



Subtle and Intersectional Minority Stress and Depressive Symptoms Among Sexual and Gender Minority Adolescents of Color: Mediating Role of Self-Esteem and Sense of Mastery

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Abstract

Little research has examined subtle, intersectional, and everyday minority stress, such as microaggressions specific to being a queer person of color, and its associations with depressive symptoms among sexual and gender minority adolescents (SGMA) of color. Moreover, research is needed to identify mechanisms that might explain the associations between minority stress and depression. This study examined the associations between subtle and intersectional minority stress (i.e., SGMA of color-specific microaggressions) and depressive symptoms among SGMA of color and tested self-concept factors (i.e., self-esteem and sense of mastery) as mediators of these associations. A large national US sample of SGMA of color ($N=3398$; 31.8% transgender; 55.7% plurisexual) ages 13 to 17 years ($M=15.56$, $SD=1.27$) were recruited online. Participants' race/ethnicity were Asian/Pacific Islander (12.2%), Black/African American (13.2%), Hispanic/Latina(o)/x (30%), Native American/Alaska Native (1.2%), Middle Eastern (1.9%), Biracial or Multiracial (40%), and other racial/ethnic minority groups (1.7%). Over and above the effects of racism and SGM-based victimization, subtle intersectional minority stressors were associated with greater depressive symptoms and lower self-esteem and sense of mastery. Mediation analyses indicated that subtle intersectional minority stressors had indirect effects on depressive symptoms through lower self-esteem and sense of mastery for the aggregate sample of SGMA of color and most racial/ethnic groups in the sample. The results demonstrate that subtle and intersectional minority stress is a unique and significant form of minority stress that is a risk factor for depressive symptoms for SGMA of color. Moreover, our findings underscore self-concept mechanisms as targets for prevention and intervention.

Keywords Depression · Racial/ethnic minorities · Sexual minority · Gender minority · Adolescents · Minority stress · Microaggressions · Queer people of color · Self-esteem · Sense of mastery

Sexual and gender minority adolescents (SGMA) are two to three times more likely to report depressive symptoms than heterosexual and cisgender adolescents (Johns et al., 2019; Kann et al., 2018; Marshal et al., 2011). Underscoring the pervasiveness of this public health problem, a recent

study of over 40,000 SGMA across the USA found that over half of SGMA experienced symptoms of major depressive disorder (The Trevor Project, 2020). These mental health disparities are known to begin in adolescence and to persist into adulthood (Marshal et al., 2013), which is alarming as depressive symptoms in adolescence are associated with more severe psychiatric disorders in adulthood (McLeod et al., 2016).

A limitation of the extant SGMA disparities in depression literature is that it has often not examined the intersection of race/ethnicity, sexual orientation, and/or gender identity among SGMA. Research suggests that SGMA of color report higher depressive symptoms when compared to their same-race counterparts (Bostwick et al., 2014; O'Donnell et al., 2011). For example, Black sexual minority adolescents are three times more likely to report depressive symptoms than their Black heterosexual counterparts (Mereish et al., 2019). There are also

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racial differences in mental health outcomes among SGMA. American Native or Pacific Islander, Latino, and Multiracial SGMA are at greater risk for feeling sad compared to White SGMA (Bostwick et al., 2014). Additionally, Latin(a)o SGMA have higher prevalence of major depressive disorders than Black SGMA (O'Donnell et al., 2011). These disparities are compounded because SGMA of color are less likely to receive mental health services than White SGMA (The Trevor Project, 2019). Despite SGMA of color's elevated risk for depression, the etiology of depressive symptoms at the intersection race, sexual orientation, and gender is not well-understood. Therefore, more research is needed to examine factors that contribute to depressive symptoms among SGMA of color.

Multiple Minority Stressors Among SGMA of Color

The minority stress model is the most widely used theoretical framework to understand health disparities among sexual and gender minority people. The model posits that SGMA experience unique and chronic stressors (i.e., minority stressors) related to their marginalized identities and these minority stressors contribute to poor health outcomes, including depressive symptoms (Meyer, 2003). Minority stressors include distal (e.g., discrimination, victimization) and proximal (e.g., internalized stigma, concealment of one's sexual orientation or gender identity) stressors; both stressors are associated with depressive symptoms and other mental health challenges among SGMA (Russell & Fish, 2016).

Similar to the minority stress model among SGM populations, research primarily focusing on mental health disparities among racial and ethnic minority communities has focused on the impact of racism-based stressors on health (Carter, 2007; Harrell, 2000; Myers, 2009). Racism-based stressors are multidimensional and vary from lifetime and daily forms of acute and subtle racism (e.g., discrimination), vicarious racism experiences, structural racism, collective race-related stress, and transgenerational transmission of racism-based stress (Harrell, 2000). Importantly, these racism-based stressors are associated with depressive symptoms among racial and ethnic adolescents of color (Carter et al., 2017; English et al., 2020).

Need for Examining Subtle and Intersectional Minority Stressors Among SGMA of Color

The majority of the literature on minority stress and depressive symptoms among SGMA has focused on acute and overt forms of distal minority stressors, such as homophobic or transphobic victimization or discrimination (Balsam et al., 2011). However, there is little attention to the more daily and

subtle forms of distal minority stress, such as microstressors or microaggressions, which may be more chronic for SGMA (Harrell, 2000; Nadal et al., 2011). Although microstressors, or more commonly known as microaggressions, are associated with poor mental health outcomes among sexual and gender minority adults (Ramirez & Paz Galupo, 2019; Wright & Wegner, 2012) as well as among racial and ethnic minorities (Carter et al., 2017; English et al., 2020; Harrell, 2000), there is a dearth of studies examining their associations among SGMA concurrently, particularly in SGMA of color who may experience multiple minority stress, such as racist and heterosexist microaggressions (Munro et al., 2019; Nadal et al., 2011). Given that microaggressions occur more frequently than overt forms of discrimination (e.g., Harrell, 2000; Nadal et al., 2011), it is likely that microaggressions uniquely affect mental health.

