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Sexual Racism, Psychological Symptoms, and Mindfulness Among Ethnically/Racially Diverse Young Men Who Have Sex with Men: a Moderation Analysis

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Abstract

Objectives—This study examined the potential moderating role of trait mindfulness on the association between perceived sexual racism and psychological symptoms among a community-based sample of ethnic/racial minority young men who have sex with men (MSM) residing in greater Los Angeles.

Methods—From a cross-sectional sample of 448 participants, aged 16–24 years, survey data were analyzed to examine rates of perceived sexual racism, mindfulness, psychological symptoms, and moderation by mindfulness through various analyses, including analysis of variance and logistic regression.

Results—Results indicated that Latino young MSM reported the lowest scores of sexual racism, and sexual racism was associated with higher odds of psychological symptoms, suicidal ideation with a plan in the past year, and self-injury in the past 3 months. The protective potential of mindfulness was suggested by its main effects on psychological symptoms; however, it only buffered the effects of sexual racism on suicidal ideation with a plan and self-injury, with marginal buffering effects on depression.

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Author Contributions

MAH: designed and executed the study, assisted with the data analyses, and wrote the paper. EL: collaborated with the study design, analyzed the data, and contributed to the writing of the study results, discussion, and tables. KK: collaborated with the study design, writing of the discussion, and editing of the final manuscript. MK: collaborated with the writing and editing of the final manuscript. All authors approved the final version of the manuscript for submission.

Conflict of Interest The authors declare that they have no conflicts of interest.

Ethics Statement All procedures involving human participants were in accordance with the ethical standards of the Children's Hospital Los Angeles Institutional Review Board and with the 1964 Helsinki declaration and its later amendments.

Informed Consent Informed consent was obtained from all study participants.

Conclusions—Findings underscore the potential utility of assessing sexual racism among young MSM of color, as well as the potential benefit of mindfulness approaches to buffer the effects of sexual racism on symptoms of depression. Interpretation of these findings is briefly discussed.

Keywords

Gay/bisexual; Young adults; Sexual objectification; Depression

Young men who have sex with men (MSM) are at high risk for mental health problems, which may be linked to a wide range of life challenges (Russell and Fish 2016). To successfully intervene and prevent these outcomes, research has focused on understanding drivers of poor mental health outcomes in this population. One such driver, and a construct of increasing interest, is sexual racism. *Sexual racism* among MSM can be perpetrated by White men and men of color alike, and it has been defined as "the discrimination faced by men of color in sexual and dating contexts based on their ethnicity" (Han et al. 2015; p. 143).

Sexual racism is related to sexual objectification theory, which was originally posited to understand the psychological processes by which society's over-emphasis on women as sexual objects affected the mental health of girls and women (Fredrickson and Roberts 1997). According to the theory, women may be susceptible to psychological problems, including anxiety and depression, as a result of the abundant socio-cultural messages that sexually objectify their bodies and sexual functioning. Over the last two decades, and consistent with feminist theory calling for analysis of "intersectional" systems of power that impact the socially marginalized (Crenshaw 1989), the mental health effects of sexual racism have been examined among other groups, including MSM of color.

The empirical literature on sexual racism among adult MSM of color has documented perceived sexual racism as a correlate of emotional challenges (including depression, anxiety, and stress) (Bhambhani et al. 2018), body image-related cognitive rigidity (Bhambhani et al. 2019), and as a source of psychological stress tied to sexual risk behavior (Han et al. 2015). Sexual racism is reported at high rates among adult MSM. Diaz et al. (2001), in their probabilistic sample, were among the first to quantitatively examine sexual racism in their study exploring the influence of social oppression (i.e., poverty, racism, homophobia) on mental health among Latino MSM. In this study, 62% of men reported perceived sexual racism by a male partner. Similarly, in an online survey of Australian MSM ($N = 2177$) who used sex or dating web platforms, perceived sexual racism was reported by 58% of the sample and nearly the entire sample (96%) recalled at some point viewing a racially discriminatory sex or dating profile (Callander et al. 2015). In this study, researchers compared the factors associated with MSM's general racist attitudes to factors associated with attitudes specific to online sexual racism and found that both attitudes shared nearly the same identified factors. The authors concluded that sexual racism is closely tied to general racist attitudes in their sample, "which challenges the idea of racial attraction as solely a matter of personal preference" (p. 1991). Indeed, sexual partner preference, at least among Black MSM, may be the result of sexual racism perpetrated upon them by other MSM and this pairing may carry real health risk consequences. For example, a study conducted among

a probabilistic sample of White, Black, Latino, and Asian MSM in San Francisco found that Black MSM—the racial group most disproportionately infected with HIV—were least preferred as sexual partners and friends, and three times more likely to engage in same-race sexual partnering, thereby, further increasing their susceptibility to HIV infection (Raymond and McFarland 2009).

