

Racial Discrimination is Associated with Acute Posttraumatic Stress Symptoms and Predicts Future Posttraumatic Stress Disorder Symptom Severity in Trauma-Exposed Black Adults in the United States

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In the United States, Black residents exposed to a traumatic event are at an increased risk of developing posttraumatic stress disorder (PTSD) and experiencing more severe symptoms compared to their non-Hispanic White counterparts. Although previous work has suggested a link between racial discrimination and PTSD symptoms, no studies have assessed this association in a sample of traumatic injury survivors. The current study investigated whether (a) past racial discrimination was associated with acute posttraumatic stress symptoms (PTSS) and (b) discrimination prospectively contributed to the prediction of future PTSD symptoms. African American and/or Black patients ($N = 113$) were recruited from an emergency department in southeastern Wisconsin. Patients in the acute postinjury phase (i.e., 2 weeks posttrauma) completed self-report measures, with PTSD symptoms assessed using the Clinician-Administered PTSD Scale at 6-month follow-up. Bivariate associations indicated past racial discrimination was significantly related to acute PTSS. A multiple regression analysis revealed that pretrauma exposure to racial discrimination significantly predicted PTSD symptoms at follow-up, even after controlling for age, gender, previous psychiatric diagnosis, social support, and lifetime trauma history. Our results suggest that experiences of racial discrimination add significant additional risk for PTSD symptom development following traumatic injury, $R^2 = .16$, $F(6, 106) = 3.25$, $p = .006$. Broadly, these findings add to the body of empirical evidence and personal testimonies of Black individuals in White-centric societies asserting that racial discrimination affects mental health and overall well-being and further highlight the recent call for racism to be classified as a public health crisis.

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Posttraumatic stress disorder (PTSD) is a psychiatric condition that impacts approximately 8% of the U.S. population each year (Kilpatrick et al., 2013). Worldwide, an estimated 70% of individuals will experience a traumatic event in their lifetime (Benjet et al., 2016), a significant subset of whom will experience a traumatic injury, such as a motor vehicle collision or gunshot wound. To understand and prevent PTSD, researchers have attempted to identify risk and resilience factors for chronic symptomatology. Factors that confer a risk of developing PTSD include female gender (Kolltveit et al., 2012; Shalev et al., 2019), a history of previous psychiatric diagnoses (DiGangi et al., 2013), and lifetime trauma history (Schumm et al., 2006; Shalev et al., 2019). In addition, resilience factors have been elucidated; for example, various coping strategies (Prati & Pietrantonio, 2009) and social support from family and friends (Laffaye et al., 2008; Schumm et al., 2006) have been

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shown to contribute to PTSD symptom alleviation and the prevention of PTSD development.

Black individuals in the United States, herein referred to as Black Americans, have a higher risk of developing PTSD as well as experiencing higher levels of symptom severity and disorder chronicity compared to their non-Hispanic White counterparts (Alegria et al., 2013; Sibrava et al., 2019). Pervasive exposure to racial discrimination has been proposed as a potential mechanism or explanation regarding why Black Americans are at an increased risk of PTSD. Indeed, racial discrimination has been documented as a significant contributor to psychological sequelae in this population following trauma exposure (Kaczurkin et al., 2016; Sibrava et al., 2019).

Historically, examinations of PTSD risk factors have not included exposure to racism (Carter, 2007). Racial discrimination, which can occur across multiple settings, including at the personal (e.g., teachers, strangers, bosses) and institutional levels (e.g., workplace, health settings; D. Williams et al., 1999), is defined as unfair treatment and/or judgement of individuals who belong to a particular racial group (D. Williams et al., 1999). Within the field of psychology, racial discrimination has been studied under different names, including racism, discrimination, and prejudice, among others. As with every scientific field, the language used to describe individual experiences matters and evolves as scholars gain more insight into these processes. The term “perceived discrimination” has been used within empirical research but has been criticized as yet another example of negating and invalidating the experiences of racial and ethnic minority individuals, often referred to as “racial/ethnic microaggressions” (Banks, 2014). As recommended in previous work, the current paper omits the qualifier “perceived” and considers participants’ self-reports valid (Cheng & Mallinckrodt, 2015; D. Lee & Ahn, 2012; Sue, 2010; refer to the Method section for more information).