According to intersectionality theory (Collins, 2000; Crenshaw, 1995), a Black feminist framework, SGMA of color experience unique minority stressors related to their intersecting marginalized identities. These multiple forms of minority stressors (e.g., racism, heterosexism) are perpetuated by interlocking structural systems of privilege and oppression (Collins, 2000; Crenshaw, 1995). Scholars examining minority stress among SGM of color illuminate their experiences of racism and invisibility in SGM communities, heterosexism and transphobia in their own racial and ethnic communities, and racism in dating and close relationships (Balsam et al., 2011; Fattoracci et al., 2020). However, to our knowledge, no study has examined the unique contributions of subtle and intersectional minority stressors on depressive symptoms among SGMA of color, and there is little work examining mechanisms that might explain the associations between minority stress and depression.

Self-Concept: Mediating Mechanisms of Self-Esteem and Sense of Mastery

The psychological mediation framework, an adaptation of the minority stress model, posits that challenges to general psychological processes critical for healthy psychosocial adjustment may help explain the associations among minority stress and health outcomes (Hatzenbuehler, 2009). One of these psychological mechanisms could be self-concept, which is how individuals view themselves and within their larger social contexts. Self-concept is an important developmental factor for adolescents as they begin to form their identities and overall sense of self (Crocetti, 2017; Velez & Spencer, 2018). Adolescence is hallmarked by increased self-awareness and heightened sensitivity to social evaluation, exclusion, and rejection (Dahl & Gunnar, 2009), which may have implications for the ways in which SMGA

appraise their own sense of self-worth and integrate their marginalized social identities. Given that the nature of minority stress is specific to one's identity, it is plausible that minority stressors can negatively impact adolescents' self-concept and contribute to depression among SGMA.

Self-esteem and sense of mastery are considered two main factors of self-concept (Rosenberg, 1985). Self-esteem is a person's evaluation of their own sense of worth or value, and sense of mastery is an individual's overall sense of control of their life and environment (Pearlin & Schooler, 1978; Rosenberg, 1965). Minority stressors are associated with lower self-esteem and sense of mastery among SGM individuals (Austin & Goodman, 2017; Lehavot et al., 2010; Mereish & Goldstein, 2020). Meta-analytic work demonstrates that self-esteem is associated with lower depressive symptoms (Sowislo & Orth, 2013); as is sense of mastery (Turner et al., 2010). Yet, whether self-esteem and sense of mastery help to explain the association between minority stressors and depressive symptoms among SGMA of color is an untested research question. Identifying these mediating self-concept mechanisms can inform targets for prevention and intervention strategies that may interrupt the link between minority stressors and depressive symptoms.

The Current Study

The purpose of this study was to examine associations among subtle and intersectional forms of minority stressors unique to SGMA of color, self-esteem, sense of mastery, and depressive symptoms among a large sample of SGMA of color. First, to identify the unique effects of subtle forms of intersectional minority stressors, we examined its relationship with depressive symptoms while accounting for SGMA's overall experiences with racism and SGM-based victimization. We hypothesized that minority stressors would be positively associated with depressive symptoms in our aggregate sample and across all subgroups of SGMA of color, over and above more overt and broad forms of minority stress. The second aim of this study was to test two modifiable self-concept mechanisms, self-esteem and sense of mastery, as mediators of the associations between subtle intersectional minority stressors and depressive symptoms. We hypothesized that subtle intersectional minority stress would be associated with lower self-esteem and sense of mastery, and these mediators would be associated with greater depressive symptoms. The association between minority stressors and depressive symptoms was expected to be indirectly linked through both self-esteem and sense of mastery. Lastly, given the lack of research on subtle and intersectional minority stressors unique to SGMA of color and the potential for racial and ethnic differences, we examined sociodemographic differences in the study's constructs.

Methods

Procedures

Data are a subsample of SGMA of color ($N=3,398$) from the *LGBTQ National Teen Survey*, a comprehensive survey of risk and protective factors and health outcomes of 17,112 SGMA across the USA (Watson et al., 2020). Inclusion criteria were identification as a sexual and/or gender minority, ages 13 to 17 years old, a resident of the USA, and ability to speak English. Through a collaboration with the Human Rights Campaign (HRC), participants were surveyed in 2017 via several mediums of recruitment. First, HRC utilized their wide-reaching social networks (e.g., Twitter, Facebook, Instagram) to sample teens who identified as SGM. Social influencers shared these posts on their personal Twitter accounts to better recruit participants. Second, HRC partnered with community-based organizations who agreed to share the survey link to their networks. Third, teens who completed the survey shared the link with their own networks (e.g., snowball sampling). Consistent with prior work with SGMA, parental permission was waived by the University of Connecticut Institutional Review Board. Adolescent assent was obtained. Upon completion of the study, participants were compensated for their time with free HRC wristbands and entry into a drawing for Amazon.com gift cards. More detailed information regarding the study design and data cleaning and preparation can be found elsewhere (Watson et al., 2020).

