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Article

The role of racial/ethnic identity in the association between racial discrimination and psychiatric disorders: A buffer or exacerbator?

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ABSTRACT

The present study tests whether and how racial/ethnic identity moderates the psychological burden associated with racial discrimination. The theoretical concept of identity-relevant stressors suggests that racial discrimination will be associated with stronger psychological burden for people who put more values on their racial/ethnic backgrounds (i.e., racial/ethnic identity as an exacerbator). Conversely, racial/ethnic identity may be a protective resource to buffer any negative mental health consequences of racial discrimination (i.e., racial/ethnic identity as a buffer). We adjudicate these two competing hypotheses, while also examining whether the moderating effect of racial/ethnic identity varies by race/ethnicity or nativity. The data are from the 2013 National Epidemiologic Survey on Alcohol and Related Conditions-III. Our findings reveal a race/ethnicity-dependent pattern: High racial/ethnic identity functions as an exacerbator for Whites, American Indians/Alaska Natives, and Latinxs, but moderate racial/ethnic identity functions as a buffer for Asians and Blacks in handling racial discrimination. In addition, the moderating effect of racial/ethnic identity is more pronounced among the U.S.-born than the foreign-born. The present study contributes to the knowledge base by showing that racial/ethnic identity does not universally protect—nor does it universally exacerbate—the psychiatric burden of racial discrimination. Rather, whether it mitigates or intensifies the mental burden of racial discrimination depends on its level and race/ethnicity.

1. Introduction

A cumulative body of evidence consistently documents a relationship between racism—usually operationalized as self-reported racial discrimination—and mental health impairments such as negative mood and depressive symptoms (Brondolo, Brady ver Halen, Pencille, Beatty, & Contrada, 2009; Paradies, 2006; Schmitt, Branscombe, Postmes, & Garcia, 2014; Williams, 2018). Guided by the social stress paradigm, previous research on racial discrimination conceptualizes it as a social stressor that can produce adverse health consequences for racial and ethnic minorities (Pearlin, Schieman, Fazio, & Meersman, 2005), partly by increasing psychological distress and prompting maladaptive coping behaviors such as substance abuse (Anderson, 2013). Given that racial/ethnic minorities are usually struggling with other types of stressors in addition to racial discrimination, such as low socioeconomic status or poor neighborhood environment, they tend to have limited coping resources, compounding the situation further.

In view of racial/ethnic minority's higher levels of stress exposure and fewer coping resources, it is surprising that a few studies find that they, on average, have better health relative to Whites. For example, African Americans are shown to be more mentally resilient to influences of social inequity and exposure to discrimination (Keyes, 2009). Similarly, Latinxs tend to display better health than do their White peers even though Latinxs face substantial psychosocial risk factors stemming from neighborhood segregation, low socioeconomic status, and exposure to discrimination (Gallo, Penedo, Espinosa De Los Monteros, & Arguelles, 2009; Stone et al., 2016). To better understand these seemingly contradictory patterns, empirical studies need to situate discrimination within the specific social contexts that it plays out and to identify potential resources that could buffer any deleterious effects of discrimination. Our study thus fills an important research gap by examining racial/ethnic identity as an important moderator in shaping the degree to which racial/ethnic discrimination translates into psychiatric disorders.

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1.1. Racial/ethnic identity as a moderator

Racial/ethnic identity is the part of self-concept that focuses on cultural group membership and perception of that membership (Sellers, Copeland-linder, Martin, & Lewis, 2006). While racial identity and ethnic identity may reflect the differences between race and ethnicity, they commonly include some sense of a shared history, values, and a cultural bond (Brondolo et al., 2009). Hence, this study treats racial identity and ethnic identity as interchangeable. Individuals' racial/ethnic identity is an important basis for self-identity because it instills a sense of identification with a given group's cultural values, kinship, and beliefs (Phinney, 1996). Hence, racial/ethnic identity may influence individuals' perception of race-related stressors as well as the extent to which they find those stressors psychologically damaging (Carter, 2007; Stevenson & Arrington, 2009). From a practical point of view, if racial/ethnic identity does modify psychological consequences of racial discrimination, it can be included as an important part of health initiatives as well as the racial socialization process (Brondolo et al., 2009).

Two perspectives guide our theorization as to how racial/ethnic identity may moderate the association between racial discrimination and mental health. One perspective is that racial/ethnic identity operates as a protective resource such that it can be used as a coping strategy to buffer the negative mental health consequences of racial discrimination. Conversely, the other perspective holds that racial discrimination can be particularly demeaning for individuals who put stronger values on their racial/ethnic backgrounds. The main aim of the present study is to adjudicate these two perspectives, the topic of which we now turn to.

1.2. Two competing perspectives: racial/ethnic identity as a coping resource or a stress exacerbator?

One way that racial discrimination may cause psychological distress is through assaulting the targeted individuals' group membership and self-concept, which in turn leads to a sense of exclusion or rejection from the majority group (Branscombe, Schmitt, & Harvey, 1999; Williams & Williams-Morris, 2000). Given this, racial/ethnic identity may serve as coping resources in several ways. First, a well-developed racial/ethnic identity comes with understanding about one's social position in the larger social structure (Brondolo et al., 2009). This knowledge may protect the targeted individuals' self-esteem by helping them distinguish discriminatory practices directed to them as an individual versus those focusing on them as a member of a certain group (Branscombe et al., 1999; Brondolo et al., 2009). Second, according to social identity theory, racial discrimination functions as a rejection from the majority group and may lead individuals to seek a sense of belonging to and acceptance in their in-group communities (Tajfel & Turner, 2004). Hence, by providing a strong sense of belonging, racial/ethnic identity can protect targeted individuals from the pain of rejection and exclusion from other groups. Third, it is possible that individuals who put more meaning onto their race/ethnicity may have experienced more perceived racial hassles, and hence have developed more effective coping strategies that protect them from any negative health effects of discrimination (Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003).

Alternatively, it is plausible that racial/ethnic identity may exacerbate the psychological burden of racial discrimination, in light of the theoretical concept of *identity-relevant stressors* (Thoits, 1991). Specifically, noting that the socially disadvantaged groups are not necessarily vulnerable to every type of stressors, Thoits (1991) posits that the degree of psychological damage imposed by a certain stressor varies by the salience of the corresponding role-identity. The more salient a role-identity is, the more importance and purpose one attaches to that identity, which, in turn, would have more influence on their psychological well-being (Thoits, 1991). In other words, the same stressful event can be perceived differently based on its pertinence to one's valued identities: Stressors that threaten one's most valued role-identities, conceptualized as *identity-relevant stressors*, can be more psychologically deleterious than stressors that disrupt one's less salient role involvements.

