



Strong Ethnic Identity Buffers the Association of Heterosexism with Substance Use Among Black Sexual Minority Men

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Abstract

Introduction Heterosexist stigma, including microaggressions experienced in their own racial/ethnic communities, may partially explain disproportionate levels of substance use involvement among Black sexual minority men (BSMM). A strong sense of ethnic identity may provide BSMM with a protective resource. The purpose of this study was to explore associations between ethnic identity and substance use in BSMM.

Methods Data were from Black sexual minority men ($n = 390$, $M_{\text{age}} = 25.28$; $SD = 2.81$) in the PrEP and Substance Use National Survey collected from March 2020 to August 2020 that included self-reported cannabis, cocaine, methamphetamines, inhalants, hallucinogens, prescription drugs misuse, and overall substance use involvement. Using zero-inflated negative binomial regression, we assessed the association between heterosexist microaggressions within BSMM's racial/ethnic communities and substance use involvement, moderated by subjective sense of ethnic identity.

Results More than half of participants reported past 3-month substance use. Heterosexist microaggressions were associated with higher relative risk of cannabis use involvement ($RR = 1.76$; 95% CI 1.13–2.73) and overall substance use involvement ($RR = 2.23$; 95% CI 1.39–3.56). Stronger ethnic identity buffered the association of heterosexism on substance use involvement (cannabis: $RR = 0.82$; 95% CI 0.72–0.95; overall: $RR = 0.77$; 95% CI 0.66–0.89).

Conclusion Nurturing ethnic identity development and reducing heterosexist stigma in Black communities may be a culturally responsive, two-pronged approach to reducing substance use involvement among BSMM. BSMM with strong ethnic identity demonstrated resilience to heterosexist stigma. Future research should examine the extent to which ethnic identity may be cultivated as a protective resource against substance use involvement.

Keywords Black sexual minority men · Substance use · Ethnic identity · Microaggressions

Introduction

Elevated rates of substance use among Black sexual minority men (BSMM) is a longstanding concern[1] that is often-times exacerbated by experiences of heterosexist stigma[2]. Some prior research has identified higher rates of substance use among BSMM in comparison with non-BSMM[3]. Higher rates of substance use have been documented among BSMM who report having experienced sexual racism[4]. For BSMM, substance use disparities are further exacerbated

by co-occurring experiences of racial discrimination, which is also linked to increased substance use in Black populations[5]. The cumulative and intersecting impact of heterosexism and racism—or multiple minority stress[6]—may converge to increase stigma-related stress and susceptibility to microaggressions, thereby negatively affecting health for BSMM[7].

Substance use among BSMM may be partially explained by experiences of heterosexism[8]. Stigma as fundamental cause theory posits that groups that experience stigma are at risk for health disparities despite innovations in individual disease management and prevention due to stigma acting as the underlying cause of structural and institutional discrimination[9]. In the case of BSMM, some may experience multiple forms of stigma on the basis of race (e.g., racism) and sexual orientation from those within and outside of their communities[10, 11]. Previous research has suggested that

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sexual minorities of color are particularly susceptible to substance use compared to other White sexual minorities [12]. In response to persistent experiences of stigma, some individuals may engage in problematic coping responses [13]. Given the potentially traumatic forms of experiencing both racism and homophobia (forms of enacted stigmas), BSMM are at risk for substance use as a means of coping with experiences of racism, homophobia, or other forms of stigma and oppression [14]. Because BSMM often face stigma from multiple identities that intersect [15], the theoretical framework of intersectionality, which asserts that identities, institutional barriers, and systems are interrelated, is especially relevant [16, 17]. Without considering intersectional approaches of substance use and sexual minorities, it is possible that the experiences of BSMM may be overlooked [11] [3, 18, 19] [20, 21]. Intersectional research brings together the intersecting experiences of BSMM to examine how belonging to multiple stigmatized groups may impact substance use and other health outcomes [11]. Intersectional stigma is likely a contributing factor that perpetuates health disparities and inequities in BSMM, particularly in regard to substance use [22].

Despite the clear health consequences of intersectional stigma, there is evidence to suggest that SMM with multiply marginalized identities develop resilience [11] and resistance in response to racism and heterosexism [23]. For example, a qualitative study among BSMM found that primacy of one's racial identity over other identities facilitates resilience and strength [11]. Further, in a study that examined resilience and stimulant use among BSMM, it was noted that psychosocial resilience, which was conceptualized as individual assets and resources, was associated with lower stimulant use and sexual risk behaviors [8]. These studies and similar work [24] demonstrate the potential to develop resilience at the intersection of marginalized identities and that this process may be important for protecting oneself from stigmatizing experiences.

