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The Role of Minority Stress in Second-Generation Black Emerging Adult College Students' High-Risk Drinking Behaviors

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Abstract

Objective—This study employed a minority stress framework to investigate the relationships between multiple stressors (e.g., general life stress, race related stress, and acculturative stress) and high-risk drinking behaviors in a sample of second-generation Black emerging adult college students across the US.

Method—Participants ($n = 148$) were recruited from US colleges and universities as part of a large, multiwave cross-sectional study.

Results—Findings from this study mirrored those in the extant literature: the positive relationship between race-related stress and high-risk drinking behaviors found in other marginalized groups. However, when all stressors were entered into the model, acculturative stress accounted for significant variance in high-risk drinking behaviors above and beyond general life and race-related stressors in second generation Black emerging adult college students.

Conclusion—Findings underscore the need to better understand the influence of acculturative stress on high-risk drinking behaviors among second-generation Black emerging adult college students: an understudied population in both the acculturation and alcohol use literatures. Implications for future research and clinical practice are discussed.

Keywords

second generation; Black; emerging adult college students; acculturative stress; high-risk drinking behaviors

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Emerging adulthood may serve as a critical window for understanding the development of high-risk drinking behaviors in Black Americans. Research findings suggest that Black American emerging adults consume less alcohol than their White counterparts (Siebert, Wilke, Delva, Smith, & Howell, 2003). Further, their lower rates of alcohol consumption imply that they engage in low-risk drinking behaviors. On the other hand, Black American emerging adults initiate alcohol use at a later age than their White peers and do not exhibit similar maturation patterns out of high-risk drinking behaviors beyond college (Caetano, Clark, & Tam, 1998). Several scholars suggest that their delayed initiation and maturation patterns create a perfect storm for problem drinking and alcohol-related problems later in the life span (White, McMorris, Catalano, Fleming, Haggerty, & Abbott, 2006). For example, when Black American emerging adults do drink they often experience greater negative consequences than other racial/ethnic groups such as health problems, poor academic performance, and police involvement: consequences that may affect college retention, graduation, livelihood, and psychological wellbeing (Broman, 2007; Centers for Disease Control and Prevention, 2005; Horton, 2007; Naimi et al., 2003; Substance Abuse Mental Health Services Administration, 2012; Wu, Temple, Shokar, Nguyen-Oghalai, & Grady, 2010). Taken as whole, these data highlight that low risk is not the same as the absence of risk (Mulia, Ye, Zemore, & Greenfield, 2008).

College students between the ages of 18–24 drink more than any other age group, including their noncollege counterparts (SAMHSA, 2014), a trend partially explained by normative developmental transitions to adulthood and perceived stress associated with changes in the living environment (Arnett, 2000; 2007). Black emerging adults in college experience multiple stressors, which may in part explain increased alcohol consumption and high-risk drinking behaviors (Arnett, 2000). Minority stress models (Meyer, 1995; Meyer, Schwartz, & Frost, 2008; Thoits, 1995) assert that stress stemming from racial group membership and discrimination (i.e., race-related stress) and stress stemming from intercultural contact (i.e., acculturative stress) are uniquely relevant stressors that contribute individually and collectively to the stress experiences of minority populations—above those stresses experienced universally (i.e., general life stress)—and may adversely affect behavior and health outcomes, like alcohol consumption and high-risk drinking behaviors (Mulia & Zemore, 2012).

Second-generation Black emerging adults are children born in the U.S. with at least one parent who emigrated to the U.S. from Africa or the Caribbean (Deaux, 2006; Waters, 1999). Second-generation Black emerging adult college students, in particular, experience stressors that stem from their race, acculturation to new environments (e.g., college), as well as navigating multiple cultural norms (e.g., African American and Eurocentric cultural norms) (Joseph, Watson, Wang, Case, & Hunter, 2013; Obasi & Leong, 2009; Thompson, Lightfoot & Castillo, 2010). In a college environment, where there is increased access to alcohol, these factors may in part explain high-risk drinking behaviors. In spite of their increasing numbers in higher education, second-generation Black emerging adult college students are understudied within the immigrant literature and in health studies focused on race.

Given that college is a critical time when higher education resources may be mobilized to address stress and high-risk drinking behaviors in Black emerging adult college students (White et al., 2006), greater research is needed to address two critical gaps in our knowledge. First, investigations focused on stress and high-risk drinking behaviors have overwhelmingly focused on African American emerging adults while ignoring the substantial increase in the ethnic diversity of Blacks in higher education (Bennett & Lutz, 2009; Sanchez, 2013). Second, stress is particularly relevant to understanding high-risk drinking behaviors in minority populations, but few investigations have applied a *minority stress* framework (i.e., the role of multiple stressors that stem from minority status) to investigate Black emerging adults' high-risk drinking behaviors. Despite comprising a large segment of the population, second generation Black emerging adult college students are overlooked, as much of the extant literature focuses on the experiences of those who identify as first generation. Relatedly, like their first generation counterparts, second-generation Black emerging adult college students are more likely to attend and complete college than third and later generations of Black Americans. Arguably, colleges and universities are salient contexts to assess the experiences of this emerging adult demographic at a time they are likely to experience the stressors that accompany deindividuation from parents and adjustment to a new environment (i.e., college). As such, they may experience an increase in maladaptive coping behaviors. Therefore, the use of second-generation Black emerging adult college students is intentional and specific as we discuss the contributions of multiple stressors impacted by both race and generational status on high-risk drinking behaviors in this population. This study addressed these gaps in the literature and examined the independent and joint effects of general life stress, race-related stress, and acculturative stress on the high-risk drinking behaviors of second generation Black emerging adult college students; an improvement over the singular focus on general life stress. These findings are crucial for developing educational programming and interventions that reflect the growing cultural diversity in Black emerging adults in higher education and the relevance of multiple stressors to our understanding of high-risk drinking behaviors. Moreover, greater knowledge of the role of stressors, beyond general life stress, in high-risk drinking behaviors in second generation Black emerging adult college students' will inform interventions and clinical approaches for mental health clinicians and recruitment and retention strategies for college administrators.

Minority Stress and Second Generation Black Emerging Adult College Students' Alcohol Use

The *minority stress framework* aims to make explicit the relationships between causal factors (e.g., structural and experiential stressors), intervening factors (e.g., coping resources), and health outcomes (e.g., depression, suicide, substance abuse, etc.) in persons with marginalized identities. Minority stress paradigms are important as they conceptualize minority stress as (a) unique -that is, additive to general stressors that are experienced by all people; (b) chronic - related to or derived from relatively stable underlying social and cultural structures; and (c) socially based - stemming from social processes, institutions, and structures beyond the individual (Meyer, 1995; Thoits, 1995). Thus, associations between minority stress and health outcomes, specifically high-risk drinking behaviors are a growing

area of research interest. Minority stress is especially relevant to understanding high-risk drinking behaviors in an understudied population like second-generation Black emerging adult college students.

