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Perception of Racial Discrimination and Psychopathology Across Three U.S. Ethnic Minority Groups

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Abstract

To examine the association between the perception of racial discrimination and the lifetime prevalence rates of psychological disorders in the three most common ethnic minorities in the U.S., we analyzed data from a sample consisting of 793 Asian Americans, 951 Hispanic Americans, and 2,795 African Americans who received the Composite International Diagnostic Interview through the Collaborative Psychiatric Epidemiology Studies. The perception of racial discrimination was associated with the endorsement of major depressive disorder, panic disorder with agoraphobia, agoraphobia without history of panic disorder, post-traumatic stress disorder, and substance use disorders in varying degrees amongst the three minority groups, independent of the socioeconomic status, level of education, age, and gender of participants. The results suggest that the perception of racial discrimination is associated with psychopathology in the three most common U.S. minority groups.

Keywords

Epidemiology; discrimination; racism; ethnic/minority issues; mental disorders

Racism has been defined in numerous ways (Clark, Anderson, Clark, & Williams, 1999; Karlsen & Nazroo, 2002). Generally, racial discrimination refers to the differential treatment of members of an ethnic or racial group due to negative attitudes or feelings about the minority group (Karlsen & Nazroo, 2002). The perception of being discriminated against can contribute to negative health consequences, e.g. perceived racism has been associated with problems such as high blood pressure and heart disease (Karlsen & Nazroo, 2002; Williams & Neighbors, 2001). A meta-analysis by Williams, Neighbors, and Jackson (2003) suggests that the association between discrimination and poor health outcomes may be especially strong in terms of one's mental health status as opposed to physical health status. Specifically, discrimination may affect mental health status by changing one's perception of self and their surroundings (i.e. self-esteem, locus of control, and affective states) (Gee, Spencer, Chen, Yip, & Takeuchi, 2007; Harrell, 2000).

Previous studies have found higher prevalence rates of substance use, anxiety and depressive symptoms in African Americans (Borrell et al., 2007; Gaylord-Harden & Cunningham, 2009), depressive symptoms, eating disorders, alcohol abuse and dependence in Asians (Chae et al., 2008; Gee et al., 2007; Iyer & Haslam, 2003), and depression, substance abuse in Hispanics (Okamoto, Ritt-Olson, Soto, Baezconde-Garbanati, & Unger, 2009; Umaña-Taylor & Updegraff, 2007) for those members of each racial/ethnic group who report experiencing racism. In studies of discrimination and mental health status, the majority of

analyses between different minority groups are restricted to studying the varying frequency of discrimination reported by the groups (i.e. which racial group reported the highest levels of discrimination), but there has been minimal comparison of the corresponding levels of psychopathology across the groups.

When examining psychopathology without taking discrimination into account, there is evidence that lifetime prevalence rates differ amongst the different racial groups. Breslau, Kendler, Su, Gaxiola-Aguilar, & Kessler (2005) found that both Hispanics and African Americans had lower lifetime prevalence of substance use disorders compared with Caucasians, and African Americans also had a lower lifetime prevalence of mood disorders. Asnaani, Richey, Dimaite, Hinton, & Hofmann (2010) found that Asian Americans had lower lifetime prevalence rates of anxiety disorders when compared with Caucasians. However, Asnaani et al. (2010) also investigated the prevalence rates between minority racial groups, which revealed further differentiation within anxiety disorders (e.g. Asian Americans had lower prevalence of generalized anxiety disorder and post-traumatic stress disorder than Hispanics, but not of social anxiety disorder or panic disorder). Comparing minority groups to Caucasians can reveal valuable information; however, looking at differences exclusively between minority groups themselves could provide new and deeper insight in this field.