Although Thoits's argument focuses on role-identity, it can be applied to self-conceptions of race/ethnicity as well. Race is a socially constructed identity that permeates into the U.S. society by shaping the social positions one holds, guiding the quality of daily interactions with others, and serving as the basis of social expectations (Omi & Winant, 2014). Racial discrimination may therefore function as an *identity-relevant stressor* and pose a strong psychological burden for those who put more values onto their racial/ethnic backgrounds. In other words, racial discrimination can be associated with even more psychological morbidities for those with high racial/ethnic identity relative to those with lower racial/ethnic identity.

1.3. Previous studies on the moderating role of racial/ethnic identity

Few studies have examined to what extent racial/ethnic identity moderates the mental health burden of racial discrimination, and the findings from the limited research are ambiguous. For example, a review conducted by Brondolo et al. (2009) identified 12 published peer-reviewed articles that tested for the buffering role of racial/ethnic identity in the links between racial discrimination and psychological distress or depression. Two of these 12 studies—one conducted among Filipino-American adults and one among African American young adults—found supportive evidence of racial/ethnic identity as a buffer of depressive symptoms associated with discrimination (Fischer & Shaw, 1999; Mossakowski, 2003), while four showed that some aspects of racial/ethnic identity intensify the discrimination-distress link. Most of these 12 studies, however, employed convenience samples, in which participants were often connected to one another and may have had similar levels of racial/ethnic identity or exposure to racial discrimination (Paradies et al., 2015).

So far only a handful of studies used nationally representative data to test the moderating effect of racial/ethnic identity on the link between racial discrimination and substance use. Drawing on the National Latino and Asian American Study (NLAAS), for example, high racial/ethnic identity was found to protect the targeted Asians from alcohol use disorder and current smoking (Chae et al., 2008; Chae et al., 2008), whereas no moderating effect was observed among Latinxs (Molina, Jackson, & Rivera-Olmedo, 2015). While these previous studies provide important guidance to our research, they focused on the experiences of a single racial/ethnic minority group and thus cannot speak to any racial/ethnic differences. Additionally, the scale used in NLAAS to measure racial/ethnic identity consists of only three items, which may be too simple to fully capture the complex and nuanced notion of identification with and senses of belonging to one's racial/ethnic group, a research gap we begin to fill.

Taken together, despite the two competing theoretical arguments indicating that racial/ethnic identity can either buffer or exacerbate the negative influence of racial discrimination, previous studies have not empirically adjudicated these two possibilities. The present study builds on, extends, and contributes important new insights to existing evidence by using a comprehensive national sample consisting of individuals from diverse racial/ethnic backgrounds to (1) test the relative validity of the two competing hypotheses regarding the conceptual role of racial/ethnic identity, and (2) examine whether the moderating role of racial/ethnic identity differs by race/ethnicity and nativity status.

1.4. Differential moderating effects of racial/ethnic identity by race/ethnicity

The operation, dynamics, and effects of racial discrimination and racial/ethnic identity may be different between the dominant racial group and racial/ethnic minorities. Given that racial/ethnic identity

captures cultural group membership and perceptions of that membership (Phinney, 1990; Sellers et al., 2006), this social identity may matter more for racial/ethnic minority groups whose identities are rooted in non-Western, typically collectivist, cultures, such as Africa, Asia, and Latin America (Ai, Aisenberg, & Weiss, 2014; Triandis, Mccusker, Hui, & Sarason, 1990). For example, previous research found that racial/ethnic minority adolescents, including African Americans, Latinxs, and Asians, display higher levels of racial/ethnic identification compared with their White peers (Fuligni, Tseng, & Lam, 1999; Kiang & Fuligni, 2009; Martinez & Dukes, 1997).

For many racial/ethnic minorities grounded in collectivistic cultures, their identity reflects the values of their affiliated cultural groups that typically embrace interpersonal bonds and relatedness (Kitayama, Matsumoto, Markus, & Norasakkunkit, 1997; Markus & Kitayama, 1991). Accordingly, a salient, coherent, and committed racial/ethnic identity has been found to be a psychosocial resource for racial/ethnic minority groups, which not only instills a sense of belonging and commitment to the values and social roles of their in-groups, but also fosters social, emotional, and physical well-being (Ai et al., 2014; Branscombe et al., 1999; Phinney, 1996; Rivas-Drake et al., 2014; Smokowski, Evans, Cotter, & Webber, 2014). By contrast, the sense of belonging and commitment to one's in-group is likely lacking for people whose identities are grounded in individualistic cultures, including European-origin Whites. Moreover, given their dominant position in the U.S. racial stratification system (Bonilla-Silva, 2004), Whites may not be affected by racial discrimination as pervasively and severely as racial/ethnic minorities. In light of these differences, the present study examines whether the moderating role of racial/ethnic identity differs by race/ethnicity.

1.5. Differential moderating effects of racial/ethnic identity by nativity

Nativity may also affect the degree to which the mental burden posed by racial discrimination differs by racial/ethnic identity. Previous research showed that, regardless of racial/ethnic groups, U.S.-born individuals were more likely than immigrants to report that they had experienced discrimination or unfair treatment because of their race/ethnicity (Krogstad & López, 2016; Kuo, 1995). Several factors may account for these different levels of perceived discrimination (Gong, Xu, & Takeuchi, 2017). Compared with immigrants, U.S.-born individuals with high English proficiency may be more sensitive to cultural cues or nuances about racism, thereby more likely to be aware of and identify any racial discriminatory practices. Moreover, immigrants may have to deal with other forms of stressors in their transition to the U.S. society, which may reduce the salience of race-based maltreatment.

When it comes to the psychological consequences of racial discrimination, U.S.-born individuals may experience more mental burden than do immigrants due to their stronger identification with the American society (Ying, Lee, & Tsai, 2000). U.S.-born individuals may not only be more familiar with American racial categories but also have a greater stake in their racial/ethnic group membership. Hence, it can be particularly hurtful if they experience race-based maltreatment, which poses threats to the crucial aspects of their granted identity. For immigrants, their racial/ethnic identity tends to be more connected with their country of origin, rather than the American racial/ethnic labels (Rumbaut, 1994). The relative distance from their acquired American racial/ethnic categorization, as well as affirmation with and pride derived from their culture of origin, may protect immigrants from any adverse consequences of racial discrimination.