The focus on high-risk drinking behaviors is notable given that several authors have drawn distinctions between the terms alcohol use, alcohol consumption, risky and high-risk drinking behaviors, and alcohol-related problems (Boynton, O'Hara, Covault, Scott, & Tennen, 2014; Broman, 2007). For example, Broman (2007) conceptualized alcohol use behavior as a function of drinking frequency and quantity, binge drinking, and alcohol-related problems. More recently, Boynton et al. (2014) made a distinction between alcohol consumption and alcohol-related problems, where alcohol related problems reflects the frequency of negative alcohol related consequences. As one indicator of minority stress, Boynton et al.'s findings suggested that discrimination was positively associated with alcohol-related problems, but not alcohol consumption. Further, their findings also suggested that alcohol related problems in African American emerging adult college students is of concern, particularly where experiences of discrimination are high, echoing Broman's earlier findings where discrimination was a unique predictor of alcohol-related problems and to a lesser extent alcohol consumption and alcohol use frequency. As further evidence for minority stress, racial and ethnic discrimination have also been shown to be related to alcohol-related problems in Latino young adults, especially those with a history of alcohol experimentation (Guilamo-Ramos, Jaccard, Johansson, & Turrisi, 2004). Considered together, these findings underscore the importance of going beyond alcohol consumption—a general term that encompasses frequency and quantity—to understand the associations between minority stress and drinking behaviors that lead to alcohol-related problems, specifically, risky drinking.

General Life Stress and High-Risk Drinking Behaviors in Emerging Adults

General life stress is a universal experience involving specific individual events (e.g., earning a failing grade, loss of employment) and life transitions (e.g., attending college, graduating) that are appraised as emotionally taxing (Brown, Phillips, Abdulla, Vinson, & Robertson, 2011; Lazarus & Folkman, 1987). Indeed, several findings have demonstrated that stress accounted for significant variance in high-risk drinking behaviors, particularly among ethnic minorities (Keyes, Hatzenbuehler, & Hasin, 2011). For example, research indicates that Black students often report greater frequency of life stressors than White students, with varying degrees of psychological distress being either mediated or exacerbated by the quality of coping resources (Brown et al., 2011; Negga, Applewhite, & Livingston, 2007). The same pattern was also true of ethnic minority college students' alcohol use (Aldridge-Gerry, Roesch, Villodas, McCabe, Leung, & Da Costa, 2011) such that the relationship between minimizing stressors and greater alcohol consumption was stronger for Black students than White students. These findings suggest that stress plays a role in ethnic minorities' high-risk drinking behaviors. To date, research studies on stress and alcohol use in Black populations have focused on general life stress, and more recently race-related stress, and its unique relationship to high-risk drinking behaviors (Boynton et al., 2014).

Race-Related Stress and High-Risk Drinking Behaviors in Emerging Adults

Race-related stress (often investigated as racism or discrimination) is a ubiquitous experience for Black Americans. Nearly 60% of Black Americans report experiencing discrimination at least once in their lifetime (Kessler, Mickelson & Williams, 1999), while a similar percentage of Black students report being racially verbally insulted at least once on their college campuses (D'Augelli & Hershberger, 1993). Harrell (2000) defined race-related stress as "race-related transactions between individuals or groups and their environment that emerge from the dynamics of racism, and that tax or exceed existing individual and collective resources or threaten well-being" (p. 45). These stressors can be categorized as interpersonal (e.g., cultural or individual) and systemic/structural (e.g., institutional). Cultural race-related stress reflects the psychological and physiological toll that occurs because of one's knowledge and experience that their cultural norms are devalued and minimized. Individual race-related stress consists of interpersonal and direct experiences with discrimination, while institutional race-related stress reflects experiences with discriminatory policies and practices embedded within a particular system/structure (Utsey, 1999). Race-related stress has been shown to undermine Black individuals' physiological and psychological well-being and educational outcomes (Clark, Anderson, Clark & Williams, 1999; Harrell, Hall & Taliaferro, 2003; Jones-Webb, 1998; Klonoff & Landrine, 1999; Mays, Cochran, & Barnes, 2007; O'Hara et al., 2015; Pieterse, Todd, Neville, & Carter, 2012). Coping research in this area suggests that Black students are less planful problem solvers (meaning more confrontative, ruminative, and avoidant) in their coping responses to experiences of racism and discrimination when compared to coping responses to nonracially stressful events, which may make them more susceptible to high-risk drinking behaviors (Hoggard, Byrd, & Sellers, 2012).

The association between discrimination and high-risk drinking behaviors has been widely accepted (Gilbert & Zemore, 2016). Coping motivated drinking, or drinking to avoid the negative affective states associated with an experience (i.e., discrimination), significantly predicts both drinking frequency and drinking problems in college students (Ham & Hope, 2003). Gerrard et al (2012) found racial discrimination to have more deleterious impacts on the health of Black Americans who endorse coping motivated alcohol use behavior than Black Americans who do not. Moreover, Black individuals who have experienced racial stigma and unfair treatment experience a two-fold increase in negative consequences (e.g., DUIs, underage drinking citations, physical altercations) as a result of their alcohol use than individuals who experience little or no racial stigma (Mulia et al., 2008). These results suggest that not only does race-related stress increase risky drinking behavior but also that high-risk drinking behaviors in Black individuals have negative long-term consequences (e.g., maladaptive coping behavior, chronic health problems, legal involvement, etc.). Race-related stress when coupled with access to alcohol and the cultural norms governing alcohol use on college campuses, may create distinct forces that increase the propensity of engaging in high-risk drinking behaviors for second generation Black college students (White et al., 2008).

A related stressor, acculturative stress, has received relatively little attention with regard to second generation Black emerging adult college students, thus little is known about the role

acculturative stress plays in high-risk drinking behaviors in this population prompting researchers to generalize findings from the literature with Asian and Hispanic second generation emerging adults. Thus, examining minority stressors, like race-related stress and acculturative stress, are pertinent to our understanding of high-risk drinking behaviors in this population.

Acculturative Stress and High-Risk Drinking Behaviors in Emerging Adults

Acculturation refers to the process of cultural change experienced by members of a minority culture as they adapt to a majority culture (Berry, Kim, Minde, & Mok, 1987; Torres Stone & Meyler, 2007). Acculturative stress, then, occurs when individuals experience barriers in adapting to a new environment and the feelings of 'otherness' that may accompany prolonged intercultural contact (Berry, 2005; Joiner & Walker, 2002; Mena, Padilla, & Maldonado, 1987). For second generation Black emerging adults, this involves balancing identification with their parents' cultural backgrounds, their ethnic group in the U.S. (i.e., Black American), and European American culture (Butterfield, 2004); second generation Black emerging adults continuously negotiate their heritage culture(s) and their involvement in European American culture. Similar to race-related stress, acculturative stress is associated with greater levels of psychological distress, including anxiety and depression (Crockett, Iturbide, Torres Stone, McGinley & Raffaelli, 2007). These stressful events have been shown to enhance substance-abusing behaviors in young adults (Allison, Adlaf, & Mates, 1997; Cerbone & Larison, 2000; Damphouse & Kaplan, 1998; Hoffman, Cerbone, & Su, 2000; Kulis, Marsiglia, & Nieri, 2009).

Acculturative stress has been linked to increased alcohol use and problem drinking behaviors in racial/ethnic minorities in response to the need to relieve and manage tension and anxieties around acculturation (Cano, et al., 2015; Gil, Wagner, & Vega, 2000). In addition to directly influencing alcohol use behaviors in ethnic minority college students, Cano and colleagues (2015) found that acculturative stress exerts its influence on risky alcohol use behaviors through ethnic discrimination and intragroup marginalization in Hispanic college students, highlighting the interplay between minority stressors as they inform adverse health behaviors. Findings have been consistent among Hispanic adult and second-generation late adolescent (ages 18–21) samples where adjustment to a new country and minority status has resulted in increased alcohol use (Gil, et al., 2000; Goldbach, Berger Cardoso, Cervantes, & Duan, 2015). Despite similar vulnerabilities to other ethnic minorities, the role of acculturative stress in second generation Black emerging adult college students' high-risk drinking behaviors have not been systematically investigated.

