 (13.1)
	Average	53 (36.6)
	Above average	73 (50.3)
Health $n(\%)$	Not good	5 (3.5)
	Reasonable	8 (5.6)
	Good	31 (21.7)
	Very good, excellent	99 (69.2)

Percents were calculated excluding missing data

The sexual harassment experienced by LGBT people is frequently infused with heterosexism and homophobia (Burn, 2019; Grant et al., 2011; Kearl, 2014). When sexual harassment reflects multiple oppressions and minority statuses or adds to them so that multiple forms of harassment occur, psychological distress may increase (Buchanan et al., 2018; Burn, 2019; Szymanski & Henrichs-Beck, 2014). Individuals who have experienced sexual harassment may feel scared, violated, and threatened (Levy & Paludi, 2002; Linos, 2022; Young & Mendez, 2003). Previous studies have found that women who experienced sexual harassment felt mental stress (Buchanan et al., 2018), and that victims, including LGBQ students, often resort to the use of psychoactive drugs as a result of sexual harassment (Chiodo et al., 2009; Johnson et al., 2016). It follows that sexual harassment is a risk factor for emotional and physical stress-related illnesses, and it is associated with substance abuse (Buchanan et al., 2018; Chiodo et al., 2009).

In sum, previous studies have shown that exposure to discrimination events, internalized homophobia, and concealed identity, as well as sexual harassment increase the risk of being mentally injured, and in some cases, this is associated with substance abuse. The relationship between sexual harassment and substance abuse has been examined primarily in women and LGBT adolescents, but the consequences of sexual harassment for the adult LGBT population have hardly been investigated. No research has examined the

interaction between minority stress and substance abuse mediated by sexual harassment. The purpose of this study is to fill this lacuna.

Based on the above, we hypothesized that:

H2. Sexual harassment is positively associated with substance abuse.

H3. Sexual harassment mediates the relationship between minority stress (discrimination events, internalized homophobia, and concealment), and substance abuse, so that higher levels of minority stress are related to higher levels of sexual harassment, which is in turn related to greater substance abuse.

Method

Participants

One hundred and forty-seven LGB individuals participated in the study. Inclusion criteria were being an LGB adult 18 years old or older and living in Israel. Participants were about half male, half female, and the mean age of participants was close to 30 years (Table 1); most have classified themselves as being totally or mostly homosexual or lesbian, the rest as bisexual. Close to half were in an intimate relationship, lasting almost four years on average. Participants had about 13 years of education on average, most were secular, and most reported an above-average or average economic status. Most were in good-to-excellent health.

Measures

Internalized homophobia was assessed using the Internalized Homophobia Scale (IHP; Martin & Dean, 1987). The scale assesses the extent to which participants reject their sexual orientation, are uneasy about their same-sex desires, and seek to avoid homosexual feelings. It consists of 9 items that are scored on a 5-point Likert-like scale, ranging from 1 (“Never”) to 5 (“Always”). Sample item: “How often have you wished you weren’t gay?” Cronbach’s alpha was 0.90.

Concealment motivation was assessed using the 3-item Concealment Motivation subscale of the Lesbian, Gay, and Bisexual Identity Scale (Mohr & Kendra, 2011). Items are scored on a 6-point Likert-like scale, ranging from 1 (“Strongly disagree”) to 6 (“Strongly agree”). Sample item: “My sexual orientation is a very personal and private matter” Cronbach’s alpha was 0.85.