1.6. The current study

To sum, the present study first examines the association between racial discrimination and psychiatric morbidity. Second, to determine whether racial/ethnic identity is a buffering or exacerbating factor, we test its moderating effect on the association between racial discrimination and psychiatric diagnoses. Given potential differences by race/ethnicity, we conduct stratified analyses for each racial/ethnic group to test whether the moderating role of racial/ethnic identity varies by race/ethnicity. Third, we further stratify models by nativity for each racial/ethnic group to test any difference between native- and foreign-borns.

By doing so, the current study contributes to the literature on racial discrimination and mental health in several important ways. To date, the theoretical insight of identity-relevant stress is missing from studies on racial discrimination. The present study contributes by drawing on this useful concept to examine whether and how racial/ethnic identity moderates the association between racial discrimination and clinically significant mental health. Additionally, as reviewed above, empirical evidence has been inconsistent regarding the role of racial/ethnic identity in the psychological burden of racial discrimination. Using a U.S. nationally representative sample of adults from different racial/ethnic backgrounds, the current study helps reconcile these inconsistencies, which partly results from the frequently used convenience samples of specific racial/ethnic groups. Furthermore, this study is one of the first to bring the context of nativity to the fore, thereby promoting understanding of how racial/ethnic identity may intersect with nativity to shape the link between racial discrimination and mental health, an important gap to be filled given the rising share of immigrants in the United States.

2. Methods

2.1. Data and study sample

Our data come from the 2013 National Epidemiologic Survey on Alcohol and Related Conditions-III (NESARC-III). The NESARC-III is a nationally representative study funded and conducted by the National Institute on Alcohol Abuse and Alcoholism. Data were collected face-to-face using computer-assisted personal interviews in respondents' homes. The target population of the NESARC-III was the non-institutionalized adult population 18 years or older, including persons in households and group quarters (e.g., group homes, college dormitories), residing in the 50 contiguous states and the District of Columbia, Hawaii, and Alaska (Grant et al., 2014). Our analytic sample consists of adult respondents aged 18 or older from different racial and ethnic backgrounds (N = 35,656). Given that our analysis is stratified by race/ethnicity, we did not include Pacific Islanders because of the small sample size (N = 163).

2.2. Measures

2.2.1. Psychiatric disorders

Our health outcome is presence of psychiatric disorders in the past 12 months, assessed by the Alcohol Use Disorder and Associated Disabilities Interview Schedule, DSM-V Version (AUDADIS-V). The AUDADIS-V is a structured diagnostic interview designed for administration by experienced lay interviewers. We focus on three categories of DSM-V psychiatric diagnoses: mood disorder (major depressive disorder, dysthymia, or bipolar I disorder), anxiety (generalized anxiety disorder, social phobia, panic disorder, or posttraumatic stress disorder (PTSD)), and substance use disorders (alcohol use disorder, tobacco use disorder, or any other substance use disorder). We combined diagnoses into these three broad categories rather than examining individual diagnoses separately given their rarity. For example, less than 2% of Blacks, Hispanics, and Whites met the criteria for Bipolar I disorder, and less than 2% of Asian Americans met the criteria for dysthymia, panic disorder, or PTSD. Additionally, these three broad types of psychiatric disorders are distinct enough to justify separate analyses, as can be seen by the relatively low bivariate correlations between the three disorders: mood and anxiety: 0.33; mood and substance use disorders: 0.16; and anxiety and substance use disorders: 0.16. This decision is also

consistent with a previous study which used the same dataset (Feinstein et al., 2016). In our analytic sample, 13.55% of the respondents met the criteria for any mood disorder, 12.86% met the criteria for any anxiety disorder, and 29.18% met the criteria for any substance use disorder.

2.2.2. Racial discrimination

We use the Experiences of Discrimination (EOD) scale to measure racial discrimination. Developed by Krieger and colleagues (Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005), the EOD scale has been widely used in racial discrimination research (e.g., McLaughlin, Hatzenbuehler, & Keyes, 2010; Mustillo et al., 2004). One advantage of this scale is that the time point of discrimination, *more than 12 months ago*, enables the occurrence of racial discrimination to precede the development of psychiatric disorders (the past 12 months). Respondents were asked how often they had experienced discrimination because of their race/ethnicity more than 12 months ago in the following six areas: (1) obtaining healthcare; (2) treatment in health care; (3) public settings; (4) obtaining a job or on the job, when getting admitted to a school or training program, when interacting with the police or courts, and when obtaining housing; (5) called a racist name; (6) made fun of, picked on, or threatened (*never*, *almost never*, *sometimes*, *fairly often*, and *very often*). The six items demonstrated an adequate internal consistency ($\alpha = 0.92$). Given the skewness of the responses (e.g., very few respondents answered "fairly often" or "very often"), we dichotomized responses to these six items into ever experienced discrimination (=1) or never experienced discrimination (=0).

2.2.3. Racial/ethnic identity

Racial/ethnic identity is measured by the eight-item race-ethnic identification scale (Ruan et al., 2008), which is an expansion of the 3-item Ethnic Identity Scale used in the National Comorbidity Survey-Replication (NCSR) and the National Latino and Asian American Study (Keyes et al., 2012), two widely used studies in the racial discrimination and racial/ethnic identity literature. As can be seen from its individual items, this race-ethnic identification scale captures respondents' racial/ethnic identification with and senses of belonging and attachment to their racial/ethnic group (Ruan et al., 2008). Respondents answered the extent to which they agree with the following items: (1) You have a strong sense of yourself as a member of your race/ethnic group; (2) You identify with other people from your race/ethnic group; (3) Most of your close friends are from your race/ethnic group; (4) Your race/ethnic heritage is important in your life; (5) You are most comfortable in social situations where others are present from your racial/ethnic group; (6) You are proud of your race/ethnic group; (7) Your race/ethnic background plays a big part in how you interact with others; (8) Your values, attitudes, and behaviors are shared by most members of your race/ethnic group. The six response options for each statement ranged from *strongly disagree* to *strongly agree*. This scale demonstrated an acceptable internal consistency ($\alpha = 0.94$). Consistent with previous research that treated racial/ethnic identity as a categorical variable (Keyes et al., 2012; Lewis-Fernández et al., 2016), this variable was categorized into three groups: low, moderate, and high racial/ethnic identity, in order to deal with its skewed distribution and its potentially non-linear relationship with psychiatric disorders.

2.2.4. Race/ethnicity

Respondents self-identified into one of five racial/ethnic categories: non-Hispanic White (White for short), non-Hispanic Black (Black for short), American Indian/Alaska Native (AI/AN), Asian, and Latinx of any race.

2.2.5. Nativity

Respondents self-reported whether they were born in the U.S. or outside of the U.S.