Relatively few studies have examined sexual racism quantitatively among young MSM in the US (Newcomb et al. 2015; Wong et al. 2010b). One study examined associations between victimization, perceived social discrimination, and drug use among 526 young MSM, aged 18–24 years (Wong et al. 2010b). Compared to White young MSM, Black young MSM were overall less likely to report drug use. However, among Black young MSM who reported perceived sexual racism, the risk for drug use was significantly *greater* than White young MSM. A similar, albeit marginally significant, pattern emerged for Latino young MSM. Another study examining sexual racism among young MSM compared differences in race-based sexual stereotypes endorsed by White, Black, or Latino young MSM (aged 16–20) toward either Black or Latino sexual partners (Newcomb et al. 2015). Participants, who all generally indicated same-race sexual partner preference, were found to possess several racial stereotypes including rating Black partners as stereotypically dominant in gender role, likely to be an insertive partner during anal intercourse (i.e., “the top”), and rating sex with Latinos as likely to be “hot and passionate.”

Several qualitative studies corroborate these findings through more descriptive accounts of perceived sexual racism among samples of ethnic/racial minority young MSM (Follins 2014; Hidalgo et al. 2013; Wilson et al. 2010). In one sample of 39 young MSM aged 15 to 23 years, Black participants reported receiving societal messages that reinforced racist notions in which Black males were “highly sexualized or exoticized as sexually pleasing” (Wilson et al. 2010) (p. 177). Another qualitative study examined experiences of social stigma and sexual risk among a multi-ethnic sample of 21 young MSM, aged 18–24 years (Hidalgo et al. 2013). Latino and Black participants in this study reported that their sexual partners applied cultural stereotypes to them including that they were “sexually insatiable,” hypermasculine and “thuggish,” or passive, and they perceived these stereotypes to be the primary source of their partners’ attractions. Among a third, smaller sample of Black and Latino young MSM, aged 18–22 years, participants reported both sexual and non-sexual situations in which male partners made racialized statements fetishizing penis size, circumcision status or inferred that participants were sexually skilled on account of their race (Follins 2014). While these qualitative studies did not examine the psychological toll of sexual racism on participants, a subset of Latino participants in two of the studies minimized the effects by attributing these experiences to innocuous partner preference (Follins 2014; Hidalgo et al. 2013), similar to a subset of cases found in the study of Australian MSM, noted previously (Callander et al. 2015).

The majority of research examining outcomes of sexual racism among young MSM has focused on sexual risk behavior (For further reading, see Newcomb et al. 2015). One known study examined the effects of sexual racism on the mental health of young MSM by including sexual racism as a latent factor of minority stress (Meyer 1995), which was associated with depression in a broader structural equation model (Wong et al. 2014).

Findings from additional studies of adult MSM also suggest a connection between sexual racism and psychological symptoms. For example, lifetime experiences of sexual racism were identified as predictors of current poor self-esteem and psychological distress including symptoms of depression and anxiety in the study by Diaz et al. (2001), noted previously. Findings from key studies since, also conducted among adult MSM of color, suggest that sexual racism is associated with various other psychological challenges including substance use (Souleymanov et al. 2018) and body dissatisfaction (Davids et al. 2015). These findings are consistent with other studies, conducted among heterosexual adult and adolescent samples, which have connected perceived racial discrimination to psychological symptoms including depression, anxiety, and somatization (Broman et al. 2000; Greer 2011; Umana-Taylor and Updegraff 2007).

Increasingly, research has examined how trait mindfulness can play a moderating role on depressive and anxiety symptoms among those who report perceptions of racial discrimination (Graham et al. 2013; Shallcross and Spruill 2018) and other forms of social prejudice (i.e., gender nonconformity, Keng and Liew 2017). Trait mindfulness can be described as a tendency to be informed by self-direction of non-judgmental attention and awareness to present-moment feelings, thoughts, and sensations (Kabat-Zinn 2003). The benefit of trait mindfulness on mental health has been well documented, and this salubrious connection has driven the incorporation of mindfulness into several evidence-based psychotherapeutic interventions (For a comprehensive review, see Creswell 2017). One pathway through which mindfulness is theorized to decrease anxiety and depression is by reducing rumination over past and future events (Kabat-Zinn 2003).

In a recent study of 57 Black adults, aged 19–50, mindfulness was found to moderate the relationship between racist events (in the past 12 months) and current anxious arousal (i.e., somatic symptoms of anxiety), such that the relationship between racist events and anxious arousal was not significant at high levels of mindfulness (Graham et al. 2013). Mindfulness was not found to similarly prevent the association between racist events and generalized anxiety, although it was significantly negatively associated with both anxious arousal and generalized anxiety. These findings suggest that mindfulness may reduce (i.e., attenuate) the effects of various forms of anxiety but its potential to protect against (i.e., buffer) the effects of racism will depend on greater specificity of both racial and anxiety variables.