Discrimination was assessed using the Heterosexist Harassment, Rejection, and Discrimination Scale (HHRDS; Szymanski, 2006). The 14-item self-report measure assesses the frequency of discrimination events in the respondents’ life. Items are rated on a 6-point Likert-like scale ranging

from 1 (“Never happened to me”) to 6 (“Almost all the time”). Sample item: “In your lifetime, how many times have you been treated unfairly by teachers or professors because you are a lesbian/gay/bisexual person?” Principal components factor analysis with varimax rotation of the 14 items revealed three factors: (a) workplace, school, and stranger discrimination (eigenvalue=7.32, 52.28% of the variance, loadings 0.58 to 0.83, $\alpha=0.91$); (b) LGB-based rejection (eigenvalue=1.44, 10.27% of the variance, loadings 0.48 to 0.83, $\alpha=0.85$); and (c) family discrimination (eigenvalue=1.16, 8.27% of the variance, loadings 0.67 to 0.86, $\alpha=0.80$). Intercorrelations between the three factors were high ($r=.47$ to $r=.75$, $p<.001$), therefore the total score was used. Cronbach’s alpha was 0.92.

Sexual harassment was assessed using the Sexual Experience Questionnaire-2 (SEQ2; Fitzgerald & Shullman, 1985). The 34-item self-report measure assesses the frequency of sexual harassment in the respondent’s life. Items are rated on a 6-point Likert-like scale ranging from 1 (“Never happened to me”) to 6 (“Almost all of the time”). Higher scores represent higher levels of harassment. Five factors are assessed: gender harassment (nine items, $\alpha=0.89$), sexually seductive behavior (nine items, $\alpha=0.94$), sexual bribery (five items, $\alpha=0.94$), sexual coercion (four items, $\alpha=0.95$), and sexual assault (seven items, $\alpha=0.96$). There were high intercorrelations between the factors of sexual harassment ($r=.47$ to $r=.83$, $p<.001$). For the present study, we used only the total harassment score: $\alpha=0.97$.

Self-report questionnaire on psychoactive substance abuse. The questionnaire used in this study contained questions on substance *self-abuse*. The questions were adapted from the 2009 National Epidemiological Survey carried out by the Israel Anti-Drug Authority (Ezrahi et al., 2009). This is a self-report questionnaire. Participants were asked whether they used the following substances: cigarettes or tobacco products, alcoholic beverages, hashish and marijuana (not for medical use), and hard drugs. Answers were provided on a 7-point Likert-like scale, ranging from 1 (“No”) to 7 (“On a regular basis”).

Demographic questionnaire, including questions on sexual orientation. The socio-demographic questionnaire contained questions about demographic details: gender, age, family status, education, and employment status. Questions about sexual orientation focused on assessment of sexual identity, asking “How would you define your sexual orientation?”

Procedure

Because of the difficulty of obtaining a representative LGB sample, and difficulties in accessing a population that is still considered stigmatized (Sell, 2007), a venue-based sampling

method was used (Meyer & Wilson, 2009). Participants were approached in two ways. Announcements were placed on Internet forums and websites (e.g., Facebook groups) aimed at gay individuals in Israel. Users of these websites and forums were invited to take part in the study through a forum message, linking them to an online questionnaire hosted at a secured URL. Additionally, the researcher and his assistants approached potential participants based on personal acquaintance. Participants in the study were asked to forward the web link to other LGB individuals residing in Israel whom they knew. A total of 172 questionnaires were returned. Of these, 25 questionnaires were excluded from the study either because of too many missing items or because they did not match the inclusion criteria (e.g., were not LGB). All procedures were approved by the institutional review board of the university.

Data analysis

Data were analyzed with SPSS ver. 25. We calculated descriptive statistics for the demographic and background variables. We calculated internal consistencies (Cronbach α) for the study variables, and conducted principal components factor analysis with varimax rotation for the discrimination items. We composed scales with item means and transformed them mathematically when they deviated from normality. We calculated means, standard deviations, and Pearson correlations for the study variables, and Pearson and Spearman correlations, as well as t-tests for study variables by demographic and background variables. We calculated logistic hierarchical regression models to assess the contribution of the variables of the minority stress model and of sexual harassment to substance abuse. The first step included demographic and background variables, the second step the variables of the minority stress model, and the third step the variable of sexual harassment. To assess the mediating role of sexual harassment, we used the Hayes PROCESS procedure (Hayes, 2018) (model 4) with a 95% confidence interval and 5,000 bootstrap samples. This procedure assesses mediation based on the theoretical foundation of Baron and Kenny (1986), so that the regression-based relationship between the independent variable and the mediator is significant, and so is the relationship between the mediator and the dependent variable, beyond the independent one. It further adds bootstrapping to increase precision. We considered the explained variance (R^2) as effect size, with Cohen’s (1988) proposed values of 0.02, 0.13, and 0.26 denoting small, medium, and large effects, respectively. We also considered Pearson correlations of 0.1, 0.3, and 0.5 to indicate small, medium, and large effects, respectively (Cohen, 1988).