Current Study

The minority stress framework has highlighted that ethnic minorities' stress is multifaceted and includes race-related and acculturative stressors in addition to general life stressors (Mulia & Zeng, 2012). The extant literature has numerous examples of how specific minority stressors contribute to a host of alcohol use behaviors in minority populations (Keyes et al., 2011; Savage & Mezuk, 2014). The current study utilized a minority stress framework to better understand high-risk drinking behavior, a potential adverse health

behavior. We were particularly interested in exploring the role of minority stressors on high-risk drinking behaviors in second-generation Black emerging adults in college. As noted elsewhere, the majority of research on stress in emerging adulthood has focused on White emerging adults or singularly, life stress or racism (Broman, 2007). These findings have been generalized to underrepresented ethnic groups, which has hampered the field's understanding of the role of multiple stressors in second generation Black emerging adult college students high-risk drinking behaviors. As such, researchers must be prudent in assessing the unique contribution of both race-related stress and acculturative stress on high-risk drinking behavior in this population in ways that can then inform culturally responsive prevention and intervention efforts. To that end, we pursued two hypotheses: first, we expected that general life stress, race-related stress and acculturative stress would be positively and significantly associated with high-risk drinking behaviors in the sample [hypothesis 1]. Second, we hypothesized that acculturative stress and race-related stress would significantly predict greater high-risk drinking behaviors in this sample above and beyond general life stress [hypothesis 2].

Method

Participants

This sample was drawn from a large, multisite study exploring stress and coping behavior in Black American emerging adults. Participants were 148 self-identified second generation Black Americans between the ages of 18–25 ($M_{\text{age}} = 19.83$, $SD = 1.54$) drawn from 1 Historically Black College ($n = 17$) and 5 Predominantly White Institutions ($n = 130$) in the United States. Second generation status was defined as having at least one foreign-born parent who immigrated to the US. The majority ($n = 118$, 80%) identified racially as Black and female ($n = 93$, 63%).

Procedure

Participants were recruited via email across 3 waves of data collection. Data collection was conducted exclusively online using Limesurvey (waves 1 and 2) and Qualtrics (wave 3) web based survey software. Universities were targeted based on size, location, and percentage of Black students in total undergraduate enrollment. Based on these criteria our search yielded participants from 5 predominately white institutions (PWIs) and 1 historically black college and university (HBCU). Our sample included students from each university. All self-identified, currently enrolled, degree seeking Black undergraduates between the ages of 18–30 at each institution were invited to participate in the study. Full approval of the study protocol and recruitment materials was obtained from each university's Human Subjects Review Board. Informed consent and debriefing were administered electronically as part of the study protocol.

Measures

Demographic information—Participants completed a self-report demographic questionnaire that collected information on race and ethnicity, age, sex, gender, and generational status. Participants were asked to self-identify race in accordance with the US Census categories (e.g., White, Black, American Indian or Alaska Native, Asian/Pacific

Islander, other) while also being able to provide ethnicity designation in an open-ended format. Similarly, participants were asked to report whether they had parents and/or grandparents born outside of the US to assess generational status. Participant demographics are presented in Table 1.

Minority Stress

General life stress: The Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) was used to measure life situations appraised as stressful. The 10-item scale assesses perceived stressful life situations on a 5-point Likert-type scale ranging from “*Never*” (0) to “*Very Often*” (4). Scores on the PSS range from 0 to 56, with higher scores indicating greater perceived stress. The mean PSS score for this sample was 19.60 ($SD = 6.35$). Psychometric properties of the scale demonstrate reliability coefficients ranging from 0.84 to 0.86 (Cohen et al., 1983). The PSS demonstrated adequate reliability in this sample ($\alpha = .83$).

Race related stress: The Index of Race Related Stress – Brief form (IRRS-B) (Utsey & Ponterotto, 1996) was used to assess participant experiences and related distress with racism and discrimination. The IRRS-B is a 22-item inventory that assesses race-related stress across 3 domains: cultural racism, individual racism, and institutional racism. Participants are asked to respond to items such as “You seldom hear or read anything positive about Black people on radio, TV, in newspapers, or history books” and “You were treated with less respect and courtesy than Whites and other non-Blacks while in a store, restaurant, or other business establishment.” Responses are assessed on a 5-point Likert-type scale with responses ranging from “*This has never happened to me*” (0) to “*Event happened and I was extremely upset*” (4). Scores on the IRRS-B are indicative of both the quantity of negative race-related events as well as an appraisal of the level of distress experienced by the individual. Subscale scores range from 0 to 40 (Cultural Racism), and 0 to 24 on both the Individual and Institutional Racism subscales, where higher scores indicate multiple experiences of racism and related distress. Mean scores for the cultural racism, individual racism, and institutional racism scales were 22.57 ($SD = 10.50$), 9.46 ($SD = 6.56$) and 4.10 ($SD = 5.17$), respectively. Adequate reliability coefficients for IRRS-B subscales (cultural racism: $\alpha = .78$, institutional racism: $\alpha = .69$ and individual racism: $\alpha = .78$) have been previously reported (Utsey, 1999). Overall, the IRRS-B demonstrated adequate reliability in this sample (cultural racism: $\alpha = .89$, individual racism: $\alpha = .82$, and institutional racism: $\alpha = .75$).

Acculturative stress: The Social, Attitudinal, Familial, and Environmental Acculturative Stress – Revised scale (SAFE-R) (Mena, et al., 1987) was used to assess experiences that accompany prolonged intercultural contact, particularly contact with the dominant group as a measure of acculturative stress. The SAFE-R measures perceived discrimination, barriers to adaptation, negative reactions of family members to one’s desire to adapt, feelings of isolation, and difficulties in communication. Respondents were asked to rate the extent to which they perceived 24 items to be stressful ranging from “*have not experienced*” (0) to “*extremely stressful*” (5). Scale items include “I feel uncomfortable when others make jokes about or put down people of my ethnic background” and “Close family members have

different expectations about my future than I do.” Total scores on the SAFE-R range from 0 to 120, with higher scores indicating greater acculturative stress. Mean SAFE-R scores for the sample was 41.32 ($SD = 19.18$). The SAFE-R has received previous support for assessing acculturative stress in African American emerging adults ($\alpha = .87-.89$; Joiner & Walker, 2002; Perez, Volez, Pettit, & Joiner, 2002). The SAFE-R demonstrated adequate reliability in this sample ($\alpha = .93$).

High-Risk Drinking Behaviors—The Alcohol Use Disorders Identification Test (AUDIT) (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001) is a 10-item self-report measure used to assess risky drinking behavior as measured by frequency, quantity, and negative alcohol-related consequences. Higher scores on the AUDIT are indicative of high-risk drinking behaviors with scores ≥ 8 indicative of problem drinking in men (Kokotailo, et al., 2004) and ≥ 5 in women (Bradley et al., 2003); the mean AUDIT score in the overall sample was 5.31 ($SD = 6.08$; $M_{\text{male}} = 6.63$, $SD = 6.52$; $M_{\text{female}} = 4.59$, $SD = 5.74$), with over 35% ($n = 54$) indicating some level of problem drinking (score ≥ 5). Researchers (Conley & O’Hare, 2006; Kokotailo, et al., 2004; Shields, Guttmanova, & Caruso, 2004) have demonstrated success with using the AUDIT to identify high-risk and problem drinking behavior in similar sample demographics with adequate reliability ($\alpha = .79-.82$). The AUDIT produced adequate reliability coefficients in this sample ($\alpha = .88$).