Racial/ethnic identity can be conceptualized as the self-reported feeling of attachment and identity to a particular racial/ethnic group [25, 26]. Racial/ethnic identity can play an important role in the health of Black individuals and greater levels of racial/ethnic identity may act as a potentially protective resource [27, 28]. In a study that examined ethnic identity and substance use in young Black adults, ethnic identity was significantly associated with lower levels of drinking and marijuana ($r = -0.62$, $p < 0.01$ and marijuana ($r = -0.29$, $p < 0.01$), respectively [27]. In another research study examining dual identities of BSMM, greater levels of racial/ethnic identity were associated with life satisfaction; yet, heterosexism and sexual identity development were not found to be associated with life satisfaction [29]. Additionally, lower levels of racism were associated with greater life satisfaction. These data indicate that research ethnic identity,

particularly among BSMM may serve as a key source of resilience and strength.

The importance of understanding the intersection of sexual identity and race/ethnicity as well as the sources of strength within Black communities remains a crucial part of understanding health outcomes among BSMM. The purpose of the current study was to investigate the dueling realities of ethnic identity strength and heterosexist stigma as predictors of substance use involvement among BSMM.

Methods

Participants and Setting

Data were from the *PrEP and Substance Use National Survey*, a comprehensive web-based survey investigating experiences with HIV testing, PrEP, substance use, mental health, and victimization of Black and Latino SMM. To be eligible, participants reported being English- and/or Spanish-speaking, identifying as Black and/or Hispanic/Latino, being 18 to 29 years old, residing in the USA, and having anal sex with a man in the 12 months prior to assessment.

Participants were recruited from national networks, mailing lists, and social media with assistance from the Human Rights Campaign community partners. Data were collected between March 2020 and August 2020. Participants provided written consent and were compensated with \$15 gift cards. All study protocols were approved by the University of Connecticut's Institutional Review Board.

Of the 2,479 individuals who accessed the survey, 958 (38.6%) did not meet eligibility criteria. Among those eligible, 426 participants completed less than 10% of the survey and were thus excluded from analysis, resulting in a sample of 1,095 Black and Latino SMM. Given the unique experience and nuances of Black ethnic identity of BSMM in the USA, the current study included only Black participants who provided data on drug use and psychosocial measures for a sample of $n = 390$.

Measures

Past 3-Month Substance Use Involvement Participants completed the National Institute on Drug Abuse (NIDA)-Modified ASSIST, which includes a battery of measures to assess past 3-month substance use. Participants reported any lifetime use of cannabis, cocaine, methamphetamine, inhalants, hallucinogens, and street opioids (i.e., heroin), as well as lifetime misuse of prescription stimulants, sedatives, opioids, or sexual function medication (misuse defined as use of prescription drugs without having a prescription). Those who indicated any lifetime drug use, including any prescription misuse, were

directed to six questions about their use of each of the 10 substance types during the past 3 months. Participants reported how often in the past 3 months (Q1) they used each substance, (Q2) they had a strong desire or urge to use, (Q3) their use led to health, social, legal, or financial problems, (Q4) they failed to do what was normally expected of them because of their use, (Q5) a friend or relative or anyone else ever expressed concern about their use, and (Q6) whether they had tried and failed to control, cut down, or stop their use. All items had response options never, once or twice, monthly, weekly, and daily or almost daily and were scored according to NIDA-Modified ASSIST recommendations (Q1: 0, 2, 3, 4, 6; Q2: 0, 3, 4, 5, 6; Q3: 0, 4, 5, 6, 7; Q4: 0, 4, 6, 7, 8). To match NIDA-Modified ASSIST scoring, responses for the fifth and sixth questions were collapsed to never (0) and ever in the past 3 months (3)[30]. Responses were scored and summed to create past 3-month substance use involvement scores for each substance ($\alpha=0.82$ to 0.97) and then cumulatively summed across substances to create an overall index of substance use involvement. For each substance, the possible range was 0 to 33 and for the cumulative substance use involvement index, the possible range was 0 to 330. Participants who indicated no lifetime substance use for an individual substance received a score of zero for past 3-month substance use involvement.

Heterosexism Microaggressions Scale Heterosexism microaggressions were measured using the six-item Heterosexism in Racial/Ethnic Minority Communities subscale from the LGBT People of Color Microaggressions Scale [31], which measures heterosexist microaggressions experienced by LGBT people of color from non-LGBT people sharing their racial/ethnic background (e.g., “difficulty finding friends who are non-heterosexual and from your racial/ethnic background,” “feeling misunderstood by people in your racial/ethnic community”) in the past 12 months. Participants indicated whether each type of microaggression happened to them (0 = did not happen; 1 = happened) and how much it bothered them with response options not at all (1), a little, moderately, quite a bit, and extremely (5). Scale scores were created by averaging across all items ($\alpha=0.76$).