Participants

Participants were 13 to 17 years old ($M=15.56$, $SD=1.27$). Participants race/ethnicity were Asian/Pacific Islander (12.2%), Black/African American (13.2%), Hispanic/Latina(o)x (30%), Native American/Alaska Native (1.2%), Middle Eastern (1.9%), Biracial or Multiracial (40%), and other racial/ethnic minority groups (1.7%). Most participants reported their assigned sex at birth as female (74%) and mostly were cisgender (68.2%) and 31.8% were transgender. Sexual orientation identities were bisexual (36.9%), gay/lesbian (35.7%), pansexual (15.4%), asexual (4.1%), queer (3.4%), questioning (2.4%), and other (2.1%). Participants were from the South (39%), West (28.4%), Midwest (17.1%), and Northeast (15.5%). More detailed participant information for the aggregate sample and by race/ethnicity is presented in Table 1.

Measures

Sociodemographics Sex assigned at birth (what sex were you assigned at birth?), gender identity (what is your current gender identity?), race/ethnicity (Black or African

Table 1 Sociodemographic and descriptive statistics for the sample

	Full sample (<i>N</i> = 3398)	Asian/Pacific Islander (<i>n</i> = 413)	Black/African American (<i>n</i> = 447)	Hispanic/ Latina(o) (<i>n</i> = 1019)	Native American/ Alaska Native (<i>n</i> = 40)	Middle Eastern (<i>n</i> = 64)	Biracial/multiracial (<i>n</i> = 1358)	Other (<i>n</i> = 57)
Age <i>M</i> (<i>SD</i>)	15.56 (1.27)	15.56 (1.32)	15.77 (1.19)	15.59 (1.28)	15.48 (1.28)	15.70 (1.20)	15.50 (1.27)	15.04 (1.31)
	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)
Sex assigned at birth								
Male	883 (26.0)	118 (28.6)	126 (28.2)	300 (29.4)	10 (25.0)	11 (17.2)	306 (22.5)	12 (21.1)
Female	2515 (74.0)	295 (71.4)	321 (71.8)	719 (70.6)	30 (75.0)	53 (82.8)	1052 (77.5)	45 (78.9)
Gender identity								
Cisgender male	782 (23.0)	103 (24.9)	111 (24.8)	273 (26.8)	8 (20.0)	11 (17.2)	265 (19.5)	11 (19.3)
Cisgender female	1537 (45.2)	207 (50.1)	232 (51.9)	467 (45.8)	13 (32.5)	34 (53.1)	567 (41.8)	17 (29.8)
Transgender male	232 (6.8)	14 (3.4)	19 (4.3)	63 (6.2)	6 (15.0)	3 (4.7)	117 (8.6)	10 (17.5)
Transgender female	28 (0.8)	4 (1.0)	4 (0.9)	7 (0.7)	1 (2.5)	0 (0.0)	11 (0.8)	1 (1.8)
Trans-masculine/NB	746 (22.0)	74 (17.9)	70 (15.7)	189 (18.5)	11 (27.5)	16 (25.0)	368 (27.1)	18 (31.6)
Trans-feminine/NB	73 (2.1)	11 (2.7)	11 (2.5)	20 (2.0)	1 (2.5)	0 (0.0)	30 (2.2)	0 (0.0)
Gender identity								
Cisgender	2319 (68.2)	310 (75.1)	343 (76.7)	740 (72.6)	21 (52.5)	45 (70.3)	832 (61.3)	28 (49.1)
Transgender	1079 (31.8)	103 (24.9)	104 (23.3)	279 (27.4)	19 (47.5)	19 (29.7)	526 (38.7)	29 (50.9)
Sexual orientation								
Gay/lesbian	1212 (35.7)	150 (36.3)	150 (33.6)	401 (39.4)	17 (42.5)	24 (37.5)	449 (33.1)	21 (36.8)
Bisexual	1255 (36.9)	173 (41.9)	184 (41.2)	389 (38.2)	11 (27.5)	27 (42.2)	458 (33.7)	13 (22.8)
Queer	117 (3.4)	14 (3.4)	12 (2.7)	30 (2.9)	0 (0.0)	3 (4.7)	54 (4.0)	4 (7.0)
Pansexual	522 (15.4)	43 (10.4)	73 (16.3)	135 (13.2)	6 (15.0)	7 (10.9)	249 (18.3)	9 (15.8)
Asexual	141 (4.1)	19 (4.6)	9 (2.0)	30 (2.9)	1 (2.5)	3 (4.7)	75 (5.5)	4 (7.0)
Questioning	81 (2.4)	10 (2.4)	9 (2.0)	13 (1.3)	2 (5.0)	0 (0.0)	42 (3.1)	5 (8.8)
Other	70 (2.1)	4 (1.0)	10 (2.2)	21 (2.1)	3 (7.5)	0 (0.0)	31 (2.3)	1 (1.8)
Geographical location								
Northeast	526 (15.5)	80 (19.4)	73 (16.3)	123 (12.1)	4 (10.0)	11 (17.2)	220 (16.2)	15 (26.3)
Midwest	581 (17.1)	60 (14.5)	98 (21.9)	114 (11.2)	8 (20.0)	8 (12.5)	282 (20.8)	11 (19.3)
South	1325 (39.0)	109 (26.4)	242 (54.1)	416 (40.8)	16 (40.0)	21 (32.8)	501 (36.9)	20 (35.1)
West	966 (28.4)	164 (39.7)	34 (7.6)	366 (35.9)	12 (30.0)	24 (37.5)	355 (26.1)	11 (19.3)
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
QPOC microaggressions	2.13 (1.13)	2.23 (1.13)	2.30 (1.18)	2.18 (1.12)	2.10 (1.06)	2.68 (1.12)	2.01 (1.11)	1.83 (1.10)
QPOC micro. sum	8.84 (3.53)	8.75 (3.44)	9.21 (3.39)	9.12 (3.40)	8.88 (2.91)	9.70 (3.08)	8.53 (3.68)	8.12 (3.96)
Racism	1.96 (0.78)	1.87 (0.72)	2.26 (0.75)	2.02 (0.76)	1.85 (0.85)	2.21 (0.83)	1.86 (0.80)	1.64 (0.82)
SGM-victimization	0.90 (0.87)	0.64 (0.76)	0.74 (0.83)	0.86 (0.83)	1.35 (0.92)	1.14 (0.89)	1.01 (0.90)	1.17 (0.85)
Self-esteem	1.43 (0.67)	1.45 (0.61)	1.56 (0.67)	1.48 (0.70)	1.35 (0.58)	1.41 (0.63)	1.37 (0.65)	1.29 (0.70)
Mastery	1.32 (0.61)	1.31 (0.57)	1.39 (0.62)	1.36 (0.64)	1.24 (0.65)	1.22 (0.51)	1.29 (0.60)	1.26 (0.69)
Depressive symptoms	14.02 (7.60)	12.90 (7.63)	13.42 (7.19)	13.86 (7.81)	15.08 (7.81)	15.50 (7.47)	14.55 (7.49)	14.96 (8.21)

