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The Relationship between Perceived Discrimination and Generalized Anxiety Disorder among African Americans, Afro Caribbeans and non-Hispanic Whites

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Abstract

The present study examined the relationship between frequency of race based and non-race based discrimination experiences and Generalized Anxiety Disorder (GAD) in a sample of 3,570 African Americans, 1,438 Afro Caribbeans, and 891 non-Hispanic Whites from the National Survey of American Life (NSAL). Because GAD and the experience of racial discrimination are both associated with symptoms of worry and tension, we expected race based discrimination to predict GAD prevalence for African Americans, but not other groups. We did not expect non-race based discrimination to predict GAD. Results showed that while more frequent experiences of non-race based discrimination predicted GAD for all groups, experiencing race based discrimination was associated with significantly higher odds of endorsing lifetime GAD for African Americans only. Results are interpreted in light of the different contexts that these three ethnic groups represent relative to their history within the United States as well as their present day circumstances.

Keywords

racial discrimination; Generalized Anxiety Disorder; African Americans; Afro Caribbeans; minority mental health; perceived discrimination

1. Introduction

A growing number of researchers attribute the existence of health disparities between African Americans and European Americans in the U.S. to social stressors, most prominently the experience of racial discrimination (Clark, Anderson, Clark, & Williams, 1999; Hunter & Schmidt, 2010; Sellers & Shelton, 2003). Despite the increased attention that discrimination has garnered as a risk factor for health and psychological outcomes over

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the past decade, the full extent of the effect of racial discrimination on specific mental health disorders is still not well understood (Okazaki, 2009). Recently, Hunter & Schmidt (2010) proposed a sociocultural model of anxiety in African Americans whereby factors such as awareness of racism can influence the course and expression of anxiety disorders. Hunter and Schmidt also posit that these sociocultural factors can interact with acute stressors to promote the onset of specific anxiety disorders. Building upon their theory, we propose that the direct experience of racial discrimination may be an acute stressor that may significantly relate to the onset of Generalized Anxiety Disorder (GAD) among African Americans, a disorder whose primary symptoms of uncontrollable worry and tension have also been linked to the experience of discrimination (Smith, Allen, & Danley, 2007). The present study tests this notion by examining the association between perceived discrimination and GAD in a sample of African Americans, Afro Caribbeans and non-Hispanic Whites.

1.1. Racial Discrimination and Mental Health

Racial discrimination can be conceptualized as the behavioral component of racism (Yetman, 1985). As defined by Clark et al. (1999, p. 805) racism is “the beliefs, attitudes, institutional arrangements, and acts that tend to denigrate individuals or groups because of phenotypic characteristics or ethnic group affiliation.” Traditionally, researchers have divided racial discrimination into two main types: major discriminatory events and day-to-day discrimination events. The former can entail such instances as being unfairly treated by police, being denied a bank loan, or being fired because of membership in a racial group. The latter refers to such incidents as being treated with less courtesy than others or being called names because of membership in a racial group. Countless studies have documented the elevated experience of racial discrimination among ethnic minority groups in the United States, especially African Americans, relative to European Americans (Fisher, Wallace, & Fenton, 2000; Greene, Way, & Pahl, 2006; Kessler, Mickelson, & Williams, 1999; Landrine & Klonoff, 1996; Swim, Hyers, Cohen, Fitzgerald, & Bylsma, 2003). Importantly, research has shown that perceived discrimination—subjectively believing one was passed over for a promotion at work due to their ethnicity—can be just as negative as being the victim of objective discrimination (e.g., being called a racial slur; Clark et al., 1999; Kessler et al., 1999; Landrine & Klonoff, 1996).

Not surprisingly, the experience of both major discrimination and day-to-day discrimination has been associated with a number of negative outcomes for African Americans (Clark et al. 1999; Jackson et al., 1996; Landrine & Klonoff, 1996; Sellers & Shelton, 2003). For example, findings from the National Survey of Black Americans showed that participants' reports of racial mistreatment were prospectively linked to higher levels of psychological distress as defined by symptoms of depression (Jackson et al. 1996). Similarly, other studies have found that perceived racial discrimination was linked to higher levels of depression and anxiety symptoms among African Americans, as well as increased somatization (Broman, Mavaddat & Hsu, 2000; Landrine & Klonoff, 1996). Studies examining the relationship between racial discrimination (perceived and actual) and anxiety and depression symptoms among ethnic minorities in England have shown a similar pattern of findings (Bhui et al., 2005; Karlsen, Nazroo, McKenzie, Bhui, & Weich, 2005). Recent longitudinal research suggests that the frequent experience of perceived racial discrimination can even be causally related to psychological distress (Sellers & Shelton, 2003).

