African American Emerging Adults’ Experiences with Racial Discrimination and Drinking Habits: The Moderating Roles of Perceived Stress

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Abstract

Objectives—Despite the abundance of research aimed at quantifying the impact of racism on the mental and physical health of African Americans, results remain inconclusive largely due to challenges with operationalization, as well as conflation with the concept of racial discrimination, which may be more readily assessed. The purpose of the current study was to: 1) determine whether racial discrimination had an impact on the degree of alcohol use and binge drinking among African American emerging adults, and if so, 2) determine whether perceived stress linked to racially discriminatory experiences moderated these associations.

Methods—We used a series of hierarchical regressions to examine associations among racial discrimination, perceived stress, and degree of alcohol consumption in a sample of African American emerging adults in the southeast (n = 235).

Results—We found that the association between racial discrimination and degree of alcohol consumption (alcohol use and binge drinking) was strongest among individuals who reported greater levels of perceived stress linked to racial discrimination experiences. This association,
however, was not significant for individuals who reported lower levels of perceived stress in response to racial discrimination.

**Conclusions**—African Americans who experience a high degree of perceived stress in response to experiences with racial discrimination may be at greater risk for problem drinking than their peers with less perceived stress. These findings highlight the need for novel intervention efforts aimed at mitigating the effects of stress and racial discrimination on health outcomes.

**Keywords**
Alcohol use; Binge drinking; Racial Discrimination; Stress; African Americans; Emerging Adults

Racial discrimination, or the unfair and prejudicial treatment of people based upon their racial or ethnic characteristics (Williams & Williams-Morris, 2000), is a salient psychological stressor for African Americans (e.g., Mays, Cochran, & Barnes, 2007; Walker et al., 2014). However, it is unclear whether one’s direct experiences of racial discrimination influences the health behaviors and outcomes of African Americans. While some studies have found significant associations between negative racial experiences and negative mental health sequelae among African Americans, including anger, paranoia, hopelessness, frustration, low self-esteem, low life satisfaction and substance use (e.g., Bennett et al., 2005; Broman, et al., 2000; Landrine & Klonoff, 2000; Utsey, Porterotto, Reynolds, & Cancelli, 2000; Williams & Williams-Morris, 2000), others have yielded null findings (e.g., Krieger et al., 2011; Williams, Neighbors, & Jackson, 2003).

Mixed findings may be attributed to several factors, such as: 1) conflation of the terms racism and discrimination, in which racism refers more broadly to the systems of human degradation based on race, while discrimination refers to the actualized differences in behaviors due to racism (Williams & Williams-Morris, 2000); 2) variability in the operationalization of racial discrimination (Pascoe & Richman, 2009; Williams, Neighbors, & Jackson, 2003) and 3) inconsistencies in the way in which we measure perceived accounts of stress resulting from negative racial experiences (Clark, Anderson, Clark, & Williams, 1999; Gilbert & Zemore, 2016). Over 60% of African Americans report recent experiences with discrimination, and of these, nearly 40% identify such experiences as major sources of stress (Broman, 2005; DiJulio, Norton, Jackson & Brodie, 2015). Previous research posits that the effect of stress on one’s life is influenced by one’s appraisal of the situation (Stevenson, 2014). As such, examining the perceptions and appraisals of stress linked to experiences with racial discrimination among African Americans is critical to gaining further insight into potential risks for engaging in unhealthy coping behaviors (i.e., alcohol usage) that can influence sustained disparities in health (Gerrard et al., 2012).