Racial discrimination remains a frequent occurrence, with at least 50%–60% of Black Americans reporting that they have been personally discriminated against due to their race (Robert Wood Johnson Foundation, 2017). The deleterious effects of chronic exposure to racial discrimination on an individual’s overall mental health have been well documented in the empirical literature (e.g., Carter et al., 2017; D. Williams & Mohammed, 2009). Several decades of work have aligned with Black American’s personal testimonies: Exposure to discrimination is associated with increased stress (Berger & Sarnyai, 2015). This research culminated in a formalized theory, proposed by Carter (2007), that racial discrimination could serve as a type of trauma. In support of this theory, there is evidence that PTSD symptoms are associated with discriminatory experiences (Sibrava et al., 2019; Williams, Printz, et al., 2018). The results of a longitudinal study in a sample of Black American individuals with a history of anxiety-related disorders demonstrated that racial discrimination explained a significant amount of the variance contributing to participants’ diagnostic status for PTSD but not for other psychiatric disorders (Sibrava et al., 2019). In addition, a sample of Black American college stu-

dents reported experiences of racial discrimination that resulted in “PTSD-like” symptoms, including hyperarousal, feelings of alienation from others, frequent worry about negative events happening in the future, and perceiving the world and others as dangerous (Williams, Printz, et al., 2018). This work reinforces the impact of discriminatory experiences on both mental and physical health outcomes (Paradies et al., 2015), and emphasizes the need for further inquiry into the consequences of racial discrimination in the lives of Black individuals as well as possible protective factors against its negative effects.

Recent meta-analyses have exhibited the link between racial discrimination and negative health outcomes within a stress and health framework (Carter et al., 2017; Pieterse et al., 2012). However, little research has examined the impact of previous racial discrimination on the vulnerability of PTSD development following a traumatic event. Due to the chronic nature and deleterious effects of racial discrimination in the lives of Black Americans, it has been documented that these negative experiences result in a higher stress burden for Black Americans in comparison to their non-Hispanic White counterparts (Van Dyke et al., 2020). Therefore, researchers have hypothesized that when an event such as a traumatic injury occurs, the psychological trauma that accompanies this experience will be compounded by the negative effects of chronic exposure to racial discrimination. Given the growing body of research linking racial discrimination to PTSD symptoms, this chronic exposure to racial discrimination may be a critical contributor to PTSD in the lives of Black Americans, particularly in the context of a new traumatic experience (Carter, 2007; Carter et al., 2017).

As noted, exposure to racial discrimination contributes to traumatic stress in racially marginalized populations (Brooks Holliday et al., 2020; Sibrava et al., 2019). However, the nature of this association has not been previously examined in a longitudinal study among survivors of traumatic injury. Although there is evidence of the risk of PTSD development following a traumatic injury, little research has examined the role of past racial discrimination (i.e., prior to the time of trauma exposure) as a contributor to PTSD vulnerability. The present study sought to examine the association between past racial discriminatory experiences and PTSD symptoms.

In a sample of Black American adults treated at an emergency department (ED) for traumatic injury, we first examined the association between past racial discrimination and acute posttraumatic stress symptoms. We hypothesized that higher levels of exposure to racial discrimination would be related to heightened acute posttraumatic stress symptoms. We then investigated the ability of past discrimination experiences to predict future PTSD symptoms. Critically, we hypothesized that exposure to past racial discrimination would prospectively predict more severe PTSD symptoms at follow-up over and above other known predictors, including social support, lifetime trauma exposure (measured retrospectively), previous psychiatric diagnoses and treatment, age, and gender. Of note, the index traumatic event for the assessment of PTSD

symptomology was identified as the traumatic injury for which each participant presented to the ED; experiences of racial discrimination across the lifetime (i.e., prior to the index traumatic event) were assessed retrospectively a short time after the index traumatic event.