Despite the evidence presented above, researchers have generally not examined the association between the experience of racial discrimination (perceived or otherwise) and the prevalence of specific mental health disorders among African Americans. The few studies that have investigated this relationship have done so in largely non-African American samples. For example, Kessler et al. (1999) examined this question using data from the National Survey of Midlife Development in the United States (MIDUS; 87% non-Hispanic

White, 6% non-Hispanic Black). They found that the experience of major discriminatory events was significantly associated with increased risk for Major Depression within the last year (12-month prevalence), while the experience of everyday discriminatory treatment was associated with increased risk for 12-month prevalence of GAD. The results were unchanged when the effects of discrimination attributed solely to race were examined separately from discrimination attributed to other reasons. More recently, researchers analyzing data from the National Latino and Asian American Study (NLAAS) demonstrated that Asian Americans who reported everyday experiences of racial discrimination were almost twice as likely as those who had not to meet criteria for eleven different psychiatric disorders within the last 12 months (Gee, Spencer, Chen, Yip, & Takeuchi, 2007). A similar relationship could reasonably be expected among African Americans, given their long struggle with racism and discrimination in the United States.

Despite the number of researchers who have suggested an important role for discrimination in anxiety disorders among African Americans (Clark et al., 1999; Himle, Baser, Taylor, Campbell, & Jackson, 2009; Hunter & Schmidt, 2010; Turner & Lloyd, 2004), there has been little empirical research on this relationship. This gap in the research may be due to two key reasons. First, the relationship between these variables may be subtle or indirect and therefore difficult to document (Clark et al. 1999; Hunter & Schmidt, 2010). Second, the lack of clear-cut disparities in mental health disorders between African Americans and other groups in the U.S. (Breslau et al., 2006; Breslau, Kendler, Su, Aguilar-Gaxiola, & Kessler, 2005; Himle et al. 2009; Robins & Regier, 1991) may obviate the need to look at racial discrimination as an explanatory mechanism. Nevertheless, we believe that documenting a clear relationship between discrimination and psychiatric disorders among African Americans is critically important because psychiatric disorders may play a role in maintaining or exacerbating well-established health disparities between African Americans and other groups on outcomes such as hypertension and mortality. This raises the question of where to look for the link between discrimination and psychiatric disorders.

1.2. Racial Battle Fatigue and Generalized Anxiety Disorder

We propose that among African Americans, the experience of racial discrimination may be most related to psychiatric disorders with symptom profiles that closely parallel common responses to discrimination. Smith et al.'s (2007) concept of *racial battle fatigue* delineates what such a profile would look like. They define racial battle fatigue in African Americans as “the result of constant physiological, psychological, cultural, and emotional coping with racial microaggressions in less-than-ideal and racially hostile or unsupportive environments” (p. 555). Racial microaggressions refer to subtle attacks or invalidations levied against an individual because of their race or ethnic group membership (Sue et al. 2007). Other researchers have posited a similar framework for understanding the result of chronic exposure to racism (Clark et al. 1999; Franklin, 1993; Lantz, House, Mero, & Williams, 2005).

Table 1 lists a description of the some of the core psychological and physiological symptoms associated with the experience of racial battle fatigue. Also presented in Table 1 are the main DSM-IV criteria for GAD. An inspection of the two lists reveals a substantial overlap between the symptom profile of racial battle fatigue and that of GAD. Of particular importance is that both share key symptoms of chronic anxiety and worry coupled with the presence of muscle tension—the two hallmark symptoms of GAD. Although GAD and racial battle fatigue also share other symptoms such as irritability, difficulties concentrating and problems with sleep, these symptoms are also common to many other psychiatric disorders such as Major Depressive Disorder and Posttraumatic Stress Disorders. Despite the presence of these generic psychiatric symptoms within the symptom profile of racial battle fatigue, this response profile lacks the core symptoms of these other disorders (e.g.,

sad mood for MDD, re-experiencing of a traumatic event for PTSD), suggesting that GAD might be uniquely associated with racial battle fatigue and thus with the chronic experience of perceived racial discrimination.