Ethnic Identity Ethnic identity was measured using six items from the Multigroup Ethnic Identity Measure (MEIM) [26], which assesses an individual’s affective and cognitive levels of exploration, commitment, belongingness, and affirmation related to their ethnic identity (e.g., “I have a strong sense of belonging to my own ethnic group,” “I am active in organizations or social groups that include mostly members of my own ethnic group”). Participants indicated their agreement with each statement on a four-point scale with options strongly disagree (1), somewhat disagree, somewhat agree, and strongly agree (4). Scale scores were created by averaging across all items ($\alpha=0.76$).

Covariates Participants reported their age in years, their sexual identity from options gay or same-gender loving, bisexual, pansexual, heterosexual or straight, queer, questioning/not sure, or other option not listed. Participants selected one option from a list that best matched their gender identity from options agender, genderfluid, genderqueer, non-binary, man, transgender, woman, or other option not listed. To ascertain socioeconomic status, participants reported their income and experience with housing instability, which was defined as past-year experiences of living in a hotel, boarding house, group home, on the street, or having no fixed address. Age and income were mean-centered prior to analyses.

Analytical Plan

We utilized zero-inflated negative binomial regression to test the moderated association between heterosexist microaggressions and substance use involvement given that it has been used in previous analyses when outcomes are both overdispersed (i.e., the variance is much larger than the mean) and contains excess zeroes[32, 33]. The negative binomial model estimates the rate ratio of substance use involvement with coefficient values above one indicating an elevated rate of substance use involvement associated with the given independent variable (i.e., heterosexism, ethnic identity score).

Identical models with complete case analysis were tested for overall substance use involvement, cannabis use involvement, cocaine use involvement, methamphetamine use involvement, inhalant use involvement, and hallucinogen use involvement. Due to data sparseness single substance models were not estimated for heroin ($n=1$) or prescription drugs misuse (stimulants $n=7$; sedatives $n=9$; opioids $n=5$; sexual function medications $n=7$). All models included covariates (age, income, unstable housing, sexual identity, and gender identity). A main effect of heterosexism was included to test the association between heterosexism and rate of substance use involvement. To investigate ethnic identity as a moderator of the association between heterosexism and rate of substance use involvement, we included an ethnic identity main effect and interaction between ethnic identity and heterosexism.

Prior to analyses, collinearity was tested by examining bivariate correlations among all independent variables and covariates. Only income and age reached moderate correlation ($r \geq 0.3$). To further investigate possible collinearity, sensitivity analyses were conducted by comparing all regression models with both income and age included, without age, and without income. Effect estimates were not changed by exclusion of either age or income. Thus, it was concluded that age and income were not collinear.

For continuous, normally distributed independent variables and covariates, we identified potential outliers by computing the interquartile range (Q3-Q1) and then multiplying the IQR by 1.5 and adding to Q1 and Q3. For ethnic identity, three participants were outside the lower bound. These participants were retained because sensitivity analyses detected no differences in model results when they were excluded. For substance use involvement indices, to identify potential outliers we examined box plots and bivariate correlations of count variables with heterosexism and ethnic identity. One participant was identified with a substance use involvement score of 122 (more than 50 points higher than the next highest participant). This participant was deemed an outlier and excluded from analysis based on sensitivity analyses revealing changes to estimated effect sizes and tests of significance when including this participant in analyses.

All analyses were conducted using SAS software, Version 9.4 of the SAS System for Windows (©2002–2012 SAS Institute Inc.). Complete case analysis was employed for all models.

Results

Our sample was comprised of $n = 390$ participants ($M_{\text{age}} = 25.28$; $SD = 2.82$). As shown in Table 1, 366 (93.85%) participants identified as a cisgender man with the remainder identifying as agender, non-binary, genderfluid, genderqueer, or transgender ($n = 24$; 6.15%). Participants identified as gay or same-gender loving ($n = 289$; 74.10%), bisexual or pansexual ($n = 74$; 18.97%), or other sexual identities (queer, not sure/questioning, another identity not listed; $n = 27$; 6.92%). All participants were Black, and of these participants 62 identified as Hispanic/Latino (15.86%). Participants also identified as white ($n = 38$; 9.94%), American Indian or Alaska Native ($n = 17$; 4.36%), Asian ($n = 3$; 0.77%), Hawaiian or Pacific Islander ($n = 2$; 0.51%), and multi/biracial ($n = 44$; 11.28%). The sample included participants from 30 states, Washington, D.C., and Puerto Rico. The states comprising the largest portion of the sample were Georgia ($n = 92$; 23.59%), Florida ($n = 32$; 8.21%), Illinois ($n = 28$; 7.18%), Maryland ($n = 26$; 6.67%), and New York ($n = 25$; 6.41%).