Table 2 Means, standard deviations, and correlations for substance abuse, sexual harassment, and variables of the minority stress model ($N=147$)

	1.	2.	3.	4.	5.	6.	7.	8.
1. Cigarette smoking (0–1)								
2. Binge drinking (0–1)	0.34***							
3. Cannabis use (0–1)	0.43***	0.30***						
4. Hard drugs use (0–1)	0.15	0.04	0.29***					
5. Sexual harassment (1–6)	0.20*	–0.01	0.27***	0.25**				
6. Concealment (1–6)	0.08	0.04	–0.07	0.06	0.27***			
7. Homophobic attitudes (1–5)	0.14	0.10	0.13	0.17*	0.25**	0.49***		
8. Discrimination (1–6)	0.22**	–0.02	–0.11	–0.09	0.47***	0.21*	0.34***	
M (SD)	0.60 (0.49)	0.59 (0.49)	0.43 (0.50)	0.15 (0.36)	2.19 (1.02)	3.17 (1.46)	1.87 (0.84)	1.86 (0.81)

* $p < .05$, ** $p < .01$, *** $p < .001$

Results

Descriptive results

High rates of substance abuse were reported. About 60% ($n=88$) of the participants reported smoking cigarettes, about 59% ($n=87$) reported binge drinking, about 43% ($n=63$) reported cannabis use, and about 15% ($n=22$) reported present or past use of hard drugs.

Means for the study variables reveal that substance abuse was relatively high, and sexual harassment rather low (Table 2). Of the variables of the minority stress model, concealment was moderate, and internalized homophobia and discrimination were rather low. Positive and significant low-to-moderate correlations were found between most of the substance abuse variables, except for hard drug use with cigarette smoking and binge drinking. Positive and significant low-to-moderate correlations were found between the variables of the minority stress model, and between these and sexual harassment. Cigarette smoking was positively related to discrimination and sexual harassment showing a low correlation, whereas binge drinking was unrelated to the study variables. Cannabis use was positively related to sexual harassment with an almost moderate correlation, and the use of hard drugs was positively related to internalized homophobia and exposure to sexual harassment, with low correlations.

We calculated four logistic hierarchical regression models to assess the contribution of the variables of the minority stress model and of sexual harassment to substance abuse (Table 3). The first step included the demographic and background variables of gender (1 = male, 0 = female), age, and feeling involved with the LGTB community (1–10); the second step included the variables of the minority stress model, and the third step included sexual harassment. It should be noted that We did not include other background variables because they were unrelated to the dependent variables (years of education $p = .126$ to $p = .538$; economic status

$p = .091$ to $p = .919$), or had low variance (such as religiosity or health status).

The regression models were significant, with moderate effects of 14–21% of the variance being explained for cigarette smoking, binge drinking, cannabis use, and the use of hard drugs (Nagelkerke's R square). Cigarette smoking correlated positively with discrimination, so that higher levels of discrimination were related to greater risk of cigarette smoking. Binge drinking correlated negatively with age, and positively with involvement with the LGB community and with internalized homophobia, with younger participants being more highly involved with the LGB community, and those who reported higher levels of internalized homophobia being at greater risk for binge drinking. Cannabis use and the use of hard drugs correlated positively with sexual harassment, with higher levels of sexual harassment being related to greater risk of using both cannabis and hard drugs.