The concept of racial battle fatigue connotes a depletion of psychological and physiological resources as a result of African Americans' coping with chronic discrimination that may set the stage for the subsequent onset of GAD. We suggest two possible mechanisms at play although these are not intended to be exhaustive or orthogonal. The repeated response of worry and tension to chronic discrimination may strengthen worry as the response of choice to various other stressors. Alternatively, individuals who have experienced chronic discrimination may have little personal resources left to cope with other stressors and therefore may have a significantly reduced threshold for responding with anxiety to several everyday stressors. This leads to two important implications for how we study discrimination and GAD among African Americans. First, the notion that the repeated experience of chronic worry may facilitate GAD suggests that examining the frequency of experiencing discrimination (i.e., number of incidents) should be more informative than simply looking at the presence or absence of these experiences. Second, the notion that the depletion of resources to deal with anxiety may promote GAD suggests that we need to take into account the accumulation of discrimination over the lifetime (as opposed to a finite period of time) as coping abilities can be continually depleted over the lifespan under conditions of chronic stress.

1.3. The Present Study

The present study examines the relationship between the experience of perceived racial discrimination across the lifespan and the lifetime prevalence of GAD in a sample of African Americans, Afro Caribbeans and non-Hispanic Whites. We also investigated whether non-race based discrimination (i.e. discrimination due to other factors), which may not be related to the same chronic worry experienced with racial discrimination, also predicted GAD. We chose to use a large, community-based sample with substantial African American representation since the role of discrimination among this ethnic minority group may be distinct from that of other ethnic minority groups in the US. The inclusion of an Afro Caribbean immigrant group allowed us to test whether the effects of discrimination on GAD are particular to all Blacks living in the U.S. or specific only to African Americans who are rooted in the U.S. history of slavery and racism. Accordingly, we hypothesized that the experience of racial discrimination would significantly predict lifetime GAD prevalence rates for African Americans, but not for Afro Caribbeans or non-Hispanic Whites (Hypothesis 1). We did not expect the frequency of non-race based discrimination events to predict GAD prevalence (Hypothesis 2), regardless of ethnicity.

2. Method

2.1. Sample

The present study utilized data from the National Survey of American Life (NSAL). This large-scale survey study conducted interviews with a total of 6,082 adults in the U.S., 18 years of age or older, about their physical, emotional, mental, and economic conditions with an emphasis on mental health and illness (Jackson et al. 2004). For the present study, we examined data from 5,899 respondents consisting of 3,570 African Americans, 1,438 Afro Caribbeans and 891 non-Hispanic Whites. In this context, the term African American refers to individuals who identified their race as Black, whose ancestry was based in the United States and who did not identify their ethnicity as Hispanic. Afro Caribbeans in this sample refers to individuals who identified as Black, but reported they had ancestral ties to the Caribbean. The Caribbean includes any of the island nations and territories that surround the

Caribbean Sea such as Haiti, The Bahamas, Barbados, Trinidad and Tobago, and many others. This region is also commonly referred to as the West Indies.

The NSAL sample was designed to be optimal for a national study of the African-American population. Accordingly, interviews were conducted throughout the United States in urban and rural centers where significant numbers of African Americans live, yielding a total of 64 primary sampling areas. The NSAL non-Hispanic White sample was a disproportionately sampled from those sampling areas with the greatest density of African Americans (Heeringa et al., 2004). Interviews were conducted by ethnically matched interviewers and mostly in respondents' homes. The overall response rate for the NSAL was 72.3% and response rates for the subgroups were 70.7% for African Americans, 77.7% for Caribbean Blacks and 69.7% for non-Hispanic Whites. The NSAL is the only large-scale study of the black American population to include a nationally representative sample of African Americans and Caribbean blacks. This unique characteristic of the NSAL allowed us to examine within-race variation in the relationship between perceived discrimination and mental health. This comparison was important given that these groups would not necessarily be expected to behave similarly because of their different histories and struggles within the United States.