Data Analytic Plan

First, Spearman’s correlations were computed to demonstrate the associations among variables as proposed in hypothesis one (Table 2). Next, preliminary analyses were conducted to assess whether our variables of interest differed significantly by sociodemographic variables or institutional affiliation. Last, in order to test hypothesis two, a hierarchical multiple regression was used to determine if the addition of race-related stress followed by acculturative stress improved the prediction of high-risk drinking behaviors in second-generation Black emerging adult college students over and above general life stress. Full details of the regression models are presented in Table 3.

Results

Preliminary Analyses

In this sample, nearly 71% reported *at least* monthly alcohol use. Past month prevalence rates in college students (ages 18–25) have been reported at nearly 60% (Johnston, O’Malley, Bachman, Schulenberg, & Miech, 2015) while the national average for Black emerging adults is much lower (48.7%; Center for Behavioral Health Statistics and Quality, 2015). As can be seen, alcohol use prevalence in this sample of second generation Black emerging adult college students outpaced their same age peers across racial/ethnic demographics.

Independent samples *t* tests examined whether significant group differences exist between male and female second generation Black emerging adults on the study variables, as well as institutional racial makeup (i.e., HBCUs versus PWIs) given that the sample was drawn from 6 colleges and universities with both types of institution represented. Results indicated

differences on general life stress and acculturative stress with students at PWIs endorsing higher levels general life, $t(141) = 2.556, p = .012$, and acculturative stress, $t(145) = 2.673, p = .008$, as well as more high-risk drinking behaviors, $t(145) = 1.542, p = .010$. Also, male students experienced significantly more acculturative stress, $t(145) = 4.172, p < .001$ and institutionalized race related stress, $t(145) = 2.052, p = .042$ than female Black emerging adults. Lastly, male second generation Black emerging adults were also significantly more likely to endorse high-risk drinking behaviors $t(145) = 1.974, p = .05$. Because of these significant differences, gender and school affiliation were treated as covariates for all regression analyses.

Main Analyses

Hypothesis one was interested in the relationships between stressors and high-risk drinking behaviors. Of particular interest are three (3) types of stress: general life stress, race-related stress and acculturative stress. Spearman's rho correlations revealed that general life stress ($r_s(144) = .15, p = .07$) and institutional race related stress ($r_s(148) = .17, p = .08$) were not significantly associated with high-risk drinking behaviors in the sample. However, cultural race-related stress ($r_s(148) = .17, p = .05$) and individual race-related stress ($r_s(148) = .17, p = .03$) were positively and significantly correlated with high-risk drinking behaviors. Additionally, acculturative stress evidenced a significant positive correlation with high-risk drinking behaviors ($r_s(155) = .27, p < .001$).

Hierarchical multiple regression analysis was used to determine if the addition of race-related stress and then acculturative stress improved the prediction of high-risk drinking behaviors over and above general life stress alone [hypothesis two]. Results of the regression analyses are presented in Table 3. School and gender were entered in Model 1 as a covariate to account for differences in gender and institution type. Neither gender ($\beta = .129, p = .14$) nor institution type ($\beta = .085, p = .33$) were significant predictors of high-risk drinking behaviors in the sample. Despite a nonsignificant association between general life stress and high-risk drinking behaviors, we entered general life stress in Model 2 given the support for this relationship in the extant literature; however, it was not a significant predictor of high-risk drinking behaviors in this sample ($\beta = .140, p = .10$). Similarly, the addition of cultural ($\beta = .100, p = .38$), individual ($\beta = .106, p = .40$), and institutional ($\beta = .118, p = .74$) race-related stress to the prediction of high-risk drinking behaviors did not produce a significant main effect. However, there is evidence to support that the cumulative experience of race-related stress is a significant predictor of high-risk drinking behavior in the sample $R^2 = .087, F(6, 135) = 2.133, p = .05$, adjusted $R^2 = .046$ (Model 3). As hypothesized the addition of acculturative stress did account for statistically significant variance in high-risk drinking behaviors ($\beta = .250, p = .03$) (Model 4) over and above the previous stressors. The full model (Model 4) reflects the cumulative effect of general life stress, cultural race-related stress, individual race-related stress, and acculturative stress in accounting for statistically significant variance in high-risk drinking behaviors, $R^2 = .117, F(7, 135) = 2.547, p = .02$, adjusted $R^2 = .071$. Of the measured sources of stress, nearly 3% of the variation in high risk drinking behaviors can be accounted for by variation in levels of acculturative stress, while 4% of this variation can be accounted for by race related stress, and only 2% of this variation is accounted for by other life stressors. Despite statistically marginal contributions to high-

risk drinking behaviors, cumulatively, the measured stressors accounted for more than 11% of the variance in high-risk drinking behaviors.

Discussion

The association between stress and alcohol use has been extensively investigated in the extant literature (Broman, 2007; Gil et al., 2000; Keyes et al., 2011). Building on this literature, we utilized a multidimensional assessment of minority stress to examine the relationships between general life stress, race-related stress, acculturative stress and high-risk drinking behaviors in second generation Black emerging adult college students. Second generation Black emerging adult college students face multiple stressors that may increase their high-risk drinking behaviors, particularly given the similarities between them and other marginalized groups (Gil, Wagner, & Vega, 2000; Liu & Iwamoto, 2007).

The first hypothesis stated that general life stress, race-related stress, and acculturative stress would be positively and significantly associated with high-risk drinking behaviors, respectively. The results were mixed. In this sample, general life stress and institutional race-related stress were not significantly associated with high-risk drinking behaviors, although cultural race-related stress, individual race-related stress, and acculturative stress were significantly and positively correlated with high-risk drinking behaviors. This finding was unexpected as it was counter to our stated hypothesis. One interpretation of the nonsignificant relationship between high-risk drinking behaviors and general life stress in the sample may reflect a level of resilience that normalizes life stressors such that second generation Black emerging adult college students mobilize resources to meet the demands of these stressors more effectively than other forms of measured stress (Lazarus & Folkman, 1987). Also, the mean score ($M = 4.10$) for institutional race-related stress was substantially lower than other forms of race-related stress in the sample indicating that second generation Black emerging adult college students have had relatively few experiences and resulting distress with systemic racism and discrimination, arguably, as a function of age and the limited number of social systems they are likely to have engaged by this time in their lives. However, as expected, acculturative stress was significantly related to high-risk drinking behaviors in this population. Consistent with minority stress models, the present findings provide further support for the unique associations of race-related stress and acculturative stress on health behavior and outcomes in Black Americans consistent with minority stress models (Pieterse et al., 2012).

Additionally, we found gender and institutional racial makeup to influence the experiences of stress and high-risk drinking behaviors in this sample of second generation Black emerging adult college students, particularly impactful for males and second-generation Black emerging adult college students attending predominately White institutions. These findings echo extant literature that has suggested that Black men are more susceptible to racial discrimination than their female counterparts (Sidanius & Veniegas, 2000) and highlighted the nature of PWIs to be mired in racial animus magnifying Black college students 'otherness' (Fisher & Hartmann, 1995).