The average annual income level was between \$20,000 to \$35,000, with the majority of participants ($n = 239$; 61.28%) making less than \$35,000. A minority of participants were experiencing unstable housing ($n = 82$; 21.03%).

Substance Use Summary

More than half of participants reported lifetime substance use ($n = 229$; 58.72%), of whom nearly all reported past 3-month substance use ($n = 209$; 53.59%). Cannabis was the

Table 1 Sample Demographic Summary

	<i>n</i>	%
<i>Age</i>		
18–20	25	0.06
21–23	91	0.23
24–26	109	0.28
27–29	165	0.42
<i>Income¹</i>		
Less than \$15,000	111	0.29
\$15,001 to \$35,000	128	0.33
\$35,001 to 50,000	63	0.16
\$50,001 to 75,000	60	0.15
\$75,001 to 100,000	12	0.03
\$100,001 or more	9	0.02
<i>Sexual Orientation</i>		
Gay/Same-Gender Loving	289	0.74
Bi/Pansexual	74	0.19
Other	27	0.07
<i>Gender Identity</i>		
Cisgender Man	366	0.94
Trans, Non-binary, and other identities	24	0.06
Unstable Housing	82	0.21
<i>Race/Ethnicity²</i>		
American Indian/Alaska Native	17	0.04
Hispanic/Latino	62	0.16
Asian	3	0.01
Hawaiian/Pacific Islander	2	0.01
White	38	0.10
Biracial/Multiracial	44	0.11

$n = 390$. ¹Missing $n = 4$ for income, $n = 3$ for unstable housing. ²Race/ethnicity categories are not mutually exclusive and participants may belong to multiple groups. All participants identified as Black or African American

most commonly used substance during the past 3 months ($n = 186$; 47.69%) followed by inhalants ($n = 71$; 18.21%), hallucinogens ($n = 34$; 8.21%), cocaine ($n = 32$; 8.21%), methamphetamine ($n = 22$; 5.64%), and heroin ($n = 1$; < 1%). Past 3-month use of prescription drug misuse was generally uncommon: stimulants ($n = 7$; 1.79%), sedatives ($n = 9$; 2.31%), opioids ($n = 5$; 1.28%), and sexual function medications ($n = 7$; 1.79%).

The past 3-month overall substance use involvement scores ranged from 0 to 73 with a mean of 8.44 ($SD = 12.73$). Mean substance use involvement was 5.06 ($SD = 7.37$; Range 0 to 33) for cannabis, 0.52 ($SD = 2.40$; Range 0 to 23) for cocaine, 1.01 ($SD = 4.77$; Range 0 to 33) for methamphetamines, 0.71 ($SD = 2.07$; Range 0 to 21) for inhalants, and 0.35 ($SD = 1.43$; Range 0 to 17) for hallucinogens. For heroin and prescription drugs misuse, single substance use involvement scores ranged from 0 to 22 and means ranged from 0.06 to 0.26 ($SD = 0.64$ to 1.35). Bivariate correlations

among all independent variables, covariates, and substance use involvement indices are reported in Table 2.

Heterosexism and Ethnic Identity

The average level of heterosexism experienced by participants was 1.91 (*SD* = 1.35), a score closest to “it happened and it bothered me a little.” Most participants (*n* = 342; 87.69%) reported experiencing at least one type of LGBT microaggression from other people of color. The average score for multiethnic group identity was 3.09 (*SD* = 0.63).

Moderated Regression

Results of the moderated zero-inflated negative binomial regression are summarized in Table 3. The overall model shows that for the total substance use involvement score more bothersome experiences of heterosexism microaggressions were associated with a 2.23 times (95% CI 1.39–3.56) higher rate of substance use involvement, when controlling for all covariates. This association was moderated by ethnic identity (*RR* = 0.77; 95% CI 0.66–0.89). For heterosexism one standard deviation above the mean, stronger ethnic identity was associated with a lower rate of substance use involvement, as shown in Fig. 1. For cannabis use involvement more bothersome experiences of heterosexism were associated with a 1.76 times (95% CI 1.13–2.73) higher rate of cannabis use involvement. Like overall substance use, the association between heterosexism and cannabis use involvement was moderated by ethnic identity (*RR* = 0.82; 95% CI 0.72–0.95). For heterosexism one standard deviation above the mean, stronger ethnic identity was associated

with a lower rate of cannabis use involvement, as shown in Fig. 1. This association is in contrast to average levels of heterosexism where the association of heterosexism and cannabis use involvement was consistent across all levels of ethnic identity.

