



Intersectional Minority Stress and Alcohol, Tobacco, and Cannabis Use Among Sexual and Gender Minority Adolescents of Color: Moderating Role of Family Support

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Abstract

Purpose: We examined the associations between intersectional minority stress and substance use among sexual and gender minority (SGM) adolescents of color and the moderating role of family support on these associations.

Methods: Data were from a national U.S. sample of SGM adolescents of color ($N = 3423$). Intersectional minority stress was assessed with the LGBT People of Color Microaggressions Scale.

Results: Intersectional minority stress was associated with greater odds of recent and heavy alcohol and recent cannabis use, but not tobacco use. When examining specific domains of intersectional minority stress, racism from SGM communities was associated with greater odds of recent and heavy alcohol, and recent cannabis use, whereas heterosexism from same racial/ethnic communities was associated with greater odds of recent cigarette and cigar use. Family support was associated with lower substance use. Family support was not a significant moderator.

Conclusions: Findings underscore the need to examine intersectional stressors that SGM adolescents of color experience and to bolster family supports to prevent substance use. Family support did not buffer the effects of intersectional minority stress on substance use outcomes, suggesting that other strategies, such as other forms of family support (e.g., identity-specific support) and community-level and structural changes that target reducing and dismantling oppression are needed to reduce the deleterious impact of intersectional minority stress.

Keywords: alcohol, cannabis, family support, intersectional minority stress, sexual and gender minority youth of color, tobacco

Introduction

SEXUAL AND GENDER MINORITY (SGM) adolescents are more likely to engage in substance use and misuse compared to their heterosexual and cisgender counterparts, and these disparities persist into adulthood.^{1,2} When considering the intersection of race/ethnicity, the limited extant literature shows that SGM adolescents of color also report greater substance use than heterosexual peers of the same race/ethnicity, including alcohol, cigarette, cannabis, and illicit drugs.³⁻⁵ For example, Asian, Black, and Latino/a/x American sexual minority youth are more likely to use alcohol, cigarettes, and

illicit drugs compared to their heterosexual peers of the same racial or ethnic background.^{3,4} Similarly, Black sexual minority adolescents are three times more likely than Black heterosexual youth to engage in substance use.⁴ Despite these documented disparities, little work has examined risk and protective factors that are associated with substance use among SGM adolescents of color.⁶

Stress-based models have been used to explain SGM and racial/ethnic minority disparities in substance use. The minority stress model posits that SGM adolescents experience unique stressors related to their stigmatized identities (e.g., heterosexist discrimination, biphobic rejection,

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transphobic harassment)⁷ and these stressors lead to greater substance use.^{8,9} Similarly, racism-based models posit that youth of color experience unique multidimensional racism-based stressors, which have deleterious effects on their health,¹⁰ including greater substance use.¹¹ Although these models are noteworthy, they are limited in their focus on singular dimensions of identity (e.g., sexual orientation, gender identity, or race/ethnicity) and marginalization.

Intersectionality theory underscores the experiences of SGM adolescents of color by considering their intersecting marginalized identities and multiple forms of minority stressors (e.g., racism, heterosexism, transphobia) within a context of interlocking structural systems of oppression.¹² SGM adolescents of color experience unique intersectional minority stressors, such as racism and invisibility in SGM communities, heterosexism and transphobia in their own racial, ethnic, and broader communities, and racism in dating and close relationships.^{13,14} Intersectional minority stress is associated with poorer self-esteem and depressive symptoms among SGM adolescents of color.¹⁵ However, to our knowledge, there are no studies to date that have examined the associations between intersectional minority stress as a risk factor for substance use among SGM adolescents of color.

According to the minority stress model, stress-ameliorating factors such as social supports (e.g., family supports) protect against SGM adolescents' substance use and hazardous use.⁷ Families play an essential caretaking role for adolescents and their affirmation and support is significant for their SGM adolescent's health.¹⁶ Parent connectedness and parental monitoring play an important role in preventing and decreasing substance use among sexual minority adolescents¹⁷⁻¹⁹ and family support is related to lower substance use among youth of color.²⁰ Therefore, family support might serve as a protective factor for SGM adolescents of color and might buffer the impact of intersectional minority stress on substance use.