Finally, we hypothesized that greater acculturative stress would predict high-risk drinking behaviors in this sample above and beyond that of other forms of stress, particularly general life stress. Importantly, the results suggest that acculturative stress is related to greater high-risk drinking behaviors in second generation Black emerging adult college students, even after accounting for general life stress and race-related stress. As acculturative stress increases, so too does problematic drinking (Cheng & Mallinckrodt, 2015; Park, Anastas, Shibusawa & Nguyen, 2014). That is, if an individual is experiencing stress related to adjustment to majority culture or prolonged contact with the dominant culture, they are at greater risk for high-risk drinking behavior. These findings are consistent with the results in the extant literature that have examined these relationships in Latino and Asian adults (Savage & Mezuk, 2014). Like their ethnic minority and immigrant counterparts, second-generation Black American emerging adults experience acculturation to a new environment (Bennett & Lutz, 2009). The current results add to the extant literature and demonstrates this association for second-generation Black emerging adult college students—a group for whom the role of acculturative stress on health behaviors has received considerably less attention.

Life stress is often examined relative to alcohol use and risky drinking behaviors, and more recently, race-related stress in ethnic minority populations (Cooper et al., 1992; Mulia et al., 2008). Given that previous studies of stress have not specifically studied these experiences in second generation Black Americans emerging adult college students this study fills this lacuna in the literature. Furthermore, the effects of acculturative stress and its ability to predict high-risk drinking behaviors above and beyond other forms of measured stress in second generation Black emerging adult college students warrants greater attention in the extant literature as the children of immigrant population is expected to add 48 million people to the US population by 2050 (Pew Research Center, 2008). The authors are unaware of other studies that include acculturative stress as a stress indicator and predictor of high-risk drinking behaviors for second generation Black American emerging adult college students.

Limitations and Future Directions

Several methodological considerations should be noted relative to the current research. This study is cross sectional in nature and represents current high-risk drinking behaviors. While research evidence suggests that current risky drinking behaviors may be indicative of future alcohol problems, the present findings in particular may not inform future drinking behaviors. A longitudinal investigation of the proposed relationships would help advance our understanding of the impact of high-risk drinking behaviors in college and subsequent alcohol-related problems later in the lifespan among second generation Black emerging adults. Second, this study employed a web-based survey design for data collection. Web-based surveys may have advantages related to the speed and cost of data collection as well as data quality. However, they may be biased by low and selective participation. While Internet based studies have not been found to produce results different from other research methodologies, it is important to note the potentiality for selection bias that may influence study outcomes (Gosling, Vazire, Srivastava, & John, 2004). To reduce sampling bias all qualifying students (i.e., Black identified) at each university were invited to participate via email. Third, caution should be used when generalizing these findings to the experiences of stress and high-risk drinking behaviors with all people of African descent. It is not clear to

what extent the current sample is representative of second-generation Black American emerging adults. Additionally, participants in this study were highly educated as evidenced by current enrollment in a 4-year institution (relative to the only 7% of African Americans enrolled in college in 2010; US Census Bureau, 2010). Extant literature has highlighted the protective benefits of education with regard to substance use in Black Americans, thus substance use trends in college samples are not likely representative of substance use behavior in community samples (Center for Behavioral Health Statistics and Quality, 2015). With regard to the above limitations, the present study breaks new ground by examining stress factors influencing risky alcohol use in second-generation Black American emerging adult college students. Moreover, significant findings that acculturative stress increases high-risk drinking behaviors in Black Americans should be highlighted.

Future research will benefit from more careful consideration of type of stress (general, race-related, acculturative stress) and the assessment of multiple stressors that increase risky alcohol use for second-generation Black American emerging adult college students. Additionally, extant literature has identified several factors which contribute to the drinking behaviors of emerging adult college students, that when examined in combination with a more careful consideration of stressor experiences, may provide a more comprehensive understanding of risky drinking behaviors in Black emerging adult college students. More specifically, an examination of alcohol use motivation (drinking motivation) and the context of drinking behavior would be necessary to gain a deeper understanding of alcohol use generally and highrisk drinking behaviors as coping behaviors in second generation immigrant populations. Similarly, Greek letter organization affiliation (Brown-Rice & Furr, 2015; Wechsler, Dowdall, Davenport, & Castillo, 1995; Weitzman, Nelson, & Wechsler, 2003) and perceived peer norms and attitudes (Lo & Globetti, 1993; Martin, Groth, Buckner, Gale, & Kramer, 2013) are well established determinants of risky drinking behaviors in Black American emerging adult college students at both PWIs and HBCUs. Future studies would benefit from examination of these factors to understand these relationships in second-generation Black emerging adult college students.

Lastly, within the larger bodies of stress and alcohol use research in emerging adults, it is imperative that we disaggregate Black American populations, not only to more effectively understand group differences, but to increase the cultural contextualization of research findings and their relationship to possible adverse health outcomes. Problematically, when aggregated with the larger African American population, these relationships are obscured and inhibit culturally informed intervention and prevention efforts.

Clinical Implications

These findings, focused on the role of acculturative stress in second generation Black emerging adult college students' high-risk drinking behaviors have several pertinent clinical implications that are relevant to educational programming and interventions, specifically (a) intake, assessment, case conceptualization, and (b) community engagement.

Intake, assessment, and case conceptualization—Our findings demonstrate the relevance and importance of inquiring about immigrant and heritage ancestry when working

with clients who identify as Black (Hays, 1996). A thorough clinical interview will assist with noting and understanding second-generation Black emerging adult college students' socialization experiences that are associated with particular cultural values and cultural norms that produce stress experiences in new contexts and may inform alcohol use behaviors that differ from their third and later generation Black emerging adult peers (Joseph et al., 2013). Because these norms may be in conflict with drinking norms in the college environment, such pressures may contribute to high-risk drinking behaviors. In addition to the clinical interview, all the stress measures utilized in the present study may be administered to clients. These assessments are helpful tools for facilitating dialogue, especially with clients who are reticent to discuss their heritage culture or do not see the relevance of their cultural backgrounds and socialization experiences to their presenting concerns. Lastly, the inclusion of information about second-generation Black emerging adult college students' socialization experiences, acculturative stress, and race-related stress will inform clinicians' multicultural case conceptualization. These clinical implications are underscored by our finding that general life stress and acculturative stress are high in students attending a PWI when compared with second-generation Black emerging adult college students attending a HBCU.

Community engagement—Students in our sample engaged in drinking behaviors at a rate higher than the national average for Black emerging adults. Thus, clinicians who engage in outreach must consider the contexts and communities in which second generation Black emerging adult college students interact. To encourage second-generation Black emerging adult college students' participation in alcohol awareness events, programming tailored to this group—along with including gender differences in the effects of high-risk drinking behaviors—will need to be considered. Finally, it is important that clinicians who work in HBCU and PWI contexts continue to be aware of the growing research evidence identifying the importance of disaggregating ethnic differences within the Black racial group.

Conclusion

The present study is one of the first studies to consider the impact of multiple stressors including general life stress, race related stress, and acculturative stress in understanding highrisk drinking behavior in second generation Black emerging adult college students. The role of acculturative stress was particularly salient for participants in the present study. The study of the cumulative effects of multiple stressors provides a more thorough understanding of the stress risk factors for high-risk drinking behaviors in this population. Understanding group (i.e., similar social and economic conditions; measured here as acculturative stress and cultural and institutional race-related stressors) and individual (i.e., idiosyncratic stress; measured here as general life stress and individual race-related stress) level factors that contribute to stressor origin and outcome have the ability to ensure that researchers and clinicians alike are able to develop appropriate individual and systems level interventions.