**Alcohol Consumption as an Outcome Variable**

In the general population, approximately 70% of emerging adults between 18 and 25 years of age report alcohol use (National Epidemiologic Survey on Alcohol and Related Conditions, 2006). Problem drinking, which peaks during emerging adulthood (O’Neill & Sher, 2000; Schultenberg & Maggs, 2002), is associated with engagement in other risk behaviors, including unprotected sexual intercourse, hard drug use, violence perpetration
and delinquency (Vik, Carrello, Tate, & Field, 2000). Although African American adolescents report drinking less frequently than their peers from other racial/ethnic backgrounds, they experience a disproportionate amount of alcohol-related consequences (Gil, Wagner, & Tubman, 2004; Witbrodt et al., 2014; Zapolski et al., 2014). Moreover, African Americans who report regular alcohol consumption are more likely than their counterparts to display problematic patterns of use (Chung, Pedersen, Kim, Hipwell, & Stepp, 2014). They also experience elevated rates of alcohol-related morbidity and mortality resulting from general injury, cirrhosis, motor vehicle accidents, homicide and certain cancers (Chartier & Caetano, 2010; Hilton, 2006; Keyes et al., 2011, Yoon et al., 2007). Furthermore, African Americans who engage in alcohol use, regardless of their level of consumption, are more likely than their White American peers to suffer from alcohol dependence and negative drinking consequences (Finlay et al., 2012). For emerging adults, these consequences include academic failure, interpersonal conflict, drunk driving accidents, engagement in risky sex and legal system involvement (Ayra & Augarten, 2010; Godette et al, 2009; Hingson, Zha, & Weitzman, 2009; Romano, Voas, Lacey, 2010). Despite the fact that African American youth report lower rates of substance use (e.g., marijuana, alcohol, and cigarettes) than their peers from other racial/ethnic backgrounds, previous research has described a “catch-up” effect, in which the rates of substance use among African American adults become comparable to that reported by White and Hispanic Americans during their youth and emerging adulthood (Clark, 2014; Clark, Corneille, & Coman, 2013). Understanding factors that influence alcohol use among African Americans during emerging adulthood could provide insight into factors that may contribute to the occurrence of the catch-up effect later on in development when experiences with racial discrimination may increase or be perceived as more stressful.

Racial Discrimination and Alcohol Use

Research suggests that African Americans face unique stressors that put them at heightened risk for problem drinking. For instance, African Americans report more frequent experiences with racial discrimination than do other racial minorities, and links found between racial discrimination and negative mental health outcomes are stronger for African Americans than they are for other groups (Kessler et al., 1999). The Mundane Extreme Environmental Stress model (Peters & Massey, 1983) has two distinct but related suppositions regarding the direct relation among alcohol use, discrimination, stress and mental health outcomes that could help us better understand ethnic differences in problematic drinking. The first is that the accumulation of chronic experiences with racial discrimination has a direct effect on mental health outcomes. As such, experiences with racial discrimination that threaten aspects of one’s identity (Brody et al., 2006; Kessler et al., 1999) may act as social stressors that increase problematic alcohol use (Lazarus & Folkman, 1984). Both cross-sectional (Terrell, Miller, Foster & Watkins, 2006) and longitudinal (Hurd et al., 2014) analyses have supported this hypothesis, with previous research identifying positive associations between discrimination and alcohol use among African American emerging adults.

The second hypothesis posited by the Mundane Extreme Environmental Stress model is that the perceived stressfulness (i.e., appraisal) of a discriminatory experience also influences the magnitude of their effects (Peters & Massey, 1983). Hence, more frequent experiences with
racial discrimination deemed as distressing are believed to amplify the adverse effects of racial discrimination on mental health outcomes. Therefore, according to this model, both perceived stress (i.e., appraisals of discrimination experiences as stressful) and higher levels of stressors (i.e., more frequent experiences with discrimination) would magnify the effects of racial discrimination on mental health outcomes.