QPOC queer people of color, *QPOC microaggressions* mean of reported QPOC-microaggressions, *QPOC micro.sum* sum of reported QPOC-microaggressions

American; American Indian or Alaska Native; Asian or Pacific Islander; Hispanic/Latino(a)/x; or Other), sexual orientation (how do you describe your sexual identity?), and geographical region. Response options are listed in Table 1; more detailed description of the measures is found elsewhere (Watson et al., 2020).

Subtle and Intersectional Forms of Minority Stress The 18-item Queer People of Color Microaggressions Scale (Balsam et al., 2011) was used to assess subtle and intersectional forms of minority stress. The scale has three subscales: (1) racism in SGM 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 not appropriate for adolescents. 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 ($\alpha = .88$). For descriptive purposes, we also created a count of the scale to capture the number of stressors endorsed by participants.

Racism Experiences The 9-item Racism and Life Experience Scale-Brief Version (Harrell, 1997) was used to assess overall experiences with racism (e.g., “Overall, during your lifetime, how much have you personally experienced racism, racial discrimination, or racial prejudice?”). Responses ranged from 0 (*not at all*) to 4 (*extremely*). The scale was averaged and demonstrated strong internal consistency in the present study ($\alpha = .86$).

SGM-Based Victimization Victimization based on one's sexual orientation or gender identity was assessed with a 3-item scale (Watson et al., 2019). Participants were asked: “In your lifetime, how often have any of the following things happened to you because of your sexual orientation or identity or because people think you are lesbian, gay, bisexual, transgender or queer?” Participants responded to three victimization items: *verbal insults*; *threats of physical violence*; and *objects thrown at you*. Response options ranged from 0 (*never*) to 3 (*3 + times*). The scale was averaged and demonstrated adequate internal consistency in the present study ($\alpha = .73$).

Depressive Symptoms The Kutcher Adolescent Depression Scale (Brooks et al., 2003) was used to assess depressive symptoms. The original scale has 11 items but only 10-items were included in this study, as the Teen Survey excluded the suicidality item due to the nature of the procedures and waiver of parental permission. Participants reported if they experienced any of the symptoms in the past week (e.g., “low mood, sadness, feeling blah or down, depressed, just can't be bothered”). Responses ranged from 0 (*hardly ever*) to 3 (*all of the time*). The scale was summed and had strong internal consistency in the present study ($\alpha = .89$).

Self-Esteem The 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965) assessed self-esteem (e.g., “I feel that I have a number of good qualities”). Responses ranged from 0 (*strongly disagree*) to 3 (*strongly agree*). The scale was averaged and demonstrated strong internal consistency in the present study ($\alpha = .91$).

Sense of Mastery The Pearlin Mastery Scale (Pearlin & Schooler, 1978) assessed sense of mastery (e.g., “There is really no way I can solve some of the problems I have”). The original scale has seven items but only five items were included in the

Teen Survey to reduce participant burden given the vast number of items presented. The two items not included were “I have little control over the things that happen to me” and “What happens to me in the future mostly depends on me.” Responses ranged from 0 (*strongly disagree*) to 3 (*strongly agree*). Some items were reverse coded. The scale was averaged with higher scores indicating greater sense of mastery. The scale demonstrated adequate internal consistency in the present study ($\alpha = .75$).

Analytic Plan

Descriptive, correlational, and mediation analyses were conducted using IBM SPSS Statistics version 25. For descriptive and exploratory purposes, we examined differences in our measures by race and then conducted correlational analyses to understand the associations among our variables. We then conducted regression analyses to test the direct effect of minority stress on depressive symptoms and on self-esteem and sense of mastery. We then conducted multiple mediation models to test the relations among queer people of color (QPOC)-microaggressions, mediators (self-esteem and sense of mastery), and depressive symptoms. The mediation models tested the two mediators concurrently. All regression models accounted for overall experiences of racism, SGM-based victimization, and sociodemographic variables (age, gender identity, sexual orientation, and geographical location). We conducted these analyses for the entire sample and for each racial/ethnic group separately. Due to the small number of Native American/Alaska Native ($n = 40$), Middle Eastern ($n = 64$) and the Other racial/ethnic minority group ($n = 57$), separate regression models for these subgroups were not conducted but were retained in the aggregate sample analyses as well as for descriptive purposes. The PROCESS macro was used to conduct a bias-corrected bootstrapping procedure using 5000 samples with 95% confidence intervals and to obtain indirect effects to test for mediation (Hayes, 2012).