It should be noted that each ethnic group in the United States has a unique sociopolitical history, which may manifest in varying reactions or heightened sensitivity to identifying discriminatory events (Vega & Rumbaut, 1991). For instance, the African American community has shared a longstanding battle with racism in the history of the nation with significant change in this experience over several centuries, whereas Hispanic and Asian Americans have immigrated relatively recently but have faced their own individual challenges with integrating into mainstream society (Vega & Rumbaut, 1991). Thus, reactions to discriminatory events would presumably differ on a broader level between these three major ethnic minority groups. These differences need to be taken into consideration in studies that qualify the quality of discriminatory experiences (the context, perceived reason, type, and reaction to discrimination). However, despite these complexities, we believe that a comparison between different ethnic groups on this construct is a valuable addition to the existing literature on discrimination and its impact on psychopathology.

The construct of racial discrimination itself can be investigated in various ways, as demonstrated by the different measures utilized in the existing literature. Several studies emphasize the domain in which participants experience racism (e.g., at school, in public, workplace, etc.) and others assess the frequency of racial discrimination events (e.g., Borrell et al., 2007; Iyer & Haslam, 2003; Umaña-Taylor & Updegraff, 2007). Others have conceptualized discrimination as a general stressor analogous to perceived unfair treatment (Chae et al., 2008; Gee et al., 2007). However, this approach assumes that participants who report unfair treatment believe that the treatment results from their racial/ethnic group. Thus, it was of interest in the present study to build on previous studies by examining those individuals reporting frequency of perceived unfair treatment and also specifically attribute this unfair treatment to their racial/ethnic status.

The instruments used in these studies also vary in terms of validity and the method of administration. Many of the questionnaires for discrimination were either only validated in or constructed specifically for one racial group (Borrell et al., 2007; Gaylord-Harden & Cunningham, 2009; Umaña-Taylor & Updegraff, 2007). The method for assessing psychiatric status has also differed, with several studies taking a dimensional approach to psychiatric disorders (i.e. looking at the number of psychiatric symptoms); others have used

a categorical approach according to the DSM-IV (APA, 2002), which still currently serves as the gold standard for psychiatric diagnosis (Gee et al., 2008; Iyer & Haslam, 2003).

Further, the few studies that have directly compared the impact of reported racism on mental health status amongst different racial minorities have reported inconsistent results. Hwang and Goto (2008) found a stronger association between perceived discrimination and depression in Hispanics than Asians. However, the authors cautioned that these findings were still exploratory in nature and needed to be further studied. Another study suggested a stronger relationship between perceived discrimination and poor mental health status in African Americans as compared to Hispanics (Stuber, Galea, Ahern, Blaney &, Fuller, 2003). It is clear that further examination of the influence of racism on mental health in various racial groups can help identify whether certain groups who report perceived discrimination have higher prevalence rates of a specific disorder than others. This information could be potentially beneficial to clinicians, particularly with regard to specific treatment targets, and by informing more routine clinical assessment of different types and degree of discrimination.

This study therefore aims to clarify the impact of reported racism on mental health and address conflicting findings in previous research by investigating the association between perceived racial discrimination and DSM-IV mood, anxiety, eating, and substance use diagnoses. Specifically, we examined these phenomena in the three largest minority racial groups in the United States, namely African Americans, Hispanics, and Asians, using data from a large representative epidemiological sample. We predicted that perceived racial discrimination would be associated with a higher frequency of endorsing mental disorders across these racial groups. Additional post-hoc analyses were conducted to compare the degree of association between perceived racism and psychopathology in these racial groups.

Methods

All data were drawn from the Collaborative Psychiatric Epidemiology Studies (CPES), and collected between May 2002 and November 2003. This epidemiological dataset provides a nationally representative sample due to the integration of three national surveys of mental health in residents of the United States: the National Comorbidity Survey Replication (NCS-R), the National Study of American Life (NSAL), and the National Latino and Asian American Study of Mental Health (NLAAS). The CPES data collection procedures have been described in detail elsewhere (Heeringa et al., 2004), but an abbreviated description as relevant to the present study is discussed here.

