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Major discriminatory events and suicidal thoughts and behaviors amongst Black Americans: Findings from the National Survey of American Life

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Abstract

Background: Risk for suicide is growing among certain groups of Black Americans, yet the topic remains understudied. Discrimination appears to increase risk for suicidal thoughts and behaviors, but the evidence has been mixed for Black Americans. This study aimed to examine the association between major discriminatory events and suicidal thoughts and behaviors among Black American adults.

Methods: We drew data from the National Survey of American Life, a representative sample of Black Americans, and used multivariable logistic regression to examine the associations between nine major discriminatory events and suicidal thoughts and behaviors (ideation, plan, attempt), adjusting for sociodemographic characteristics and psychiatric disorders.

Results: We found that some major discriminatory events increased odds of reporting suicidal thoughts and behaviors, while others did not. Further, findings suggest the mediating role of psychiatric disorders.

Limitations: The study drew from cross-sectional data and did not allow for causal inferences.

Conclusions: Major discriminatory events have important implications for clinical practice, as well as diagnostic criteria when considering race-related stressors as a precipitator of suicidal thoughts and behaviors.

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CRediT authorship contribution statement

Hans Oh: Writing - review & editing. **Kyle Waldman:** Writing - review & editing. **Ai Koyanagi:** Writing - review & editing. **Riana Anderson:** Writing - review & editing. **Jordan DeVylder:** Writing - review & editing.

Declaration of Competing Interest

None.

Keywords

Suicide; Discrimination; Suicidal ideation; Black Americans; African Americans

1. Introduction

In the United States, approximately 7.5% of Black Americans have had suicidal ideation and 2.7% have attempted suicide at some point in life (Joe et al., 2006). Generally, suicide is a public health concern (Control and Prevention, 2002; Joe et al., 2006), with statistics showing that Whites (specifically males) have the highest rate of suicide death out of all racial groups (Control and Prevention, 2002). However, this gap is beginning to narrow (Day-Vines, 2007), and suicide mortality continues to disproportionately impact certain racial and ethnic minority groups (Al-Mateen and Rogers, 2018) who are under-researched and have disproportionately less access to mental health resources (Ojeda and McGuire, 2006; Sentell et al., 2007; Wang et al., 2005). It is becoming increasingly important to understand the social risk factors that contribute to suicidal thoughts and behaviors among Black Americans (e.g. Walker, 2007; Walker et al., 2005). One social risk factor of interest is discrimination, which is defined as the unjust or prejudicial treatment of individuals on the basis of race, age, sex, or another socially defined characteristic (see Dovidio and Gaertner, 1986). Black Americans report more discriminatory experiences than their White counterparts (Lee et al., 2019). Discrimination can alter the hypothalamic-pituitary-adrenal axis, which has been associated with numerous health problems (Jackson et al., 2010; Jackson and Knight, 2006); a large body of literature has shown that these discriminatory experiences can lead to adverse health effects (Pascoe and Smart Richman, 2009), mental health problems (Brown, 2003; Landrine and Klonoff, 1996; Mickelson and Williams, 1999; Oh et al., 2016; Williams et al., 1997), and suicidal thoughts and behaviors (Castle et al., 2011; Cheng et al., 2010; Gomez et al., 2011).

However, the literature has not been entirely consistent when examining discrimination and suicidal thoughts and behaviors for Black Americans. Gomez et al. (2011) studied emerging adults and found that racial discrimination was only significantly associated with suicide attempts among Latino Americans and White Americans, but not Black Americans. Similarly, Castle et al. (2011) found perceived discrimination was not associated with suicidal ideation or attempts. Gattis and Larson (2016) studied a sample of Black youth (aged 16–26, mostly homeless, nearly half of the sample non-heterosexual) and showed that racial discrimination was associated with higher levels of depressive symptoms, but not suicidal ideation, plan, or attempt. Arshanapally et al. (2018) found that among African American adolescents and young adults, discrimination increased the odds for any suicidal ideation, plan, or attempt after adjusting for psychiatric disorders; however, associations were no longer statistically significant after adjusting for maternal experiences of racial discrimination, depression, and problem drinking, implicating other social determinants and (epi)genetic factors. Walker et al. (2017) used longitudinal data and found that among African American youth, perceived racial discrimination was significantly associated with subsequent death ideation (thinking about death, including suicide). Likewise, Assari et

al. (2017) found that among African American and Caribbean Black youth, perceived discrimination was associated with higher odds of suicidal ideation.