The present study

The purpose of this study was to examine associations between intersectional minority stress unique to SGM adolescents of color and substance use as well as the moderating role of family support on these associations among a large sample of SGM adolescents of color. We hypothesized that intersectional minority stress would be associated with greater substance use, specifically alcohol, tobacco, and cannabis use. We also hypothesized that family support would be associated with lower substance use. Finally, we hypothesized that family support would buffer the associations between intersectional minority stress and substance use outcomes. Specifically, we hypothesized that intersectional minority stress would be associated with greater substance use for SGM adolescents of color who report lower family support compared to peers who report greater family support.

Methods

Procedures

Data are a subsample of SGM adolescents of color ($N=3423$) from the *LGBTQ National Teen Survey*, a comprehensive survey of risk and protective factors and health outcomes of 17,112 SGM adolescents across the United

States in 2017.²¹ Inclusion criteria were identification as a sexual and/or gender minority, aged 13 to 17 years old, a resident of the United States, and ability to speak English. Participants were surveyed in 2017 via several mediums of online recruitment. The study was reviewed and approved by the University of Connecticut's Institutional Review Board. Consistent with prior work with SGM adolescents, parental consent was waived. Adolescent informed assent was obtained. More detailed information regarding the study design and data cleaning and preparation can be found elsewhere.²¹

Measures

Intersectional minority stress. The 18-item LGBT People of Color Microaggressions Scale¹³ was used to assess intersectional minority stress. The scale has three subscales: (1) Racism in LGBT Communities (e.g., "White LGBTQ people saying things that are racist"); (2) Heterosexism in Racial/Ethnic Minority Communities (e.g., "Not being accepted by other people of your race/ethnicity because you are LGBTQ"); and (3) Racism in Dating and Close Relationships (e.g., "Reading personal ads that say White people only"). We did not use the third subscale as it had items that were outdated and not appropriate for all adolescents. The scale has been found to be associated with greater depressive symptoms and lower self-esteem among SGM adolescents of color.¹⁵

Responses ranged from 0 (didn't happen) to 5 (happened, extremely bothered). The scale was averaged and demonstrated strong internal consistency in the study sample ($\alpha=0.89$). We also averaged each of the Racism in LGBT Communities and Heterosexism in Racial/Ethnic Minority Communities subscales and they also demonstrated strong internal consistency ($\alpha=0.90$ and 0.83 , respectively).

Substance use. We assessed recent alcohol, tobacco and cannabis use with questions similar to substance use items in the 2015 Youth Risk Behavior Survey. Participants were asked if they used substances over the past 30 days. Substance use outcomes were alcohol use ("on how many days did you have at least one drink of alcohol?"), heavy alcohol use ("on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?"); cannabis ("how many times did you use marijuana?"), cigarette ("on how many days did you smoke cigarettes?"), and cigar ("on how many days did you smoke cigarillos?"). Response options for alcohol and tobacco use ranged from 0 (0 days) to 6 (all 30 days) and for cannabis ranged from 0 (0 times) to 4 (40 or more times). All substance use items were recoded to reflect no use = 0 and any use = 1.

Family support. General family emotional support was assessed with three items from the Measure of Perceived Social Supports from Family.²² Participants were asked "how much do you feel that..." and were presented with the following items: "Your family cares about your feelings?"; "Your family has lots of fun together?"; and "Your family pays attention to you?." Response ranges were from 0 = strongly disagree to 4 = strongly agree. The scale demonstrated strong internal consistency in this sample ($\alpha=0.84$).

Sociodemographic characteristics. Data were collected on age and sex assigned at birth ("What sex were you

assigned at birth?”), gender identity (“What is your current gender identity?”), race/ethnicity (Black or African American; American Indian or Alaska Native; Asian or Pacific Islander; Hispanic/Latino/x; or Other), sexual orientation (“How do you describe your sexual identity?”), and geographical region. Participants who selected multiple racial/ethnic groups were considered biracial or multiracial. Participants who selected “other” for race/ethnicity were provided a write-in response. Several participants identified as Middle Eastern and were included as a separate group for descriptive purposes. Response options are listed in Table 1; more detailed description of the measures is found elsewhere.²¹ We computed a gender identity variable (cisgender vs. transgender/gender minority) based on sex assigned at birth and current gender identity.

Analytic plan

Descriptive and regression analyses were conducted using IBM SPSS Statistics Version 25. We conducted hierarchical logistic regression analyses to test the associations between intersectional minority stress (i.e., microaggressions specific to queer people of color) and substance use outcomes and the moderating role of family support on these associations. We followed the commonly used procedures for testing moderation.²³ We standardized our variables to reduce the effects of multicollinearity.