A second study, conducted among a predominantly Black and Latino sample of ethnic and racial minority adults ($N = 97$), examined the moderating role of trait mindfulness on the association between perceived lifetime racial discrimination and current depressive symptoms (Shallcross and Spruill 2018). Findings indicated that those reporting high levels of perceived discrimination were likely to report low levels of depressive symptoms when high in mindfulness, and elevated depressive symptoms when reporting low levels of mindfulness.

Despite these promising findings that suggest mindfulness may buffer or attenuate the deleterious effects of racism on psychological symptoms, no known studies have examined mindfulness among young MSM of color who report experiences of sexual racism.

The aim of this study is to test three hypotheses. The first hypothesis is that Latino young MSM will report significantly lower rates of sexual racism compared to Black and multi-racial/ethnic (MRE) young men in the sample. The second hypothesis is that young MSM reporting past experiences of sexual racism will be more likely to report psychological symptoms, including symptoms of somatization, depression, anxiety, and suicidality and self-injury. The third hypothesis is that trait mindfulness will moderate the association between sexual racism and psychological symptoms.

Method

Participants

Sample and race/ethnicity subgroup demographics are summarized in Table 1. The majority of the sample identified as only Latino (58.9%) with the remainder identifying as only Black (21.0%) or MRE (20.1%). The mean age was 22.30 (SD = 2.20) years old. Fifty-one participants reported living with HIV.

Procedure

The current study is based on an analysis of baseline data from the Healthy Young Men's (HYM) cohort study, a longitudinal study conducted among a large sample (N = 448) of young MSM of color. The HYM cohort study aims to prevent and reduce HIV incidence among young MSM of color by examining factors contributing to their successful engagement in care. Both young MSM living with HIV (YLWH, n = 50) and HIV-negative (HIV-, n = 400) YMSM were eligible to participate in the study. Additional eligibility criteria included young men who (1) were 16 to 24 years old; (2) were assigned a male sex at birth; (3) self-identified as gay, bisexual, or uncertain about their sexual orientation; (4) reported a sexual encounter with a man within the previous 12 months; (5) self-identified as African American/Black, Hispanic/Latino, or multi-racial/ethnic; and (6) lived in Los Angeles or a surrounding county with no expectation of moving outside of this area for at least 6 months.

Described in greater detail elsewhere (Kipke et al. 2019), the study procedures involved both venue-based and social media recruitment strategies conducted in Los Angeles, California, and the surrounding area. All youth were screened for eligibility and those screened as eligible were invited to participate in the study. Participants provided written informed consent during a face-to-face consenting visit and participants received $65 for their study visit. This study received Institutional Review Board approval from Children's Hospital Los Angeles (#14–00279).

Measures

Sexual Racism—Experiences of sexual racism were assessed with a widely used 20-item scale originally developed to measure frequency of social discrimination (racism, police brutality, discrimination due to sexual identity) occurring among adult MSM (Diaz and Ayala 2001; Diaz et al. 2001). From the original scale, items measuring experiences of discrimination in childhood were excluded, leaving 16 items measuring discrimination in adulthood. Of these 16 items, 10 items addressed racism. Factor analysis of the 10 racism

items indicated a two-factor structure (sexual racism and institutional racism; see Table 2). Sexual racism (α = 0.83) included six items measuring sexual and romantic rejection or objectification due to participant's race or ethnicity (e.g., "How often have you been turned down for sex because of your race or ethnicity?"). For each item, frequency of experience was collected using a 4-point scale (0 = never, 3 = many times). Responses to all six items were averaged to create a sexual racism subscale score. Sexual racism was standardized prior to analysis.

Psychological Symptoms—The 18-item Brief Symptom Inventory (BSI-18) (Asner-Self et al. 2006) was employed to assess current symptoms of somatization, depression, and anxiety (i.e., within the past 7 days). To identify participants whose symptoms reached a clinical level of concern, BSI subscale scores were converted to T scores. Scores greater than or equal to 63 indicate clinical concern. To compare participants above and below the threshold for clinical concern, scores for somatization, depression, and anxiety were dichotomized (< 63, no clinical concern = 0, ≥ 63, yes clinical concern = 1) (Derogatis and Melisaratos 1983). Participants reported any general suicidal ideation, suicidal ideation with a plan, suicide attempts within the past 12 months, and non-suicidal self-injurious behavior within the past 3 months, given that each is among the sequelae of severe depression and anxiety. The alphas for the depression, anxiety, and somatization subscales, respectively, were 0.78, 0.84, and 0.84.