The inconsistency of findings may partly be due to the fact that prior studies did not account for various forms of discrimination, which is a multi-faceted construct that impacts health through multiple and complex pathways. The stress literature suggests that there are two different kinds of stress: one is a minor chronic type that can be characterized as daily hassles, while the other is a major type that can be characterized as events requiring significant readjustment (see DeLongis et al., 1982; Kanner et al., 1981). Along these lines, discrimination can be understood as everyday discrimination and major discriminatory events. Recently, Oh et al. (2019) found that everyday discrimination increased risk for suicidal thoughts and behaviors among racial and ethnic minorities; however, to our knowledge, no studies have examined the associations between specific major discriminatory events and suicidal thoughts and behaviors among Black American adults. Moreover, the aforementioned studies were primarily conducted with youth and young adults and did not uniformly adjust for DSM psychiatric disorders using strong measures. In this study, we drew data from a representative sample of Black Americans to analyze the associations between several major discriminatory events and suicide outcomes.

2. Materials and methods

2.1. Sample and procedures

This paper analyzed data from the National Survey of American Life (NSAL; Jackson et al., 2004), a national household probability sample of 5191 Black Americans (3570 African Americans and 1621 Caribbean Black Americans) that was conducted between the years 2001 and 2003 using the World Health Organization Composite International Diagnostic Interview (WHO CIDI; Kessler and Üstün, 2004). The study population included non-institutionalized adults over the age of 18 who were selected through a multistage probability sampling strategy to achieve nationally representative samples of African Americans living in the United States (Heeringa et al., 2004). Special supplements were used to oversample from census block groups with high-density of individuals of Caribbean national origin. The response rate for the overall NSAL sample was 72.3% (70.7% for African American and 77.7% for Caribbean Blacks). Details on the sampling strategy and interview procedures have been described in depth elsewhere (see Pennell et al., 2004). The survey investigators provided survey weighting, stratification, and cluster sampling variables to adjust for errors inherent in complex sampling techniques used in the NSAL.

2.2. Measures

2.2.1. Lifetime suicidal thoughts/behaviors (Dependent variable)—In 81.4% of the sample, suicidal thoughts/behaviors was assessed through a written self-report module for respondents literate in English, which helps mitigate the influence of social desirability bias. Another 17.4% of the sample were asked the suicidal thoughts/behaviors questions in face-to-face interviews in the respondents' primary language. Prior studies have found that prevalence of suicidal thoughts and behaviors did not vary depending on self-report module vs. face-to-face interviews (DeVylder et al., 2015). In keeping with prior studies that

used these data, the responses were collapsed into three separate variables: suicidal ideation, suicide plans, and suicide attempts. Respondents reported (yes/no) to whether they had ever seriously thought about suicide; if yes, respondents were then asked (yes/no) if they had ever made a plan, and if they had ever made an attempt.

2.2.2. Major discriminatory events—Discrimination was assessed using a questionnaire adapted from the Lifetime Discrimination sub scale of the Detroit Area Study Discrimination Questionnaire (DAS-DQ; Taylor et al., 2004), and had a Cronbach's alpha of 0.64. Respondents indicated whether or not they had ever experienced nine specific major discriminatory events in their lifetimes (see Table 1). These events were non-specific, and did not specifically refer to racial discrimination. We also created a continuous variable that counted the number of discriminatory events (ranging from 0 to 9).

2.2.3. Sociodemographic characteristics (Covariates)—In accordance with prior literature, sociodemographic covariates that have been known to be related to both discrimination and suicidal thoughts and behaviors include: age, sex (male, female), ethnicity (African American, Caribbean Black), income (poor, near poor, non-poor), education (less than high school, high school graduate, some college, college graduate and beyond) (Garrison, 1992; Krieger, 2000; Mościcki, 1999).

2.2.4. Psychiatric disorders (Covariates)—Lifetime psychiatric disorders were based on the Word Mental Health Composite International Diagnostic Interview (Kessler and Üstün, 2004), a fully structured lay interview to screen for diagnoses according to DSM-IV criteria. Lifetime psychiatric disorders were based on DSM-IV criteria, and included: (1) mood disorders (dysthymia, depressive episode, major depressive disorder), (2) anxiety disorders (agoraphobia with and without panic disorder, generalized anxiety disorder, panic attacks, panic disorder, post-traumatic stress, social phobia), (3) substance use disorders (drug abuse and dependence), and (4) alcohol use disorders (alcohol abuse and dependence). These were coded as four separate dummy variables.