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References

- Allison KR, Adlaf EM, Mates D. Life strain, coping, and substance use among high school students. *Addiction Research*. 1997; 5:251–272.
- Aldridge-Gerry AA, Roesch SC, Villodas F, McCabe C, Leung QK, Da Costa M. Daily stress and alcohol consumption: Modeling between-person and within-person ethnic variation in coping behavior. *Journal of Studies on Alcohol and Drugs*. 2011; 72(1):125–134. doi: <http://dx.doi.org/10.15288/jsad.2011.72.125>. [PubMed: 21138719]
- Arnett JJ. Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*. 2000; 55(5):469–480. [PubMed: 10842426]
- Arnett JJ. Emerging adulthood: What is it, and what is it good for? *Child Development Perspectives*. 2007; 1:68–73.
- Babor, TF., Higgins-Biddle, JC., Saunders, JB., Monteiro, MG. *The Alcohol Use Disorders Identification Test: Guidelines for use in primary health care*. 2nd. Geneva: World Health Organization; 2001.
- Bennett PR, Lutz A. How African American is the net Black advantage? Differences in college attendance between Whites, immigrants, and native Blacks. *Sociology of Education*. 2009; 82(1): 70–99. DOI: 10.1177/003804070908200104
- Berry JW. Acculturation: living successfully in two cultures. *International Journal of Intercultural Relations*. 2005; 29:697–712. DOI: 10.1016/j.ijintrel.2005.07.013
- Berry JW, Kim U, Minde T, Mok D. Comparative studies of acculturative stress. *International Migration Review*. 1987; 21:491–511.
- Boynton MH, O'Hara RE, Covault J, Scott D, Tennen H. A meditational model of racial discrimination and alcohol-related problems among African American college students. *Journal of Studies on Alcohol and Drugs*. 2014; 75(2):228–234. DOI: 10.15288/jsad.2014.75.228 [PubMed: 24650816]
- Bradley KA, Bush KR, Epler AJ, Dobie DJ, Davis TM, Sporleder JL, Maynard C, Burman ML, Kivlahan DR. Two brief alcohol screening tests from the Alcohol Use Disorders Identification Test (AUDIT): validation in a female Veterans Affairs patient population. *Archives of Internal Medicine*. 2003; 163(7):821–829. DOI: 10.1001/archinte.163.7.821 [PubMed: 12695273]
- Broman CL. Perceived discrimination and alcohol use among Black and White college students. *Journal of Alcohol and Drug Education*. 2007; 51(1):8–16.
- Brown TL, Phillips CM, Adbulla T, Vinson E, Robertson J. Dispositional versus situational coping: Are the coping strategies African Americans use different for general versus racism-related stressors? *Journal of Black Psychology*. 2011; 37(3):311–335. DOI: 10.1177/0095798410390688
- Brown-Rice K, Furr S. Differences in college Greek members' binge drinking behaviors: A dry/wet house comparison. *The Professional Counselor*. 2015; 5(3):354–364. DOI: 10.15241/kbr.5.3.354
- Butterfield SP. Challenging American conceptions of race and ethnicity: Second generation West Indian Immigrants. *The International Journal of Sociology and Social Policy*. 2004; 24:75–102. DOI: 10.1108/01443330410791028
- Caetano, R., Clark, CL. Acculturation, alcohol consumption, smoking, and drug use among Hispanics. In: Chun, KM, Organista, PB., Marín, G., editors. *Acculturation: Advances in theory, measurement, and applied research*. Washington, DC: American Psychological Association; 2003. p. 223–239.
- Caetano R, Clark CL, Tam T. Alcohol consumption among racial/ethnic minorities: Theory and research. *Alcohol Health & Research World*. 1998; 22:233–241. [PubMed: 15706749]
- Cano MA, de Dios MA, Castro Y, Vaughan EL, Castillo LG, Lorenzo-Blanco EI, Molleda LM. Alcohol use severity and depressive symptoms among late adolescent Hispanics: testing associations of acculturation and enculturation in bicultural transaction model. *Addictive Behaviors*. 2015; 49:78–82. DOI: 10.1016/j.addbeh.2015.06.002 [PubMed: 26092776]
- Center for Behavioral Health Statistics and Quality. 2014 National Survey on Drug Use and Health: Detailed Tables. Substance Abuse and Mental Health Services Administration; Rockville, MD: 2015.
- Cerbone FG, Larison CL. A bibliographic essay: the relationship between stress and substance use. *Substance Use & Misuse*. 2000; 35:757–786. DOI: 10.3109/10826080009148420 [PubMed: 10807155]

- Centers for Disease Control and Prevention. Health disparities experienced by Black or African Americans—United States. *MMWR*. 2005; 54(1):1–3.
- Cheng H, Mallinckrodt B. Racial/ethnic discrimination, posttraumatic stress symptoms, and alcohol problems in a longitudinal study of Hispanic/Latino college students. *Journal of Counseling Psychology*. 2015; 62(1):38–49. DOI: 10.1037/cou0000052 [PubMed: 25602606]
- Clark R, Anderson NB, Clark VR, Williams DR. Racism as a stressor for African Americans. A biopsychosocial model. *American Psychologist*. 1999; 54(10):805–816. [PubMed: 10540593]
- Cohen S, Kamarack T, Mermelstein R. A global measures of perceived stress. *Journal of Health and Social Behavior*. 1983; 24(4):385–396. [PubMed: 6668417]
- Conley TB, O’Hare T. Factorial Validity of the Alcohol Use Disorders Identification Test: Drunk Drivers versus College Students. *Journal of Social Work Practice in the Addictions*. 2006; 6(3):25–36. DOI: 10.1300/J160v06n03_04
- Cooper ML, Russell M, Skinner JB, Windle M. Development and validation of a three-dimensional measure of drinking motives. *Psychological Assessment*. 1992; 4(2):123–132. DOI: 10.1037/1040-3590.4.2.123
- Crockett LJ, Iturbide MI, Torres Stone RA, McGinley M, Raffaelli M. Acculturative stress, social support, and coping: Relations to psychological adjustment among Mexican American college students. *Cultural Diversity and Ethnic Minority Psychology*. 2007; 13:347–355. DOI: 10.1037/1099-9809.13.4.347 [PubMed: 17967103]
- Damphousse KR, Kaplan HB. Intervening processes between adolescent drug use and psychological distress: an examination of the self-medication hypothesis. *Social Behavior & Personality*. 1998; 26:115–130.
- D’Augelli AR, Hershberger SL. African American undergraduates on a predominantly white campus: Academic factors, social networks, and campus climate. *Journal of Negro Education*. 1993; 62:67–81. DOI: 10.2307/2295400
- Deaux, K. *To be an immigrant*. New York, NY: Russell Sage Foundation; 2006.
- Fisher BJ, Hartmann DJ. The Impact of Race on the Social Experience of College Students at a Predominantly White University. *Journal of Black Studies*. 1995; 26(2):117–133.
- Gerrard M, Stock ML, Roberts ME, Gibbons FX, O’Hara RE, Weng C-Y, Wills TA. Coping with racial discrimination: The role of substance use. *Psychology of Addictive Behaviors*. 2012; 26(3):550–560. DOI: 10.1037/a0027711 [PubMed: 22545585]
- Gil AG, Wagner EF, Vega WA. Acculturation, familism, and alcohol use among Latino adolescent males: longitudinal relations. *Journal of Community Psychology*. 2000; 28(4):443–458. DOI: 10.1002/1520-6629(200007)28:4<443::AID-JCOP6>3.0.CO;2-A
- Gilbert PA, Zemore SE. Discrimination and drinking: A systematic review of the evidence. *Social Science & Medicine*. 2016; 161:178–194. DOI: 10.1016/j.socscimed.2016.06.009 [PubMed: 27315370]
- Goldbach JT, Berger Cordoso J, Cervantes RC, Duan L. The relation between stress and alcohol use among Hispanic adolescents. *Psychology of Addictive Behaviors*. 2015; 29(4):960–968. DOI: 10.1037/adb0000133 [PubMed: 26551265]
- Gosling SD, Vazire S, Srivastava S, John OP. Should we trust web-based studies? A comparative analysis of six preconception about Internet questionnaires. *American Psychologist*. 2004; 59(2):93–104. <http://dx.doi.org/10.1037/0003-066X.59.2.93>. [PubMed: 14992636]
- Guilamo-Ramos V, Jaccard J, Johansson M, Turrissi R. Binge drinking among Latino Youth: Role of Acculturation Related Variables. *Psychology of Addictive Behaviors*. 2004; 18(2):135–142. DOI: 10.1037/0893-164X.18.2.135 [PubMed: 15238055]
- Ham LS, Hope DA. College students and problematic drinking: A review of the literature. *Clinical Psychology Review*. 2003; 23:719–759. DOI: 10.1016/S0272-7358(03)00071-0 [PubMed: 12971907]
- Harrell JP, Hall S, Taliaferro J. Physiological responses to racism and discrimination: An assessment of the evidence. *Racial/Ethnic Bias and Health*. 2003; 93(2):243–248. DOI: 10.2105/AJPH.93.2.243
- Harrell SP. A multidimensional conceptualization of racism-related stress: Implications for the well-being of people of color. *American Journal of Orthopsychiatry*. 2000; 70(1):42–57. DOI: 10.1037/h0087722 [PubMed: 10702849]