Given commonly documented differences in substance use based on sociodemographic characteristics, all models adjusted for sociodemographic variables (i.e., age, sex assigned at birth, gender identity, sexual orientation, race/ethnicity, and geographical location) and these were entered on Step 1. We entered the main effects of intersectional minority stress and family support on Step 2, and the two-way interaction of intersectional minority stress and family support on Step 3. We conducted these analyses for the entire sample. Due to the small number of youth who endorsed substance use by each racial/ethnic group, we were not able to conduct the analyses for each racial/ethnic group. We also conducted a similar set of models with both racism and heterosexism subscales of the intersectional minority stress scale as the predictors and their interaction with family support.

Results

Participants were 13 to 17 years old (mean = 15.57, standard deviation = 1.27). Participants’ race/ethnicity were Asian/Pacific Islander (11.98%), Black/African American (13.26%), Hispanic/Latina(o)/x (30.09%), Native American/Alaska Native (1.17%), Middle Eastern (1.93%), Biracial or Multiracial (39.91%), and other racial/ethnic minority groups (1.67%). Most participants reported their assigned sex at birth as female (74.1%), and most participants were cisgender (68.2%) and 31.8% were transgender. Sexual orientation identities were bisexual (36.8%), gay/lesbian (35.6%), pansexual (15.6%), asexual (4.1%), queer (3.4%), questioning (2.4%), and other (2%). Participants were from the South (39.3%), West (28.2%), Midwest (17.1%), and Northeast (15.4%). Participants reported recent (i.e., past 30 day) and heavy alcohol use (25.7% and 8.4%, respectively), cannabis (14.6%), cigarette (5.8%), and cigar (4.1%) use. More detailed participant information is presented in Table 1.

As reported in Table 2, intersectional minority stress was associated with greater odds of alcohol use (adjusted odds

ratio [AOR] = 1.22; 95% confidence interval: 1.13–1.31), heavy alcohol use (AOR = 1.21 [1.08–1.36]), and cannabis use (AOR = 1.13 [1.03–1.23]; results are reported in Step 2 of Table 2). Intersectional minority stress was not associated with cigarette or cigar use. Family support was associated with lower odds of most of the substance use outcomes (Step 2 of Table 2), and it was marginally associated with lower odds of alcohol use. In contrast to our hypothesis, family support did not moderate the associations between intersectional minority stress and any of substance use outcomes (Step 3 of Table 2).

As reported in Table 3, models with both subscales of intersectional minority stress included as separate variables indicated that the Racism in LGBT Communities subscale was associated with greater odds of alcohol use (AOR = 1.13 [1.06–1.22]), heavy alcohol use (AOR = 1.21 [1.08–1.35]), and cannabis use (AOR = 1.14 [1.04–1.24]), but not cigarette or cigar use; results are reported in Step 2 of Table 3. The Heterosexism in Racial/Ethnic Minority Communities subscale was only associated with greater odds of cigarette or cigar use (AOR = 1.21 [1.05–1.38] and 1.23 [1.05–1.44], respectively). Family support was associated with lower odds of most substance use outcomes (Step 2 of Table 3), and it was marginally associated with lower odds of alcohol use.

Family support did not moderate the associations between either subscale of intersectional minority stress or any substance use outcomes (Step 3 of Table 3); however, the interaction between Heterosexism in Racial/Ethnic Minority Communities and family support was marginally significant for heavy alcohol use. Given that the interaction was marginally significant, we did not probe the interaction.

Discussion

Although the relationship between stigma and substance use is well-established for SGM adolescents, there remains a dearth of studies that focus on SGM adolescents of color and the unique stressors that exacerbate or mitigate their substance use.^{6,24} To address these limitations, we examined how intersectional forms of stigma and family support were associated with substance use among SGM adolescents of color, and if family support attenuated the relationship between intersectional stigma and substance use outcomes. As anticipated, there was a positive association between intersectional minority stressors and substance use among SGM adolescents of color in the current sample; family support did not moderate the association between intersectional minority stress and substance use outcomes.