Method

Participants

Participants included in these analyses were involved in a longitudinal study, Imaging Study on Trauma & Resilience, focused on identifying acute predictors of PTSD development. As part of this larger observational study, biospecimen collection, neuroimaging scans, and a myriad of cognitive and behavioral assessments were conducted (Webb et al., 2021). Adults were recruited from an ED in southeastern Wisconsin and identified via real-time screening of emergency department patients. Potential participants were approached in the ED or contacted by telephone. To oversample for individuals at risk for PTSD development, the inclusion criteria specified a score of 3 or higher on the Predicting PTSD questionnaire (i.e., the Rothbaum Screen), on which higher scores are indicative of a higher risk of PTSD development (Rothbaum et al., 2012), or endorsement that the traumatic event was severe or a near-death experience. Additional inclusion criteria were English literacy and a score of 13 or higher on the Glasgow Coma Scale (Teasdale & Jennett, 1974), a criterion put into place to exclude individuals who experienced moderate-to-severe head injuries or traumatic brain injuries.

Participants were excluded if they (a) had a spinal injury with neurological deficits; (b) had moderate-to-severe cognitive impairment due to a head injury; (c) were admitted due to self-inflicted injuries; (d) tested positive for alcohol (i.e., a blood alcohol content higher than 0.08 or 80 mg/dL), illegal drugs, or prescription narcotics at the time of the traumatic event; (e) had a history of manic or psychotic symptoms; (f) had eye conditions that preclude eye-tracking assessment (note that eye-tracking data are not reported in the present study); (g) had PTSD that predated the traumatic injury; or (h) were on any antipsychotic medication. Because the presented research questions, which were secondary analyses related to the larger project, concerned racial and ethnic discrimination, the inclusion criteria for this specific analysis also included self-identification as African American and/or Black.

Of the 232 participants enrolled in the study, three individuals were initially excluded due to missing data on racial and ethnic identity. A total of 155 participants self-identified as African American and/or Black. There were 25 participants who did not complete all baseline assessments, and 17 participants were lost to follow-up and did not complete the Clinician-Administered PTSD Scale (CAPS-5) interview. Thus, the final analytic sample comprised 113 participants. There was no significant difference between individuals who were lost to follow-up ($n = 17$) compared to those who completed follow-up ($n = 113$) with

regard to baseline PTSD symptoms, total scores on measures of racial discrimination, gender, or lifetime trauma exposure; however, individuals who were lost to follow-up were significantly younger (M age = 27.76 years, $SD = 7.18$) than the 113 participants who completed the Time 2 (T2) assessment (M age = 34.34 years, $SD = 11.08$), $t(128) = -2.37, p = .019$.

The final analytic sample was composed of mostly women (61.1%). Injury Severity Scores (Baker et al., 1974) were abstracted for 112 of the 113 participants. In general, participants' ISS were relatively low ($M = 0.65, SD = 1.7$, range: 0–13). Approximately one-third of participants earned their high school diploma or equivalency, whereas less than one-third of the sample reported attending some postsecondary education (e.g., college or technical training). Most participants (65.5%) reported an annual household income of \$40,000 (USD) or lower. A total of 14.2% of participants disclosed a history of psychiatric diagnoses and/or treatment. Nearly three-quarters of participants (72.6%) were involved in a motor vehicle crash that led to their traumatic injury (i.e., the index traumatic event); 13.3% experienced an assault or altercation, 5.3% reporting being a survivor of domestic violence, and 8.8% experienced another mechanism of injury. For analytic purposes and due to the homogeneity of the mechanism of injuries, the trauma type was assigned as either assaultive ($n = 19, 16.81%$) or nonassaultive ($n = 94, 83.19%$).

Procedure

Approximately two weeks posttrauma (Time 1 [T1]), eligible participants completed self-report measures, and 6 months posttrauma (T2), participants returned and completed follow-up assessments. All participants provided written informed consent and were compensated with cash payment. The present study was approved by the Medical College of Wisconsin Institutional Review Board.