Mindfulness—To assess trait mindfulness, researchers administered the Mindfulness Attention Awareness Scale (MAAS) (Brown and Ryan 2003). The MAAS assesses an individuals' tendency to pay attention to everyday experiences or discomforts (e.g., "I tend not to notice feelings of physical tension or discomfort until they really grab my attention.") using a 6-point response scale (1 = almost never, 6 = almost always). Individual responses to items were averaged to create a single trait mindfulness score (α = 0.77) which was standardized prior to analysis. Researchers chose this measure of trait mindfulness because, at 15 items, it is more brief than other measures and because it has been employed with other multi-ethnic US samples of young adults (Black et al. 2012; MacKillop and Anderson 2007).

Key Demographic Characteristics—Participants reported their race/ethnicity, age, and HIV status. Race/ethnicity was divided into three categories: Latino, Black, and multi-racial/ethnic (MRE). MRE included any participants who indicated identifying as Latino or Black and any other race. Participant age was included as an integer value and standardized prior to analysis. HIV status was indicated by self-report (0 = HIV-, 1 = YLWH). Continuous variables (i.e., age and internalized homophobia) were standardized prior to inclusion in analyses.

Stressful Life Events and Severity—Participants indicated whether they had experienced each of 32 stressful life events during the last 6 months (0 = no, 1 = yes). The list of stressful life events included a subset of 27 items from Nott and Vedhara's (1995) scale for stressful events among men who have sex with men living with HIV (e.g., "You had problems or difficulties with a close friend") and a further five items representing

additional stressful events identified as salient to young men who have sex with men in prior research conducted by this team ("You came out to your family"; Wong et al. 2010a). A score representing the total number of stressful life events was created by summing the number of events endorsed. In addition, for each stressful life event endorsed, participants rated the severity of that stressor over the last 6 months (1 = low, 10 = high). A mean stress severity score was created by averaging stress severity ratings across endorsed events. Stress total and stress severity scores were standardized prior to analysis.

Internalized Homophobia—Researchers also controlled for internalized homophobia when testing hypothesis two, given its high association with psychological distress (Szymanski et al. 2008). Internalized homophobia was measured using the Revised Internalized Homophobia Scale (IHP-R; Herek et al. 1998); it included four items measured on a scale ranging from strongly disagree (0) to strongly agree (3). IHP scores were created by averaging across item responses (α = 0.89) and standardized prior to analysis.

Data Analyses

To test our first hypothesis and investigate differences in reports of sexual racism between race/ethnic groups, we employed an analysis of variance. A model building approach employing logistic regression was utilized to first test the main effect of sexual racism with odds of psychological symptoms, and then to examine mindfulness as a moderator of the sexual racism-mental health association. In the first step of model building, we modeled bivariate associations of sexual racism and odds of psychological symptoms. Second, we added mindfulness to the model attenuation and main effects of the primary predictors. Third, we added all covariates to the model to test robustness of first level effects. Informed by findings from Graham et al. (2013), highlighting the importance of specificity in measuring racism, models controlled for internalized homophobia and experiences of stressful events and their severity in addition to demographic covariates. Finally, we added the interaction between mindfulness and sexual racism to test moderation. Following the model building process, a sensitivity analysis was conducted by comparing the full moderation model, adjusted for covariates, with an adjusted moderation model. The data analysis for this study was generated using SAS software, Version 9.4 (Copyright ©2012 SAS Institute Inc.).

Results

Participants reported between 0 and 22 stressful life events with an average of 7.32 events (*SD* = 4.22) during the past 6 months, with mean stress severity of 6.43 (*SD* = 1.86). Experiences of sexual racism were common in the sample with 82.4% endorsing at least one item on the sexual racism subscale, and the average sexual racism score was 0.83 (*SD* = 0.73). The average mindfulness score was 3.85 (*SD* = 0.74).

The sample included 54 (12.1%) cases of clinically significant levels of somatization, 51 (11.4%) cases of depression, and 46 (10.3%) cases of anxiety. With regard to suicidality over the past 12 months, 10.6% of the sample reported general suicide ideation, 5.6% reported suicide ideation with a plan, and 3.9% reported suicide attempts. In addition, 5.9% of the sample reported self-injury during the past 3 months. General suicide ideation was

the most common suicide indicator with 46 (10.3%) participants reporting ideation during the past 12 months. Suicide ideation with a plan and suicide attempts, both in the last 12 months, were reported by 24 (5.6%) and 17 (3.9%) participants, respectively. Twenty-six (5.9%) participants reported self-injurious behavior during the past 3 months. Racial/ethnic subgroup rates of mental health and suicide outcomes are detailed in Table 1.