Notably, the results of our study, which are from a non-probability sample, showed different prevalence rates of substance use compared to probability samples of sexual minority adolescents. Compared to sexual minority adolescents in the 2015 Youth Risk Behavioral Survey (YRBS),² our sample of SGM adolescents of color had lower rates of recent (past 30-day) alcohol (40.5% in YRBS vs. 25.7% in our sample), heavy alcohol (21.8% vs. 8.4%), cannabis (32% vs. 14.6%), and cigarette (19.2% vs. 5.8%) use. Although our sample had lower rates of substance use, it is important to note that more than half of the YRBS identified as White, the YRBS study did not provide prevalence rates of substance use by sexual orientation and race/ethnicity, our sample included a younger age range than the YRBS, and

TABLE 1. SAMPLE SOCIODEMOGRAPHICS

	Full sample (N = 3423)		Asian American (n = 410)		Black American (n = 454)		Hispanic/Latina(o) (n = 1030)		Native American (n = 40)		Middle Eastern American (n = 66)		Biracial/Multiracial American (n = 1366)		Other American (n = 57)	
	M (SD)	N (%)	M (SD)	N (%)	M (SD)	N (%)	M (SD)	N (%)	M (SD)	N (%)	M (SD)	N (%)	M (SD)	N (%)	M (SD)	N (%)
Age	15.57 (1.27)		15.56 (1.31)		15.77 (1.20)		15.58 (1.28)		15.48 (1.28)		15.73 (1.20)		15.51 (1.26)		15.04 (1.31)	
Sex assigned at birth																
Male	883 (25.9)	117 (28.5)	102 (24.9)	129 (28.4)	274 (26.6)	8 (20.0)	11 (16.7)	10 (25.0)	12 (18.2)	305 (22.3)	12 (21.1)				12 (21.1)	
Female	2537 (74.1)	293 (71.5)	206 (50.2)	325 (71.6)	476 (46.2)	13 (32.5)	34 (51.5)	30 (75.0)	54 (81.8)	1061 (77.7)	45 (78.9)				45 (78.9)	
Gender identity																
Cisgender male	783 (22.9)	102 (24.9)	113 (24.9)	113 (24.9)	274 (26.6)	8 (20.0)	11 (16.7)	8 (20.0)	11 (16.7)	264 (19.3)	11 (19.3)				11 (19.3)	
Cisgender female	1552 (45.3)	206 (50.2)	235 (51.8)	235 (51.8)	476 (46.2)	13 (32.5)	34 (51.5)	13 (32.5)	34 (51.5)	571 (41.8)	17 (29.8)				17 (29.8)	
Transgender male	232 (6.8)	13 (3.2)	19 (4.2)	19 (4.2)	63 (6.1)	6 (15.0)	3 (4.5)	6 (15.0)	3 (4.5)	118 (8.6)	10 (17.5)				10 (17.5)	
Transgender female	29 (0.8)	4 (1.0)	4 (0.9)	4 (0.9)	7 (0.7)	1 (2.5)	1 (1.5)	1 (2.5)	1 (1.5)	11 (0.8)	1 (1.8)				1 (1.8)	
Trans-masculine/non-binary	753 (22.0)	74 (18.0)	71 (15.6)	71 (15.6)	190 (18.4)	11 (27.5)	17 (25.8)	11 (27.5)	17 (25.8)	372 (27.2)	18 (31.6)				18 (31.6)	
Trans-feminine/non-binary	74 (2.2)	11 (2.7)	12 (2.6)	12 (2.6)	20 (1.9)	1 (2.5)	0 (0.0)	1 (2.5)	0 (0.0)	30 (2.2)	0 (0.0)				0 (0.0)	
Gender identity																
Cisgender	2335 (68.2)	308 (75.1)	348 (76.7)	348 (76.7)	750 (72.8)	21 (52.5)	45 (68.2)	21 (52.5)	45 (68.2)	835 (61.1)	28 (49.1)				28 (49.1)	
Transgender	1088 (31.8)	102 (24.9)	106 (23.3)	106 (23.3)	280 (27.2)	19 (47.5)	21 (31.8)	19 (47.5)	21 (31.8)	531 (38.9)	29 (50.9)				29 (50.9)	