Measures

As previously summarized, the measures described in this section were used to assess participants' lived experiences, as is the inherent nature of self-report scales. Although the Perceived Ethnic Discrimination Questionnaire (PEDQ), as described later, has the word "perceived" in its title, scholars have recommended that future research omit this term so as to not perpetuate any invalidation of discriminatory experiences reported by marginalized participants by qualifying their experiences (e.g., Banks, 2014; Cheng & Mallinckrodt, 2015; D. Lee & Ahn, 2012; Sue, 2010). Such a description of racial discrimination is, in fact, in line with the norm in the empirical literature, which does not use the "perceived" qualifier to describe other participant experiences, such as self-reported PTSD symptomology, social support, or other stressful and traumatic events.

Demographic Information

At T1, participants completed a demographic questionnaire intended to gather data on the following characteristics: date of

birth, gender (i.e., woman, man, or other), race and ethnicity, and whether they had ever received psychiatric diagnoses or treatment from a health professional.

Social Support

Social support was assessed at T1 using the 19-item Medical Outcome Study (MOS) Social Support Survey (Sherbourne & Stewart, 1991). Participants indicated how often each kind of support was available, rating responses on a scale ranging from 1 (*none of the time*) to 5 (*all the time*). Items were averaged to calculate a total score (range: 1–5), with higher scores indicating higher levels of social support. In the present sample, Cronbach's alpha was .98.

Racial and Ethnic Discrimination

The 17-item brief Perceived Ethnic Discrimination Questionnaire (PEDQ; Brondolo et al., 2005) is a validated assessment of an individual's lifetime exposure to discrimination. Participants were asked to indicate how often each item had happened to them, rating responses on a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*). Total PEDQ scores are calculated by averaging all item scores (range: 1–5), with higher scores indicating more discriminatory experiences. In the present sample, Cronbach's alpha for the PEDQ was .94.

Lifetime Trauma Exposure

The Life Events Checklist (LEC; Blake et al., 1998; Gray et al., 2004) is a measure of exposure to various potentially traumatic events. The checklist includes 17 stressful and difficult events, such as natural disasters, combat exposure, and sexual assault. Participants were asked to indicate whether the event had happened to them and/or they had witnessed the event or learned about the event happening to someone they know. Responses indicating participants directly experienced the event, witnessed it, or learned about it happening to a loved one were combined to create a weighted total life events score per recommendations by Weis et al., 2021 (maximum score = 102). Experienced events were weighted by a factor of 3, items witnessed were weighted with a factor of 2, and events that were learned about were weighted with a factor of 1 (Weis et al., 2021), with higher scores indicating an individual had directly or indirectly experienced a higher number of events. In the present sample, Cronbach's alpha was .87.

PTSD Symptom Severity

T1. The PTSD Checklist (PCL) for *Diagnostic and Statistical Manual of Mental Disorders* (fifth ed. [DSM-5]; i.e., PCL-5; Blevins et al., 2015) was used to assess acute PTSD symptoms at T1. The PCL-5 is a widely used self-report measure of PTSD symptom severity (Blevins et al., 2015; Geier et al., 2018), with items based on PTSD symptoms described in the DSM-5. Participants were asked to indicate how much each of the 20 items bothered them, rating responses on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely*). Responses are summed to get a total symptom severity score (Blevins et al.,

2015). Previous work in traumatically injured samples suggests a total score of 30 or higher is indicative of probable PTSD and provides evidence of diagnostic validity (Geier et al., 2018). In the present sample, Cronbach's alpha was .95.

T2. The Clinician-Administered PTSD Scale for DSM-5 (CAPS-5; Weathers et al., 2013) is a well-validated semistructured interview used to assess PTSD severity and diagnostic status (Pupo et al., 2011; Weathers et al., 2018). Although the PCL-5 was repeated at 6-months and was highly convergent with CAPS-5 symptoms, $r(111) = .67, p < .001$, the CAPS-5 is the gold standard of PTSD assessments and was therefore used for all analyses with follow-up data. In the present sample, Cronbach's alpha was .91.

During the 6-month assessment (i.e., T2), the interviewer evaluated past-month PTSD symptoms and determined diagnostic status and symptom severity. The interviewer rated each of the 30 items, which are related to DSM-5 symptoms, with regard to two dimensions: frequency and intensity (Weathers et al., 2018); scores were summed to create a total PTSD severity score. In the present sample, Cronbach's alpha for the CAPS-5 was .87.