- Hays PA. Addressing the complexities of culture and gender in counseling. *Journal of Counseling and Development*. 1996; 74:332–338.
- Hoffmann JP, Cerbone FG, Su S. A growth curve analysis of stress and adolescent drug use. *Substance Use & Misuse Special Issue: Stress & substance use*. 2000; 35(5):687–716. DOI: 10.3109/10826080009148417
- Hoggard LS, Byrd CM, Sellers RM. Comparison of African American college students' coping with racially and nonracially stressful events. *Cultural Diversity and Ethnic Minority Psychology*. 2012; 18(4):329–339. DOI: 10.1037/a0029437 [PubMed: 22866688]
- Horton EG. Racial differences in the effects of age of onset on alcohol consumption and development of alcohol-related problems among males from mid-adolescence to young adulthood. *Journal of Ethnicity in Substance Abuse*. 2007; 6(1):1–13. DOI: 10.1300/J233v06n01_01
- Johnston, LD., O'Malley, PM., Bachman, JG., Schulenberg, JE., Miech, RA. Monitoring the Future national survey results on drug use, 1975–2014: Volume 2, College students and adults ages 19–55. Ann Arbor: Institute for Social Research, The University of Michigan; 2015.
- Joiner TE, Walker RL. Construct validity of a measure of acculturative stress in African Americans. *Psychological Assessment*. 2002; 14(4):462–466. DOI: 10.1037//1040-3590.14.4.462 [PubMed: 12501571]
- Jones-Webb R. Drinking patterns and problems among African Americans: Recent findings. *Alcohol Health & Research World*. 1998; 22(4):260–264. [PubMed: 15706752]
- Joseph N, Watson NN, Wang Z, Case AD, Hunter CD. Rules of engagement: Predictors of Black Caribbean immigrants' engagement with African American culture. *Cultural Diversity and Ethnic Minority Psychology*. 2013; 19:414–423. DOI: 10.1037/a0032659 [PubMed: 23914747]
- Kessler RC, Mickelson KD, Williams DR. The prevalence, distribution, and mental health correlates of perceived discrimination in the United States. *Journal of Health and Social Behavior*. 1999; 40:208–230. DOI: 10.2307/2676349 [PubMed: 10513145]
- Keyes KM, Hatzenbuehler ML, Hasin DS. Stressful life experiences, alcohol consumption, and alcohol use disorders: The epidemiologic evidence for four main types of stressors. *Psychopharmacology*. 2011; 218:1–17. DOI: 10.1007/s00213-011-2236-1 [PubMed: 21373787]
- Klonoff EA, Landrine H. Acculturation and alcohol use among Blacks: The benefits of remaining culturally traditional. *Western Journal of Black Studies*. 1999; 23(4):211–216.
- Kokotailo P, Egan J, Gangnon R, Brown D, Mundt M, Fleming M. Validity of the Alcohol Use Disorders Identification Test in College Students. *Alcoholism: Clinical and Experimental Research*. 2004; 28(6):914–920. DOI: 10.1097/01.ALC.0000128239.87611.F5
- Kulis S, Marsiglia FF, Nieri T. Perceived ethnic discrimination versus acculturative stress: Influences on Substance Use among Latino Youth in the Southwest. *Journal of Health and Social Behavior*. 2009; 50:443–459. DOI: 10.1177/002214650905000405 [PubMed: 20099450]
- Lazarus RS, Folkman S. Transactional theory and research on emotions and coping. *European Journal of Personality*. 1987; 1:141–169.
- Liu WM, Iwamoto DK. Conformity to masculine norms, Asian values, coping strategies, peer group influences and substance use among Asian American men. *Psychology of Men & Masculinity*. 2007; 8:25–39. <http://dx.doi.org/10.1037/1524-9220.8.1.25>.
- Lo CC, Globetti G. A partial analysis of the campus influence on drinking behavior: Students who enter college as nondrinkers. *Journal of Drug Issues*. 1993; 23(4):715–725. DOI: 10.1177/002204269302300410
- Lotfipour S, Cisneros V, Ogbu UC, McCoy E, Barrios C, Anderson C, Hoonpongsimanont W, Alix K, Chakravarthy B. A retrospective analysis of ethnic and gender differences in alcohol consumption among emergency department patients: A cross-sectional study. *BMC Emergency Medicine*. 2015; 15(24):1–10. DOI: 10.1186/s12873-015-0050-5 [PubMed: 25644685]
- Martin JL, Groth G, Buckner L, Gale MM, Kramer ME. Perceived drinking norms among black college students: The race of reference group members. *Addictive Behaviors*. 2013; 38(10):2586–2588. DOI: 10.1016/j.addbeh.2013.06.003 [PubMed: 23816472]
- Mays VM, Cochran SD, Barnes NW. Race, race-based discrimination, and health outcomes Among African Americans. *Annual Review of Psychology*. 2007; 58:201–225. DOI: 10.1146/annurev.psych.57.102904.190212