Sexual orientation																
Gay/Lesbian	1219 (35.6)	151 (36.8)	154 (33.9)	154 (33.9)	404 (39.2)	17 (42.5)	24 (36.4)	17 (42.5)	24 (36.4)	448 (32.8)	21 (36.8)				21 (36.8)	
Bisexual	1261 (36.8)	171 (41.7)	185 (40.7)	185 (40.7)	392 (38.1)	11 (27.5)	29 (43.9)	11 (27.5)	29 (43.9)	460 (33.7)	13 (22.8)				13 (22.8)	
Queer	118 (3.4)	14 (3.4)	12 (2.6)	12 (2.6)	31 (3.0)	0 (0.0)	3 (4.5)	0 (0.0)	3 (4.5)	54 (4.0)	4 (7.0)				4 (7.0)	
Pansexual	533 (15.6)	42 (10.2)	75 (16.5)	75 (16.5)	139 (13.5)	6 (15.0)	7 (10.6)	6 (15.0)	7 (10.6)	255 (18.7)	9 (15.8)				9 (15.8)	
Asexual	140 (4.1)	18 (4.4)	9 (2.0)	9 (2.0)	30 (2.9)	1 (2.5)	3 (4.5)	1 (2.5)	3 (4.5)	75 (5.5)	4 (7.0)				4 (7.0)	
Questioning	82 (2.4)	10 (2.4)	9 (2.0)	9 (2.0)	13 (1.3)	2 (5.0)	0 (0.0)	2 (5.0)	0 (0.0)	43 (3.1)	5 (8.8)				5 (8.8)	
Other	70 (2.0)	4 (1.0)	10 (2.2)	10 (2.2)	21 (2.0)	3 (7.5)	0 (0.0)	3 (7.5)	0 (0.0)	31 (2.3)	1 (1.8)				1 (1.8)	
Location																
Northeast	527 (15.4)	80 (19.5)	73 (16.1)	73 (16.1)	123 (11.9)	4 (10.0)	11 (16.7)	4 (10.0)	11 (16.7)	221 (16.2)	15 (26.3)				15 (26.3)	
Midwest	586 (17.1)	59 (14.4)	99 (21.8)	99 (21.8)	118 (11.5)	8 (20.0)	8 (12.1)	8 (20.0)	8 (12.1)	283 (20.7)	11 (19.3)				11 (19.3)	
South	1344 (39.3)	111 (27.1)	246 (54.2)	246 (54.2)	426 (41.4)	16 (40.0)	22 (33.3)	16 (40.0)	22 (33.3)	503 (36.8)	20 (35.1)				20 (35.1)	
West	966 (28.2)	160 (39.0)	36 (7.9)	36 (7.9)	363 (35.2)	12 (30.0)	25 (37.9)	12 (30.0)	25 (37.9)	359 (26.3)	11 (19.3)				11 (19.3)	
Substance use																
Alcohol use	879 (25.7)	79 (19.3)	101 (22.2)	101 (22.2)	292 (28.3)	10 (25.0)	21 (31.8)	10 (25.0)	21 (31.8)	364 (26.6)	12 (21.1)				12 (21.1)	
Heavy alcohol use	289 (8.4)	24 (5.9)	22 (4.8)	22 (4.8)	99 (9.6)	6 (15.0)	4 (6.1)	6 (15.0)	4 (6.1)	129 (9.4)	5 (8.8)				5 (8.8)	
Cannabis use	499 (14.6)	32 (7.8)	67 (14.8)	67 (14.8)	148 (14.4)	9 (22.5)	9 (13.6)	9 (22.5)	9 (13.6)	227 (16.6)	7 (12.3)				7 (12.3)	
Cigarette use	200 (5.8)	12 (2.9)	13 (2.9)	13 (2.9)	57 (5.5)	5 (12.5)	5 (7.6)	5 (12.5)	5 (7.6)	107 (7.8)	1 (1.8)				1 (1.8)	
Cigar use	141 (4.1)	9 (2.2)	21 (4.6)	21 (4.6)	38 (3.7)	1 (2.5)	2 (3.0)	1 (2.5)	2 (3.0)	69 (5.1)	1 (1.8)				1 (1.8)	
IMS	2.13 (1.13)	2.23 (1.13)	2.30 (1.17)	2.30 (1.17)	2.18 (1.12)	2.10 (1.06)	2.68 (1.11)	2.10 (1.06)	2.10 (1.06)	2.00 (1.10)	1.83 (1.10)				1.83 (1.10)	
IMS—racism	1.84 (1.33)	1.88 (1.32)	1.98 (1.41)	1.98 (1.41)	1.87 (1.32)	1.89 (1.44)	2.15 (1.38)	1.89 (1.44)	1.89 (1.44)	1.76 (1.30)	1.61 (1.29)				1.61 (1.29)	
IMS—heterosexism	2.32 (1.02)	2.35 (1.01)	2.30 (1.00)	2.30 (1.00)	2.37 (1.02)	2.11 (1.06)	1.88 (1.02)	2.11 (1.06)	2.11 (1.06)	2.32 (1.01)	2.35 (1.25)				2.35 (1.25)	

IMS, Intersectional Minority Stress; M, mean; SD, standard deviation.