The Moderation of Perceived Stress

To explain the mechanisms underlying the Mundane Extreme Environmental Stress model (Peters & Massey, 1983), the self-medication hypothesis posits that stressful experiences compel some individuals to abuse alcohol in an effort to cope with negative emotions resulting from stressful situations (Corbin, Farmer, & Nolen-Hoekesma, 2013; LaBrie et al., 2012; Park, Armeli, & Tennen, 2004). This coping mechanism, however, is often maladaptive because alcohol use may impair an individual’s ability to appropriately process negative experiences, thus heightening one’s risk for poor mental and physical health outcomes (Park, Armeli, & Tennen, 2004; Yoon et al., 2007). Consistent with this idea, the effects of racial discrimination on adolescent delinquency are stronger among adolescents reporting more stressful life events than among their counterparts with fewer stressful life events (De Coster & Thompson, 2016; Prelow, Danoff-Burg, Swenson, & Puligano, 2004). As such, the association between racial discrimination and drinking behaviors would be expected to be stronger in the context of high amounts of perceived stress linked to racial discrimination than in the presence of lower amounts of such perceived stress. Indeed, previous research indicates that African Americans may increase their alcohol use to escape and avoid negative affect arising from discriminatory experiences (Corbin, Farmer, & Nolen-Hoekesma, 2013; LaBrie et al., 2012; Park, Armeli, & Tennen, 2004). The literature also suggests an association between discrimination and health risk behaviors, but inconsistent findings have highlighted the need to understand the conditions under which experiences of discrimination may impact health risks, particularly for African Americans (Borrell, Jacobs, Williams, et al., 2007; Gibbons, Etcheverry, Stock, et al., 2010; Gibbons, Gerrard, Cleveland et al., 2004; Terrell et al., 2006). For example, an individual’s appraisal of discriminatory events as meaningful and stressful may have a greater impact on health outcomes than events believed to be less meaningful or stressful. By understanding tenets of the Mundane Extreme Environmental Stress model and testing the self-medication hypothesis, we can begin to determine whether one’s perceived stress from experiencing discrimination is an important factor in the association between racially discriminatory encounters and the drinking behaviors of African American emerging adults. Moreover, understanding the potential role of perceived stress linked to racial discrimination on the association between alcohol use and racial discrimination among African American emerging adults could provide insight into the conditions that increase their risk for problematic drinking in adulthood.

Goals of the Study

The purpose of the current study was to examine the role of perceived stress from racially discriminatory experiences on the relation between experiences with racial discrimination and drinking habits (i.e., binge drinking and alcohol use). Our primary hypotheses were that:
1) greater experiences with racial discrimination are associated with greater alcohol use; and 2) perceived stress from these experiences moderates this association such that racial discrimination will be associated with drinking habits for those who experience higher perceived stress.

Method

Participants

This study was part of a larger study that recruited university students from a Predominantly White Institution in the southeastern region of the United States. Participants included 235 African American emerging adults. Bi-racial students who self-identified as mixed with African American and another race (i.e., “African American/White”, “African American and Hispanic” or “Afro Latina”; see Dennhardt & Murphy, 2011) were also included in the study. The mean age for the total sample was 20.56 years (SD = 1.87 years) with ages ranging from 18 to 25 years old. Female participants comprised 73.6% (n = 173) of the sample. The sample was comprised of freshmen (24%), sophomores (18%), juniors (22%), and seniors (35%). In the current sample, 55% of participants’ mothers and 36.7% of fathers completed at least a two-year degree after high school.

Demographics—Participants were asked comprehensive demographic questions about their age, race/ethnicity, parents’ highest level of educational attainment, college classification, and sex.

Alcohol use/binge drinking—Alcohol use and binge drinking were assessed using single item questions taken from the Youth Risk Behavior Survey (YRBS; Eaton, Kann, Kinchen, et al., 2010). For alcohol use, we asked, “on how many days did you have at least one drink of alcohol during the past year?” For binge drinking, we asked, “on how many days did you have 5 or more (if male) or 4 or more (if female) drinks of alcohol in a row, that is, within a couple of hours during the past year?” For both items, responses were on a 7-point Likert scale assessing alcohol use in days (e.g., “0 days”, “1 or 2 days” to “every day or almost every day”).

Single-item indicators of alcohol use have been previously employed in adolescent and emerging adult samples (e.g., Johnston, O’Malley, Bachman, & Schulenberg, 2011). To operationalize alcohol use, information about what constitutes a drink and standard drink size was provided to participants. Participants were informed that a drink includes beer, wine, wine coolers and liquor such as rum, gin, vodka or whiskey. An example of a drink exclusion included drinking a few sips of wine for religious purposes. A standard drink of alcohol is defined as a 12oz. can or bottle of beer or wine cooler, a 4oz. glass of wine or a shot of liquor straight or in a mixed drink.

Racial discrimination—The Daily Life Experiences Scale (DLE-R) is an 18-item subscale of the Racism and Life Experiences Scales (RaLES; Harrell, 2000) that assesses the frequency of everyday experiences with racial discrimination. Participants were asked to read each of the items on the scale and determine how often they experienced each event because of their race or racism in the past year. Using a Likert scale ranging from 0 (never)
to 5 (once a week or more), participants rated each of the 18 events (e.g., “being accused of something or treated suspiciously,” “being treated rudely or disrespectfully,” “being observed or followed in public places,” “overhearing or being told an offensive joke or comment”) on the DLE-R. The DLE-R has excellent internal consistency among African Americans, showing reliability coefficients between .94 and .96 (Hoggard, Byrd, & Sellers, 2012; Matthews et al., 2013). The Cronbach’s alpha for the current study was .95.