Participants

The sample consisted of 4,539 participants. Of these, 793 were Asian, 951 were Hispanic, and 2,795 were African American. Specifically, participants for the current study were recruited for the NSAL and NLAAS. Both datasets consisted of measures designed to investigate potential protective and risk factors for developing psychopathology and service utilization. The NSAL was administered to African-American, Afro-Caribbean, and non-Hispanic white adults; the NLAAS was administered to Latino and Asian American adults. All participants were 18 and older, and exclusion criteria included those who were institutionalized or living on military bases.

Four-stage area probability sampling methods were used to select participants and are fully detailed in Heeringa and colleagues (2004). Briefly, the primary stage units consisted of metropolitan and county units sampled proportionate to size. Second-stage units included geographically neighboring areas of census blocks sampled for geographic location and the race/ethnicity composition of households to facilitate oversampling of areas with higher

densities of households with the racial groups under study. Third-stage sampling involved the selection of specific households using an equation specified in Heeringa and colleagues (2004). Fourth-stage sampling consisted of trained interviewers screening individuals residing in the households determined in the third-stage. If more than one member of the household was found to be eligible, only one individual would be randomly selected to participate in the interview. Weighting correlations were developed to take into account the joint probabilities for selection under these 4 components of the sample design (Abe-Kim et al., 2007).

Upon selection of the participants, face to face interviews were conducted by trained interviewers, with the data collection phase lasting between May 2002 and November 2003 (for detailed descriptions of the training procedure for interviewers, see Jackson et al., 2006). Written informed consent was given either in English (as done in the NSAL), or in the participant's primary language for participants in the NLAAS. The NLAAS hired bilingual interviewers who spoke English in addition to one of four other languages (Alegria et al., 2004; see Shrout et al., 2008 for a comprehensive description of the validation of different languages in the diagnostic instruments of the NLAAS). Participants were randomly re-contacted to validate the data (Alegria et al., 2004).

Assessment of Perceived Racial Discrimination

The measure used to assess perceived discrimination in CPES was the Frequency of Everyday Mistreatment subscale from the Detroit Area Study Discrimination Questionnaire (DAS-DQ) (Jackson, James, & Williams, 1995). It consisted of nine questions which gauged the frequency with which various discriminatory acts were experienced by the respondent. The Cronbach's alpha computed using the CPES dataset for the measure was high, both in the overall sample and in each ethnic group (overall sample: $\alpha = 0.90$; Asian Americans: $\alpha = 0.91$, Hispanic Americans: $\alpha = 0.91$, and African Americans: $\alpha = 0.88$), and the use of this measure for assessment of perceived racial discrimination is consistent with other studies (Fortuna, Porche, & Alegria, 2008; Williams, Yu, Jackson, & Anderson, 1997). Its use has been validated and it has been widely used in African Americans (Clark, Coleman, & Novak, 2004; Taylor, Kamarck, & Shiffman, 2004) and Hispanics (Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005; Perez, Sribney, & Rodríguez, 2009). Previous studies have used this measure to assess perceived discrimination in Asian Americans as well (Gee et al., 2007; Gee, Delva, & Takeuchi, 2006).

The questions in this measure were preceded by the words "*In your day-to-day life how often have any of the following things happened to you*" followed by statements such as, "*You are called names or insulted*" and "*You are treated with less respect than other people*" (the complete listing of the items are found in Table 1). The participant responded to the questions using a frequency scale of 1 to 6, in which 1 = almost every day, 2 = at least once a week, 3 = a few times a month, 4 = a few times a year, 5 = less than once a year, and 6 = never. Participants' responses were reverse recoded and summed to yield a total score, such that higher total scores indicated more perceived racial discrimination. Thus, the scores on this measure ranged from 9 to 54. Analyses were restricted to those individuals in each ethnic group who responded with "Ancestry or National Origin or Ethnicity," "Race," or "Skin Color" on a final question asking for the main reason for their perceived discrimination experiences. Participants who received the DAS-DQ measure included 4,853 African Americans, 2,020 Asians, and 2,696 Hispanics. Out of those, 2,795 (58%) African Americans, 793 (39%) Asians, and 951 (35%) reported racial reasons for their discriminatory experiences and were included in the analyses.