TABLE 2. RESULTS OF HIERARCHICAL LOGISTIC REGRESSION MODELS

Variables	Outcomes			
	Alcohol use AOR (95% CI)	Heavy alcohol use AOR (95% CI)	Cannabis AOR (95% CI)	Cigarette AOR (95% CI)
Step 1				
Age	1.32 (1.24–1.42)**	1.39 (1.24–1.55)**	1.50 (1.37–1.64)**	1.42 (1.24–1.62)**
Female	1.06 (0.86–1.29)	1.08 (0.78–1.48)	1.11 (0.86–1.44)	1.11 (0.74–1.65)
Transgender	1.04 (0.86–1.26)	0.94 (0.69–1.27)	1.15 (0.91–1.46)	1.76 (1.26–2.47)**
Bisexual	1.06 (0.87–1.29)	0.99 (0.80–1.49)	1.41 (1.10–1.80)**	1.10 (0.75–1.61)
Queer	0.95 (0.60–1.51)	0.50 (0.20–1.29)	0.99 (0.55–1.77)	1.29 (0.61–2.70)
Pansexual	1.07 (0.82–1.39)	1.35 (0.90–2.01)	1.19 (0.86–1.66)	1.38 (0.88–2.18)
Other SO	0.61 (0.43–0.87)**	0.43 (0.22–0.85)*	0.55 (0.34–0.90)*	0.72 (0.38–1.37)
Asian	0.61 (0.46–0.81)**	0.62 (0.38–1.00)	0.51 (0.34–0.77)**	0.56 (0.30–1.07)
Black	0.65 (0.50–0.86)**	0.44 (0.26–0.75)**	1.00 (0.71–1.40)	0.43 (0.22–0.85)*
Bi/multiracial	0.93 (0.76–1.12)	1.10 (0.82–1.47)	1.26 (0.99–1.61)	1.41 (0.99–2.00)
Other R/E	0.98 (0.67–1.45)	1.19 (0.66–2.13)	1.28 (0.80–2.07)	1.31 (0.66–2.59)
Midwest	0.77 (0.58–1.01)	0.77 (0.48–1.23)	0.95 (0.66–1.36)	1.27 (0.75–2.14)
South	0.86 (0.68–1.09)	1.01 (0.69–1.49)	1.01 (0.75–1.37)	1.25 (0.78–1.99)
West	0.69 (0.54–0.89)**	1.15 (0.78–1.71)	1.16 (0.84–1.59)	1.12 (0.69–1.83)
Step 2				
IMS	1.22 (1.13–1.31)**	1.21 (1.08–1.36)**	1.13 (1.03–1.23)*	1.13 (0.99–1.29)
Family support	0.92 (0.85–1.00) [†]	0.75 (0.67–0.86)**	0.80 (0.72–0.88)**	0.72 (0.62–0.83)**
Step 3				
IMS	1.21 (1.13–1.31)**	1.20 (1.06–1.35)**	1.12 (1.02–1.23)*	1.13 (0.98–1.30)
Family support	0.93 (0.85–1.01)	0.77 (0.67–0.87)**	0.80 (0.72–0.89)**	0.72 (0.62–0.83)**
IMS×family support	0.98 (0.91–1.05)	0.95 (0.86–1.05)	0.98 (0.90–1.06)	1.00 (0.89–1.12)

Male, cisgender, lesbian/gay, Hispanic/Latino(a)/x, and Northeast are the reference groups for female, transgender, sexual orientation, race/ethnicity, and region covariates, respectively. Other SO = asexual, questioning, and other sexual minority identities; Other R/E = Native American, Middle Eastern, and other racial/ethnic minority identities.

[†] $p < 0.05$; * $p < 0.01$; ** $p < 0.001$.