The four regression models reveal that sexual harassment may mediate the relationship between the variables of the minority stress model and substance abuse (cannabis and hard drugs). We examined the mediation using the Hayes PROCESS procedure (Hayes, 2018), controlling for gender, age, and involvement with the LGB community (Table 4).

Results show that sexual harassment mediates the relationship between the variables of the minority stress model (concealment, homophobic attitudes, and discrimination) and use of cannabis and hard drugs (Fig. 1). All effect sizes are about moderate. Higher concealment, higher exposure to homophobic attitudes, and higher exposure to discrimination are related to higher levels of sexual harassment, which thereby increases the risk of using both cannabis and hard drugs.

Discussion

We investigated two severe problems faced by LGB individuals: prejudice and discrimination, which has received some research attention in recent decades, and sexual harassment,

Table 3 Logistic regressions for substance abuse with the variables of the minority stress model and sexual harassment ($N = 147$)

	Cigarette smoking		Binge drinking		Cannabis		Hard drugs	
	<i>B (SE)</i>	<i>OR (95%CI)</i>	<i>B (SE)</i>	<i>OR (95%CI)</i>	<i>B (SE)</i>	<i>OR (95%CI)</i>	<i>B (SE)</i>	<i>OR (95%CI)</i>
Step 1								
Gender	-0.47 (0.35)	0.62 (0.32,1.23)	0.27 (0.36)	1.31 (0.64,2.67)	0.02 (0.34)	1.02 (0.53,1.98)	-0.13 (0.48)	0.88 (0.35,2.24)
Age	-0.68 (0.75)	0.50 (0.12,2.20)	-2.12 (0.81)	0.12** (0.02,0.58)	0.58 (0.74)	1.78 (0.42,7.60)	1.12 (0.97)	3.08 (0.46,20.77)
LGTB involvement	-0.01 (0.06)	0.98 (0.87,1.11)	0.23 (0.07)	1.26*** (1.11,1.44)	-0.06 (0.06)	0.95 (0.84,1.06)	0.01 (0.08)	1.01 (0.85,1.19)
Step 2								
Gender	-0.66 (0.37)	0.52 (0.25,1.07)	0.33 (0.38)	1.40 (0.66,2.94)	0.16 (0.35)	1.17 (0.59,2.33)	-0.07 (0.50)	0.94 (0.35,2.49)
Age	-0.03 (0.82)	0.97 (0.20,4.82)	-2.09 (0.86)	0.12* (0.02,0.66)	0.38 (0.80)	1.46 (0.30,7.05)	1.58 (1.08)	4.87 (0.58,40.73)
LGTB involvement	-0.02 (0.06)	0.98 (0.87,1.12)	0.27 (0.07)	1.31*** (1.13,1.52)	-0.06 (0.06)	0.94 (0.83,1.06)	0.04 (0.09)	1.04 (0.87,1.23)
Conceal-ment	0.04 (0.15)	1.04 (0.78,1.40)	0.12 (0.14)	1.13 (0.86,1.49)	-0.13 (0.13)	0.87 (0.68,1.13)	0.19 (0.18)	1.21 (0.85,1.72)
Internalized homophobia	0.37 (0.52)	1.45 (0.52,4.03)	1.15 (0.52)	3.15* (1.14,8.67)	0.63 (0.44)	1.87 (0.78,4.46)	1.30 (0.62)	3.69* (1.10,12.34)
Discrimi-nation	1.62 (0.55)	5.08** (1.72,15.03)	-0.49 (0.53)	0.61 (0.22,1.73)	0.03 (0.48)	1.03 (0.40,2.63)	-0.02 (0.64)	0.98 (0.28,3.43)
Step 3								
Gender	-0.64 (0.38)	0.53 (0.25,1.10)	0.33 (0.38)	1.39 (0.66,2.94)	0.29 (0.37)	1.34 (0.64,2.78)	0.17 (0.53)	1.19 (0.42,3.38)
Age	-0.02 (0.82)	0.98 (0.20,4.91)	-2.09 (0.86)	0.12* (0.02,0.66)	0.51 (0.85)	1.67 (0.31,8.87)	1.54 (1.14)	4.69 (0.50,43.58)
LGB involvement	-0.01 (0.07)	0.99 (0.87,1.12)	0.27 (0.07)	1.31*** (1.13,1.52)	-0.03 (0.07)	0.97 (0.85,1.10)	0.09 (0.09)	1.09 (0.91,1.30)
Conceal-ment	0.03 (0.15)	1.03 (0.77,1.39)	0.12 (0.14)	1.13 (0.85,1.50)	-0.23 (0.14)	0.79 (0.61,1.04)	0.09 (0.19)	1.10 (0.76,1.59)
Internalized homophobia	0.38 (0.52)	1.46 (0.52,4.05)	1.15 (0.52)	3.16* (1.14,8.73)	0.55 (0.46)	1.74 (0.71,4.25)	1.24 (0.63)	3.44 (0.99,11.94)
Discrimi-nation	1.47 (0.61)	4.36* (1.32,14.39)	-0.47 (0.58)	0.62 (0.20,1.96)	-0.96 (0.58)	0.38 (0.12,1.19)	-1.01 (0.76)	0.36 (0.08,1.61)
Sexual harassment	0.32 (0.55)	1.38 (0.47,4.05)	-0.04 (0.54)	0.96 (0.34,2.75)	2.15 (0.60)	8.55*** (2.64,27.71)	2.19 (0.72)	8.92** (2.16,36.86)
Model R^2	0.14		0.21		0.19		0.19	
$\chi^2(8)$	16.30*		24.18**		22.41**		16.17*	