Diagnostic Assessment

Diagnostic status was determined using the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI). The CIDI enables lay interviewers to ask a series of questions pertaining to psychiatric diagnoses based on both the WHO International Classification of Disease (ICD) and based on the DSM-IV. These interviewers were trained by the official WHO CIDI Training and Research Centre (CIDI-TRC) program that includes a 40 hour CD-ROM module and three days of face to face training. Numerous studies have shown that the CIDI has good to excellent inter-rater reliability (i.e. 17 out of 20 diagnoses had kappa values equal to or greater than 0.9) and fair test-retest reliability (i.e. kappa values ranging from 0.41 for GAD to 0.84 for PD) (Andrews & Peters, 1998; Semler et al., 1987), including a multinational validation study showing trans-cultural reliability and validity of the CIDI (Tacchini, Coppola, Musazzi, Altamura, & Invernizzi, 1994). Further, individual studies of the CPES included reviews of audiotapes and reliability re-interviews with a selection of participants by trained clinical diagnosticians to ensure good concordance (ranging from 0.62 to 0.93 for the individual disorders) between CIDI diagnoses and blinded clinical assessments (Alegria et al., 2004; Haro et al., 2006). For the current study, only DSM-IV lifetime prevalence of disorders were analyzed, which is consistent with other epidemiological studies (Asnaani, Gutner, Hinton, & Hofmann, 2009; Kessler, Mickelson, & Williams, 1999).

Disorders in five major classes were analyzed across groups: anxiety problems [panic disorder without agoraphobia (PD) and with agoraphobia (PDA), agoraphobia without history of panic disorder, generalized anxiety disorder, social anxiety disorder, and post-traumatic stress disorder (PTSD)], mood [major depressive disorder (MDD), dysthymia, bipolar I and bipolar II], eating disorders (anorexia nervosa, bulimia nervosa, and binge eating disorder), substance use (alcohol abuse/dependence and drug abuse/dependence), and other disorders (attention deficit disorder and intermittent explosive disorder).

Statistical Analyses

The complex samples module of SPSS 17.0 was used to complete all analyses for the present report, in order to adequately account for the weighted nature of the CPES data. Logistic regressions (odds ratios with 95% confidence intervals) were conducted for prevalence of lifetime DSM-IV diagnoses across three ethnic comparisons: African Americans versus Hispanics, African Americans versus Asians, and Hispanics versus Asians. Three additional covariates were included in the final analyses with perceived discrimination: age, gender, and annual household income. Education was considered as a potential fourth covariate, but was not included in the analyses given its significant positive correlation to annual household income level in the datasets. Studies have shown that ethnic identity can potentially serve as a protective factor against mental distress, whereas acculturative stress can be a risk factor (Chae et al., 2008; Hwang & Ting, 2008). Acculturative stress was measured in this study by a 9-item questionnaire assessing if participants have had certain experiences (e.g.: "Have you felt guilty for leaving family or friends in your country of origin?" or "Do you feel that living out of your country of origin has limited your contact with family or friends?"). Acculturative stress refers to the difficulties experienced by immigrants adjusting to life in their new countries of residence. Therefore, it is possible that the experience of racial discrimination can itself be considered a type of acculturative stressor. Ethnic identity was measured in this study by the sum of 4 dimensional items assessing level of identification with one's racial/ethnic group, feelings of closeness to other members in the same racial group, amount of time preferred to spend with same racial group members, and importance placed on marrying within one's racial/ethnic group. Unfortunately, these two constructs were only assessed in the Asian and Hispanic cohorts, thereby prohibiting their inclusion in analyses across all three racial groups.

However, given their importance, additional analyses were conducted with ethnic identity and acculturative stress as additional covariates in comparisons between Hispanics and Asians.

Results

Demographic Characteristics

Demographic characteristics are shown in Table 2. The African American cohort was the oldest (41.0 years) and also consisted of the highest percentage of female respondents (59.9%). The Asian group had the highest mean annual household income as compared with the other two groups. One-way ANOVA analyses revealed significant differences in SES, age, and gender across all three racial groups; therefore, these demographic factors were included as covariates in all subsequent analyses.