Each interviewer ($n = 14$) underwent CAPS-5 training, which included (a) completing online training offered through the U.S. Department of Veterans Affairs (VA), (b) conducting two mock CAPS interviews and reviewing scores with a postdoctoral-level clinical psychologist, and (c) shadowing research staff during at least two live interviews. All members of the research staff attained secondary education, with degrees ranging from bachelor's degrees to doctoral degrees. Each interviewer completed between 2 and 25 interviews, and research staff members were blinded to data regarding participants' baseline PTSD symptoms. Most interviewers identified as female and all identified as White. A total of 20% of the CAPS-5 interviews were audited by a trained staff member, with reliability checks suggesting excellent interrater reliability, interclass correlation coefficient = .96, 95% CI [.93, .98].

Data Analysis

To test bivariate associations between continuous study variables (i.e., mean-centered) and categorical factors, we calculated Pearson's and point biserial correlations, respectively (Table 2). Independent t tests were also conducted to explore whether there was a significant difference in study measures between individuals who experienced an assaultive versus nonassaultive traumatic event. All reported analyses used two-tailed tests of significance with a 95% confidence interval.

The association between racial discrimination, as assessed at T1, and later PTSD (i.e., T2) was investigated using multiple linear regression. We included covariates that are known predictors of PTSD in the model, including age, gender, lifetime history of psychiatric diagnoses and treatment, and lifetime trauma exposure. All analyses were performed using IBM SPSS Statistics (Version 26).

Table 1
Descriptive Statistics of Study Measures

Measure	<i>M</i>	<i>SD</i>	Range
PCL-5 total symptoms (T1)	27.05	18.35	0–80
CAPS-5 total symptom severity (T2)	12.69	11.60	0–57
LEC (weighted score; T1)	30.65	17.56	0–78
MOS Social Support (T1)			
Total	3.86	1.13	1–5
Emotional/Information	3.87	1.19	1–5
Tangible	3.67	1.21	1–5
Affective	4.03	1.15	1–5
Positive Social Interaction	3.87	1.20	1–5
PEDQ (T1)			
Total score	2.00	0.87	1–4.76
Exclusion/rejection	2.27	1.12	1–5
Discrimination at work/school	2.17	1.08	1–5
Stigmatization/disvaluation	1.60	0.87	1–5
Threat/aggression	1.70	1.00	1–5
Unfair police treatment	2.32	1.47	1–5

Note. *N* = 113. MOS = Medical Outcomes Study; PCL-5 = PTSD Checklist for *DSM-5*; CAPS-5 = Clinician-Administered PTSD Scale for *DSM-5*; LEC = Life Events Checklist; PEDQ = Perceived Ethnic Discrimination Questionnaire; T1 = Timepoint 1; T2 = Timepoint 2.

Results

Descriptive statistics for key study variables are displayed in Table 1. Bivariate associations are provided in Table 2.

Mechanism of Injury

There was no significant difference in baseline PCL-5 score between participants who experienced injuries sustained by assaultive traumatic events ($n = 19$; $M = 26.42$, $SD = 17.71$) and those who experienced injuries sustained from nonassaultive traumatic events ($n = 94$; $M = 27.18$, $SD = 18.57$, $t(111) = 0.16$, $p = .870$). Furthermore, differences in 6-month PTSD symptoms, as measured by the CAPS-5, between participants who sustained assaultive ($M = 16.89$, $SD = 13.80$) versus nonassaultive injuries ($M = 11.84$, $SD = 11.00$), were non-significant, $t(111) = -1.75$, $p = .083$. Therefore, trauma type was not included in the final regression model.

PTSD Symptoms

At baseline, the mean PCL score was 27.05 ($SD = 18.35$, range: 0–80). Using a cutoff score of 30 (Geier et al., 2019), nearly 41% of the sample screened provisionally positive for PTSD. At 6-month follow-up, approximately 20% of participants met the criteria for a PTSD diagnosis.