* $p < .05$, ** $p < .01$, *** $p < .001$

which received little research attention. Previous studies (Hatzenbuehler, 2009) have examined the relationship between the dimensions of minority stress and the use of psychoactive substances. The main innovation of the present study was to examine the relationship between sexual harassment and the use of psychoactive substances in LGB adults, and the possibility of sexual harassment mediating between the dimensions of minority stress and the use of psychoactive substances.

We asked participants to report their experiences of minority stress and sexual harassment. The correlation between discrimination and sexual harassment, although positive and significant, clearly shows that they are different constructs.

Minority stress, sexual harassment, and psychoactive substances

We hypothesized that the more participants reported exposure to discrimination, internalized homophobia, concealment, and sexual harassment the more they were likely to use psychoactive substances to numb emotions and serve as sedatives (Carson et al., 2008; Stogner & Gibson, 2011). In practice, there was a clear positive correlation between incidents of discrimination and the use of cigarettes, and between internalized homophobia and drinking. Sexual harassment correlated with an increase in the use of cannabis and hard drugs. Thus, based on the study findings, a distinction can be made between exposure to minority stress,

Table 4 Path coefficients and indirect effects for the mediation models regarding the use of cannabis and hard drugs ($N = 147$)

Dependent Variable (DV)	Variable	Path Coefficients		Indirect effects	
		to DV Estimate (SE)	to Mediator Estimate (SE)	Estimate (SE)	95% CI
Cannabis use	Concealment	-0.362 (0.203)	0.238** (0.085)	0.190 (0.093)	0.056, 0.420
	Sexual harassment	0.800*** (0.211)			
Cannabis use	Homophobic attitudes	0.117 (0.191)	0.278*** (0.080)	0.210 (0.097)	0.073, 0.452
	Sexual harassment	0.753*** (0.221)			
Cannabis use	Discrimination	-0.252 (0.209)	0.466*** (0.074)	0.357 (0.148)	0.140, 0.722
	Sexual harassment	0.767*** (0.229)			
Hard drugs use	Concealment	0.072 (0.279)	0.238** (0.085)	0.187 (0.107)	0.049, 0.460
	Sexual harassment	0.785** (0.262)			
Hard drugs use	Homophobic attitudes	0.352 (0.267)	0.278*** (0.080)	0.207 (0.110)	0.060, 0.492
	Sexual harassment	0.745** (0.268)			
Hard drugs use	Discrimination	-0.210 (0.271)	0.466*** (0.074)	0.390 (0.182)	0.152, 0.866
	Sexual harassment	0.838** (0.271)			