**Perceived stress linked to racial discrimination**—In conjunction with assessing experiences of racial discrimination, the DLE-R described above was also used to assess perceived stress linked to racial discrimination. Based on previous research which indicates that the impact of stress on an individual’s life is not only a result of the event itself but their perception and appraisal of the events (e.g., Ross, Niebling, & Heckert, 1999), for the purposes of the current investigation, participants were asked to rate how much of a problem each of the 18-items of the DLE-R was for them. Students were told to rate each event on a 5-point Likert scale ranging from 0 (has never happened) to 4 (bothers me extremely). The Cronbach’s alpha for the current study was .97.

**Procedure**

The current study used data from a large study known as the Activities and Behaviors in College study (ABC study) and focused only data from African American participants. The present study was granted full institutional review board approval prior to study commencement. University students were recruited through a number of different avenues, including: advertising on email listservs, posting flyers, sampling student organizations (e.g., fraternities and sororities), recruitment through the Psychology Participant Pool and snowball/network sampling methods targeting diverse students. As a means of incentivizing participation, students who were part of the Psychology Participant Pool received extra credit in their psychology courses. Students who were not in the Psychology Participant Pool were asked to choose between entering into a raffle for a chance to win a $100 gift card or instantly receiving a $10 gift card for study participation.

**Results**

**Preliminary Analyses**

Correlations, means and standard deviations for all measured variables are provided in Table 1. The racial discrimination mean score ($M = 1.19$, $SD = 1.03$) revealed that the participants in the current sample reported minimal experiences of racial discrimination. As a point of comparison and to provide some context for our racial discrimination mean scores, it should be noted that an examination of differences in racial discrimination between African Americans and White Americans in the larger study showed that African Americans had significantly higher experiences of racial discrimination than their counterparts ($M_{African Americans} = 1.19$, $SD = 1.03$; $M_{White Americans} = .48$, $SD = .76$, $p < .001$).

On average, participants reported consuming alcohol between three and 12 times a year ($M = 3.24$, $SD = 1.6$) and reported binge drinking about one to two times a year ($M = 2.28$, $SD = 1.48$). Self-reported racial discrimination was significantly associated with perceived stress...
(r = .68 p < .001), alcohol use (r = .16, p = .02) and binge drinking (r = .21, p = .002). Self-reported perceived stress was not significantly associated with alcohol use (r = .04, p = .55) or binge drinking (r = .12, p = .07). The subsequent moderation analyses controlled for age, gender and college classification (e.g., freshman).

**Moderation**

To test the hypothesis that perceived stress linked to racial discrimination moderates the association between racial discrimination and alcohol consumption (i.e., alcohol use and binge drinking), we conducted hierarchical regressions using the PROCESS SPSS macro (Preacher & Hayes, 2008; Shrout & Bolger, 2002) with perceived stress interacting with racial discrimination in the association between alcohol use and binge drinking. Scores for racial discrimination and perceived stress were centered to ensure that the coefficient for the interaction variables were interpretable based on the range of values in the data (Hayes, Glynn, & Huge, 2012). PROCESS generated 95% confidence intervals (CIs) were conducted.

For alcohol use (see Table 2), results revealed that the interaction between racial discrimination and perceived stress was significantly associated with alcohol use (β = .24, SE = .12, p = .02; CI [0.01, 0.47]). The simple slope for racial discrimination predicting alcohol use at 1 SD below the mean of perceived stress was −.01 (p = .98; CI [−.40, .39]), the simple slope for racial discrimination at a mean level of perceived stress was .17 (p = .25; CI [−.12, .47]), and the simple slope for racial discrimination at 1 SD above the mean of perceived stress was .36 (p = .01, CI [0.08, 0.64]) (see Figure 1). The overall model with all covariates, main effects and interaction terms accounted for 12% of the variance for alcohol use [F(7, 212) = 4.10, p < 0.001].