2.2.6. Other covariates

We include a set of covariates known to influence mental health. These include age (younger adults aged 18–40 treated as reference, middle-aged 41–64, older adults aged 65 or above), sex (male treated as reference), household income (less than $25,000 treated as reference, $25,000–$49,999, $50,000–$100,000, over $100,000), education (high school degree or less treated as reference), marital status (married or cohabiting treated as reference, divorced/separated/widowed, never married).

2.3. Analyses

The first step was to describe the means and dispersions of the variables used in this study for each racial/ethnic group stratified by their nativity status. To address our research questions, binary logistic regression analyses were conducted to examine the associations between the independent variables (racial discrimination and racial/ethnic identity) and each dependent variable (mood, anxiety, or substance use disorders), controlling for covariates (Model 1). Then, a set of two-way interaction terms were added to Model 1 to examine whether the associations between racial discrimination and the dependent variables were moderated by racial/ethnic identity among different racial/ethnic groups (Model 2). Last, we additionally stratified by both race/ethnicity and nativity status to test the moderating effect of racial/ethnic identity (Model 3). Note that our analytic aim is to examine whether and to what extent racial/ethnic identity moderates the relationship between racial discrimination and psychiatric disorders for each racial/ethnic group and/or by nativity. Given that higher-order interactions are difficult to detect (McClelland & Judd, 1993), we do not have enough power to formally test whether the moderating pattern differs significantly across racial/ethnic groups (which requires three-way interaction models), a task we leave for future research with larger sample sizes. In analyses not reported here (available upon request), we also experimented with the heterogeneous choice model to investigate whether some of the significant interaction terms were artifacts of differences in residual variance, a concern particularly relevant for binary logistic regression models (Williams, 2009). As the residual variances were tested to be similar across levels of racial/ethnic identity, the heterogeneous choice model was not used.

Stata 15 was used for the data analyses. To handle the complex survey design of the NESARC-III, survey weights were applied to account for selection and differential response probabilities. The weighted NESARC-III data have been shown to be representative of the U.S. population on key socio-demographics, including age, region, sex, race, and ethnicity (Grant et al., 2014). Given the large percentage of complete data without missing values (98%), the listwise deletion method was used.

3. Results

3.1. Description of the sample

Table 1 presents the descriptive information of the study sample (descriptive statistics for each racial/ethnic group and by nativity are not shown for the sake of space but are available upon request). The prevalence of mood and anxiety disorders was each approximately 13%, while 29.18% of the respondents had at least one type of substance use disorder. Almost two out of five (37.38%) respondents reported incidents of racial discrimination that happened at least 12 months prior to the survey. The mean score of racial/ethnic identity was 4.63 on a 1–6 scale (SD = 1.01); recall that due to its skewed nature and its potentially non-linear relationship with psychiatric disorders, we categorized it into three quartiles: low, moderate, and high. The majority of the sample consisted of Whites (N = 18,980, 53.23%), followed by Blacks (N = 7636, 21.41%), Latinxs (N = 6922, 19.41%), Asians (N = 1616, 4.53%), and AI/ANs (N = 502, 1.41%). Immigrants accounted for 17.54% (N = 6254) of the sample.

Table 1
Descriptive statistics of all variables (N = 35,656).

Variables	Percentage (%)
DSM-V diagnosis past 12 months	
Any mood disorder	13.55
Any anxiety disorder	12.86
Any substance use disorder	29.18
Any racial discrimination	37.38
Racial/ethnic identity	
Low	33.60
Moderate	34.73
High	31.67
Race/ethnicity	
White	53.23
Black	21.41
American Indian/Alaska Native	1.41
Asian	4.53
Latinx	19.41
Nativity	
U.S.-born	82.46
Foreign-born	17.54
Age	
Young adult	41.41
Middle-aged	42.60
Older adult	15.99
Female	56.34
Household Income	
< $25,000	35.22
$25,000 - 49,999	27.69
$50,000 - 100,000	24.27
> $100,000	12.83
Education	
High school or less	42.07
Over high school	57.93
Marital status	
Married/cohabiting	46.29
Divorced/separated/widowed	25.94
Never married	27.77

3.2. Logistic regression results

Table 2 reports, for each racial/ethnic group, the odds ratios and 95% confidence intervals from logistic regression analyses of three types of psychiatric disorders. Model 1 shows the independent associations between racial discrimination, racial/ethnic identity, and psychiatric disorders, while controlling for all covariates. Consistent with prior studies, experience of racial discrimination is associated with significantly higher odds of all three types of psychiatric disorders across all racial/ethnic groups, with the only exception of mood and substance use disorders among AI/ANs (partly due to its small sample size). Further, compared with those with low racial/ethnic identity, respondents with moderate or high levels of racial/ethnic identity tend to have lower odds of mood, anxiety, or substance use disorders. But note that for AI/ANs, moderate racial/ethnic identity was associated with higher odds of mood disorders.

To determine whether racial/ethnic identity operates as a buffer or an exacerbator in the association between racial discrimination and psychiatric disorders, Model 2 adds a two-way interaction term between racial discrimination and racial/ethnic identity. Note that the main effects of racial discrimination and racial/ethnic identity are also included in Model 2, but they are not presented in the table for the sake of space. Results suggest that high racial/ethnic identity intensifies the association between racial discrimination and psychiatric disorders among Whites (two-way interaction term 1.35 for substance use disorders, $p < 0.05$), AI/ANs (two-way interaction term 6.17 for mood disorders, $p < 0.05$), and Latinxs (two-way interaction term 1.64 for anxiety disorders, $p < 0.05$), whereas moderate racial/ethnic identity does not modify the discrimination/psychiatric-disorder link among these racial/ethnic groups. These significant interaction effects are plotted in Fig. 1, where the relationship between racial discrimination (gray and dark bars) and the probability of psychiatric disorder (Y-axis) is plotted for low and high racial/ethnic identity. As can be seen in the figure, the effect of racial discrimination (i.e., the gap between the gray and dark bars) enlarges (or even reverses directions as in the case of AI/ANs) as one's racial/ethnic identity increase from “low” to “high”, indicating that high racial/ethnic identity intensifies the psychiatric cost of racial discrimination.

The results of Model 2 also indicate that moderate levels of racial/ethnic identity mitigate the association between racial discrimination and psychiatric disorders among Blacks (two-way interaction term 0.63 for substance use disorders, $p < 0.01$) and Asians (two-way interaction term 0.36 for mood disorders, $p < 0.05$), whereas high racial/ethnic identity does not modify the discrimination/psychiatric-disorder link for these racial/ethnic groups. The interaction patterns for Blacks and Asians are plotted in Fig. 2, where the relationship between racial discrimination and the probability of psychiatric disorder is plotted for low and moderate racial/ethnic identity. As shown in the figure, as racial/ethnic identity shifts from “low” to “moderate”, the gap in the probability of psychiatric disorder between individuals with and without racial discrimination narrows accordingly, suggesting that moderate racial/ethnic identity buffers the psychological burden associated with racial discrimination for these racial/ethnic groups.