Correlations Between Participant Characteristics and Study Measures

Gender and age were not significantly related to any of the study measures. A history of psychiatric diagnoses was significantly associated with weighted LEC scores, $r(111) = .21$, $p = .028$ and baseline PTSD symptoms, $r(111) = .19$, $p = .040$. Weighted LEC scores were significantly associated with discriminatory experiences, $r(111) = .08$, $p = .389$, and baseline PTSD symptoms, $r(111) = .40$, $p < .001$. Lifetime trauma exposure was also predictive of CAPS-5 scores, $r(111) = .25$, $p = .008$. Only baseline PTSD symptoms were significantly associated with total scores on the measure of social support, $r(111) = -.27$, $p = .003$. At the bivariate level, racial discrimination was significantly associated with PCL-5 scores at T1, $r(111) = .43$, $p < .001$, and CAPS-5 total symptom severity scores at T2, $r(111) = .26$, $p = .005$.

Future PTSD Symptoms

The multiple linear regression model with gender, age, history of psychiatric diagnoses, weighted LEC scores, and MOS and PEDQ scores significantly predicted CAPS-5 scores, $R^2 = .16$, $F(6, 106) = 3.25$, $p = .006$ (Table 3). Female gender, $B = 5.29$, $t(112) = 2.40$, $p = .018$, was associated with more severe PTSD symptoms. As hypothesized, higher levels of racial discrimination, $B = 3.01$, $t(112) = 2.33$, $p = .021$, prospectively predicted more severe PTSD symptoms at 6-month follow-up. The association between weighted LEC scores and CAPS-5 scores approached significance, $B = 0.12$, $t(112) = 1.78$, $p = .078$. After adjusting for the other measures, age, $B = 0.05$, $t(112) = 0.55$, $p = .587$; a history of psychiatric diagnoses, $B = 1.96$, $t(112) = 0.63$, $p = .527$; and social support, $B = 0.35$, $t(112) = 0.38$, $p = .709$, did not predict PTSD symptoms.

Discussion

In the current study, we examined the association between past racial discriminatory experiences and PTSD symptoms in a traumatically injured sample of Black Americans. Critically, we demonstrated that racial discrimination was significantly associated with posttraumatic stress symptoms in the early aftermath of a traumatic injury and predictive of more severe PTSD symptoms at 6-month follow-up. Our findings support the notion that among traumatically injured individuals, experiences of racial discrimination are meaningfully harmful to mental health above and beyond factors typically considered robust predictors of psychopathology (e.g., lifetime trauma exposure, previous psychiatric diagnoses, female-identifying). Further, it is notable that a history of experiencing traumatic events prior to the index traumatic injury was also associated with more severe PTSD symptoms at both baseline and follow-up. There is evidence to suggest the interrelation of trauma history and past racial discrimination such that these constructs may be connected due to the ubiquitous effects of racism on economic,

Table 2
Correlations Between Study Measures

Measure	2	3	4	5	6	7	8
1. Age	.07	.07	.05	.01	-.02	-.07	.08
2. Gender	–	.17	-.12	-.14	-.10	.08	.18
3. Psychiatric History		–	.21**	.07	-.07	.19**	.15
4. Life Events Checklist (T1)			–	.37**	-.16	.40**	.25**
5. Discrimination (T1)				–	-.10	.43**	.26**
6. Social support (T1)					–	-.27**	-.04
7. Baseline PTSD symptoms (T1)						–	.42**
8. PTSD symptom severity (T2)							–

Note. Two-tailed Pearson correlations are reported; correlations with gender and psychiatric history are point-biserial correlations. T1 = Timepoint 1; T2 = Timepoint 2.

** $p < .01$.

interpersonal, and social structures (Alessi & Martin, 2017; Bailey et al., 2017). Although research has been conducted to demonstrate the association between PTSD and traumatic injury survivors (deRoon-Cassini et al., 2010) as well as between racial discrimination and PTSD symptomology (Carter et al. 2020; Sibrava et al., 2019), this was the first study to examine these factors together. Previous research in conjunction with the present findings demonstrates the need for postinjury assessment of racial discrimination, a likely contributor to postinjury PTSD that cannot be overlooked.