AOR, adjusted odds ratio; CI, confidence interval; IMS, Intersectional Minority Stress.

TABLE 3. RESULTS OF HIERARCHICAL LOGISTIC REGRESSION MODELS

Variables	Outcomes			
	Alcohol use AOR (95% CI)	Heavy alcohol use AOR (95% CI)	Cannabis AOR (95% CI)	Cigarette AOR (95% CI)
Step 1				
Age	1.32 (1.24–1.42)***	1.40 (1.25–1.57)***	1.50 (1.37–1.65)***	1.43 (1.25–1.63)***
Female	1.05 (0.86–1.29)	1.09 (0.79–1.50)	1.11 (0.86–1.44)	1.13 (0.76–1.70)
Transgender	1.04 (0.86–1.26)	0.96 (0.71–1.31)	1.17 (0.92–1.48)	1.74 (1.24–2.44)**
Bisexual	1.07 (0.88–1.30)	1.12 (0.82–1.53)	1.43 (1.20–1.83)**	1.70 (1.07–2.72)**
Queer	0.96 (0.60–1.52)	0.51 (0.20–1.32)	0.99 (0.55–1.78)	1.31 (0.62–2.74)
Pansexual	1.08 (0.83–1.40)	1.38 (0.92–2.06)	1.20 (0.86–1.67)	1.40 (0.89–2.22)
Other SO	0.62 (0.43–0.89)**	0.44 (0.22–0.87)*	0.56 (0.34–0.91)*	0.73 (0.38–1.40)
Asian	0.60 (0.45–0.80)***	0.59 (0.36–0.96)*	0.49 (0.32–0.74)***	0.51 (0.26–1.00)*
Black	0.65 (0.49–0.86)**	0.44 (0.26–0.75)**	1.00 (0.71–1.40)	0.43 (0.22–0.85)*
Bi/multiracial	0.92 (0.76–1.11)	1.08 (0.80–1.45)	1.26 (0.99–1.60)	1.40 (0.98–1.99)
Other R/E	0.96 (0.65–1.41)	1.10 (0.60–2.00)	1.22 (0.76–1.98)	1.31 (0.66–2.59)
Midwest	0.78 (0.59–1.03)	0.81 (0.50–1.30)	0.98 (0.68–1.40)	1.23 (0.72–2.08)
South	0.88 (0.70–1.12)	1.05 (0.71–1.56)	1.04 (0.76–1.41)	1.22 (0.76–1.95)
West	0.71 (0.55–0.91)**	1.20 (0.80–1.79)	1.20 (0.87–1.65)	1.12 (0.68–1.83)
Step 2				
IMS—racism	1.13 (1.06–1.22)***	1.21 (1.08–1.35)***	1.14 (1.04–1.24)**	0.95 (0.84–1.08)
IMS—heterosexism	1.07 (0.99–1.15)	1.01 (0.90–1.14)	0.99 (0.90–1.08)	1.21 (1.05–1.38)**
Family support	0.92 (0.85–1.00)†	0.76 (0.67–0.86)***	0.80 (0.72–0.88)***	0.73 (0.63–0.85)***
Step 3				
IMS—racism	1.14 (1.06–1.22)***	1.22 (1.09–1.37)***	1.14 (1.04–1.24)**	0.96 (0.83–1.10)
IMS—heterosexism	1.07 (0.99–1.15)	0.99 (0.87–1.12)	0.98 (0.90–1.08)	1.20 (1.04–1.38)*
Family support	0.92 (0.85–1.01)	0.77 (0.67–0.88)***	0.80 (0.72–0.88)***	0.73 (0.63–0.85)***
IMS—racism × family support	1.02 (0.95–1.08)	1.03 (0.93–1.14)	1.00 (0.92–1.08)	1.01 (0.90–1.14)
IMS—heterosexism × family support	0.96 (0.90–1.03)	0.90 (0.81–1.00)†	0.98 (0.90–1.07)	0.98 (0.87–1.11)

Male, cisgender, lesbian/gay, Hispanic/Latino(a)/x, and Northeast are the reference groups for female, transgender, sexual orientation, race/ethnicity, and region covariates, respectively. Other SO = asexual, questioning, and other sexual minority identities; Other R/E = Native American, Middle Eastern, and other racial/ethnic minority identities.

† $p < 0.05$; * $p < 0.05$, ** $p < 0.01$; *** $p < 0.001$.