Does the moderating role of racial/ethnic identity further differ by nativity? Model 3 answers this question by additionally stratifying each racial/ethnic model by nativity status. For simplicity these estimates are provided in footnotes instead of the main body of Table 2. Results indicate that the moderating effect of racial/ethnic identity we described above is mostly driven by the U.S.-born. Specifically, we find that (1) high racial/ethnic identity intensifies the effect of racial discrimination for U.S.-born Whites (two-way interaction term 1.34, $p < 0.05$, for substance use disorders) and U.S.-born Latinxs (two-way interaction term 1.68, $p < 0.10$, for anxiety disorders), while (2) moderate racial/ethnic identity buffers the effect of racial discrimination for U.S.-born Blacks (two-way interaction term 0.64, $p < 0.01$, for substance use disorders). No such significant findings are found for the foreign-born. As for Asians, racial/ethnic identity does not appear to moderate the relationship between racial discrimination and psychiatric disorders for either U.S.-born or foreign-born Asians, partly due to the small sample size when disaggregated by nativity.

4. Discussion

Drawing on a nationally representative sample, the present study investigates whether racial/ethnic identity buffers or exacerbates the psychological burden of racial discrimination. Overall, the results indicate that the level of racial/ethnic identity matters, even as distinct patterns emerge for different racial/ethnic groups. Specifically, in and of itself, racial discrimination is a risk factor while racial/ethnic identity a largely protective factor of psychiatric disorders across racial/ethnic groups. Racial/ethnic identity also moderates the relationship between racial discrimination and psychiatric disorders, but its moderating role is not universal across racial/ethnic groups. For Whites, AI/ANs, and Latinxs, high—but not moderate—racial/ethnic identity exacerbates the mental burden of racial discrimination, but for Asians and Blacks, moderate (rather than high) racial/ethnic identity buffers the association between racial discrimination and psychiatric disorders. Below we discuss each of these key findings and elaborate on our contributions to the larger literature.

First, the finding that racial discrimination is associated with all three psychiatric disorders is consistent with social stress theory and adds to the previous empirical studies on the effects of racial discrimination on mental health (e.g., Schmitt et al., 2014; Williams & Mohammed, 2009; Williams & Mohammed, 2013). Racial

Table 2
Estimates from binary logistic models predicting psychiatric diagnoses.

	Odds Ratio [95% CIs]					
	Whites			Blacks		
	(N = 18,980)			(N = 7636)		
	Mood	Anxiety	SUD[a]	Mood	Anxiety	SUD[a]
Model 1: Without interaction terms						
Racial discrimination (ref: None)	1.92*** [1.73, 2.13]	1.94*** [1.75, 2.13]	1.66*** [1.54, 1.79]	2.63*** [2.17, 3.20]	2.95*** [2.40, 3.63]	1.94*** [1.65, 2.27]
Racial/ethnic identity (ref: Low)						
Moderate	0.93 [0.83, 1.03]	0.99 [0.88, 1.11]	0.97 [0.87, 1.08]	0.77* [0.62, 0.95]	0.67** [0.54, 0.85]	0.82* [0.70, 0.96]
High	0.80** [0.70, 0.91]	0.79*** [0.71, 0.87]	0.94 [0.84, 1.06]	0.64 [0.51, 0.81]	0.64*** [0.50, 0.81]	0.75*** [0.65, 0.88]
Model 2: With Two-way interaction terms						
Racial discrimination (ref: None)	1.84*** [1.57, 2.16]	1.91*** [1.63, 2.24]	1.48*** [1.29, 1.71]	2.59*** [1.84, 3.64]	3.33*** [2.39, 4.65]	2.39*** [1.91, 2.98]
Racial/ethnic identity (ref: Low)						
Moderate	0.93 [0.81, 1.07]	1.02 [0.87, 1.20]	0.94 [0.83, 1.08]	0.66* [0.44, 0.98]	0.88 [0.57, 1.36]	1.11 [0.87, 1.43]
High	0.75*** [0.65, 0.87]	0.74*** [0.64, 0.85]	0.87* [0.76, 0.98]	0.70 [0.46, 1.04]	0.69 [0.43, 1.10]	0.88 [0.68, 1.14]
Racial discrimination (ref: None) × Racial/ethnic identity (ref: Low)						
Discrimination × Moderate	0.98 [0.76, 1.27]	0.91 [0.72, 1.16]	1.10 [0.88, 1.37]	1.21 [0.74, 1.98]	0.71 [0.43, 1.18]	0.63** [0.46, 0.86][d]
Discrimination × High	1.22 [0.92, 1.61]	1.21 [0.95, 1.54]	1.35* [1.05, 1.73][c]	0.88 [0.53, 1.48]	0.91 [0.52, 1.61]	0.79 [0.58, 1.08]

	Odds Ratio [95% CIs]					
	American Indians/Alaska Natives			Asians		
	(N = 502)			(N = 1616)		
	Mood	Anxiety	SUD[a]	Mood	Anxiety	SUD[a]
Model 1: Without interaction terms						
Racial discrimination (ref: None)	1.69 [0.90, 3.19]	2.24** [1.30, 3.86]	1.56 [0.96, 2.53]	2.56*** [1.62, 4.02]	2.63** [1.53, 4.53]	1.61** [1.16, 2.22]
Racial/ethnic identity (ref: Low)						
Moderate	2.00* [1.04, 3.88]	1.21 [0.72, 2.03]	0.95 [0.54, 1.68]	1.46 [0.87, 2.45]	0.97 [0.51, 1.84]	1.04 [0.69, 1.57]
High	1.74 [0.84, 3.58]	1.22 [0.63, 2.34]	0.57 [0.29, 1.11]	1.02 [0.62, 1.70]	1.12 [0.51, 2.47]	0.55* [0.32 0.95]
Model 2: With Two-way interaction terms						
Racial discrimination (ref: None)	0.75 [0.29, 1.96]	1.81 [0.78, 4.18]	1.08 [0.51, 2.28]	5.21*** [2057, 10.53]	2.68* [1.17, 6.12]	1.35 [0.84, 2.17]
Racial/ethnic identity (ref: Low)						
Moderate	1.25 [0.42, 3.74]	1.15 [0.50, 2.62]	0.74 [0.32, 1.73]	3.19** [1.67, 6.11]	0.96 [0.32, 2.90]	0.80 [0.47, 1.37]
High	0.54 [0.15, 1.98]	0.75 [0.23, 2.40]	0.35 [0.12, 1.03]	2.06 [0.80, 5.31]	1.16 [0.39, 3.44]	0.52* [0.27, 0.99]
Racial discrimination (ref: None) × Racial/ethnic identity (ref: Low)						
Discrimination × Moderate	2.55 [0.60, 10.77]	1.12 [0.35, 3.62]	1.66 [0.60, 4.60]	0.36* [0.16, 0.78]	1.00 [0.25, 4.09]	1.54 [0.77, 3.11]
Discrimination × High	6.17* [1.12, 34.03]	2.04 [0.46, 9.08]	2.27 [0.65, 7.91]	0.39 [0.14, 1.07]	0.94 [0.30, 2.93]	1.09 [0.43, 2.75]