For cocaine, methamphetamines, inhalants, and hallucinogens ethnic identity did not significantly moderate the association between heterosexism and rate of substance use involvement, however, the general trend across models appeared in a similar direction to the overall and cannabis use models. Main effects of heterosexism on cocaine (*RR* = 1.38; 95% CI 0.42–4.55), methamphetamines (*RR* = 2.65; 95% CI 0.42–13.97), inhalants (*RR* = 1.43; 95% CI 0.58–3.56), and hallucinogens (*RR* = 1.99; 95% CI 0.37–2.69) followed the same patterns as the overall substance use involvement and cannabis use models. Figure 1 plots the estimated moderated regression models which generally mirror the protective effect of ethnic identity seen for overall substance use involvement and cannabis use involvement. Effects were in the same direction, albeit nonsignificant, for ethnic identity moderated association of heterosexism with cocaine (*RR* = 0.82; 95% CI 0.58–1.17), methamphetamines (*RR* = 0.75; 95% CI 0.44–1.29), inhalants (*RR* = 0.86; 95% CI 0.65–1.14), and hallucinogens (*RR* = 0.85; 95% CI 0.56–1.30). Wide confidence intervals may be due in part to sparseness in data for less commonly used substances, and taken together results suggest consistent patterns with the negative association between heterosexism and substance use involvement moderated by level of ethnic identity. Notably, in contrast to all other models, for hallucinogen use involvement the moderated model had poor fit as indicated by the log-likelihood ratio test reported in Table 3, thus nonsignificant results, wide confidence intervals, and poorer model fit suggest model

Table 2 Bivariate Correlations among all Heterosexism, Ethnic Identity, Past 3-Month Substance Use Involvement, and Covariates

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Age	1.00	0.11	0.02	0.37	-0.10	-0.05	-0.03	0.04	-0.01	0.06	0.03	0.18	0.03
2 Gay/Same-Gender Loving		1.00	0.07	0.04	-0.03	-0.01	-0.02	0.03	0.01	-0.07	0.08	0.07	-0.01
3 Cisgender Man			1.00	0.03	-0.08	-0.07	-0.06	-0.08	-0.08	-0.07	0.01	0.06	0.01
4 Income				1.00	-0.15	-0.07	0.03	0.02	-0.03	0.09	-0.07	0.15	0.12
5 Unstable Housing					1.00	0.03	-0.03	0.20	0.07	0.09	0.21	0.05	-0.01
6 Heterosexism						1.00	0.11	0.01	0.01	-0.03	-0.04	-0.06	0.11
7 Ethnic Identity							1.00	0.03	0.06	0.01	0.01	0.04	0.01
8 Overall Substance Involvement								1.00	0.80	0.43	0.63	0.44	0.30
9 Cannabis Involvement									1.00	0.20	0.28	0.24	0.14
10 Cocaine Involvement										1.00	0.13	0.29	0.11
11 Methamphetamine Involvement											1.00	0.14	0.10
12 Inhalant Involvement												1.00	0.13
13 Hallucinogen Involvement													1.00

Bold indicates significant correlation at *p* < 0.05. Correlations computed among participants with no missing covariate data

Table 3 Associations of Heterosexism with Past 3-Month Substance Use Involvement Moderated by Ethnic Identity for Zero-Inflated Negative Binomial Count Model