2.3. Main analyses

Descriptive statistics were calculated for the overall sample, and then stratified by lifetime suicidal thoughts and behaviors. Separate multivariable logistic regression models were used to examine each individual discriminatory event and its relation to lifetime suicidal ideation, suicide plans, and suicide attempts, adjusting for socio-demographic confounders in the first block, and psychiatric disorders in the second block. Additional regression models examined the association between a continuous count of discriminatory events and suicide thoughts and behaviors. Due to small cell counts, lifetime measures of suicide were used instead of 12-month. Standard errors were estimated through design-based analyses that used the Taylor series linearization method to account for the complex multistage clustered design, with U.S. metropolitan statistical areas or counties as the primary sampling units. Sampling weights were used for all statistical analyses to account for individual-level sampling factors (i.e. non-response and unequal probabilities of selection). Individuals who reported 'not applicable' and 'I don't know' on any one of the nine items were dropped from the analyses. Complete case analyses were used, and sample sizes for models were allowed to vary

according to the data that were available. Effect sizes for all multivariable logistic regression models were presented as odds ratios (OR) with 95% confidence intervals (CI). For all analyses, the significance level was set at $a = =0.05$, two-tailed. All analyses were performed using STATA SE version 15.

3. Results

The prevalence of each of the nine major discriminatory events have been depicted in Table 1. The most common type of discrimination was police abuse (28.17%), while the least common type of discrimination was harassment from neighbors (8.03%). The prevalence of each discriminatory event stratified by suicidal thoughts and behaviors are presented in Fig. 1.

In models adjusting for sociodemographic characteristics, all major discriminatory events were associated with suicidal ideation with the exception of not being hired and being denied a loan Table 2. Being unfairly fired, police abuse, discouraged from education, being excluded from neighborhood, and neighborhood harassment were associated with suicide plan. Being unfairly fired, police abuse, being discouraged from pursuing education, being excluded from a neighborhood, and neighborhood harassment was associated with suicide attempt.

In models adjusting for sociodemographic characteristics and psychiatric disorders, being unfairly fired, police abuse and being discouraged from moving into a neighborhood were associated with greater odds of reporting suicidal ideation. Being unfairly fired, police abuse, and being discouraged from pursuing education were associated with greater odds of reporting suicide plan. Police abuse and being discouraged from education were the only events associated with greater odds of making a suicide attempt.

As a count of events, major discriminatory events were associated with greater odds of reporting suicidal ideation in a dose-response fashion. The count of events was not associated with suicide attempt at a conventional level of statistical significance after controlling for psychiatric disorders; however, the point-estimate still suggests a 14% increase in the odds of suicide attempt.

4. Discussion

4.1. Main findings

The goal of our study was to determine whether major discriminatory events were related to suicidal thoughts and behaviors in Black American adults. The main finding is that certain major discriminatory events independently increased the odds of reporting lifetime suicidal thoughts and behaviors, while other events did not. This provides some evidence to suggest that not all major discriminatory events hold the same meaning or confer the same amount of stress toward various suicidal thoughts or behaviors. For example, in the fully adjusted models, being unfairly fired was associated with greater odds of reporting suicidal ideation and plan, but not attempt. Being excluded from a neighborhood was only predictive of suicidal ideation, but not suicide plans or attempts. The only major discriminatory event that

came close to being predictive across all suicidal thoughts and behaviors was police abuse. The discriminatory events measure had a relatively low internal consistency, suggesting that each individual exposure may have not been capturing the same underlying construct and may explain the variability in associations between items. Despite this heterogeneity of effects across individual discriminatory exposures, the count of major discriminatory events increased the odds of reporting suicidal ideation and plans in a dose-response fashion, with a similar but non-significant pattern for suicide attempts. Overall, associations attenuated after adjusting for lifetime psychiatric disorders suggesting a partial mediation effect.

There have now been several studies linking police violence exposure to suicidal behavior, showing an extremely elevated prevalence of risk for suicide attempts among victims of sexual or physical police violence (DeVylder et al., 2018, 2017). Importantly, the present data replicate these findings in a nationally-representative sample. The odds ratio is notably smaller, however, likely reflecting the current study's use of a more general indicator of police abuse that likely included non-violent incidents. Still, police violence has emerged as an important predictor of mental health problems (Oh et al., 2017), including suicidal thoughts and behaviors, and deserves more attention in public health research.