For binge drinking (see Table 3), results revealed that the interaction between racial discrimination and perceived stress linked to these experiences was significantly associated with binge drinking (β = .27, SE = .11, p = .01, CI [.06, .50]). The simple slope for racial discrimination predicting binge drinking at 1 SD below the mean of perceived stress was −.06 (p = .76, CI [−.44, .32]), the simple slope for racial discrimination at a mean level of perceived stress was .15 (p = .28, CI [−.13, .43]), and the simple slope for racial discrimination at 1 SD above the mean of perceived stress was .36 (p = .01, CI [.10, .63]) (see Figure 2). The overall model with all covariates, main effects, and interaction terms accounted for 9% of the variance on binge drinking [F(7, 212) = 3.18, p < 0.01].

**Discussion**

The purpose of the current study was to examine the influence of perceived stress of racially discriminatory experiences on the association between experiences with racial discrimination and alcohol use among African American emerging adults. Consistent with our hypothesis, racial discrimination was associated with increased alcohol use and binge drinking. This finding is in line with accumulating research documenting and association between perceived discrimination and substance use and could help to further identify vulnerable African American emerging adults who may benefit from prevention and/or intervention protocols in relation to alcohol consumption (Chartier & Caetano, 2010;
Gibbons et al., 2010, Witbrodt et al., 2014). Within the discrimination-alcohol use association, we also examined the moderating role of perceived stress linked to these experiences. In support of our hypothesis, we found that the association between racial discrimination and alcohol use and binge drinking was significant for individuals who reported experiencing greater levels of perceived stress in response to racial discrimination. This association, however, was not significant for individuals who reported lower levels of perceived stress in response to racial discrimination. These findings are consistent with previous research involving other risk behaviors among youth and further supports the Mundane Extreme Environmental Stress model (Peters & Massey, 1983), which purports that both general stressful events and perceived stress magnify the effects of racial discrimination on mental health outcomes (De Coster & Thompson, 2016; Prelow, Danoff-Burg, Swenson, & Pulgiano, 2004). Our findings are also in line with the self-medication hypothesis and indicate that some individuals may turn to maladaptive coping mechanisms, such as alcohol consumption, to aid in recovery from stressful experiences of racial discrimination.

These findings add to the available literature and support conceptual models that denote the importance of an individual’s appraisal and perception of stressful events in relation to unhealthy coping responses. These findings also further our understanding of how the perceived stressfulness of experiences with racial discrimination could influence vulnerability for negative health behaviors for African Americans. Studies of heavy drinking and/or binge drinking amongst African Americans show that, relative to individuals from other ethnic backgrounds, African Americans generally report drinking less frequently and consuming smaller amounts of alcohol across almost all age groups (Galvan & Caetano, 2003; Substance Abuse and Mental Health Service Administration, 2003). However, research also shows that, despite lower alcohol use overall, African Americans that do engage in alcohol use, disproportionally experience negative alcohol-related problems that worsen time (Caetano & Clark, 1998; Witbrodt et al., 2014; Zapolski et al., 2014). To our knowledge, this study is the first to characterize the association between racial discrimination and binge drinking when considering the influence of perceived stress linked to experiences with racial discrimination. As such, it is important that future research in this area considers the impact of high levels of perceived stress on the discrimination-health behavior association, particularly amongst African American college students.

Identifying factors that moderate the relation between racial discrimination and alcohol consumption can provide information about strategies that might be used to counter these effects, and for whom these strategies might work best. Our findings highlight the need to focus prevention and intervention efforts on those who have high levels of perceived stress following experiences of racial discrimination. Studies that examine potential areas of intervention for this population have discussed factors such as self-control and emotion-regulation/mood self-management (Brody et al. 2009; Larson & Lochman, 2010; Muraven, 2010). Such factors may assist with difficulties with impulsivity and negative-mood–related drinking and help to reduce or prevent substance use after experiences of racial discrimination. Our study adds to these efforts by further identifying African American emerging adults who perceive high levels of stress after experiencing discrimination as vulnerable for utilizing unhealthy coping responses, which in turn can influence the
progression of dire health outcomes. Moreover, this study also denotes the importance of acknowledging the interwoven processes of stress, social structures, context and health behaviors. The Environmental Affordance framework posits that the motivation and ability to engage in maladaptive health behaviors as a means to cope with stressors is shaped by social structures and contexts that differentially affect underserved populations (Mezuk, et al., 2013). The current study’s findings align with this framework and further denote the need for greater recognition of the presence of experiences of racism and the importance of policy initiatives that integrate and acknowledge consequences of structural racism.