	Overall Model <i>n</i> = 383			Cannabis <i>n</i> = 382			Cocaine <i>n</i> = 382			
	B	p	RR	B	p	RR	B	p	RR	
Intercept	1.02	0.05	2.76	1.12	0.03	3.08	3.07	0.03	21.43	
<i>Covariates</i>										
Age	0.03	0.31	1.03	-0.01	0.59	0.99	-0.05	0.51	0.95	
Gay/Same-Gender Loving	0.25	0.05	1.29	0.25	0.04	1.29	-1.25	< 0.01	0.29	
Cisgender man	-0.23	0.30	0.80	-0.30	0.16	0.74	-2.13	< 0.01	0.12	
Income	-0.02	0.37	0.98	-0.03	0.25	0.97	0.16	0.02	1.17	
Unstable Housing	0.47	< 0.01	1.60	0.02	0.89	1.02	-0.27	0.48	0.76	
Heterosexism	0.80	< 0.01	2.23	0.56	0.01	1.76	0.32	0.60	1.38	
Ethnic Identity	0.53	< 0.01	1.70	0.45	< 0.01	1.56	0.64	0.08	1.90	
Heterosexism*Ethnic Identity	-0.26	< 0.01	0.77	-0.19	0.01	0.82	-0.20	0.28	0.82	
Log-likelihood Ratio Test (χ^2 , p)	91.82	< 0.001		48.93	< 0.001		39.34	0.02		
	Methamphetamines <i>n</i> = 382			Inhalants <i>n</i> = 382			Hallucinogens <i>n</i> = 382			
	B	p	RR	B	p	RR	B	p	RR	
Intercept	0.72	0.63	2.06	-0.01	0.99	0.99	0.45	0.78	1.56	
<i>Covariates</i>										
Age	-0.01	0.88	0.99	0.04	0.47	1.04	0.03	0.59	1.03	
Gay/Same-Gender Loving	0.59	0.19	1.80	0.24	0.35	1.27	-0.03	0.92	0.97	
Cisgender man	0.26	0.71	1.30	0.16	0.83	1.17	0.35	0.61	1.42	
Income	-0.02	0.84	0.98	0.09	0.13	1.09	0.10	0.28	1.10	
Unstable Housing	-0.09	0.80	0.92	-0.07	0.93	0.93	0.26	0.62	1.29	
Heterosexism	0.98	0.25	2.65	0.36	0.44	1.43	0.69	0.33	1.99	
Ethnic Identity	0.40	0.23	1.49	0.32	0.31	1.38	0.00	1.00	1.00	
Heterosexism*Ethnic Identity	-0.29	0.29	0.75	-0.15	0.30	0.86	-0.16	0.46	0.85	
Log-likelihood Ratio Test (χ^2 , p)	31.19	0.03		43.60	0.01		20.04	0.64		

RR = rate ratio. Significant log-likelihood ratio tests indicate the moderated model has improved fit relative to the null model. Sample sizes differ from the overall analytic sample due to missingness ($n = 4$ for income, $n = 3$ for unstable housing, $n = 1$ for individual substance use involvement indices)

Bold indicates significant correlation at $p < 0.05$

results are inconclusive for hallucinogen use involvement. Separate regression models were not estimated for heroin or prescription misuse due to data sparseness and instability of estimates.

Discussion

For BSMM, belonging to their Black communities can provide both sources of strength and stigma-related stress. To expand empirical evidence and center the experiences of BSMM in substance use and minority stress research, we examined the association of intersecting experiences of resilience and minority stress on substance use involvement among BSMM. Results of the current study illustrate the protective effect of strong ethnic identity, which was conceptualized as affective and cognitive components of ethnic identity exploration and belonging[26]. Ethnic

identity group belonging is especially nuanced for BSMM because it was protective even when experiencing heterosexist microaggressions in one's own racial/ethnic community. The positive association between more stressful heterosexist microaggressions and greater rate of substance use involvement was buffered by a stronger sense of ethnic identity. Indeed, for BSMM reporting highly stressful heterosexist microaggression from their Black community, those with stronger ethnic identity reported lower overall substance use involvement and lower cannabis use involvement compared to BSMM with weaker ethnic identity. The BSMM in this sample with strong ethnic identity show that many young men harmonize their identities as Black and as sexual minorities to draw on strengths of community membership and to buffer against experiences of heterosexism. Drawing on ethnic identity as a source of resilience against heterosexism buffered against substance use involvement. Supporting ethnic identity development