* $p < .05$, ** $p < .01$, *** $p < .001$

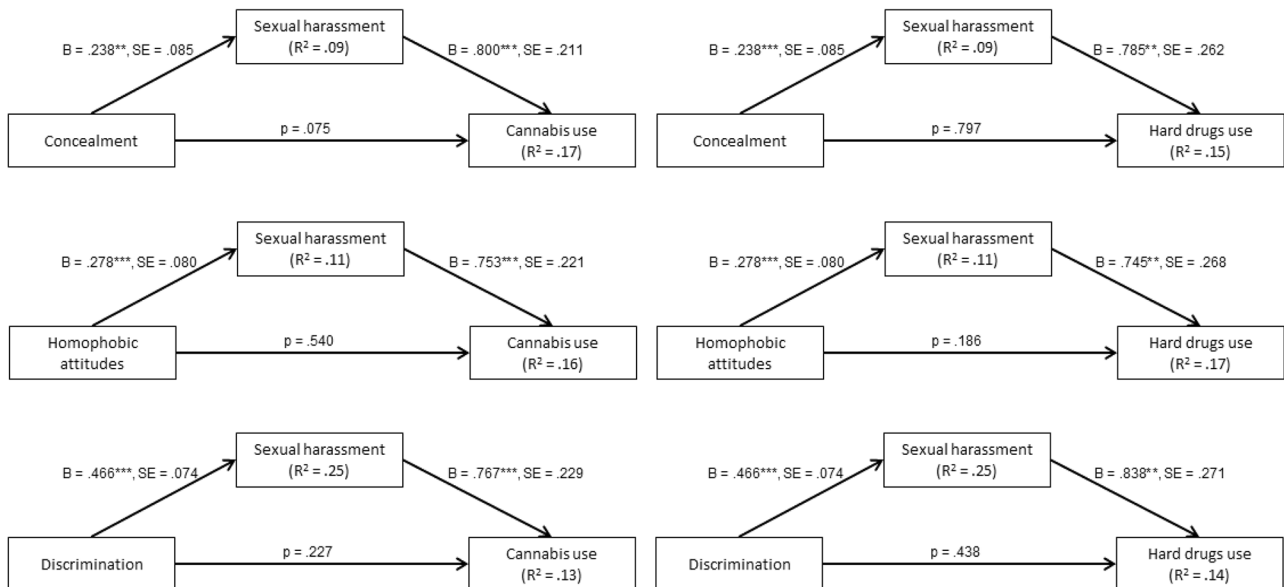


Fig. 1 ** $p < .01$, *** $p < .001$

Note: R^2 for Cannabis and hard drug use – Nagelkerke’s R^2
Mediating models for Cannabis and hard drug use

which was found to be associated with the use of legal psychoactive substances, and sexual harassment, which was linked to the use of illegal drugs (the use of marijuana was illegal when the study was conducted).

The difference in the response of LGB adults to incidents of minority stress and sexual harassment can be explained by research findings according to which sexual harassment is experienced as a traumatic event, as evident from

testimonies of women who have experienced it (Levy & Paludi, 2002). The research literature suggests the existence of a connection between the experience of sexual harassment, post-traumatic stress disorder (PTSD), and drug use (Chiodo et al., 2009). Sexual harassment may trigger a severe mental response in members of the LGB community, similar to that of women who experienced harassment, which may manifest as PTSD. As in the case of these women, sexual harassment may also result in increased drug use by LGB adults. It would be instructive to examine in further research whether this population does indeed experience PTSD in the wake of sexual harassment.