Limitations and Directions for Future Research

This study is not without limitations. First, the overall effect size was low for our significant moderation findings (Cohen & Cohen, 1983). Nevertheless, it is clinically noteworthy that perceived stress moderated the association between racial discrimination and alcohol use/binge drinking amongst African American college students given that age, gender, and level of education were controlled for in this study. Second, our sample of African American students attending a large, Predominantly White Institution may not be generalizable to all African American college students or to African American emerging adults in community populations. Follow-up research is needed to examine these associations amongst varied African American college populations and the broader African American community. Third, cultural buffers, such as racial identity and identity affirmation, were not examined in this study. Research has shown that high levels of racial identity and identity affirmation can be protective against the effects of racial discrimination on substance use amongst African Americans (Stock et al., 2011); thus, it would be imperative for future racial discrimination and alcohol use studies to examine racial identity’s buffering effects. Fourth, because these findings are based on cross-sectional data, no causal associations regarding the temporal impact of racial discrimination on alcohol consumption can be assumed. Future studies should employ a prospective design to examine complex associations among racial discrimination, perceived stress linked to these experiences and alcohol consumption over the life course. Lastly, scores on racial discrimination, perceived stress and alcohol consumption all had small ranges. Future research should consider oversampling high-risk individuals to increase heterogeneity.

Implications and Study Conclusions

The present study makes several contributions to the literature. While it is well documented that African Americans face disparities in experiencing the negative consequences of drinking when compared to their peers from other ethnic backgrounds, the current study deepens our understanding of how racial discrimination contributes to health inequalities. Our study highlights the importance of understanding the heterogeneity in African Americans’ appraisal and coping responses to racial discrimination despite its pervasive and pernicious nature. Further, research has shown a “catch up effect” hypothesized to be influenced by racial discrimination for African Americans, by which the lower rates of substance use found in African American adolescents disappear and their rates of substance-use become comparable to White Americans by adulthood (Clarke, 2014; Greene, Way, & Pahl, 2006). The current study sets the stage for future research examining the cumulative
toll of racial discrimination on perceived stress linked to racial discrimination and alcohol use is vital.

Moreover, this work sets the stage for future research and treatment through suggesting that prevention and treatment scientists focus on avenues of reducing stress levels related to discriminatory experiences given the maladaptive coping we found associated with these events. As an example, research has shown that racial socialization techniques and parenting style strategies buffer the effects of racial discrimination on substance use for African Americans (Brody et al., 2012). Given that African American youth who experience certain racial socialization processes may show more enhanced and flexible coping skills with discriminatory experiences (Hughes, 2003; Neblett et al., 2008; Neblett et al., 2010; Stevenson et al., 1997), we would encourage colleges and college counseling centers to create similar spaces to acknowledge and encourage culturally-informed coping strategies as well. While the need for continued public health efforts that target racial discrimination sources remains, persistent clinical effort is also needed to support African American perseverance through experiences of racial discrimination and to promote the reduction of racial health disparities related to alcohol consumption.

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References


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Figure 1.
Association between Racial Discrimination and Alcohol Use at Three Levels of Perceived Stress

Note. The scaled scores for racial discrimination and perceived stress represent centered scores.
Figure 2.
Association between Racial Discrimination and Binge Drinking at Three Levels of Perceived Stress

Note. The scaled scores for racial discrimination and perceived stress represent centered scores.
### Table 1

Summary of Intercorrelations, Means, and Standard Deviations for All Measured Variables