3. Measures

3.1. Generalized Anxiety Disorder (GAD)

The lifetime prevalence of GAD was assessed according to the definitions and criteria of the DSM-IV-TR utilizing the World Mental Health Composite International Diagnostic Interview (WMH-CIDI). The WMH-CIDI is a comprehensive, fully-structured interview designed to be used by trained, lay interviewers for the assessment of mental disorders. It is intended for use in epidemiological and cross-cultural studies as well as for clinical and research purposes and has demonstrated adequate reliability (Kessler & Ustun, 2004).

3.2. Discrimination

Racial discrimination was assessed using a questionnaire adapted from the Lifetime Discrimination subscale of the Detroit Area Study Discrimination Questionnaire (DAS-DQ; Taylor, Kamark, & Shiffman, 2004). Specifically, one question from the DAS-DQ was divided into two separate questions in the version used here and two additional questions were added. Respondents indicated whether or not they had ever experienced nine specific major episodes of discrimination ranging from being unfairly fired, to being unfairly denied a loan, to being unfairly stopped, searched, questioned or abused by the police. Although we are not aware of psychometric data on this modified version of the DAS-DQ, the internal reliability of the original DAS-DQ lifetime discrimination scale was 0.63 (Cronbach's alpha).

For each of the nine discrimination events endorsed, respondents also indicated whether they attributed the particular experience of discrimination to ancestry/origins, gender, race, age, height/weight, shade of skin color or an unspecified other category. In addition, they also reported the total number of times they had experienced each of the nine discrimination events. For the present study, we were primarily interested in the number of times respondents experienced any of the nine discriminatory events due to their race versus some other attribution. Thus, we created a race based discrimination variable that captured the frequency with which respondents experienced any of the nine discriminatory episodes *and* attributed it to their race (coded as 1–8, with 8 representing 8 or more times). Similarly, we created a non-race based discrimination variable which captured the frequency with which respondents experienced any of the same nine discriminatory episodes ascribed to the age, gender, height/weight or an “other” category that allowed respondents to write in something

other than the attributions listed. Attributions of discrimination to ancestry or skin color were excluded from our analyses because of their conceptual overlap with racial attributions and because the frequency of their occurrence was too low to consider these variables separately.

3.3. Control variables

In addition to the main discrimination variables described above, all analyses accounted for major sociodemographic variables that might also be related to our criterion variable. Therefore, we included gender, age, and poverty index in all analyses predicting GAD. Poverty index was defined as the income to needs ratio from the 2001 Census and was calculated by dividing household income by the poverty threshold (Proctor & Dalaker, 2002). Higher scores on the poverty index are indicative of relatively greater wealth.

4. Data Analysis Plan

All analyses were adjusted for the complex sample design of the NSAL data (stratification, clustering, and weighting) using SAS analytical software. Chi square and ANOVA analyses were conducted to compare ethnic groups on key socio-demographic variables as well as on race based discrimination, non-race based discrimination, and lifetime GAD prevalence. To evaluate the relationship between GAD and experiences of discrimination, we first conducted logistic regression analyses with the entire sample while including age, gender and poverty index in the models. Logistic regressions models were then run with the inclusion of the ethnicity x discrimination interaction term (separate models were run for race based and non-race based discrimination) while maintaining the other predictors in the model. In instances where significant interactions emerged, we conducted separate logistic regression models for each ethnic group to clarify the findings.

5. Results

Characteristics of the NSAL sample are presented in Table 2. Overall, the sample had a mean age of 43.6 years, and a mean poverty index of 3.19. Almost six percent (5.9%) of the respondents met criteria for GAD in their lifetime. Of those who endorsed experiencing some type of discrimination, approximately 24 % reported it was race based, while almost 42 % reported it was non-race based. Table 3 presents demographic and discrimination data separately for each ethnic group. Across all groups there were significantly more women than men, $\chi^2(5898) = 13.87, p < .01$. ANOVAS comparing the mean age and poverty index across groups revealed significant differences across the groups, $F(2, 5896) = 45.22, p < .01$, and $F(2, 5896) = 90.53, p < .01$, respectively. Non-Hispanic Whites were older and had a higher poverty index (indicating greater wealth) than African Americans and Afro Caribbeans, while Afro Caribbeans were significantly younger and had a significantly higher poverty index than African Americans (see Table 3).