Results

Frequency of and Racial/Ethnic Differences in Subtle and Intersectional Forms of Minority Stress

Almost all participants reported experiencing at least one QPOC-microaggression in their lifetime (97.7%). We conducted a MANOVA to test racial and ethnic differences in the study's main variables of interest. There was a significant effect for race, Wilks's $\Lambda = .96$, $F(24, 3209) = 5.38$, $p < .001$, $\eta_p^2 = .01$. To reduce the inflation of a type 1 error, we utilized the Bonferroni post hoc adjustment of the alpha value for subsequent analyses of variance (ANOVA)s. Follow-up ANOVAs revealed significant racial differences, although trivial in based on effect sizes, on QPOC-

microaggressions, $F(6, 3126) = 8.24, p < .001, \eta_p^2 = .015$; self-esteem, $F(6, 3126) = 5.73, p < .001, \eta_p^2 = .011$; sense of mastery, $F(6, 3126) = 2.78, p = .01, \eta_p^2 = .005$; and depressive symptoms, $F(6, 3126) = 3.33, p = .003, \eta_p^2 = .006$. Biracial/multiracial SGMA reported lower scores on QPOC-microaggressions than Black ($p < .001$), Asian/Pacific Islander ($p = .013$), and Hispanic/Latino(a) ($p = .012$) SGMA. SGMA who identified with the other racial/ethnic group reported lower scores on QPOC-microaggressions than Black ($p = .035$) SGMA. Middle Eastern SGMA reported higher scores on QPOC-microaggressions than biracial/multiracial ($p < .001$), Hispanic/Latino(a) ($p = .043$) and the other racial group ($p = .003$). Biracial/multiracial SGMA reported more depressive symptoms than Asian/Pacific Islander SGMA ($p = .005$). Black and Hispanic/Latino(a) SGMA reported higher self-esteem than biracial/multiracial SGMA ($p < .001$ and $p = .002$, respectively). No other differences in depressive symptoms or self-esteem were documented and none for mastery.

Associations Among Main Variables

Zero-order correlations indicated that QPOC-microaggressions were associated with lower levels of self-esteem ($r = -.23, p < .01$) and sense of mastery ($r = -.26, p < .01$) and higher depressive symptoms ($r = .31, p < .01$). Self-esteem and sense of mastery were both associated with lower depressive symptoms ($r = -.65$ and $-.59$, respectively, $p < .01$). Racism experiences and SGM-based victimization were both associated lower self-esteem ($r = -.16$ and $-.20$, respectively, $p < .01$) and sense of mastery ($r = -.19$ and $-.21$, respectively, $p < .01$) and higher depressive symptoms ($r = .25$ and $.30$, respectively, $p < .01$). QPOC-microaggressions were positively correlated with racism experiences ($r = .57, p < .001$) and SGM-based victimization ($r = .31, p < .001$); and racism experiences and SGM-based victimization were also positively associated with each other ($r = .21, p < .001$).

Table 2 Regression analyses for entire sample of sexual and gender minority youth of color

Variables	Outcomes					
	Self-esteem		Sense of mastery		Depressive symptoms	
	<i>B (SE)</i>	β	<i>B (SE)</i>	β	<i>B (SE)</i>	β
Step 1						
Age	0.03 (0.01)	0.05**	0.02 (0.01)	0.05**	-0.20 (0.10)	-0.03
Transgender	-0.35 (0.03)	-0.24***	-0.29 (0.03)	-0.22***	4.20 (0.30)	0.26***
Sexual orientation						
Bisexual	-0.10 (0.03)	-0.07***	-0.12 (0.03)	-0.10***	1.31 (0.30)	0.08***
Queer	-0.11 (0.07)	-0.03	-0.11 (0.06)	-0.03	1.65 (0.74)	0.04*
Pansexual	-0.23 (0.04)	-0.13***	-0.17 (0.03)	-0.10***	2.13 (0.41)	0.10***
Other	-0.24 (0.04)	-0.10***	-0.19 (0.04)	-0.09***	1.92 (0.50)	0.07***
Geographical location						
Midwest	0.04 (0.04)	0.02	-0.02 (0.04)	-0.01	0.58 (0.45)	0.03
South	0.02 (0.03)	0.01	-0.06 (0.03)	-0.05	0.64 (0.39)	0.04
West	0.02 (0.04)	0.01	-0.05 (0.03)	-0.04	0.33 (0.41)	0.02
	$R^2 = .10$		$R^2 = .08$		$R^2 = .10$	
Step 2						
Racism	-0.04 (0.02)	-0.04*	-0.05 (0.02)	-0.06**	1.09 (0.19)	0.11***
SGM-Victimization	-0.08 (0.01)	-0.11***	0.08 (0.01)	-0.12***	1.63 (0.15)	0.19***
QPOC-Micro	-0.09 (0.01)	-0.14***	0.09 (0.01)	-0.17***	1.05 (0.14)	0.16***
	$R^2 = .15; \Delta R^2 = .05***$		$R^2 = .14; \Delta R^2 = .07***$		$R^2 = .21; \Delta R^2 = .11***$	
Step 3						
Racism	---	---	---	---	0.78 (0.15)	0.08***
SGM-victimization	---	---	---	---	1.01 (0.12)	0.12***
QPOC-micro	---	---	---	---	0.41 (0.11)	0.06***
Self-Esteem	---	---	---	---	-4.91 (0.20)	-0.44***
Mastery	---	---	---	---	-2.66 (0.22)	-0.22***
	$R^2 = .51; \Delta R^2 = .30***$					