<table>
<thead>
<tr>
<th>Measures</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Discrimination</td>
<td>-</td>
<td>.68*</td>
<td>.21*</td>
<td>.16*</td>
<td>.08</td>
<td>.13</td>
<td>.13</td>
<td>.05</td>
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<tr>
<td>2. Perceived Stress</td>
<td>-.68*</td>
<td>-</td>
<td>.21*</td>
<td>.04</td>
<td>.05</td>
<td>.09</td>
<td>.07</td>
<td>.07</td>
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<tr>
<td>3. Binge Drinking</td>
<td>.21*</td>
<td>-.12</td>
<td>-</td>
<td>.65*</td>
<td>.01</td>
<td>.11</td>
<td>.08</td>
<td>.08</td>
</tr>
<tr>
<td>4. Alcohol Use</td>
<td>.16*</td>
<td>.04</td>
<td>.65*</td>
<td>-</td>
<td>.20*</td>
<td>.11</td>
<td>.26</td>
<td>.05</td>
</tr>
<tr>
<td>5. Age</td>
<td>.08</td>
<td>.05</td>
<td>.01</td>
<td>.20*</td>
<td>-</td>
<td>.02</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6. Sex</td>
<td>.13</td>
<td>.03</td>
<td>.09</td>
<td>.11</td>
<td>.02</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>7. College Classification</td>
<td>.13</td>
<td>.07</td>
<td>.08</td>
<td>.26*</td>
<td>.82*</td>
<td>-.05</td>
<td>-</td>
<td>-</td>
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<tr>
<td>8. Social Class</td>
<td>.05</td>
<td>.07</td>
<td>.12</td>
<td>.01</td>
<td>.04</td>
<td>.12</td>
<td>.07</td>
<td>-</td>
</tr>
<tr>
<td>Mean</td>
<td>1.19</td>
<td>.76</td>
<td>1.28</td>
<td>2.24</td>
<td>20.56</td>
<td>.26</td>
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<tr>
<td>SD</td>
<td>1.03</td>
<td>.77</td>
<td>1.48</td>
<td>1.58</td>
<td>1.87</td>
<td>.44</td>
<td>1.25</td>
<td>1.223</td>
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* \( p < .05 \)
Table 2
Summary of Hierarchical Regression Analyses of Racial Discrimination and Perceived Stress in Association with Alcohol Use

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>SE</th>
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<tbody>
<tr>
<td><strong>Covariates</strong></td>
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<tr>
<td>Age</td>
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</tr>
<tr>
<td>Sex</td>
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<td>.15</td>
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<tr>
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<td>.08</td>
<td>-.29</td>
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<td><strong>Predictors</strong></td>
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<td></td>
</tr>
<tr>
<td>Discrimination</td>
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<td>.20</td>
<td>-.02</td>
</tr>
<tr>
<td>Perceived Stress</td>
<td>-.54</td>
<td>.23</td>
<td>-2.26*</td>
</tr>
<tr>
<td><strong>Interaction Term</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discrimination x Perceived Stress</td>
<td>.24</td>
<td>.12</td>
<td>2.02*</td>
</tr>
</tbody>
</table>

$F(7, 212) = 4.10, p < .001 (R^2 = .12)$

*Note: Discrimination and Perceived Stress were mean centered. Gender was coded as 0 = female, 1 = male.

*p < .05.
Table 3
Summary of Hierarchical Regression Analyses of Racial Discrimination and Perceived Stress in Association with Binge Drinking.

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>SE</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Covariates</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>−.12</td>
<td>.09</td>
<td>−1.31</td>
</tr>
<tr>
<td>Sex</td>
<td>.16</td>
<td>.25</td>
<td>.83</td>
</tr>
<tr>
<td>College Classification</td>
<td>.19</td>
<td>.14</td>
<td>1.36</td>
</tr>
<tr>
<td>Social Class</td>
<td>.12</td>
<td>.08</td>
<td>1.54</td>
</tr>
<tr>
<td><strong>Predictors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discrimination</td>
<td>−.05</td>
<td>.19</td>
<td>−.30</td>
</tr>
<tr>
<td>Perceived Stress</td>
<td>−.42</td>
<td>.22</td>
<td>−1.87</td>
</tr>
<tr>
<td><strong>Interaction Term</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discrimination x Perceived Stress</td>
<td>.27</td>
<td>.11</td>
<td>2.50*</td>
</tr>
</tbody>
</table>

\[ F(7, 212) = 3.18, p < .01 (R^2 = .09) \]

Note: Discrimination and Perceived Stress were mean centered. Gender was coded as 0 = female, 1 = male.

* \( p < .05. \)