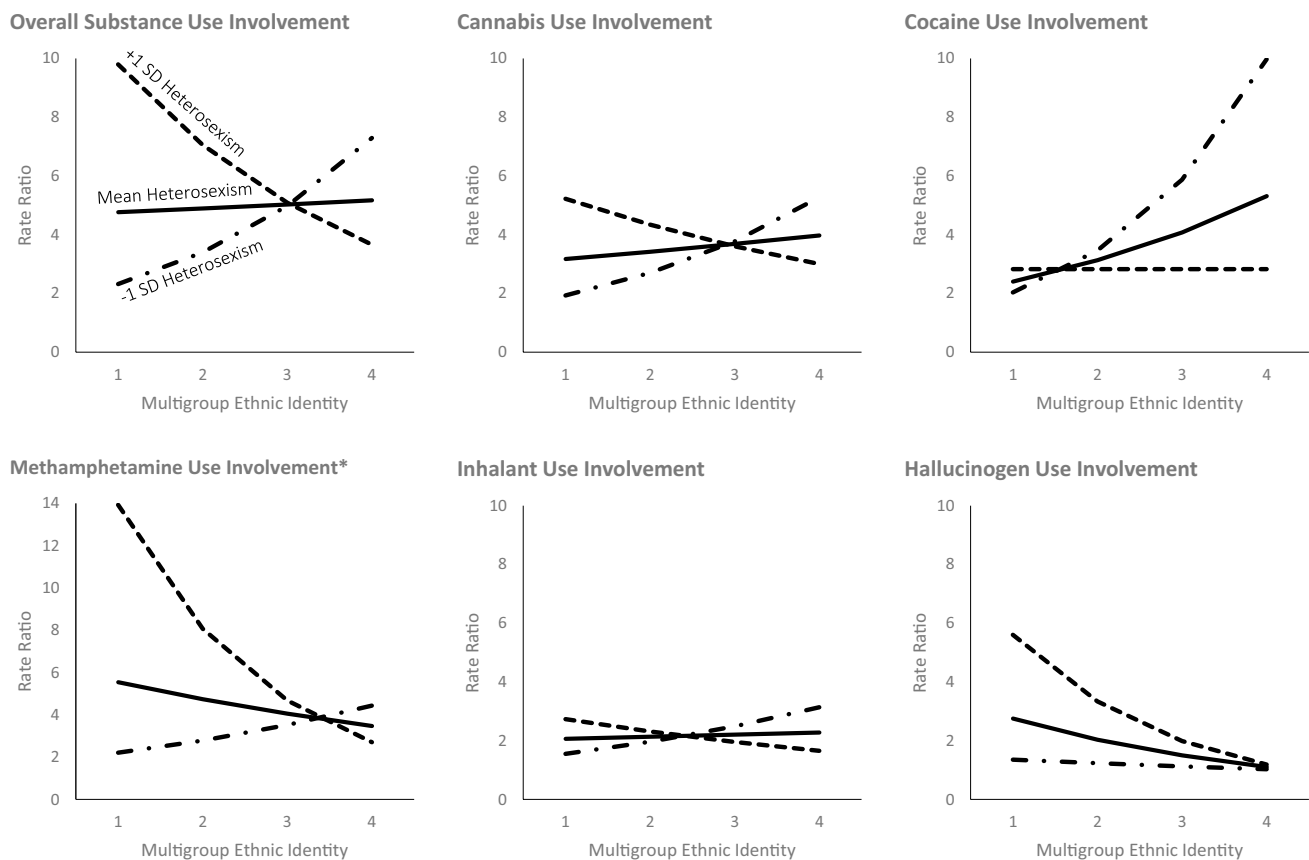


Fig. 1 Moderated association between heterosexism and rate of past 3-month substance use involvement, moderated by ethnic identity. *Note that the maximum value for the scale for the methamphetamine use involvement rate ratio differs from all other substances

and reducing heterosexist stigma in Black communities may be an important multidimensional strategy for reducing substance use involvement among BSMM, especially given disparities in obtaining harm reduction services among racial minorities including Black individuals [34, 35]. Results of this study demonstrate the importance of examining dueling experiences of both strength and stigma that co-occur within communities and how these sources of resilience and stress may together contribute, in part, to substance use and substance use prevention.

There is a larger issue in the field regarding the development of ethnic identity and stability, over the lifespan. Much of the existing literature focuses on changes in ethnic identity in adolescence [36] and later adulthood [37], but how it relates to young adulthood is underresearched. Future research questions should explore questions about how ethnic identity is measured over the lifespan and if and how ethnic identity may change over time.

Results of this study expand existing evidence that demonstrates an association between heterosexism and greater substance use involvement [8, 38]. BSMM with the most stressful heterosexism experiences were likely to report

higher rates of cannabis and other substance use involvement. As shown in other studies, cannabis use was the most prevalent substance among BSMM, compared to other substances such as sedatives and opioids [39, 40].

Previous research has discussed the importance of understanding the role of stigma on health disparities[9] and substance use[41, 42]—especially for SMM[43]. Discrimination and stigma have been found to be associated with substance use treatment among SMM[43] and BSMM[44]. Often, stigma, discrimination, and microaggressions can implicate key needs such as employment, housing, and access and quality of care for individuals who use substances [41]. This, in turn, can fuel a cycle of self-medicating to manage the aforementioned stress and adversity that SMM face [45, 46], thereby facilitating a destructive cycle of self-medicating. Utilizing the frameworks of self-medication hypothesis and stigma as a fundamental cause provides further insight into understanding why some BSMM may be experiencing heterosexism in different ways and thus have more substance involvement. That is, they experience more heterosexism and potentially respond maladaptive (self-medication) to these experiences of stress within their own communities.