Level of Perceived Racial Discrimination

There were significant differences in mean levels of perceived racial discrimination in African Americans as compared to the other two minority cohorts. Post-hoc analyses revealed that African Americans ($M = 22.94$, $SD = 7.55$) reported a significantly higher degree of perceived racial discrimination ($F(2, 4,448) = 144.79$, $p < 0.001$) than Asians ($M = 18.72$, $SD = 5.71$) and Hispanics ($M = 19.55$, $SD = 7.41$), who did not differ significantly from each other in level of perceived discrimination.

Odds Ratios

Table 3 shows the comparisons of odds ratios between the different ethnic groups in diagnosis of all disorders in individuals reporting perceived discrimination as a result of race, skin color, or ethnicity, while controlling for demographic variables. These differences in the reporting of psychological symptoms remained significant even after making a Bonferroni correction to adjust for alpha inflation given the number of pair wise comparisons ($p < 0.05/57 = 0.0008$). Specifically, logistic regressions revealed that African Americans were more likely to experience PD, PDA and PTSD as compared to their Asian counterparts. Hispanics were more likely to endorse PDA, agoraphobia, and MDD symptoms than Asians. In addition, Hispanics were more likely to meet criteria for MDD than the African American cohort. Finally, the Asian cohort was significantly least likely to endorse the presence of any of the substance use disorders examined (i.e. alcohol abuse or dependence, and drug abuse or dependence) than the other two minority groups. There were no other differences in the occurrence of the other disorders.

Additional analyses controlling for acculturative stress and ethnic identity in Hispanics and Asians revealed a largely similar pattern of results as described above, with the exception of drug abuse/dependence, which was no longer significantly different in prevalence between the two racial groups. Also, the higher rates of PDA, agoraphobia and alcohol dependence in Hispanics were further increased by approximately a factor of 5.

Effect Size Estimates

Post-hoc analyses of obtained odds ratios were conducted to test the effect sizes of this statistic across racial groups, using an established acceptable conversion of OR values to effect size by dividing the \ln (odds ratio) by 1.81 (Chinn, 2000). Effect size (ES) estimates (Table 3) revealed that the significant differences in disorder prevalence found between groups were associated with medium (ES: 0.5) to large sized (ES: 0.8) effects.

Discussion

The goal of the present study was to examine the association of perceived racial discrimination and DSM-IV mood, anxiety, eating, and substance use diagnoses in the three most common minority groups in the U.S.: African Americans, Hispanics, and Asians. We predicted that perceived racial discrimination would be associated with higher frequency of endorsing mental disorders across all racial groups. Consistent with our prediction, perceived racial discrimination was associated with a higher rate of endorsement of various types of psychopathology across all racial groups, with medium to large effect sizes for these findings. This result is in line with earlier investigations (e.g., Williams et al., 2003).

The results of post-hoc analyses comparing the degree of association between perceived racism and psychopathology in these racial groups suggested that Asians were consistently least likely to have endorsed any of the disorders which were significantly associated with perceived racism (PTSD, MDD, agoraphobia, and substance use disorders). The finding regarding substance use may be partially explained by the fact that Asians tend to have lower levels of substance use and abuse when compared with other minorities in general (Grant et al., 2004; Makimoto, 1998). Secondary analyses including acculturative stress and ethnic identity revealed a loss of significance in this association, which implicates these two factors as mediators in this ethnic group. Indeed, acculturation by itself has been identified as a risk factor for substance use in Asian youth (e.g., Chen, Unger, Cruz, & Johnson, 1999; Hahm, Lahiff, & Guterman, 2003); however, only a few studies have investigated the association between acculturative stress and substance use in Asians (Kuramoto and Nakashima, 2000; Le, Goebert, & Wallen, 2009; Moloney, Hunt, & Evans, 2008). Ethnic identity, on the other hand, is often cited as a potential protective factor against substance use, but again, few studies have specifically investigated this relationship (Choi, Harachi, Gillmore, Catalano, & Harachi, 2006; Hishinuma et al., 2004). Clearly, further investigation is required.