The literature suggests that minority stress is generally associated with an increase in drug use (Hatzenbuehler et al., 2009; McCabe et al., 2010; Wong et al., 2010). By contrast, the present study found that minority stress was not linked to drug use but more to cigarette and alcohol use, and to the use of legal psychoactive substances. There is no denying that minority stress events are difficult and unpleasant experiences, as proven by the fact that they lead to the use of psychoactive substances (albeit legal ones). It is possible, however, that in our time, experiences caused by minority stress events leave fewer scars on the victims' psyche, possibly because today there is greater public awareness and sensitivity to the difficulties of the LGB community, which reduces the number of stressful events to which community members are exposed. At the same time, members of the LGB community are no longer reluctant to stand up for themselves and demand to be treated with respect (Lissitsa & Kushnirovich, 2020; Preser, 2011). Nevertheless, despite the social change, incidents of discrimination, internalized homophobia, and concealment still produce a sense of discomfort, which may lead to the use of psychoactive substances, as shown in this study, presumably as a way of escaping or dealing with unpleasant feelings (Stogner & Gibson, 2011).

Sexual harassment as a mediating variable

Sexual harassment was found to mediate the relationship between minority stress and the use of cannabis and hard drugs, but not cigarette smoking and binge drinking. The sexual harassment variable, in addition to being a mediating factor, also correlated significantly with incidents of discrimination and concealment of identity. This means that those who experience discrimination are at increased risk of also experiencing sexual harassment.

This finding partially corroborates our second hypothesis and supports the mediation model, explaining how group-specific and general psychological processes may jointly influence LGB individuals' mental health (Hatzenbuehler, 2009). According to the mediation model, the relationship

between minority stress and mental health is mediated by emotion dysregulation, interpersonal problems, and/or cognitive processes. LGB adults are a minority in society and are faced with stigma, discrimination, hostility, and rejection. Therefore, they have higher rates of general interpersonal problems than their heterosexual counterparts. For example, during the COVID-19 outbreak, COVID-19 stress was found to mediate the relationship between minority stress on one hand and anxiety and depression on the other (Oren, 2022). According to Meyer (2003), LGB individuals experience discrimination, harassment, violence, and victimization in society.

Because incidents of discrimination and sexual harassment are both considered severe, and each may lead to the use of psychoactive substances, the double victimhood caused by incidents of discrimination and of sexual harassment may drive victims to use hard drugs with increased frequency.

We found no gender differences in sexual harassment of LGB individuals, in sharp contrast to the vast gender differences found in heterosexual individuals. In the heterosexual population, women are the main victims of sexual harassment (Quick & McFadyen, 2017). This finding indicates that in the case of sexual minorities, the people who sexually harass them regard LGB individuals as an unusual group, and from their point of view, gender distinction between them has no real meaning.

Limitations and future directions

Several limitations of this study should be noted. First, the study was cross-sectional, and although the findings are theoretically sound, it is not possible to derive causal relations from them. For example, alcohol or drug use could be a mitigating factor for sexual harassment. Therefore, longitudinal research is needed to clarify our findings. Second, the study, similarly to others in the field, relied exclusively on self-report measures. Future studies should seek to obtain data, for example, on substance abuse, from close friends of the participants. Third, we used a convenience sample, therefore the ability to generalize is limited. Fourth, our sample was rather small which did not allow for a full SEM analysis. Future studies with larger samples may help further develop our understanding of the relationships revealed in the present study. Finally, we found that incidents of discrimination and sexual harassment are two distinct topics. Given the paucity of research on the implications of sexual harassment on LGB adults outside the workplace, it is recommended to conduct more research on this subject.

Implications

The importance of the present study lies in the fact that, to the best of our knowledge, it is the only one that examined the issue of sexual harassment of LGB adults away from the workplace, and the consequences of this harassment for the use of psychoactive substances. The findings indicate that the effects of discrimination incidents are different from those of sexual harassment, and that those of harassment are more severe. This finding is especially important for service providers who work with the LGB community, and particularly relevant in the present era of the #MeToo movement.

Declarations

Competing interest The authors declare that they have no competing interests.

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