AOR, adjusted odds ratio; CI, confidence interval; IMS, Intersectional Minority Stress.

we used an online nonprobability sample that is not nationally representative like the YRBS. Future research using nationally representative samples of youth is needed to report on prevalence rates by sexual orientation and race/ethnicity to more adequately understand disparities in substance use at the intersection of these identities.

The investigation of intersectional minority stress as a risk factor for substance use among SGM adolescents is particularly important. SGM health research has historically focused on SGM-related stigma as a mechanism of health disparities. However, SGM adolescents of color experience intersectional stressors related to their SGM and racial or ethnic identity. That is, SGM adolescents of color must endure racism in addition to hetero- and cissexism, the former of which is also prevalent within SGM-specific communities. As such, investigations focused solely on SGM-related stress, do not adequately capture the extent to which stigma may be associated with substance use for SGM people of color.

As anticipated, intersectional minority stress was associated with greater odds of recent and heavy alcohol and recent cannabis use. When examining specific types of intersectional stress, our study found that racism within SGM communities was associated with greater odds of recent and heavy alcohol, and recent cannabis use, whereas heterosexism from same racial/ethnic communities was associated with greater odds of cigarette and cigar use. These types of stressors are intersectional and unique from general experiences of racism and heterosexism or cissexism. Specifically, given that these forms of oppression are perpetrated by group members where SGM adolescents of color may experience a sense of community or shared experience of oppression (e.g., shared experience of racism among other adolescents of color and experience of heterosexism or cissexism among their SGM peers), these experiences might be further deleterious and add to their experience of invisibility and isolation within these respective communities.

As expected, family support was inversely related to substance use among SGM adolescents of color, which supports previous studies that document the protective effect of parent-child relationship quality in both general and SGM adolescent samples. Unfortunately, counter to expectations, family support did not moderate the relationship between intersectional minority stress and substance use. These findings are not necessarily inconsistent with previous studies, which suggest that family support is not enough to mitigate the harmful effects of minority stress on the health and behaviors of SGM adolescents.²⁵

Future research may benefit from exploring other family-child relationship processes (e.g., parent-child) and interactions that may be specific to SGM adolescents of color. For example, some families may be more apt to discuss SGM adolescents' racial, ethnic, sexual, and/or gender identity and prepare SGM adolescents for their experiences of stigma. Research supports that youth whose parents engage in racial-ethnic socialization practices with their children—parenting behaviors that communicate positive messages about race and culture—report better mental and behavioral health outcomes.²⁶ Such investigations of specific parenting practices and family-child processes around racial/ethnic and SGM identities could provide fruitful avenues of future research and intervention that attend to the unique resilience

processes of SGM adolescents of color.²⁴ Although focusing on parents is important, research is also needed to examine structural and community-level factors that target reducing and dismantling racism, heterosexism, and cissexism.

Limitations

We have several limitations to note. First, data are from a nonprobability internet-based sample, which limit generalizability. Although it is unlikely that a probability sample would include measures of intersectional minority stress, we recognize this as a limitation that could be addressed through replication of other samples. Second, we test these processes within a racially and ethnically diverse sample, and therefore may obscure potential uniqueness across youth of different racial and ethnic backgrounds. Future research that disaggregates and examines stress and family relationships among youth of different racial/ethnic backgrounds may illuminate unique experiences, challenges, and factors contributing to resilience.

Finally, our measure of intersectional minority stress only focused on two domains (racism in SGM communities and heterosexism within same racial/ethnic communities); thus, additional forms of intersectional minority stress that SGM adolescents of color may experience in varying contexts were not comprehensively assessed. Future research would benefit from developing additional intersectional measures for SGM adolescents of color.

Conclusion

Our findings indicate that intersectional minority stress is a risk factor for substance use for SGM adolescents of color. Although family support did not moderate these associations, it was still protective against substance use. This study provides support for stigma and stress-based models^{7,10} as well as intersectionality theory,¹² and underscores the need to examine intersectional stressors and to bolster family supports to prevent substance use and misuse among SGM adolescents of color.

Authors' Contributions

E.H.M. contributed to study conceptualization, data analysis, and writing; J.N.F. contributed to study conceptualization, writing, review, and editing; R.J.W. contributed to study conceptualization, data collection and cleaning, article review, and editing. All co-authors reviewed and approved the article before submission.

Disclaimer

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