Race/Ethnicity Differences in Perceptions of Sexual Racism

Table 1 shows race/ethnicity subgroup scores for sexual racism. Latino young MSM reported the lowest average level of sexual racism, with MRE young MSM next, and Black young MSM reporting the highest average level of sexual racism. Analysis of variance comparing the sexual racism scores between each racial/ethnic groups indicated significant group level differences ($p < 0.0001$). As hypothesized, Latino young MSM reported significantly lower levels of sexual racism than Black ($p < 0.0001$) and MRE ($p = 0.0002$) young MSM. Black and MRE young MSM did not differ in the level of perceived sexual racism reported ($p = 0.61$).

Sexual Racism, Trait Mindfulness, and Psychological Symptoms

Table 3 illustrates results from select steps of the model building process. In bivariate models, sexual racism was associated with odds of somatization, depression, anxiety, general suicide ideation, ideation with a plan, and marginally associated with self-injury, but not with odds of suicide attempts. When trait mindfulness was added to main effects models, the effect of sexual racism was reduced (i.e., odds ratio reduced) for somatization, depression, and anxiety, and the effects became non-significant (i.e., odds ratio non-significant) for general suicide ideation, ideation with a plan, and self-injury. Furthermore, in the main effects model, trait mindfulness was associated with lower odds of all seven psychological symptoms.

Moderation by Mindfulness

The adjusted and unadjusted models in Table 3 show results of moderation models with and without covariates, respectively. When controlling for covariates, trait mindfulness moderated the association between sexual racism and odds of suicide ideation with a plan and self-injury, and it marginally moderated depression. Moderation adjusted for covariates was not significant in models predicting odds of somatization, anxiety, general suicide ideation, or suicide attempts. Adjustment for covariates demonstrated robustness of sexual racism, mindfulness, and their interaction through stability in effects magnitude and significance. Unadjusted moderation models help elucidate the sensitivity of the model to covariates. As shown in Table 3, unadjusted moderation models indicated trait mindfulness moderated the association between sexual racism and odds of depression, anxiety, suicide ideation with a plan, and self-injury. The additional significant moderation by trait mindfulness in adjusted models can likely be explained, in part, by the sensitivity to inclusion of stressful events severity which frequently demonstrated significant and strong effects on the odds of psychological symptoms.

Discussion

This was the first known study to quantifiably examine the effects of sexual racism on psychological symptoms of young MSM of color, while also examining the extent to which trait mindfulness may moderate those effects. The study tested several hypotheses, the review of which frames part of this discussion.

As part of the first hypothesis, researchers compared ratings of sexual racism and hypothesized that the lowest scores of sexual racism would be among Latinos, compared to Black and MRE young MSM. The rate of perceived sexual racism reported by this sample (82%) was higher than those reported among samples of adult MSM, noted previously (Callander et al. 2015; Diaz and Ayala 2001). Consistent with the first hypothesis, Latino young MSM reported the lowest scores of sexual racism, significantly lower than Black and MRE young MSM. Findings from qualitative samples of young MSM of color have highlighted that they experience race-based stereotypes from sexual encounters at similar rates regardless of their race (Follins 2014; Hidalgo et al. 2013; Wilson et al. 2010). However, some of these studies have also brought light to the variability in which participants' attribute their sex partners' race-based sexual stereotypes to racism versus innocuous partner preference (Follins 2014; Hidalgo et al. 2013). For example, some youth described these enactments as discriminatory while others attributed them to an innocuous partner preference. While these studies do not provide an analysis of these perspectives by racial subgroup, both articles characterize the "partner preference not prejudice" paradigm by featuring quotes exclusively from Latino young MSM. Taken together, these findings as well as those from the current study should not suggest that Latino young MSM experience less sexual racism than other young MSM of color. However, future research should examine the attributions made by young MSM of color who are encountering sexual racism, and the degree to which these attributions buffer the effects of racism on mental health or other relevant outcomes, including sexual health. Latino MSM may also vary in their physical features and skin color, and since those who "pass" as White would presumably be targeted less by sexual racism, future research may also examine the degree to which perceptions of sexual racism by Latino young MSM differ based on their skin tone or other physical features. As another possible explanation, although no known research has examined this possibility, Latino young MSM may report lower levels of sexual racism because they may select partners who are less likely to sexually objectify them on the basis of race.