A chi-square analysis of GAD rates in Table 3 reveals significantly higher rates of lifetime GAD among non-Hispanic Whites (7.4 %) than both African Americans (4.5 %) and Afro Caribbeans (2.7 %), $\chi^2(5898) = 13.87, p < .01$. With regards to discrimination, a significantly greater percentage of African Americans and Afro Caribbeans reported ever experiencing race based discriminatory events (40.6% and 38.7%, respectively) than non-Hispanic Whites (7.8%), $\chi^2(5898) = 861.57, p < .01$. The same pattern is observed when looking at the mean frequency of race based discriminatory events reported (see Table 3). Conversely, a significantly greater percentage of non-Hispanic Whites reported experiencing non-race based discrimination (49.26%) compared to African Americans (34.26%) and Afro Caribbeans (31.44%), $\chi^2(5898) = 30.16, p < .01$ Once again a similar pattern was seen when looking at the mean frequency of non-race based discrimination.

5.1. Correlates of GAD

A logistic regression conducted across the whole sample with all control variables and frequency of race-based discrimination in the model revealed that gender and ethnicity were significant predictors of GAD (see Table 4). Compared to African Americans, Non-Hispanic Whites had 2.5 times the odds of endorsing GAD (CI: 1.33 – 4.51). Compared to women, men expressed .44 times the odds of endorsing GAD (CI: 0.27 – 0.73). This same pattern emerged when the model was rerun using frequency of non-race based discrimination. Age and poverty index did not significantly predict GAD in either model.

Across the whole sample, the number of race based discrimination experiences, after controlling for all sociodemographic variables in the model, significantly predicted GAD. The more discriminatory events individuals reported experiencing the greater the odds (OR=1.19, CI: 1.1 – 1.28) of having had GAD at some point throughout their lifetime (see Table 4). Consistent with Hypothesis 1, when the ethnicity by race based discrimination interaction term was included in the logistic regression model a significant interaction emerged, $\chi^2(2, N = 5706) = 7.16, p < .05$. To clarify the nature of the interaction we ran separate logistic regression models with frequency of race based discrimination experiences for each ethnic group.

Race based discrimination was a statistically significant predictor of GAD for African Americans. Specifically, among African Americans for a one unit increase in the experience of race-based discrimination there was a 1.18 (CI: 1.16 – 1.25) increase in the odds of endorsing GAD (see Table 5). Similarly, for non-Hispanic Whites, a one unit increase in experiences with racially based discriminatory events was associated with a 1.25 (0.99 – 1.56) increase in the odds of endorsing GAD. The adjusted odds ratio for non-Hispanic Whites is not statistically significant despite being larger than the adjusted OR associated with the African American group, perhaps due to slightly larger standard errors and the smaller sample size. A marginally significant trend was observed among Afro Caribbeans pointing to greater experiences of discrimination being associated with lesser odds of endorsing GAD relative to those with greater experiences of discrimination (OR=0.89, CI: 0.77–1.02). Counter to hypothesis 2, the frequency of experiencing non-race based discrimination also significantly predicted lifetime GAD prevalence rates (Table 4). A greater number of experiences of non-race based discrimination was associated with higher risk of GAD for all three groups. Including the ethnicity x non-race based discrimination interaction term in the logistic regression model revealed no moderation of this effect, $\chi^2(2, N = 5706) = .24, ns$, suggesting that the three groups were equally adversely affected by the non-race based discrimination.

5.2. Post-Hoc Analyses

Two questions remained unanswered after our primary analyses were conducted. The first was whether the observed relationship between discrimination and GAD was unique to GAD or whether it was a manifestation of a general relationship between discrimination and any psychiatric disorder. After all, as discussed earlier, some of the symptoms of racial battle fatigue overlap with symptoms of Major Depressive Disorder (MDD) and Posttraumatic Stress Disorder (PTSD), although they do not contain the core symptoms of these disorders. To answer this question we reran the analyses presented above using MDD (lifetime) and PTSD (lifetime) as the criterion variable instead of GAD. Frequency of race based discrimination failed to predict the lifetime prevalence rates of either MDD or PTSD.

The second question raised by our findings is whether frequent experiences of discrimination lead to greater rates of GAD or vice versa. Given the cross-sectional nature of the data the initial analyses could not offer any evidence of the direction of this relationship.

However, the age of onset for the sample ranged widely with approximately 25% of those diagnosed with GAD having onset at age 35 or later. Presumably, by age 35 respondents would have likely experienced some amount of discrimination in their lifetime. Thus, as a preliminary indication of the directionality of our findings we reran our analysis excluding those who had developed GAD prior to age 35. Our initial findings replicated with the exception that in these analyses race based discrimination was also significantly predictive of GAD for Afro Caribbeans (OR = 1.37, CI: 1.10 – 1.69).