Cisgender youth are the referent group for the transgender/gender minority comparison; lesbian/gay youth are the referent group for sexual orientation comparisons; Northeast is the referent group for geographical location comparisons

SGM-victimization victimization specific to sexual and gender minority identity, QPOC-micro queer people of color-specific microaggressions

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 3 Regression analyses for each minority racial/ethnic minority group

Variables	Outcomes		Sense of mastery		Depressive symptoms	
	Self-esteem		B (SE)		B (SE)	
	B (SE)	β	B (SE)	β	B (SE)	β
Asian/Pacific Islander						
Step 2						
Racism	-0.05 (0.05)	-0.05	-0.09 (0.05)	-0.11	1.40 (0.59)	0.13*
SGM-victimization	-0.04 (0.04)	-0.05	-0.03 (0.04)	-0.04	1.93 (0.51)	0.20***
QPOC-micro.	-0.12 (0.03)	-0.23***	-0.10 (0.03)**	-0.19**	1.45 (0.38)	0.22***
	$R^2 = .17; \Delta R^2 = .08***$		$R^2 = .12; \Delta R^2 = .08***$		$R^2 = .25; \Delta R^2 = .17***$	
Step 3						
Racism	---	---	---	---	0.96 (0.48)	0.09*
SGM-victimization	---	---	---	---	1.63 (0.41)	0.16***
QPOC-micro.	---	---	---	---	0.56 (0.31)	0.08
Self-esteem	---	---	---	---	-5.71 (0.63)	-0.46***
Mastery	---	---	---	---	-1.99 (0.66)	-0.15**
					$R^2 = .52; \Delta R^2 = .27***$	
Black/African American						
Step 2						
Racism	0.01 (0.05)	0.01	-0.06 (0.05)	-0.07	1.09 (0.58)	0.11
SGM-victimization	-0.04 (0.04)	-0.05	-0.02 (0.04)	-0.03	1.56 (0.44)	0.18***
QPOC-micro.	-0.13 (0.04)	-0.23***	-0.14 (0.03)	-0.27***	0.67 (0.37)	0.11
	$R^2 = .14; \Delta R^2 = .06***$		$R^2 = .17; \Delta R^2 = .10***$		$R^2 = .15; \Delta R^2 = .08***$	
Step 3						
Racism	---	---	---	---	0.91 (0.47)	0.10
SGM-victimization	---	---	---	---	1.33 (0.36)	0.15***
QPOC-micro.	---	---	---	---	-0.31 (0.36)	-0.05
Self-esteem	---	---	---	---	-4.26 (0.55)	-0.40***
Mastery	---	---	---	---	-2.99 (0.61)	-0.26***
					$R^2 = .45; \Delta R^2 = .30***$	
Hispanic/Latino/a						
Step 2						
Racism	-0.11 (0.03)	-0.12**	-0.08 (0.03)	-0.10*	1.50 (0.37)	0.15***
SGM-victimization	-0.10 (0.03)	-0.12***	-0.11 (0.03)	-0.14***	1.40 (0.30)	0.15***
QPOC-micro.	-0.05 (0.02)	-0.07	-0.08 (0.02)	-0.13**	1.12 (0.26)	0.16***
	$R^2 = .17; \Delta R^2 = .05***$		$R^2 = .17; \Delta R^2 = .08***$		$R^2 = .23; \Delta R^2 = .12***$	
Step 3						

Table 3 (continued)

Variables	Outcomes					
	Self-esteem		Sense of mastery		Depressive symptoms	
	B (SE)	β	B (SE)	β	B (SE)	β
Racism	---	---	---	---	0.77 (0.29)	0.08**
SGM-victimization	---	---	---	---	0.61 (0.23)	0.07**
QPOC-micro.	---	---	---	---	0.69 (0.20)	0.10**
Self-esteem	---	---	---	---	-4.59 (0.36)	-0.41***
Mastery	---	---	---	---	-3.04 (0.39)	-0.25***
					$R^2 = .54; \Delta R^2 = .31***$	
Step 2						
	Biracial/multiracial					
Racism	-0.03 (0.03)	-0.03	-0.03 (0.03)	-0.04	0.96 (0.29)	0.10**
SGM-victimization	-0.07 (0.02)	-0.10**	-0.09 (0.02)	-0.13***	1.55 (0.23)	0.19***
QPOC-micro.	-0.09 (0.02)	-0.16***	-0.08 (0.02)	-0.15***	1.12 (0.22)	0.17***
	$R^2 = .15; \Delta R^2 = .06***$					
Step 3						
	Racism					
Racism	---	---	---	---	0.75 (0.23)	0.08**
SGM-victimization	---	---	---	---	0.97 (0.18)	0.12***
QPOC-micro.	---	---	---	---	0.45 (0.17)	0.07*
Self-esteem	---	---	---	---	-5.09 (0.31)	-0.45***
Mastery	---	---	---	---	-2.54 (0.34)	-0.20***
	$R^2 = .52; \Delta R^2 = .30***$					