(*continued on next page*)

Table 2 (*continued*)

	Odds Ratio [95% CIs]		
	Latinxs (N = 6922)		
	Mood	Anxiety	SUD[a]
Model 1: Without interaction terms			
Racial discrimination (ref: None)	2.46*** [2.07, 2.92]	2.02*** [1.67, 2.44]	1.67*** [1.47, 1.89]
Racial/ethnic identity (ref: Low)			
Moderate	0.74** [0.61, 0.89]	0.67** [0.54, 0.84]	0.74** [0.62, 0.87]
High	0.80 [0.64, 1.01]	0.69** [0.54, 0.87]	0.74** [0.61, 0.90]
Model 2: With Two-way interaction terms			
Racial discrimination (ref: None)	2.44*** [1.80, 3.30]	1.59** [1.17, 2.17]	1.46** [1.17, 1.83]
Racial/ethnic identity (ref: Low)			
Moderate	0.74* [0.55, 0.99]	0.54** [0.37, 0.79]	0.68** [0.54, 0.86]
High	0.79 [0.56, 1.10]	0.52*** [0.37, 0.74]	0.63** [0.46, 0.86]
Racial discrimination (ref: None) × Racial/ethnic identity (ref: Low)			
Discrimination × Moderate	1.00 [0.65, 1.54]	1.47 [0.93, 2.33]	1.16 [0.85, 1.58]
Discrimination × High	1.04 [0.66, 1.63]	1.64* [1.02, 2.64][c]	1.39 [0.94, 2.07]

Notes:.

a. SUD = Substance use disorder.

b. All models include the following covariates: age, sex, household income, education, marital status, and nativity.

c. Model 3 (Stratified models by nativity) shows similar results for U.S.-born Whites (two-way interaction term between racial discrimination and high racial/ethnic identity 1.34, $p < .05$, 95% CI [1.04, 1.72] for the SUD outcome), but no significant two-way interaction terms are found for foreign-born Whites.

d. Model 3 (Stratified models by nativity) shows similar results for U.S.-born Blacks (two-way interaction term between racial discrimination and moderate racial/ethnic identity 0.64, $p < .01$, 95% CI [0.46, 0.89] for the SUD outcome), but no significant two-way interaction terms are found for foreign-born Blacks.

c. Model 3 (Stratified models by nativity) does not find significant two-way interaction terms between racial discrimination and racial/ethnic identity for either U.S.-born or foreign-born Asians.

c. Model 3 (Stratified models by nativity) shows similar results for U.S.-born Latinxs (two-way interaction term between racial discrimination and high racial/ethnic identity 1.68, $p < 0.10$, 95% CI [0.97, 2.89] for the anxiety outcome), but no significant two-way interaction terms are found for foreign-born Latinxs.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

discrimination, as our findings show, is indeed a noxious stressor that poses a heavy burden of mental illnesses in the United States for all racial/ethnic groups.

Second, we contribute to the literature by showing that racial/ethnic identity moderates the association between racial discrimination and psychiatric disorders, and the moderating effect is not linear but dependent on the level of racial/ethnic identity. Specifically, strong racial/ethnic identity intensifies the psychological burden associated with racial discrimination among three racial/ethnic groups (Whites, AI/ANs, and Latinxs)—supporting the idea of identity-relevant stressor,

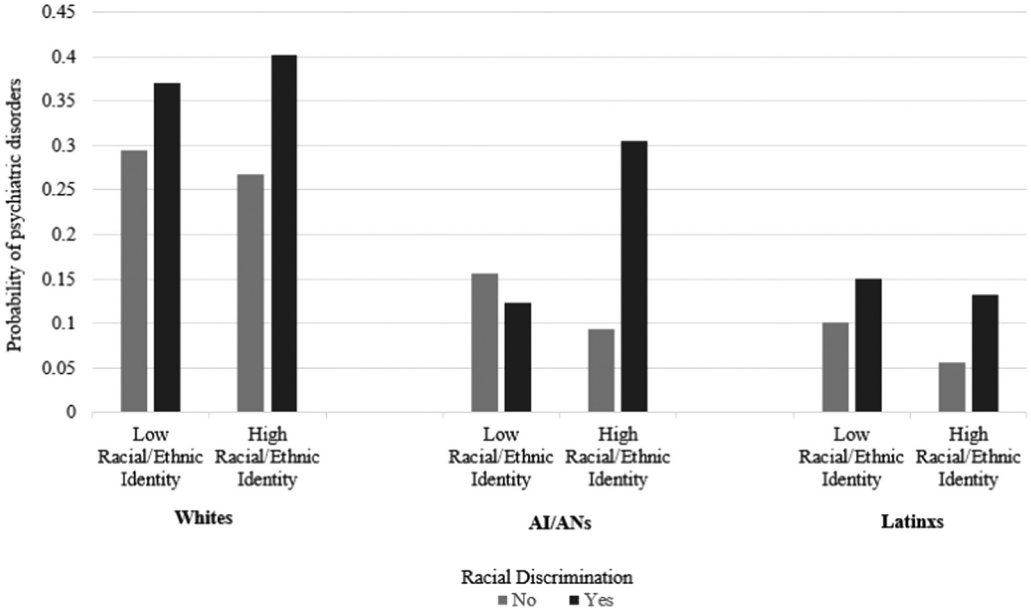

Fig. 1. Racial/ethnic differences in the moderating effect of racial/ethnic identity on the association between racial discrimination and psychiatric disorders. Notes: 1. For Whites, the presented outcome is substance use disorder (two-way interaction term 1.35, $p < 0.05$, see Model 2 in Table 2). 2. For AI/ANs, the presented outcome is mood disorder (two-way interaction term 6.17, $p < 0.05$, see Model 2 in Table 2). 3. For Latinxs, the presented outcome is anxiety disorder (two-way interaction term 1.64, $p < 0.05$, see Model 2 in Table 2).