6. Discussion

The primary aim of the present study was to determine whether a greater number of experiences of discrimination are associated with greater prevalence of GAD in a sample of African Americans, Afro Caribbeans and non-Hispanic Whites. Our results add to the extensive literature that demonstrates a number of deleterious associations with the experience of discrimination (Karlsen et al. 2005; Landrine & Klonoff, 1996; Sellers & Shelton, 2003). Furthermore, our findings extend the existing literature by providing preliminary evidence that racial discrimination may be more predictive of negative outcomes among some ethnic groups than others. Finally, we suggest the concept of racial battle fatigue as a conceptual link between the experience of racial discrimination and GAD that provides a frame for understanding our results as unique to GAD.

6.1. GAD Prevalence and Discrimination

The GAD lifetime prevalence rates observed in the current NSAL sample are consistent with recent epidemiological studies that demonstrate a lower prevalence of the disorder among African Americans compared to European Americans. In particular, the lifetime GAD rates reported here are quite comparable to those obtained by Breslau et al. (2006) for African Americans (5.1 %) and European Americans (8.6 %) as well as by Himle et al. (2009) when examining 12-month prevalence data among these groups.

Not surprisingly, African Americans and Afro Caribbeans reported significantly more experiences of race based discrimination than non-Hispanic Whites. There is now a substantial body of literature in support of this general pattern of findings (Fisher et al., 2000; Greene et al., 2006; Kessler et al., 1999; Swim et al., 2003). The magnitude of the difference, however, was striking with African Americans and Afro Caribbeans being almost five times more likely to experience racial discrimination than non-Hispanic White respondents. This finding suggests that members of ethnic minority groups may exist in a reality that is starkly different from their non-minority counterparts; one in which experiencing racial discrimination (and its associated consequences) is a relatively common occurrence.

6.2. Racial Discrimination as Predictor of GAD

Race based discrimination emerged as a significant predictor of GAD for African Americans, and a marginally significant predictor for non-Hispanic Whites, whereas other forms of discrimination were predictive of GAD for all groups. This is a departure from the results reported by Kessler et al. (1999) who found that the type of discrimination did not affect the results. The drastically different racial composition between the two studies—Kessler et al. used a predominantly White sample, while our sample was predominantly Black—may explain this difference. Interestingly, our results do mirror those of Gee et al. (2007) who showed a similar impact of everyday experiences of racial discrimination on the prevalence of GAD and other DSM disorders in another predominantly minority sample (Asian Americans). The equivalence between the results of Gee et al. and our own results highlight the insidious nature of racism and discrimination given that both major and minor

experiences of racial discrimination were associated with increased risk for specific mental health disorders. That said, research with minority populations points toward major experiences being associated with lifetime GAD whereas everyday experiences tend to be associated with 12 month GAD.

While we did find a significant interaction between the frequency of race based discrimination experiences and GAD prevalence, the nature of the interaction was somewhat unexpected. Non-Hispanic Whites showed a trend similar to African Americans and Afro Caribbeans showed a trend in the opposite direction (more frequent experiences of race based discrimination associated with lower odds of endorsing GAD). This is especially noteworthy considering that Afro Caribbeans experienced race based discrimination at similar rates to the African Americans in the sample, and both of these groups experienced significantly more race based discrimination than non-Hispanic Whites. The juxtaposition of these findings suggests the importance of considering context in understanding the interplay between perceived discrimination and mental health. For example, the similar pattern of results between non-Hispanic Whites and African Americans may reflect the fact that the non-Hispanic Whites were sampled from predominantly African American neighborhoods where their race may have been more salient or where experiences of anti-White racism may have been more common. Non-Hispanic Whites also share a broader context with African Americans given their intertwined history involving racism and slavery. When members of these particular groups experience discrimination it may provide reminders of historical tensions between African Americans and non-Hispanic Whites that may fuel anxieties associated with the threat of future discrimination or simply with the realization that these struggles continue to be significant.