There have been important critiques of PTSD Criterion A in the *DSM-5* (American Psychiatric Association, 2013; Holmes et al., 2016; Osborn et al., 2020; M. Williams, Metzger, et al., 2018), which defines few events as “traumatic.” Researchers have called for the inclusion of forms of oppression, particularly racial discrimination, in this definition to acknowledge the psychological injury, trauma, and pain that often results from non-life-threatening chronic exposure to societal racism (Butts, 2002; Carter, 2007; Holmes et al., 2016; Kirkinis et al., 2018;

M. Williams, Metzger, et al., 2018). Although our results cannot provide direct evidence of this, the findings from the current study are in line with existing literature demonstrating that individuals who identify as Black American have an elevated risk of developing PTSD following a traumatic event (Carter, 2007; Sibrava et al., 2019) and that experiences of racial discrimination meaningfully contribute to this increased risk. Further research may help establish evidence for the identification of racial discrimination as a *DSM-5* Criterion A traumatic event.

Due to the novelty of our longitudinal design, our findings advance existing knowledge in several ways. First, this was one of few studies to examine the predictive utility of racial discrimination on PTSD symptom severity. Sibrava and colleagues (2019) demonstrated the association between discrimination and PTSD such that individuals in their sample with a PTSD diagnosis and higher reported levels of discrimination experienced lower levels of symptom remission and were more likely to experience a chronic course of the disorder. In contrast, the present results demonstrate the association between

Table 3
Time 1 Predictors of Time 2 Posttraumatic Stress Disorder Symptoms

Measure	<i>B</i>	<i>SE</i>	<i>p</i>	95% CI
Constant	-3.38	1.68	.047	[-6.71, -0.04]
Age	0.05	0.09	.587	[-0.14, 0.24]
Gender	5.30	2.20	.018*	[0.92, 9.65]
Previous psychiatric diagnosis	1.96	3.10	.527	[-4.16, 8.08]
Social support	0.35	0.94	.709	[-1.51, 2.21]
Life Events Checklist	0.12	0.07	.078	[-0.01, 0.25]
Discrimination	3.00	0.23	.021*	[0.45, 5.56]

Note. $N = 113$. The dependent variable was Time 2 Clinician-Administered PTSD for *DSM-5* score.

* $p < .05$.

racial discrimination and PTSD symptomology onset and development, indicating that discrimination impacts both an individual's risk for PTSD development and the disruption of recovery. By assessing PTSD symptoms in the acute posttrauma timeframe, we were able to assess the association between past discriminatory experiences and the initial emotional reactions to a traumatic injury. Finally, we demonstrated that experiences of racial discrimination may have predictive utility in assessing the development of PTSD symptoms in Black Americans who have experienced a traumatic event.

Racial minority status has been considered a risk factor for negative health outcomes following traumatic injury (Russo et al., 2013). To date, no research has identified biological factors that explain differences in PTSD prevalence between racial groups; instead, racial disparities in PTSD have been shown to stem from environmental factors and differences in social experiences (Harnett, 2020). The current study highlights the association between racial discrimination and an increased risk of PTSD development following a traumatic injury. Although we focused on the experiences of Black participants, it is important to acknowledge that discrimination is pervasive (Bor et al., 2018) throughout the lives of other marginalized racial and ethnic groups, as evidenced by a recent study in which 75% of Black, Hispanic, and Asian participants reported experiencing discrimination (R. Lee et al., 2019). The systemic discrimination racially marginalized individuals encounter is rooted in racism, and these experiences influence and add to their cumulative stress burden, adversely impacting both physical and mental health outcomes (Conrad et al., 2020; Thomas et al., 2019). The importance of these findings is even more amplified given the recent civil unrest following the murders of innumerable unarmed Black Americans at the hands of police and the disproportional impact of the COVID-19 pandemic on Black and Brown communities (Dreyer et al. 2020; Leitch et al., 2020).