Ethnic identity moderated the relationship between heterosexism within Black communities and substance use involvement. For individuals who experienced more stressful experiences of heterosexism, stronger ethnic identity was protective against substance use involvement (for both cannabis and cumulative substance use involvement). This is consistent with other research that also demonstrated the protective utility of ethnic identity—especially as it pertains to substance use. In a prior study that examined ethnic identity and substance use among diverse youth, researchers found that higher levels of ethnic identity were associated with negative perceptions toward drugs ($\beta = -6.42$, $p < 0.001$) [47]. In another study that explored associations between racial discrimination and substance use among youth, discrimination was a predictor of substance use in Black youth and played an important role in substance use initiation [48]. These studies suggest that ethnic identity, particularly among Black individuals, may hold a protective role in regard to substance use and harm reduction. It is possible that because racial discrimination is so prevalent, community support around this issue within the Black community serves as a form of resilience and protection.

This study demonstrates the complexity of the collective value of group membership while offering that it may simultaneously be a source of stress. This complexity may be particularly evident in certain contexts within the Black community [49]. Stigma is often perpetuated within social environments and networks such as within Black families, churches, and other communities [49–51]. Yet, research also shows that there is a prioritization of racial/ethnic identity over other group memberships, such as sexual identity [11]. This leads to a crucial question of whether individuals who do not have a strong ethnic identity are vulnerable, and if so, what resources for protection do they have? It is possible that such individuals lack protection of a strong ethnic identity and are experiencing heterosexism, and that this combination may be particularly vulnerable to self-medicating with substance use.

These findings help to highlight the paradox of connection with community acting as a potential source of strength and risk. This is a complex phenomenon that requires nuance to understand how it may affect BSMM in the context of substance use involvement. Others have discussed how religious institutions may also play a dueling role of support and stigma simultaneously for BSMM [50, 52]. For example, in certain instances, the church can hold act as a source of strength for BSMM yet also serve as a source of stigma and stress [50, 52]. In a study detailing experiences of stigma within BSMM communities, respondents discussed “role flexing,” which includes modifying or adapting behavior based on their current environment. That is, they pretend to endorse homophobic views in hopes of acceptance and fear of homophobia from members in their communities [53]. Yet, others have discussed how for

some individuals, these very communities are also sources of strength and support. Because loss of these resources would have negative impact, some BSMM perceived value in avoiding disclosure of their same-sex behaviors altogether in order to maintain community [54]. This nuanced, complex experience warrants further exploration. Future research should examine this phenomenon longitudinally to understand how experiences of heterosexism and strong ethnic identity may develop over time and whether associations with substance use involvement shift across developmental periods. A path forward in this area of research is to examine these tensions between community membership and heterosexist rejection with a qualitative approach to provide context for the complexity of these relationships and to show how these relationships may fluctuate over time.

Strengths and Limitations This study offers many strengths. First, it uses an intersectional approach to provide a comprehensive holistic view of the multiple identities and sources of stigma among BSMM. A second strength of this study is the geographic diversity of the sample, which adds to the potential generalizability to our findings. Nonetheless, there are some limitations that should be considered when interpreting the results of our analyses. First, the data are cross-sectional and were captured at one time point. Therefore, we did not observe potential changes or differences in substance use and/or racial/ethnic identity measures at different time intervals. Second, it is important to note that we treated measures of ethnic identity as static variables at one time point—it is possible that perceptions of ethnic identity may change over time. It is also important to consider that participants were recruited from a convenience sample and may not be representative or generalizable to other populations. Moreover, because the eligibility for this sample was limited to young adults aged (18–29), this may inhibit the generalizability of these results. Additionally, it is also important to consider that the data provided in the survey instruments are self-report. It is possible that participants may have provided socially desirable responses and may have been susceptible to recall bias. Given the low prevalence of certain substances, we may have been underpowered to ascertain statistical differences. When considering mono-substance use, evidence was strongest for the association between substance use involvement and heterosexism. For other substances, failure to detect an association may be attributable to low prevalences. However, in contrast to cannabis use alone, taking a cumulative approach to substance use involvement (cannabis, cocaine, methamphetamines, inhalants, and hallucinogens) revealed an even stronger association between heterosexism and substance use involvement. Thus, associations between substance use involvement and heterosexism may be especially important for understanding and intervening on polysubstance use.

Conclusions

Understanding the factors and the process that impact the extent to which one finds strength in their communities is an important area of future inquiry. A key research question moving forward should ascertain what points of strengths are protective and how such points of strength can be used in interventions for substance use involvement. Moving forward, it will be important to explore potentially untapped areas for strength and resilience. Other researchers are exploring untapped resources for support[55] such data may be informative and in the realm of substance use interventions, particularly among BSMM.

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Declarations

Competing Interests The authors have no relevant financial or non-financial interests to disclose.

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