With regard to Afro Caribbeans, their relative resilience with respect to the effects of frequent discrimination may reflect a “healthy immigrant” effect whereby voluntary immigrants generally represent the more robust and well adjusted among minority populations (Findley, 1988; Singh & Siahpush, 2002). However, the fact that the influence of discrimination was marginally protective when looking across all ages but became detrimental when looking at respondents age 35 and over suggests a possible dose effect.¹ Younger Afro Caribbeans who are immigrants may discount experiences of discrimination as “par for the course” in adjusting to a new environment. As these individuals get older and continue to experience discrimination at rates comparable to African Americans, they may begin to wear down and exhibit the symptoms of racial battle fatigue that may precipitate the onset of GAD.

6.3. Limitations

Methodologically, we were constrained by the correlational design of the study. As measured here, discrimination could not be causally linked to the occurrence of GAD. Although we presented preliminary evidence to suggest that the predictive relationship remains when using a subset of the sample that likely had experienced discrimination before onset of GAD, future longitudinal studies are needed to truly tease apart the issue of directionality. Another limitation is the fact that the time reference for both discrimination and GAD was relatively broad. However, we believed that this broad time frame was necessary in order to capture the full extent of the impact of race based discrimination experiences which theoretically should take more of a toll as they persist across the lifespan. Finally, the relatively smaller sample of non-Hispanic Whites lessens the confidence in interpretation of findings pertaining to this group.

¹We thank a reviewer for raising this suggestion.

6.4. Implications

A number of implications for clinical practitioners and researchers are presented. First, the relationship demonstrated between racial discrimination and the development of GAD should encourage researchers to give greater consideration to sociocultural factors in the etiology, symptomatology, and course of GAD, not only among African Americans, but among members of other ethnic minorities and majority groups as well. Similar recommendations have recently been advanced by others (Hunter & Schmidt, 2010). Second, from a clinical standpoint, inquiring about major experiences of discrimination may help therapists gain a better appreciation of an individual client's cultural context and how that context may influence the presentation of GAD. Third, experiences of discrimination that are specifically attributed to race may be especially important to uncover with regards to GAD. This awareness of racial discrimination need not be limited to members of ethnic minority groups as our findings suggest that the relationship may be present for majority group members as well.

Interestingly, although racial discrimination was experienced at a high rate by African Americans and it was associated with increased risk for GAD, our sample evidenced substantially lower prevalence rates for African Americans than European Americans. Hunter and Schmidt's (2010) sociocultural model of anxiety psychopathology may help explain these differential rates. The authors suggest that among African Americans, the awareness of racism and discrimination leads to cultural mistrust which then contributes to fears associated with minority status. The realistic nature of these fears, captured eloquently in the concept of racial battle fatigue, may cause African Americans to attribute certain persistent worries to their minority status and underreport these symptoms which may significantly reduce the assessed rates of GAD among this group (Hunter & Schmidt, 2010). Thus, our findings provide some empirical evidence for Hunter and Schmidt's sociocultural model and highlight once again the important role of cultural and contextual factors in psychopathology.

6.5. Conclusion

The present study expands on past research by demonstrating that the experience of racial discrimination is detrimental to the mental health of African Americans, while other forms of discrimination are associated with negative mental health outcomes for all groups. This appears to be true for groups who have historically suffered discrimination (e.g., African Americans and Afro Caribbeans) and possibly for those groups traditionally known for perpetrating the discrimination (e.g., non-Hispanic Whites). As is usually the case, however, the picture is likely to be far more complex with characteristics such as gender and immigrant status also being important factors in understanding the full mental health impact of racial discrimination. Research on the role of racism and discrimination in mental health is sorely needed (Okazaki, 2009) and our work is an initial step in this critically important direction.

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Table 1

Primary symptoms of Racial Battle Fatigue and Generalized Anxiety Disorder (GAD)

	Racial Battle Fatigue	Generalized Anxiety Disorder
Psychological Symptoms	<ul style="list-style-type: none"> • Constant anxiety and worrying • Increased swearing and complaining • Intrusive thoughts and images • Hypervigilance • Difficulty in thinking coherently 	<ul style="list-style-type: none"> • Excessive anxiety and worry about a variety of events and situations • Difficulty controlling worry • Irritability • Concentration problems
Physiological Symptoms	<ul style="list-style-type: none"> • Tension headaches • Elevated heartbeat & BP • Rapid breathing in anticipation of racial conflict • Upset stomach • Extreme fatigue • Ulcers • Inability to sleep • Loss of appetite 	<ul style="list-style-type: none"> • Significant tension in muscles • Feeling wound-up, tense, or restless • Easily becoming fatigued or worn-out • Difficulty with sleep