Hispanics who reported having experienced racial discrimination were more likely to endorse MDD than African Americans and Asians, as has been found elsewhere (Hwang & Goto, 2008). The observation with endorsement of MDD has been supported by several studies that show that discrimination can lead to characteristic features of MDD, such as feelings of helplessness and low self-esteem (Fernando, 1984; Torres & Ong, 2010). Therefore, to further understand how this disorder may be associated with these particular symptoms in the Hispanic community, future studies should integrate routine assessment of individual symptoms of depression to complement the more traditional categorical approach of determining prevalence. In addition, Hispanics were more likely to meet criteria for PDA and agoraphobia than Asians, which is a disorder that has not been adequately studied in the context of racism (Friedman & Paradis, 2002), and warrants further attention. However, this particular finding might be partially explained by a higher reported sensitivity to physical symptoms of anxiety due to several culturally salient metaphors in Hispanics, such as heightened fear of shortness of breath and shakiness, which are typically experienced in panic disorder and agoraphobia (Hinton, Lewis-Fernandez, & Pollack, 2009). Finally, African Americans who reported perceived racism were significantly more likely than Asian Americans to endorse PTSD over their lifetime, and also reported significantly higher rates of perceived discrimination than the other two minority groups examined in this study. Other studies have suggested that such a finding stems from the fact that the discrimination event itself can be a traumatic experience (i.e. Butts, 2002).

Limitations of the study include the sole reliance on self-report and interview data, a limited number of questions, and temporal ordering. Of note, it has been widely discussed that the relationship between discrimination and psychopathology is multi-factorial in nature, with

other phenomena, such as ethnic identity and acculturative stress playing key roles in the manifestation of mental illness (Chae et al., 2008; Hwang & Ting, 2008). Our study investigated some of these contributing factors for a subset of the sample, since this was unfortunately not assessed across all three racial groups. Related to this, the issue of ethnic differences in level of self-disclosure, especially in mental health status, is important to consider. Previous literature has indicated that low rates of mental health service utilization by Asian Americans may be related to a fear of losing face (Gong, Gage, & Tacata, 2003). Thus, it is possible that underreporting by the Asian American participants in this study may have contributed to a lower observed rate of the range of psychiatric disorders examined as compared to Hispanic Americans and African Americans. Similarly, immigration status and pre-immigration experiences can play a role in the level of reported or perceived discrimination reported, but this variable was not operationalized across all three racial groups in a consistent fashion. It is important that future studies use a battery of additional measures of perceived racial discrimination and its related constructs for a more comprehensive examination of racism. Further, it would be beneficial in such studies to consider controlling for individual-level variables that may also influence mental health states (e.g., personality differences such as neuroticism or negative affectivity, trait variables such as hostility, or general level of perceived stress), in order to more fully parse out the unique impact of perceived racial discrimination on disorder status.

Another limitation was that three ethnic groups differed in the sample size because of the sampling method used in the NLAAS and CPES data set. Specifically, African American participants were more commonly represented than Asian and Hispanic American participants as compared to other studies. Although this allowed us to examine epidemiological differences in a relatively large cohort of ethnic minorities, the results are difficult to compare with other studies that include a smaller relative percentage of African American participants.

Finally, longitudinal studies would also provide valuable information about the temporal relationship between psychopathology and perception of racial discrimination. Although some longitudinal studies have found that mental health did not predict reports of racial discrimination, more research needs to be done to replicate these findings (Gee et al., 2007; Pavalko, Mossakowski, & Hamilton, 2003).