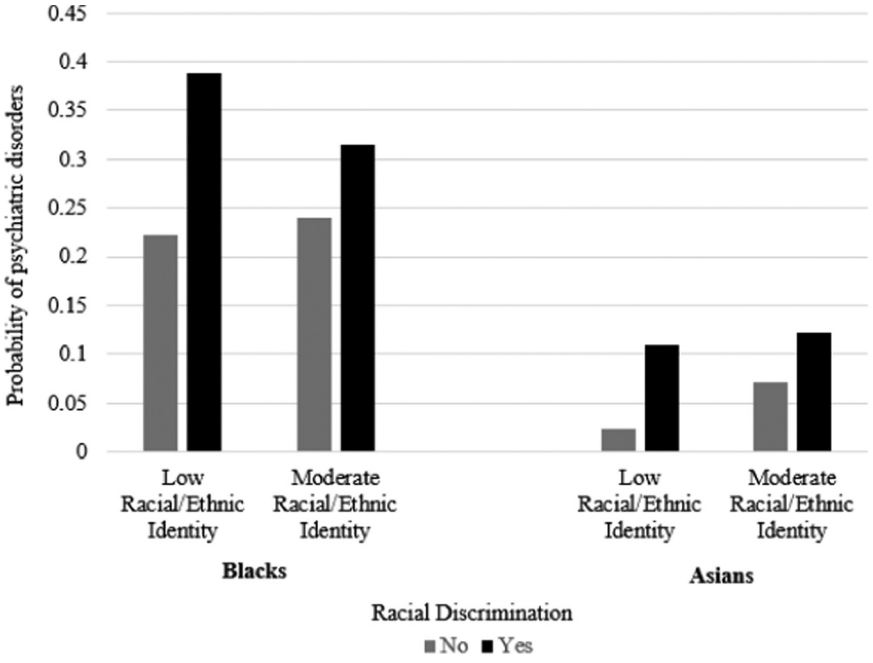

Fig. 2. Racial/ethnic differences in the moderating effect of racial/ethnic identity on the association between racial discrimination and psychiatric disorders. Notes: 1. For Blacks, the presented outcome is substance use disorder (two-way interaction term 0.63, $p < 0.01$, see Model 2 in Table 2). 2. For Asians, the presented outcome is mood disorder (two-way interaction term 0.36, $p < 0.05$, see Model 2 in Table 2).

whereas a moderate level of racial/ethnic identity functions as a buffer for Blacks and Asians. The fact that high racial/ethnic identity magnifies the discrimination/psychiatric-disorders link among certain racial/ethnic groups indicates the need for future research to take the intensifying role of racial/ethnic identity into account. We highlight that this finding should not be interpreted as suggesting that one needs to reduce their racial/ethnic identity in order to mitigate the psychological cost of racial discrimination. Instead, what the finding suggests is that taking racial/ethnic identification into account will provide a fuller understanding of one's experiences and burdens associated with racial discrimination. In addition, the finding that individuals with high levels of racial/ethnic identity are particularly susceptible to the psychological toll of racial discrimination has practical implications as it aids identifying particularly vulnerable victims of racial discrimination and design interventions accordingly. Similarly, the finding that only moderate levels of racial/ethnic identity function as a protector calls for more future research to identify other buffers of racial discrimination beyond individual-level self-concept.

A third contribution of this study is to reveal that the moderating role of racial/ethnic identity is not uniform across racial/ethnic groups. Moderate racial/ethnic identity is a buffer among Blacks and Asians but not for Whites, AI/ANs, or Latinxs. This finding indicates that group-based identification up to a moderate level may be particularly beneficial for Blacks and Asians when confronted with racial discrimination. Conversely, high racial/ethnic identity intensifies the psychological burden associated with racial discrimination among Whites, AI/ANs, and Latinxs, but not for Blacks or Asians. Although data availability and the cross-sectional design of the NESARC-III survey precludes a definitive explanation, these racial/ethnic differences may have to do with the diverse identity development statuses exhibited by different racial/ethnic groups (Phinney & Ong, 2007). Specifically, Marcia's identity development theory has led to a four-group typology of identity developmental status, drawing on the dimensions of exploration and commitment: (a) diffusion (lack of both exploration and commitment), (b) foreclosure (commitment without exploration), (c) moratorium (exploration without commitment), and (d) achievement (commitment after exploration) (Yoon, 2011). Notably, Brown and her colleagues (2014) found that Whites have the lowest levels of both commitment and exploration, Latinxs have moderately higher levels, whereas Asians and African Americans have substantially higher levels of both. In other words, the racial/ethnic identity of Asians and African Americans is likely more explored, committed, and achieved relative to that of other racial/ethnic groups, which has been shown to be associated with higher levels of subjective well-being. Applying these findings to our study, the racial/ethnic identity among Asians and African Americans may have become a psychological resource to buffer the mental burden associated with racial discrimination, while the less-achieved racial/ethnic identity among Whites and Latinxs may operate in a way that aggravates mental burden of racial discrimination. While it is important not to ignore the heterogeneity within racial and ethnic categories in the responses to discrimination, future research with measures on the dimensions of exploration and commitment is needed to test this speculation. Such studies can shed further light on the underlying mechanisms that give rise to these heterogeneous effects across racial/ethnic groups.

Fourth, we find different results across three psychiatric disorders for different racial/ethnic groups, which demonstrate the value of investigating multiple aspects of mental health when studying burdens associated with racial discrimination. These different results reveal that different racial/ethnic groups do not fit into a simple hierarchy but each has a unique social, political, and economic position in society, which shapes their understanding of their group membership as well as their unique attitudes, perspectives, and behaviors in response to racial discrimination (Kim, 2004). For example, our results indicate that when confronted with racial discrimination, racial/ethnic identity is particularly relevant as a moderator for substance use disorders among Whites and Blacks, suggesting that racial/ethnic identity is more likely to initiate or discourage *externalizing disorders* for these two groups. Conversely, for AI/ANs, Asians, and Latinxs, racial/ethnic identity seems to be more relevant when it comes to coping with *internalizing disorders* such as mood or anxiety disorders that come with racial discrimination. Although it is impossible to provide a definitive explanation for this contrast, prior mental health research has shown that connectedness raises the risk of internalizing symptoms while independence increases externalizing problems (Turner & Turner, 1999). In other words, those grounded in collectivistic cultures that highlight dependence—such as AI/ANs, Asians, and Latinxs—may be particularly susceptible to internalizing disorders, whereas those grounded in individualistic cultures that value independence such as Whites may be more vulnerable to externalizing disorders. Note that an exception is

the Blacks, who exhibit externalizing disorders (substance use) even as their culture may be more collectivist than individualistic. More broadly, we emphasize that the nature of our data restricts our ability to come up with definite explanations. Indeed, there have been limited theoretical or empirical studies on the potentially heterogeneous pathways toward specific types of health outcomes for different cultural groups. Further research with more detailed measures or qualitative information is essential to identify differential mechanisms linking racial discrimination, racial/ethnic identity, and specific psychiatric outcomes among different racial/ethnic groups.