As a second hypothesis, researchers tested if experiences of sexual racism increased the likelihood that young MSM would report symptoms of somatization, depression, anxiety as well as suicidal ideation (with and without a plan), past suicide attempts, and self-injury. As hypothesized, sexual racism was associated with higher odds of psychological symptoms, suicidal ideation with a plan in the past year, and self-injury in the past 3 months. These results support findings from the few studies conducted among adult and adolescent samples, including MSM of color, linking racial discrimination, and more specifically, sexual racism, with psychological symptoms (Broman et al. 2000; Diaz and Ayala 2001; Greer 2011). Contrary to the hypothesis, however, odds for both suicidal ideation without a plan and suicide attempts were not increased by sexual racism. While it was associated with

odds of suicidal ideation on the bivariate level, sexual racism was fully attenuated by the addition of mindfulness to the model. Thus, suggesting that mindfulness is a protective factor against suicidal ideation, but does not fully attenuate effects of stressful events severity, which remains significant. In terms of suicide attempts, it may be that indicators of distress aside from sexual racism are more significant drivers of suicide attempts (e.g., hopelessness, isolation, low self-esteem).

The protective potential of mindfulness was suggested by its attenuating impact on the main effects of sexual racism on psychological symptoms (i.e., attenuated scores on somatization, anxiety, lifetime suicidal ideation, suicidal ideation with a plan in the past year, and self-injury). The main effects of mindfulness were also associated with lower odds of all psychological symptoms. However, contrary to the third study hypothesis, mindfulness only buffered the effects of sexual racism on suicidal ideation with a plan and self-injury, with marginal buffering effects on depression. The unadjusted models may present a possible explanation for this finding. For example, noted in the unadjusted model (Table 3), mindfulness significantly moderates the association between sexual racism and odds of both anxiety and depression, in addition to stability in moderation of self-injury and suicide ideation with a plan. The stressful life events severity measure may be a more precise predictor of outcomes and may, thus, "wash out" effects because it measures participant's *perception of impact* of stressors rather than perceived frequency (e.g., sexual racism score).

In addition, although not specifically hypothesized in this study, the consistent and strong association between stressful life events severity and odds of psychological symptom outcomes should be noted. Severity of stressful life events was associated with higher odds of somatization, depression, anxiety, suicide ideation (without a plan), and suicide attempt. Indeed, when modeling the odds of depression and controlling for stressful life events severity, the moderation between sexual racism and mindfulness became non-significant, suggesting the robustness of stressful life events severity as a potential determinant of mental health. Also of note, mechanisms linking racial discrimination to psychological symptoms may vary by discrimination sub-type *and* psychological outcome. For example, suicide attempt is never associated with sexual racism even at the bivariate level, but it is related to stressful life events severity.

Limitations and Future Research

Several limitations should be considered in the interpretation of these study findings. First, these findings are based on cross-sectional data derived entirely from self-report questionnaires. This design limits the ability to infer directionality from these findings while also increasing the potential for participant response biases, such as social desirability (i.e., common method bias) (Podsakoff et al. 2003; Podsakoff et al. 2012). A second limitation concerns the generalizability of the findings. Although the sample was entirely comprised of young MSM of color, it represented a cohort of HIV-negative young men recruited using social media and a venue-based recruitment strategy and young men living with HIV having been recruited from HIV-care settings within a large metropolitan catchment. Study results, therefore, may not generalize to young MSM unlikely to engage in health research or from less urban areas. A third limitation stems from the use of the MAAS, a measure with notable

critiques. These critiques concern the MAAS being unidimensional in its assessment of acting with awareness but less comprehensive in its assessment of other key mechanisms and components of mindfulness (Coffey and Hartman 2008), such as acceptance (Grossman 2011; Van Dam et al. 2010), and non-judgmental awareness (Baer et al. 2006). The item and response format of the MAAS have also been critiqued for being negatively worded and better describing perceived inattention than mindfulness (Van Dam et al. 2010). A fourth study limitation is that the measures employed in this study are on many different time scales (e.g., 7 days for clinical diagnoses, 12 months for suicide, 3 months for self-injury, 6 months for stressful life events, adulthood generally for discrimination); therefore, precision and consistency in measurement could improve estimation of associations and comparison of effects in a single model.

In addition to suggestions for future research already noted above, future studies may also need to explore whether mindfulness moderates the effects of racism differently across racial/ethnic subgroups (i.e., third level effects). It is possible that Black young MSM—who reported higher levels of sexual racism—are also responding differently than Latino young MSM.