Despite these limitations, the present study suggests that the perception of racial discrimination is associated with the endorsement of MDD, PDA, PD, agoraphobia, PTSD, and substance use disorders. Our study did not address the different kinds of discriminatory experiences one ethnic group faces in comparison to the other (and whether this impacts the type of psychopathology that is endorsed). This would be a useful topic of study in the future. In addition, it is important to note that there remains heterogeneity within each ethnic group (e.g. differences between Mexican American versus Central American Hispanics or between East Asians and South Asians), and therefore, in the future, participants should be allowed from a wider range of within-group racial/ethnic classifications when such surveys are conducted. As noted above, the interplay of other important related constructs, including acculturation, ethnic identity, and immigration status, is a highly important area of focused study.

As a final note, we caution against overgeneralization of these findings; however, there are potential clinical applications that emerge from the present findings. First, several preventative community programs could be established to: 1) educate the general public about the potentially negative consequences of racial discrimination, and 2) foster the development or enhancement of protective factors (i.e. educate members of racial groups about the positive aspects of their culture to foster a strong ethnic identity). Clinicians could

be trained on diversity issues unique to members of minority groups, such as acculturative stress factors, and could be able to teach healthy coping strategies specific to the experience of racism. Further clarification of potential protective features and risk factors related to racial discrimination could provide more directive targets within psychological interventions to enable clinicians to better meet the mental health needs of the rapidly growing minority population in the U.S.

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Table 1**Items Assessed on Perceived Racial Discrimination Measure**

In your day-to-day life how often have any of the following things happened to you? Would you say almost everyday, at least once a week, a few times a month, a few times a year, less than once a year?

- | | |
|---|---|
| 1 | You are treated with less courtesy than other people. |
| 2 | You are treated with less respect than other people. |
| 3 | You receive poorer service than other people at restaurants and stores. |
| 4 | People act as if they think you are not smart. |
| 5 | People act as if they are afraid of you. |
| 6 | People act as if they think you are dishonest. |
| 7 | People act as if you are not as good as they are. |
| 8 | You are called names or insulted. |
| 9 | You are threatened or harassed. |
-

Note: The response scale ranged from 1 to 6, in which 1 = almost every day, 2 = at least once a week, 3 = a few times a month, 4 = a few times a year, 5 = less than once a year, and 6 = never. Participants' responses were reverse recoded (i.e. response 1 was scored a 5, response 2 was scored a 4, response 3 was scored a 3, etc.).

Table 2

Demographic Characteristics of Sample

| | African Americans | Hispanics | Asians | χ^2 (df) or F-values (df _{effect} , df _{error}) |
|-----------------------------------|--------------------------------|--------------------------------|--------------------------------|---|
| Sample size | 2,795 | 951 | 793 | - |
| Gender (% females) | 59.9% _a | 51.5% | 47.0% _b | 51.1 (2) ** |
| Age (SD) | 41.0 _a (14.7) | 37.8 _b (13.8) | 39.4 _c (13.5) | 18.5 (2, 4536) ** |
| Annual Household Income Mean (SD) | \$36,986 _a (32,085) | \$47,009 _b (44,741) | \$82,086 _c (61,480) | 366.8 (2, 4536) ** |

Note: Table shows number, percentages (%), means, and standard deviations (SD), and the results of statistical tests. Different subscripts indicate significant post-hoc group differences at $p < 0.05$.

**
= $p < 0.001$

Table 3

Differences in Association of Perceived Racial Discrimination and Lifetime Prevalence Rates of Psychopathology Between Racial Minority Groups