Lastly, when disaggregated by nativity, we find that the moderating role of racial/ethnic identity is significant only among the U.S.-born. Compared with their immigrant counterparts, the U.S.-born may have a greater stake in their granted American racial/ethnic categories. Hence, the U.S.-born likely put more meanings to their racial/ethnic backgrounds or are more conscious of their race/ethnicity compared to immigrants, which may lead to stronger mental burden if their valued racial/ethnic identity is threatened by racial discrimination. This contrasting pattern by nativity may also be attributable to the different levels of familiarity with American racial categories as well as differential coping resources that can be employed to deal with racial discrimination. Compared with immigrants, U.S.-born individuals are likely more sensitive to cultural cues or nuances about racism, thereby more likely to identify any racial discriminatory practices and be affected by them. For neither native-born nor foreign-born Asians, however, do we find significant moderating effect of racial/ethnicity. This finding is different from one previous study of Asians, which found that ethnic identity—operationalized as the extent to which individuals feel close to others of the same racial/ethnic descent—functioned as a buffer for psychological distress for the U.S.-born Asians, but not for Asian immigrants (Yip, Gee, & Takeuchi, 2008). Such difference is possibly due to the relatively small sample size of U.S.-born Asians in our study sample (N = 397) and/or the different measures of racial/ethnic identity used; ours is a holistic measure that captures racial/ethnic identification with and senses of pride in, belonging to, and attachment to the individual's racial/ethnic group (Ruan et al., 2008), which is broader and more comprehensive than perceptions of closeness as used by Yip et al. (2008). Given the limited research in this area, more future studies are needed to shed further light on any differences by nativity in the moderating role of racial/ethnic identity in the relationship between racial discrimination and mental health.

Overall, our results highlight the complex role that racial/ethnic identity plays in the relationship between racial discrimination and mental health. These findings indicate that mental health interventions of targeted individuals can be effective when they take racial/ethnic identity into account (Smith & Silva, 2011). Practically speaking, our findings would assist in identifying targeted individuals of racial discrimination who are of high risk in developing psychiatric disorders, especially among Whites, AI/ANs, and Latinxs. In addition, our racial/ethnic-dependent findings suggest that, for racially targeted Asians and Blacks with low racial/ethnic identity, initiatives or interventions that promote group affiliation or the interactions with co-ethnics would be helpful for mitigating their mental burden associated with racial discrimination. These efforts may include facilitating individual counseling or group-level workshops or support groups that foster relationships with co-ethnics, facilitate honest discussion regarding race and ethnicity, raise their consciousness to racial discrimination, and discuss healthy strategies to respond to it (Chae et al., 2008). For example, according to a study of African American youths, programs (e.g., community services, fundraising, role playing) that facilitate interpersonal interactions with families, program facilitators, or members in the broader community where youths can discuss collective struggle (e.g. racism, oppression) and develop strategies to address inequity can foster racial/ethnic identity among the participants (Loyd & Williams, 2016). It is also notable that the buffering effect of racial/ethnic identity was observed among those with moderate, but not high, racial/ethnic identity. This result may reflect that individuals with high racial/ethnic identity may have elevated stress reactivity after experiencing the discrimination or ruminate about the experiences, which may not necessarily mitigate the mental burden of racial discrimination (Eliezer, Major, & Mendes, 2010). The complex role of racial/ethnic identity calls for more nuanced understanding of when the targeted individuals' racial/ethnic identity become more salient for them (Smith & Silva, 2011). Hence, it would be also important to take in the ranges of related factors (e.g., interpersonal networks, social skills, community involvement) and contexts (e.g., local climate of marginalization) that foster racial/ethnic identity, which can concertedly promote mental health of the targeted individuals (Smith & Silva, 2011).

4.1. Limitations

First, due to the cross-sectional design of the survey, causal inferences cannot be drawn. To partially address this issue, note that the measure of racial discrimination (more than 12 months ago) preceded that of psychiatric disorders (the most recent 12 months). Though the timeframe of discrimination may lead to a concern of recall bias, severe discriminatory incidents are salient experiences that one is unlikely to have the recall problem (Monroe, 2008; Williams & Mohammed, 2009). Second, the racial discrimination measure used in this study may not fully capture the differential racial oppression histories experienced by different racial/ethnic minority groups. Future research drawing on measures that capture the cumulative nature of racial discrimination unique to each group would add to the current knowledge base.

4.2. Conclusion

Despite the limitations, the present study provides nationally representative evidence that racial/ethnic identity is a crucial and complex contingency factor that shapes the psychological burden posed by racial discrimination. The results suggest that the influence of racial/ethnicity identity in the psychological adjustment to racial discrimination varies by race/ethnicity: High racial/ethnic identity worsens the deleterious effects of racial discrimination among Whites, AI/ANs, and Latinxs, but moderate racial/ethnic identity functions as a buffer for Asians and Blacks. Combined, the findings partially support the theoretical idea of identity-relevant stressor, which purports that the identity threat can be particularly damaging if individuals put strong values onto it (as what is like for Whites, AI/ANs, and Latinxs); meanwhile, it also corroborates the notion that racial/ethnic identity can function as sociocultural resources to cope with undesirable life events (as what is like for Asians and Blacks). In sum, with application towards potential public health and social interventions, instead of assuming that racial/ethnic identity provides unconditional protections, our findings reveal the complex and dynamic nature of racial/ethnic identity that can be buffering the adverse effect of racial discrimination for some racial/ethnic groups but exacerbating for others. It is consistent with the notion that one size does not fit all groups and neither does identity have similar effects with discrimination on mental health outcomes for all racial and ethnic groups.

Ethics approval

The present study utilized a secondary dataset. This study passed the exempt review at the University Institutional Review Board.

Conflict of interest statement

The authors declare that they have no conflict of interest.

Financial disclosure statement

None.

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