Racial discrimination has been included in broader categories, such as racial trauma and, more generally, race-based stress. Although the current study did not directly address the causal association between racial discrimination and PTSD, this is a burgeoning area of research. Race-based stress, including racial discrimination, is widespread in America but often goes unaccounted for when evaluating psychological sequelae or mental health outcomes (Bor et al., 2018). It is critical to note that although reactions to race-based stress, in the absence of or in conjunction with a traumatic-injury, may overlap with PTSD symptoms, the complex and multigenerational aspect of racial trauma makes it unique (Comas-Díaz et al., 2019). For individuals who have experienced a traumatic injury in conjunction with race-based stress (e.g., racial discrimination), evidence-based PTSD treatments, such as cognitive behavioral therapy or exposure therapy, may not be appropriate because of the chronicity and ongoing nature of discrimination. Therefore, research efforts should be made to investigate racial-trauma-specific healing approaches. We probed the association between past discriminatory experiences and PTSD in a traumatically injured

sample; however, we call for research to continue to address the impact of historical and current racial trauma on the psychological health of Black American individuals.

As a call to future research, further inquiry is needed to understand the connection between racial discrimination as an index trauma and PTSD symptoms to provide further evidence for racial trauma in the form of chronic discrimination. Following this, the field must be cognizant of the fine line between distinguishing the naming of painful experiences of racial discrimination as traumatic and acknowledging the mental health effects of such discrimination (e.g., PTSD) and not further pathologizing communities of color, particularly Black communities. The emotional injury induced by chronic discrimination is a normal reaction to living in a racist society (Comas-Díaz et al., 2019). We argue, as previous scholars have, that naming racial discrimination as traumatic and recognizing the mental health effects of these experiences may be validating for many (Carter, 2007; Banks, 2014). Future work should continue to examine variables that act as resilience factors, such as emotional efficacy, or provide healing benefits, such as community social support. The field, and more broadly, society, must be able to contextualize our understanding of racial discrimination as traumatic and racism as a pressing public health issue to continue the work of dismantling racism and fully addressing racial injustices.

There are several limitations to the current study that should be discussed. First, we measured past discriminatory experiences and exposure to lifetime traumatic events retrospectively, which has been associated with respondent bias (Lalande, & Bonanno, 2011). However, the present study was one of few to utilize the gold-standard of PTSD assessments, a structured interview (i.e., the CAPS-5) conducted by trained research staff, to assess PTSD symptoms at the follow-up assessment point. Of note, this design likely increased the reliability of our findings. Our sample was relatively homogenous, with most participants having experienced a motor vehicle or motorcycle crash. Although individuals who experience PTSD symptoms as a result of a traumatic injury are an understudied population and traumatic injury is common, the generalizability of our results from this distinct sample may be limited. Finally, the social support measure utilized for the present analyses was specifically designed for patients with chronic conditions (Sherbourne & Stewart, 1993). Therefore, the survey broadly assesses support rather than examining support in relation to a specific trauma type. Future research would benefit by comparing the different measures of social support to the identified stressor or traumatic event.

The present findings inform understanding of the risk for PTSD among racial minority individuals. By assessing the lived experiences of patients, providers may more effectively treat PTSD. Considering racial discrimination as an additional vulnerability to PTSD in conjunction with other traumatic events in a patient's life (e.g., traumatic injury) will better guide treatment and the understanding of PTSD symptoms and chronicity, as individuals exposed to chronic racism throughout their lives are likely to have had an additional stress burden prior to an

index traumatic event and will likely continue to be exposed to racism following this event. Therefore, interventions that acknowledge these experiences and their connection to psychological sequelae following a traumatic event may improve treatment outcomes and the therapeutic relationship.

Our findings demonstrate that racial discrimination is a significant contributor to PTSD development and symptomology in conjunction with a traumatic injury among Black Americans. Therefore, it is critical that the discriminatory experiences that racial minorities encounter are considered in research on PTSD risk and, more broadly, mental health outcomes. Although research documenting the association between racial discrimination and mental health outcomes is important, we emphasize the need to prevent racial discrimination from occurring. Continued work, across all disciplines, must develop interventions that target and dismantle White-centric systems and the prejudices that create and maintain the perpetuation of racial discrimination.

Open Practices Statement

The analysis reported in this article was not formally preregistered. Deidentified data along with a code book are shared via the National Institutes of Mental Health Data Archive at https://nda.nih.gov/edit_collection.html?id=2297; access to the data is limited to qualified researchers. The materials used in these studies are widely publicly available.

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