| Disorder | African Americans vs. Hispanics | | African Americans vs. Asians | | Hispanics vs. Asians | |
|--------------------------------|---------------------------------|-------------------------|------------------------------|--------------------------|----------------------|---------------------------|
| | % | OR (95% CI); ES | % | OR (95% CI); ES | % | OR (95% CI); ES |
| Anxiety Disorders | | | | | | |
| PD | 4.3 vs 5.1 | ns | 4.3 vs 1.6 | 1.92* (0.87–4.20); 0.36 | 5.1 vs 1.6 | ns |
| PDA | 2.3 vs 2.9 | ns | 2.3 vs 0.5 | 4.60* (1.52–13.95); 0.84 | 2.9 vs 0.5 | 11.25* (3.31–38.22); 1.35 |
| Ag | 2.9 vs 4.2 | 0.51 (0.29–0.90); 0.37 | 2.9 vs 0.8 | 3.03 (1.21–7.59); 0.61 | 4.2 vs 0.8 | 7.68* (2.74–21.50); 1.13 |
| GAD | 4.5 vs 4.6 | ns | 4.5 vs 2.6 | ns | 4.6 vs 2.6 | ns |
| PTSD | 9.0 vs 5.9 | 1.62 (1.07–2.44); 0.27 | 9.0 vs 1.8 | 3.89* (1.91–7.92); 0.75 | 5.9 vs 1.8 | 2.43 (1.07–5.53); 0.49 |
| SAD | 8.2 vs 8.4 | ns | 8.2 vs 6.7 | ns | 8.4 vs 6.7 | ns |
| Mood Disorders | | | | | | |
| MDD | 11.3 vs 16.5 | 0.60* (0.45–0.78); 0.28 | 11.3 vs 8.8 | ns | 16.5 vs 8.8 | 2.19* (1.42–3.36); 0.43 |
| Dys | 3.6 vs 3.9 | ns | 3.6 vs 2.5 | ns | 3.9 vs 2.5 | ns |
| BIP 1 | 1.4 vs 1.1 | ns | 1.4 vs 0.0 | ns | 1.1 vs 0.0 | ns |
| BIP 2 | 0.7 vs 3.4 | ns | 0.7 vs 0.0 | ns | 3.4 vs 0.0 | ns |
| Substance Use Disorders | | | | | | |
| AlcAb | 8.8 vs 9.6 | ns | 8.8 vs 2.9 | 2.63* (1.53–4.54); 0.53 | 9.6 vs 2.9 | 4.76* (2.46–9.22); 0.86 |
| AlcDep | 3.3 vs 4.2 | ns | 3.3 vs 0.6 | 4.42* (1.49–13.13); 0.82 | 4.2 vs 0.6 | 9.62* (2.97–31.19); 1.25 |
| DrgAb | 5.9 vs 6.1 | ns | 5.9 vs 2.1 | 2.91* (1.61–5.27); 0.59 | 6.1 vs 2.1 | 4.36* (2.12–8.96); 0.81 |
| DrgDep | 2.5 vs 2.2 | ns | 2.5 vs 0.9 | 3.25* (1.37–2.67); 0.65 | 2.2 vs 0.9 | 3.12* (1.12–8.66); 0.62 |
| Eating Disorders | | | | | | |
| AN | 0.2 vs 0.0 | ns | 0.2 vs 0.4 | ns | 0.0 vs 0.4 | ns |
| BN | 1.7 vs 2.9 | ns | 1.7 vs 1.0 | ns | 2.9 vs 1.0 | ns |
| BED | 1.9 vs 2.9 | 0.54 (0.31–0.91); 0.34 | 1.9 vs 1.8 | ns | 2.9 vs 1.8 | ns |
| Other | | | | | | |
| ADD | 5.3 vs 8.1 | ns | 5.3 vs 0.0 | ns | 8.1 vs 0.0 | ns |
| IED | 0.0 vs 6.6 | ns | 0.0 vs 3.4 | ns | 6.6 vs 3.4 | ns |

Note: The table shows odds ratios and 95% confidence intervals in comparing the first group vs. the second group; ES = effect sizes;

* significant after a Bonferroni correction of $0.05/57 = 0.00088$; ns: not significant at $p < .05$. Covariates included in the regressions were SES, age, gender, and discrimination.

PD = panic disorder without agoraphobia; PDA = panic disorder with agoraphobia; Ag = Agoraphobia; GAD = generalized anxiety disorders; PTSD = post-traumatic stress disorder; SAD = social anxiety disorder; MDD = major depressive disorder; BIP1 = bipolar 1; BIP2 = bipolar 2; AN = anorexia nervosa; BN = bulimia nervosa; BED = binge eating disorder; ADD = attention deficit disorder; IED = intermittent explosive disorder.