4.2. Putative mechanisms

There are numerous pathways by which discrimination may impact suicidal thoughts and behaviors. Our findings showed that the relation between discrimination and suicidal thoughts and behaviors attenuated after adjusting for psychiatric disorders, suggesting that mental illness may function as a putative mediator. However, the associations between discrimination and suicidal thoughts and behaviors remained statistically significant despite the adjustments for psychiatric disorder, implicating other explanatory mechanisms that were not examined in the current study, such as acculturative stress (Walker, 2007), family conflict (Compton et al., 2005; Gibbs, 1997; Stack and Wasserman, 1995), and religion (Chatters et al., 2011; Taylor et al., 2011). These factors may have roles in mediating or moderating the associations we found.

On a biological level, discrimination can trigger the stress-response system, activating the hypothalamic-pituitary-adrenal (HPA) axis to release stress hormones that cause neuroinflammation. Repeated activation of the HPA axis can over time sensitize regions of the brain, making subsequent stress more impactful or more difficult to manage, resulting in mental and physical health problems such as depression and anxiety (Berk et al., 2013; Brundin et al., 2015; Raison et al., 2006) as well as alcohol and drug use. These mental health problems, in turn, can contribute to suicide risk (Borges et al., 2010, 2008).

The Interpersonal Psychological Theory of Suicide (IPTS; Van Orden et al., 2010) posits that feeling ostracized (i.e. thwarted belongingness) and thinking that one is a burden on others (Joiner et al., 2002) can give rise to suicidal thoughts. Moreover, repeated exposures to painful and fear-inducing experiences make one susceptible to suicidal behaviors. Our findings contribute to the IPTS literature by underscoring the role of discrimination as a factor that may create a sense of thwarted belongingness in workplaces, neighborhoods and communities, institutions, business establishments, public spaces, and the larger society. Additionally, discrimination may involve painful and fear-inducing experiences (Carter,

2007; Carter et al., 2005), increasing the risk for suicide attempts. The number of studies that apply the IPTS to African Americans is limited. Klibert et al. (2015) proposed a framework to understand suicide risk specifically for African Americans, highlighting the importance of interpersonal discord, feeling as though one's culture is not acceptable, and low self-concept. Repeated experiences of major discriminatory events may operate through these mechanisms.

4.3. Potential Limitations

Our findings should be interpreted bearing in mind a number of potential limitations. First, the data were cross-sectional, which does not allow us to make any causal inferences. Second, this study was exploratory and did not examine several key mediators and moderators, which may help explain the variability in findings. As alluded to earlier, prior studies have identified important mediators, such as family relations (Compton et al., 2005; Gibbs, 1997; Stack and Wasserman, 1995), negative interactions and emotional support (Lincoln et al., 2012), as well as important moderators such as acculturative stress and ethnic identity (Cheref et al., 2016; Walker et al., 2008) and religiosity (Taylor et al., 2011; Walker et al., 2018, 2014). Third, the major discriminatory events captured the range of events in various life domains, but did not elicit frequency of events or associated levels of distress. It is possible that some events may be particularly bothersome to the individual while other events may be relatively meaningless. That being said, a strength of this study was that the major discriminatory events touched on discrimination in various domains at the institutional, organizational, and structural levels. Discrimination in these forms can be insidious and slowly erode health, hindering access to timely and high-quality healthcare treatment (Wong et al., 2014). This research contributes to the identification of mechanisms that underlie specific major discriminatory events and suicidal thoughts and behaviors, which can help formulate culturally-informed assessments and interventions to identify at-risk individuals and reduce suicide attempts among people of color.

5. Conclusions

Our study has critical implications for training health and mental health professionals to monitor and care for Black Americans at risk for suicide. Discrimination screenings can be administered in various community-based health care and social service settings in Black communities to identify those who endorse specific discriminatory items, referring them to suicide prevention programs that provide psycho-education and other resources. Individuals with history of experiencing police abuse or those who have ever been discouraged from pursuing education may be particularly vulnerable, and may benefit from community-driven programs to build resilience. On a final note, scholars, practitioners, and policy-makers must endeavor to eliminate discrimination to reduce suicide risk for Black Americans.