Table 2

Characteristics of Overall NSAL Sample, exclusive of Hispanic ethnicity

	Sample Frequency	Sample Percent	Weighted Sample Percent (SE)
Ethnicity			
African American	3570	60.52	47.05 (3.11)
Afro Caribbean	1438	24.38	3.05 (0.28)
European American	891	15.10	49.90 (3.27)
Gender			
Female	3694	62.63	54.16 (1.10)
Male	2205	37.37	45.84 (1.10)
Endorsed GAD (Lifetime)	259	4.39	5.87 (0.79)
Endorsed Discrimination Experiences			
Race Based	1945	32.97	24.18 (1.46)
Non-Race Based	1991	33.75	41.66 (1.38)
<u>Sample Mean (SE)</u>			
Age	43.6	(0.69)	
Poverty Index	3.19	(0.14)	
Frequency of Discrimination Experiences			
Race Based	0.91	(0.07)	
Non-Race Based	1.21	(0.05)	

Table 3

Sample Characteristic and experiences of discrimination stratified by ethnicity

	African Americans	Afro Caribbeans	Non-Hispanic Whites	
	% (SE)	% (SE)	% (SE)	χ^2
Discrimination				
Race Based	40.62 (1.17)	38.71 (3.32)	7.79 (1.07)	861.57*
Non-Race Based	34.26 (1.14)	31.44 (1.10)	49.26 (2.43)	30.16*
Endorsed GAD (Lifetime)	4.46 (.46)	2.69 (0.88)	7.37 (1.56)	24.46*
Gender				
Female	55.97 (.83)	49.47(3.21)	52.74 (.19)	13.87*
	<i>M (SE)</i>	<i>M (SE)</i>	<i>M (SE)</i>	<i>F</i>
Frequency of Discrimination				
Race Based	1.59 (0.08)	1.77 (0.27)	0.22 (0.06)	97.36*
Non-Race Based	0.86(0.04)	0.89 (0.11)	1.55 (0.09)	70.13*
Age	42.32 (.52)	40.95 (.95)	44.98 (1.35)	45.22*
Poverty Index	2.64 (.09)	3.30 (.15)	3.70 (0.23)	90.53*

* $p < .01$ Chi-square values represent Rao-Scott Chi-Square values and account for the stratification, clustering, and weighting of the data. All individual group means for age and poverty are significantly different from each other.

Table 4

Lifetime GAD Adjusted Odd Ratios for Discrimination, Ethnicity, and Gender

Predictors	Race Based Discrimination		Non-Race Based Discrimination	
	Adjusted OR	(95% CI)	Adjusted OR	(95% CI)
Frequency of Race Based Discrimination	1.19**	(1.1 – 1.28)	1.15**	(1.06 – 1.24)
Ethnicity				
African American	Reference		Reference	
Afro Caribbean	0.60	(0.30 – 1.21)	0.62	(0.32 – 1.20)
Non-Hispanic Whites	2.42**	(1.28 – 4.61)	1.67	(0.98 – 2.86)
Gender				
Female	Reference		Reference	
Male	0.42**	(0.26 – 0.67)	0.45*	(0.26 – 0.78)

* p<.01,

** p<.001

OR = Adjusted Odds Ratio; CI = Confidence Interval. All model estimates are weighted to be nationally representative of the given population and subpopulations in the coterminous 48 states of the U.S. Confidence intervals are adjusted for the sampling stratification, clustering, and weighting of the data.

Table 5

Lifetime GAD Adjusted Odds Ratios for Race Based Discrimination by Ethnicity

	<i>Adjusted OR</i>	<i>95% CI</i>
African American	1.18**	1.16 – 1.25
Afro Caribbean	0.89 [†]	0.77 – 1.02
Non-Hispanic Whites	1.25 [†]	0.99 – 1.56

* p<.01,

[†] p<.10

OR = Adjusted Odds Ratio; CI = Confidence Interval. All model estimates are weighted to be nationally representative of the given population and subpopulations in the coterminous 48 states of the U.S. Confidence intervals are adjusted for the sampling stratification, clustering, and weighting of the data.