Step 1 included age, gender identity, sexual orientation, and geographical location covariates
 SGM-victimization victimization specific to sexual and gender minority identity, QPOC-micro queer people of color-specific microaggressions
 * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 4 Indirect effects of multiple and subtle minority stress (i.e., queer people of color-specific microaggressions) on depressive symptoms through self-esteem and sense of mastery

	Mediators			
	Self-esteem		Mastery	
	<i>b</i> (<i>SE</i>)	95% CI	<i>b</i> (<i>SE</i>)	95% CI
Full sample	.414 (.063)	.291, .542	.232 (.036)	.164, .306
Asian/Pacific Islander	.699 (.194)	.343, 1.106	.192 (.088)	.046, .390
Black	.558 (.160)	.267, .900	.422 (.130)	.185, .694
Hispanic/Latino/a	.203 (.114)	-.015, .435	.235 (.076)	.099, .395
Biracial/multiracial	.467 (.107)	.262, .686	.202 (.052)	.106, .312

CI confidence interval

Mediation Analyses

As presented in Table 2, regression analyses demonstrated that QPOC-microaggressions were directly associated with higher depressive symptoms ($\beta = 0.16$, $p < .001$), lower self-esteem ($\beta = -.14$, $p < .001$), and lower sense of mastery ($\beta = -.17$, $p < .001$), while accounting for sociodemographics, racism experiences, and SGM-based victimization for the aggregate sample. Self-esteem and sense of mastery were associated with lower depressive symptoms ($\beta = -.44$ and $-.22$, $p < .001$, respectively) for the aggregate sample while accounting for sociodemographics, QPOC-microaggressions, racism experiences, and SGM-based victimization. As demonstrated in Table 3, These results were consistent for Asian/Pacific Islander, Black/African American, Hispanic/Latino(a)/x, and biracial/multiracial participants.

As reported in Table 4, mediation analyses indicated that QPOC-microaggressions were indirectly associated with higher depressive symptoms through self-esteem ($B = 0.414$, $SE = 0.063$; 95% CI: 0.291, 0.542) and sense of mastery ($B = 0.232$, $SE = 0.036$; 95% CI: 0.164, 0.306) for the aggregate sample, while accounting for sociodemographics, racism experiences, and SGM-based victimization. Mediation was also supported for analyses stratified by race/ethnicity, except for the indirect association between QPOC-microaggressions and depressive symptoms through self-esteem among Hispanic/Latino(a)/x participants (indirect effects are reported in Table 4).

Discussion

The current study examined associations among subtle and intersectional forms of minority stress, self-concept factors, and depressive symptoms in a large US sample of SGMA of color. Subtle and intersectional forms of minority stress unique to SGMA of color, such as experiencing microaggressions within SGM and ethnic/racial communities, were highly prevalent among SGMA of color across all regions of

the US. Building on prior work among adults (Balsam et al., 2011), we found that nuanced, multiple, and intersectional forms of minority stress were directly associated with elevated depressive symptoms, even after accounting for the effects of overt and acute forms of minority stress (i.e., racist discrimination and SGM-based victimization). These results suggest that subtle and intersectional forms of minority stress unique to SGMA of color, such as experiencing microaggressions within SGMA and ethnic/racial communities, place SGMA of color at greater risk for depressive symptoms. Providing further confidence to these associations, our results were consistent across the aggregate sample of SGMA of color as well as for specific racial/ethnic minority groups in our sample. We also found that self-concept, self-esteem and sense of mastery, mediated the associations between minority stress and depressive symptoms. Although we documented some racial/ethnic differences in the study's constructs, these differences were small. These findings have implications for future research and clinical interventions among SGMA of color.

Our nuanced assessments of minority stressors at the intersection of heterosexism and racism within SGM and racial/ethnic communities were associated with lower self-concept among SGMA of color. Specifically, experiences of intersectional and subtle forms of minority stress specific to SGMA of color's social location was associated with lower self-reported sense of self-worth and a lower sense of control over their own lives across social domains, even after adjusting for the independent effects of heterosexist, transphobic, and racist experiences. Given the correlational and cross-sectional nature of our study, these results may also suggest that SGMA who reported lower self-worth and sense of mastery experienced greater subtle and intersectional forms of minority stress. However, prior theory and longitudinal literature suggest that discrimination is related to poorer psychological outcomes (Berkel et al., 2010; Carter, 2007; Carter et al., 2017). These findings are in line with existing research indicating that microaggressions are associated with low self-concept among sexual and gender minority adults (Wright & Wegner, 2012) and extend them to SGMA of color. Moreover, these findings corroborate existing work on SGM youth of color indicating that multiple forms of minority stress are robust predictors of psychosocial adjustment while adjusting for the independent effects of heterosexist and racist discrimination (Parra & Hastings, 2020).

These findings have important implications for the psychosocial adjustment of SGMA during a critical period of identity development. The negative effects of intersectional and subtle forms of minority stress on two constructs of self-concept, self-esteem and sense of mastery, can create challenges to identity exploration and formation among SGMA of color, as they are tasked to consolidate the meanings they ascribe to belonging to multiple marginalized social

groups during adolescence (Velez & Spencer, 2018). Moreover, challenges to identity integration during adolescence may have enduring effects which can persist into emerging adulthood and affect adaptive physiological processes for coping with multiple minority stressors (Parra & Hastings, 2020) and contribute to depressive symptoms (Santos & Van Daalen, 2016) among SGM emerging adults of color.