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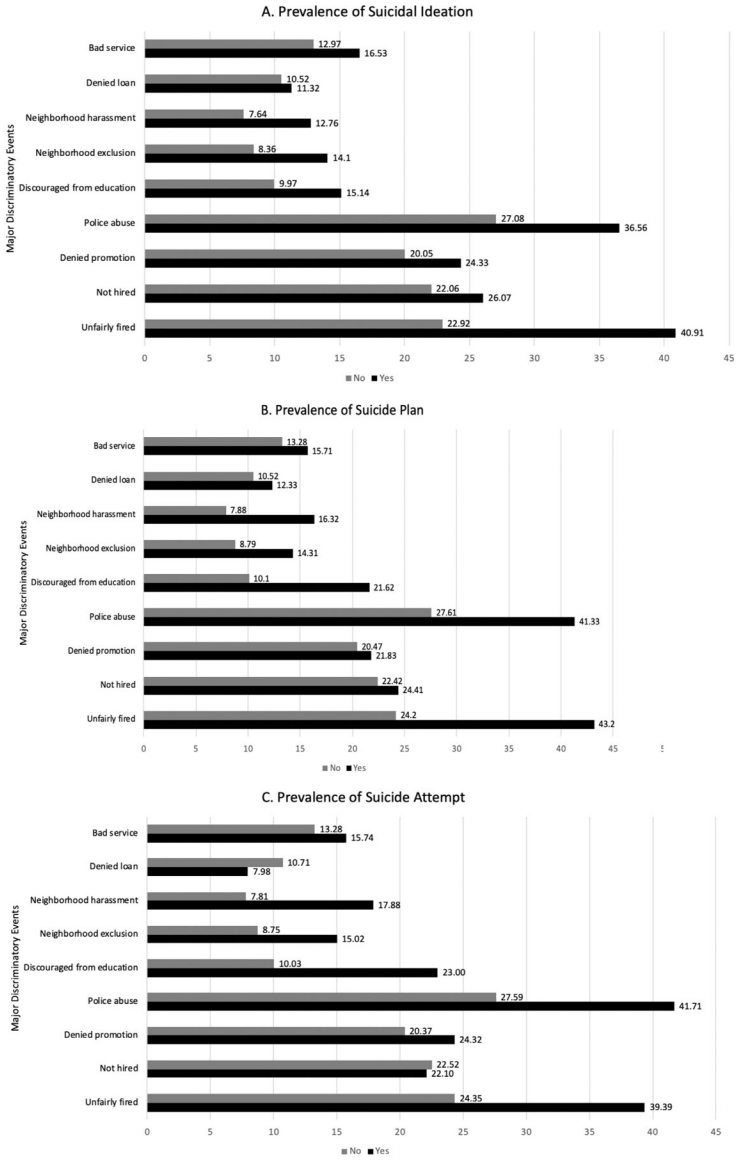

Fig. 1.

Prevalence of lifetime suicidal ideation, suicide plan, and suicide attempt National Survey of American Life, 2002.

Table 1

Descriptive statistics of major discriminatory events and lifetime suicidality.

	Total % (SE)	N	Missing N	Suicidal ideation Yes	No	χ^2	Suicide plan Yes	No	χ^2	Suicide attempt Yes	No	χ^2
Unfairly fired	24.89 (0.86)	1102	79	40.91 (2.39)	22.92 (0.92)	**52.82** ***	43.20 (3.99)	24.20 (0.87)	**26.17** ***	39.39 (4.77)	24.35 (0.81)	**13.22** ***
Not hired	22.54 (1.02)	1043	187	26.07 (2.48)	22.06 (1.14)	2.15	24.41 (3.77)	22.42 (1.08)	0.26	22.10 (4.21)	22.52 (1.08)	0.01
Denied promotion	20.39 (0.92)	914	113	24.33 (2.49)	20.05 (0.95)	3.15	21.83 (4.09)	20.47 (0.96)	0.12	24.32 (4.55)	20.37 (0.91)	0.90
Police abuse	28.17 (1.19)	1185	50	36.56 (2.97)	27.08 (1.14)	**12.57** ***	41.33 (4.65)	27.61 (1.14)	**10.70** **	41.71 (4.89)	27.59 (1.14)	**10.60** **
Discouraged from education	10.64 (0.87)	511	56	15.14 (1.82)	9.97 (0.86)	**9.05** **	21.62 (2.96)	10.10 (0.82)	**24.94** ***	23.00 (3.68)	10.03 (0.83)	**20.57** ***
Neighborhood exclusion	8.99 (0.72)	416	72	14.10 (2.05)	8.36 (0.70)	**12.19** ***	14.31 (3.81)	8.79 (0.68)	3.63	15.02 (3.38)	8.75 (0.74)	**4.98** *
Neighbor harassment	8.03 (0.51)	358	52	12.76 (1.69)	7.64 (0.55)	**13.07** ***	16.32 (4.24)	7.88 (0.56)	**7.16** **	17.88 (3.61)	7.81 (0.52)	**15.96** ***
Denied loan	10.22 (0.62)	442	222	11.32 (1.87)	10.52 (0.74)	0.34	12.33 (3.34)	10.52 (0.71)	0.40	7.98 (2.58)	10.71 (0.70)	0.54
Bad service	13.14 (0.85)	574	128	16.53 (2.38)	12.97 (0.91)	2.41	15.71 (3.98)	13.28 (0.81)	0.46	15.74 (3.55)	13.28 (0.84)	0.64