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Table 1

Demographic characteristics and descriptive statistics

	Total (*n* = 448) ***M* [*SD*]**	**Latino (*n* = 264)** ***M* [*SD*]**	**Black (*n* = 94)** ***M* [*SD*]**	**MRE (*n* = 90)** ***M* [*SD*]**	**ANOVA** ***p* value**[2]
Sexual racism[1]	0.83 [0.73]	0.67 [0.61][a]	1.11 [0.82][b]	1.02 [0.83][b]	<0.0001
Mindfulness (1–6)	3.85 [0.74]	3.90 [0.73]	3.81 [0.71]	3.75 [0.82]	
Covariates					
Age	22.30 [2.02]	22.09 [2.02]	22.79 [1.96]	22.40 [2.00]	
IHP	1.65 [0.71]	1.60 [0.70]	1.79 [0.79]	1.66 [0.65]	
Stress total	7.32 [4.22]	7.01 [3.77]	7.43 [4.47]	8.13 [4.98]	
Stress severity	6.43 [1.86]	6.39 [1.85]	6.45 [1.84]	5.54 [1.90]	
Psychological symptoms	*n* [%]	*n* [%]	*n* [%]	*n* [%]	
Somatization (BSI-18)	54 [12.1]	30 [11.4]	13 [13.8]	11 [12.2]	
Depression (BSI-18)	51 [11.4]	27 [10.2]	11 [11.7]	13 [14.4]	
Anxiety (BSI-18)	46 [10.3]	28 [10.6]	6 [6.4]	12 [13.3]	
Suicide ideation (12 months)[1]	46 [10.6]	27 [10.6]	7 [7.5]	12 [14.1]	
Suicide plan (12 months)[1]	24 [5.6]	13 [5.1]	3 [3.2]	8 [9.4]	
Suicide attempt (12 months)[1]	17 [3.9]	10 [3.9]	3 [3.2]	4 [4.8]	
Self-injury (3 months)[1]	26 [5.9]	13 [5.0]	5 [5.4]	8 [9.2]	

Note. MRE, multi-racial/ethnic; *IHP*, internalized homophobia

[1]Values based on valid responses

[2]Bonferroni correction for multiple tests of comparison indicated significant differences ($p < 0.0167$) between cells marked with “a” and “b” superscript

Table 2

Factor loadings for experiences of racist discrimination

	Sexual racism	Institutional racism
As an adult, how often have you been hit or beaten up because of your race or ethnicity?		0.77
As an adult, how often have you been treated rudely or unfairly because of your race or ethnicity?	0.42	0.61
As an adult, how often have you been harassed by police because of your race or ethnicity?		0.71
How often have you been turned down for a job because of your race or ethnicity?		0.74
How often have you been made to feel uncomfortable in a gay bar or club because of your race or ethnicity?	0.56	
How often have you had trouble finding lover relationships because of your race or ethnicity?	0.70	
In sexual relationships, how often do you find that people pay more attention to your race or ethnicity than to who you are as a person?	0.73	
How often have you been turned down for sex because of your race or ethnicity?	0.69	
How often did you hear sexual comments about your race or ethnicity?	0.76	
How often have you been made to feel sexually objectified (like a piece of meat) because of your race or ethnicity?	0.82	

Note. $n = 448$. Factor loadings < 0.4 suppressed. Factor analysis based on principal components analysis with varimax rotation for ten items from the discrimination scale by Diaz and Ayala (2001)

Table 3

Associations between sexual racism and odds of psychological symptoms, moderated by mindfulness