As expected, both self-esteem and sense of mastery were negatively associated with depressive symptoms. Our findings extend prior research with general populations (Sowislo & Orth, 2013; Turner et al., 2010) to SGMA of color. Due to the cross-sectional nature of our study, these results may also suggest that SGMA who reported heightened depressive symptoms also reported lower self-esteem and sense of mastery. Nonetheless, it is important to note that both of these self-concept factors were uniquely and independently associated with depressive symptoms, over and above the effects of subtle and overt minority stressors (i.e., SGM of color-microaggressions, racist discrimination, and SGM-based victimization). In addition to these global self-concept factors, future work should consider examining more specific forms of identity-related self-esteem, such as SGM-specific or race-specific identity pride, and how they related to depressive symptoms among SGMA of color.

Our findings are novel because they indicated that experiences of intersectional and subtle forms of minority stress were directly and indirectly associated with greater depressive symptoms among the full sample of SGMA of color through self-esteem and sense of mastery. Given that minority stressors are specific to multiple and intersectional identities, they may have depleting effects on self-concept and in turn contribute to depression for SGMA of color. Although our findings were consistent for the aggregate sample of SGMA of color as well as for almost all racial/ethnic groups in the sample, the indirect effect of minority stress on depressive symptoms through self-esteem among Latina/o SGMA was not significant. It is plausible that other complex culturally specific processes might mitigate self-esteem in the context of minority stress among Latino/a/x SGM youths (e.g., Anhalt et al., 2020), but further research is needed to unpack associations among microaggressions, self-esteem, and depressive symptoms.

Identifying self-esteem and sense of mastery as psychological mechanisms linking subtle and intersectional forms of minority stress to depressive symptoms suggests these constructs are important points of prevention and treatment for SGMA of color. From a preventative outlook, structural interventions, such as anti-heterosexism, -transphobia, or -racism policies (e.g., anti-bullying school or state policies) or SGMA-specific affirming school or community organizations (e.g., Gender Sexuality Alliances) are important in helping reduce mental health disparities (Hatzenbuehler et al., 2019). Interventions should target intersecting forms of minority stress and oppression (e.g.,

racism, heterosexism, transphobia) in order to best serve SGMA of color.

Our findings highlight the need for clinicians to assess both subtle and overt forms of intersectional minority stressors in multiple contexts that are specific to SGMA of color. Clinical interventions should also focus on identifying maladaptive beliefs about one's self concept that are related to experiences of minority stress as well as coping resources to help SGMA of color manage feelings engendered by those microaggressions. Clinicians can empower SGMA of color by validating their lived experiences of various microaggression typologies, teach clients to not blame themselves for the transgressions of others, and guide their clients toward developing a healthy sense of belonging within their cultural social groups (Nadal, 2013; Nadal et al., 2011).

The data collected and analyzed in the current study were cross-sectional and causality cannot be inferred. We aggregated gender and sexual orientation categories in order to examine the associations between subtle and intersectional forms of minority stress and depressive symptoms for each of the racial/ethnic groups in our sample. Therefore, future research should focus on examining the within-group heterogeneity of microaggressions and depressive symptoms by sexual and gender minority social group membership. Similarly, we excluded some racial/ethnic groups due to their small sample sizes. Although we accounted for potential geographical differences in our models and documented no differences in depressive symptoms, future work should also examine potential rural and urban differences. The current study relied on non-probability sampling recruitment strategies commonly used to enroll hard-to-reach populations such as SGMA. Stratified sampling recruitment efforts are necessary to adequately include and engage Native American and Middle Eastern SGM as well as transgender and non-binary adolescents in research to further understand and meaningfully address health disparities in these ethnic/racial and gender groups. Although we examined subtle and intersectional forms of minority stress specific to SGM people of color, the measure used was developed among SGM adults of color. Having an adolescent-specific intersectional microaggressions scale would have allowed for more precise assessments of the types of microaggressions experienced by SGMA of color and the meanings they ascribed to those experiences within their dynamic social contexts (e.g., school).

Despite the noted limitations, the hypothesized associations for the aggregate group of SGMA of color and for most of the specific racial/ethnic minority groups were supported by these data. Pursuing prospective studies would help to advance research in this area in critical ways. Longitudinal study designs may potentially reveal the temporal order of effects among experiences of minority stressors, intrapersonal psychological mechanisms, and deleterious mental health outcomes over time. Furthermore, given the subtle nature and

frequency of minority stressors, ecological momentary assessment studies (e.g., daily diary studies) are needed to understand the momentary associations and impacts of these stressors on health.

Overall, the current study showed that subtle and intersectional forms of minority stress may constitute unique and attendant risks to depressive symptoms among SGMA of color. The findings from the current study corroborate existing theories of minority stress, racism-based stress, microstressors/microaggressions, and intersectionality, suggesting that subtle forms of heterosexist and racist minority stressors are associated with greater depressive symptoms through low self-esteem and sense of mastery among a large US sample of SGMA of color. Applying an intersectional lens in future studies is critical for identifying and dismantling intertwining systemic and interpersonal forms of oppressions known to create and perpetuate health disparities, including challenges and access to mental health care among marginalized groups of people, particularly for those who are multiply oppressed such as SGMA of color.

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Declarations

Ethical Approval The University of Connecticut Institutional Review Board reviewed and approved this study. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Parental permission was waived by the University of Connecticut Institutional Review Board. Adolescent informed assent was obtained from all individual participants included in the study.

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Conflict of Interest The authors declare no competing interests.

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