Weighted percentages (standard errors).

Rao-Scott chi-square test statistic presented.

* $p < 0.05$,.

** $p < 0.01$,.

*** Missing: Don’t Know/Refused to answer.

Missing: Don’t Know/Refused to answer

Table 2

Multi-variable logistic regression models depicting association between major discriminatory events and lifetime suicidal thoughts and behaviors.

	Lifetime suicidal ideation		Lifetime suicide plan		Lifetime suicide attempt	
	I	I + II	I	I + II	I	I + II
Major Discriminatory Events						
Unfairly fired	**2.41 (1.89–3.07)** ***	**1.83 (1.39–2.43)** ***	**2.51 (1.78–3.56)** ***	**1.82 (1.25–2.64)** **	**2.11 (1.44–3.09)** ***	1.41 (0.89–2.24)
Not hired	1.36 (0.99–1.87)	1.09 (0.78–1.52)	1.27 (0.82–1.95)	0.94 (0.60–1.47)	1.06 (0.64–1.78)	0.73 (0.40–1.30)
Denied promotion	**1.57 (1.13–2.18)** **	1.26 (0.86–1.85)	1.42 (0.79–2.55)	1.07 (0.56–2.05)	1.69 (0.99–2.89)	1.25 (0.68–2.29)
Police abuse	**1.83 (1.40–2.38)** ***	**1.34 (1.00–1.79)** *	**2.60 (1.78–3.80)** ***	**1.83 (1.26–2.66)** **	**2.53 (1.70–3.75)** ***	**1.70 (1.09–2.67)** *
Discouraged from education	**1.78 (1.28–2.48)** **	1.29 (0.90–1.85)	**2.83 (1.90–4.22)** ***	**2.01 (1.33–3.04)** **	**3.08 (1.92–4.96)** ***	**2.28 (1.35–3.85)** **
Excluded from neighborhood	**1.93 (1.38–2.72)** ***	**1.61 (1.11–2.34)** *	**1.89 (1.05–3.40)** *	1.42 (0.71–2.83)	**1.98 (1.10–3.56)** *	1.47 (0.75–2.88)
Neighbor harassment	**1.74 (1.25–2.43)** **	1.31 (0.90–1.90)	**2.20 (1.15–4.21)** *	1.53 (0.79–2.94)	**2.47 (1.49–4.12)** **	1.75 (0.99–3.09)
Denied loan	1.23 (0.79–1.92)	1.11 (0.66–1.85)	1.42 (0.70–2.88)	1.22 (0.57–2.58)	0.84 (0.39–1.79)	0.72 (0.32–1.62)
Bad service	**1.59 (1.05–2.41)** *	1.20 (0.76–1.88)	1.55 (0.82–2.93)	1.09 (0.55–2.14)	1.55 (0.89–2.70)	1.11 (0.62–1.97)
Count of events (0–9)	**1.23 (1.15–1.32)** ***	**1.12 (1.02–1.22)** *	**1.30 (1.18–1.44)** ***	**1.16 (1.03–1.32)** *	**1.29 (1.15–1.44)** ***	1.14 (0.97–1.33)
N	5810–5996	4878–4956	5810–5996	4878–4956	5810–5996	4878–4956

All discriminatory events were examined in separate models.

I. Adjusted for ethnicity, sex, age, education, income-to-poverty ratio.

II. Adjusted for lifetime substance use disorder, lifetime anxiety disorder, lifetime alcohol use disorder, lifetime mood disorder.

* $p < 0.05$;.

** $p < 0.01$,.

*** $p < 0.001$ (for the purposes of this analysis, $p < 0.01$ was considered statistically significant, while $p < 0.05$ was considered marginally significant).