	Somatization		Depression		Anxiety		Suicide ideation		Ideation with plan		Suicide attempt		Self-injury	
	OR	**CI [LL, UL]**	**OR**	**CI [LL, UL]**	**OR**	**CI [LL, UL]**	**OR**	**CI [LL, UL]**	**OR**	**CI [LL, UL]**	**OR**	**CI [LL, UL]**	**OR**	**CI [LL, UL]**
Bivariate effects model														
Intercept	0.12	[0.09, 0.16]	0.12	[0.08, 0.16]	0.10	[0.07, 0.14]	0.11	[0.08, 0.16]	0.06	[0.04, 0.09]	0.04	[0.02, 0.10]	0.06	[0.04, 0.09]
Sexual racism	**1.75**	[1.34, 2.28]	**1.59**	[1.22, 2.09]	**1.68**	[1.27, 2.23]	**1.38**	[1.04, 1.83]	**1.48**	[1.02, 2.12]	1.34	[0.87, 2.08]	*1.43*	[0.98, 2.07]
Main effects model														
Intercept	0.93	[0.06, 0.14]	0.09	[0.06, 0.13]	0.06	[0.04, 0.10]	0.10	[0.07, 0.15]	0.05	[0.03, 0.08]	0.04	[0.02, 0.06]	0.05	[0.03, 0.08]
Sexual racism	**1.50**	[1.13, 1.99]	**1.36**	[1.02, 1.81]	**1.36**	[1.02, 1.85]	1.22	[0.91, 1.64]	1.29	[0.87, 1.89]	1.17	[0.74, 1.84]	1.29	[0.88, 1.89]
Mindfulness	**0.42**	[0.30, 0.29]	**0.44**	[0.31, 0.62]	**0.29**	[0.20, 0.44]	**0.58**	[0.42, 0.80]	**0.55**	[0.36, 0.84]	**0.57**	[0.35, 0.94]	**0.62**	[0.40, 0.94]
Adjusted moderation model														
Intercept	0.08	[0.05, 0.14]	0.07	[0.04, 0.12]	0.06	[0.03, 0.11]	0.07	[0.04, 0.13]	0.03	[0.01, 0.07]	0.02	[0.01, 0.05]	0.04	[0.02, 0.07]
Sexual racism	**1.66**	[1.10, 2.48]	**1.56**	[1.04, 2.35]	**1.89**	[1.16, 3.08]	1.34	[0.91, 1.96]	**1.97**	[1.14, 3.39]	0.96	[0.50, 1.84]	**1.76**	[1.05, 2.96]
Mindfulness	**0.40**	[0.26, 0.61]	**0.42**	[0.28, 0.64]	**0.26**	[0.15, 0.43]	**0.61**	[0.42, 0.90]	**0.44**	[0.25, 0.76]	0.71	[0.41, 1.25]	**0.50**	[0.29, 0.85]
Covariates														
Black	0.81	[0.35, 1.89]	0.66	[0.27, 1.62]	**0.20**	[0.06, 0.67]	0.57	[0.22, 1.49]	0.56	[0.14, 2.17]	0.58	[0.12, 2.68]	1.10	[0.35, 3.42]
MRE	0.48	[0.19, 1.21]	0.88	[0.38, 2.06]	0.57	[0.22, 1.47]	1.02	[0.44, 2.36]	1.47	[0.53, 4.13]	0.90	[0.23, 3.52]	1.37	[0.49, 3.85]
Age	0.78	[0.56, 1.09]	1.19	[0.83, 1.70]	1.26	[0.84, 1.90]	*0.75*	[0.53, 1.05]	0.73	[0.46, 1.16]	0.70	[0.41, 1.19]	**0.62**	[0.40, 0.95]
YLWH	1.52	[0.57, 4.03]	1.47	[0.53, 4.05]	1.17	[0.36, 3.85]	1.66	[0.61, 4.48]	1.88	[0.55, 6.42]	0.40	[0.04, 3.66]	0.85	[0.18, 3.98]
IHP	0.97	[0.70, 1.34]	**1.65**	[1.20, 2.26]	**1.51**	[1.06, 2.15]	0.95	[0.67, 1.34]	1.08	[0.69, 1.69]	1.11	[0.66, 1.88]	1.11	[0.73, 1.67]
Stress total	**1.57**	[1.13, 2.18]	1.22	[0.87, 1.70]	1.21	[0.84, 1.73]	1.27	[0.90, 1.79]	1.07	[0.69, 1.67]	1.20	[0.69, 2.11]	*1.45*	[0.94, 2.24]
Stress severity	**1.50**	[1.01, 2.21]	**1.56**	[1.06, 2.31]	**1.63**	[1.05, 2.52]	**2.58**	[1.67, 3.98]	*1.70*	[0.99, 2.90]	**4.06**	[1.85, 8.92]	1.09	[0.67, 1.78]
Moderation														
SR × mindfulness	1.17	[0.86, 1.61]	*1.34*	[0.97, 1.86]	1.316	[0.90, 1.91]	1.21	[0.82, 1.53]	**1.77**	[1.10, 2.85]	0.73	[0.47, 1.14]	**1.89**	[1.14, 3.12]
Unadjusted moderation model														
Intercept	0.09	[0.06, 0.13]	0.08	[0.05, 0.13]	0.05	[0.03, 0.09]	0.10	[0.07, 0.14]	0.04	[0.02, 0.07]	0.03	[0.02, 0.06]	0.05	[0.03, 0.08]
Sexual racism	**1.76**	[1.23, 2.52]	**1.73**	[1.20, 2.49]	**1.91**	[1.22, 2.97]	*1.38*	[0.98, 1.94]	**1.92**	[1.18, 3.13]	1.03	[0.59, 1.81]	**1.77**	[1.11, 2.81]
Mindfulness	**0.37**	[0.25, 0.54]	**0.36**	[0.24, 0.54]	**0.23**	[0.14, 0.37]	**0.53**	[0.37, 0.76]	**0.39**	[0.03, 0.66]	*0.61*	[0.37, 1.03]	**0.46**	[0.28, 0.78]
Moderation														
SR × mindfulness	1.25	[0.93, 1.67]	**1.38**	[1.02, 1.86]	**1.45**	[1.03, 2.05]	1.21	[0.91, 1.60]	**1.78**	[1.13, 2.82]	0.86	[0.60, 1.24]	**1.76**	[1.10, 2.81]

Note. *OR*, odds ratio; *CI*, 95% confidence interval; *LL*, lower limit; *UL*, upper limit; *IHP*, internalized homophobia; *YLWH*, Young MSM living with HIV; *SR*, sexual racism. Bold indicates $p < 0.05$, italics indicate $p < 0.10$