- Mena FJ, Padilla AM, Maldonado M. Acculturative stress and specific coping strategies among immigrant and later generation college students. *Hispanic Journal of Behavioral Sciences*. 1987; 9(2):207–225. DOI: 10.1177/07399863870092006
- Meyer IH. Minority stress and mental health in gay men. *Journal of Health and Social Behavior*. 1995; 36:38–56. [PubMed: 7738327]
- Meyer IH, Schwartz S, Frost DM. Social patterning of stress and coping: Does disadvantaged social statuses confer more stress and fewer coping resources? *Social Science & Medicine*. 2008; 67:368–379. DOI: 10.1016/j.socscimed.2008.03.012 [PubMed: 18433961]
- Mulia N, Ye Y, Zemore S, Greenfield TK. Social disadvantage, stress, and alcohol use among Black, Hispanic, and White Americans: Findings from the 2005 U.S. national alcohol survey. *Journal of Studies on Alcohol and Drugs*. 2008; 69(6):824–833. doi: <http://dx.doi.org/10.15288/jsad.2008.69.824>. [PubMed: 18925340]
- Mulia N, Zemore SE. Social adversity, stress, and alcohol problems: Are racial/ethnic minorities and the poor more vulnerable? *Journal of Studies on Alcohol and Drugs*. 2012; 73(4):570–580. DOI: 10.15288/jsad.2012.73.570 [PubMed: 22630795]
- Naimi TS, Brewer RD, Mokdad A, Denny C, Serdula MK, Marks JS. Binge drinking among US adults. *The Journal of the American Medical Association*. 2003; 289(1):70–75. DOI: 10.1001/jama.289.1.70 [PubMed: 12503979]
- Negga F, Applewhite S, Livingston I. African American college students and stress: School racial composition, self-esteem, and social support. *College Student Journal*. 2007; 41(4):823–830.
- Obasi EM, Leong FTL. Psychological distress, acculturation, and mental healthseeking attitudes among people of African descent in the United States: A preliminary investigation. *Journal of Counseling Psychology*. 2009; 56(2):227–238. DOI: 10.1037/a0014865
- O'Hara RE, Armeli S, Scott DM, Covault J, Tennen H. Perceived racial discrimination and negative-mood-related drinking among African American college students. *Journal of Studies on Alcohol and Drugs*. 2015; 76(2):229–236. DOI: 10.15288/jsad.2015.76.229 [PubMed: 25785798]
- Park J, Anastas J, Shibusawa T, Nguyen D. The impact of acculturation and acculturative stress on alcohol use across Asian immigrant subgroups. *Substance & Misuse*. 2014; 49(8):922–931. DOI: 10.3109/10826084.2013.855232
- Perez M, Voelz ZR, Pettit JW, Joiner T. The role of acculturative stress and body dissatisfaction in predicting bulimic symptomatology across ethnic groups. *International Journal of Eating Disorders*. 2002; 31:442–452. DOI: 10.1002/eat.10006 [PubMed: 11948649]
- Pew Research Center. *US Population Projections: 2005–2050*. Washington, DC: J.S. Passel & D. Cohn; 2008.
- Pieterse AL, Todd NR, Neville HA, Carter RT. Perceived racism and mental health among Black American adults: A meta-analytic review. *Journal of Counseling Psychology*. 2012; 59(1):1–9. DOI: 10.1037/a0026208 [PubMed: 22059427]
- Sanchez D. Racial and ego identity development in Black Caribbean college students. *Journal of Diversity in Higher Education*. 2013; 6(2):115–126. <http://dx.doi.org/10.1037/a0031684>.
- Savage JE, Mezuk B. Psychosocial and contextual determinants of alcohol and drug use disorders in the National Latino and Asian American Study. *Drug and Alcohol Dependence*. 2014; 139:71–78. DOI: 10.1016/j.drugalcdep.2014.03.011 [PubMed: 24742864]
- Shields AL, Guttmanova K, Caruso JC. An Examination of the Factor Structure of the Alcohol Use Disorders Identification Test in Two High-Risk Samples. *Substance Use & Misuse*. 2004; 39(7): 1161–1182. DOI: 10.1081/JA-120038034 [PubMed: 15387208]
- Sidanius, J., Veniegas, RC. Gender and race discrimination: The interactive nature of disadvantage. In: Oskamp, S., editor. *Reducing prejudice and discrimination: The Claremont symposium on applied social psychology*. Mahwah, NJ: Erlbaum; 2000. p. 47–69.
- Siebert DC, Wilke DJ, Delva J, Smith MP, Howell RL. Differences in African American and White College Students' drinking behaviors: Consequences, harm reduction strategies, and health information sources. *Journal of American College Health*. 2003; 52:123–129. DOI: 10.1080/07448480309595734 [PubMed: 14992297]
- Substance Abuse and Mental Health Services Administration (SAMHSA). *National Survey on Drug Use and Health (NSDUH)*. Table 6.88B—Alcohol use in the past month among persons aged 18 to

22, by college enrollment status and demographic characteristics: Percentages, 2013 and 2014. 2014. Available at: <http://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs2014/NSDUH-DetTabs2014.htm#tab6-88b>

- Substance Abuse and Mental Health Services Administration (SAMHSA). Results from the 2011 National Survey on Drug Use and Health: Summary of National Findings. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2012. NSDUH Series H-44, HHS Publication No. (SMA) 12-4713
- Thoits PA. Stress, coping, and social support processes: Where are we? What next. *Journal of Health and Social Behavior*. 1995; 35:53–79. extra issue.
- Thompson KV, Lightfoot NL, Castillo LG, Hurst ML. Influence of family perceptions of acting white on acculturative stress in African American college students. *International Journal for the Advancement of Counselling*. 2010; 32:144–152. DOI: 10.1007/s10447-010-9095-z
- Torres Stone RA, Meyler D. Identifying potential risk and protective factors among non-metropolitan Latino youth: Cultural implications for substance use research. *Journal of Immigrant Health*. 2007; 9:95–107. DOI: 10.1007/s10903-006-9019-5
- Utsey SO. Development and validation of short form of the Index of Race-Related Stress (IRRS) - Brief version. *Measurement and Evaluation in Counseling and Development*. 1999; 32:149–167.
- Utsey SO, Ponterotto JG. Development and validation of the Index of Race-Related Stress (IRRS). *Journal of Counseling Psychology*. 1996; 43(4):490–501.
- U.S. Census Bureau. 2010 Census Demographic Profile Summary File— Technical Documentation prepared by the US Census Bureau. 2011
- Waters, M. *Black identities: West Indian immigrant dreams and American realities*. Cambridge, MA: Harvard University Press; 1999.
- Wechsler H, Dowdall GW, Davenport A, Castillo S. Correlates of college student binge drinking. *American Journal of Public Health*. 1995; 85(7):921–926. [PubMed: 7604914]
- Weitzman ER, Nelson TF, Wechsler H. Taking up binge drinking in college: The influence of person, social group, and environment. *Journal of Adolescent Health*. 2003; 32(1):26–35. DOI: 10.1016/S1054-139X(02)00457-3 [PubMed: 12507798]
- White HR, McMorris BJ, Catalano RF, Fleming CB, Haggerty KP, Abbott RF. Increases in alcohol and marijuana use during the transition out of high school into emerging adulthood: The effect of leaving home, going to college, and high school protective factors. *Journal of Studies on Alcohol*. 2006; 67:810–822. DOI: 10.15288/jsa.2006.67.810 [PubMed: 17060997]
- Wu ZH, Temple JR, Shokar NK, Nguyen-Oghalai TU, Grady JJ. Differential Racial/Ethnic patterns in substance use initiation among young, low-income women. *American Journal of Drug and Alcohol Abuse*. 2010; 36:123–129. DOI: 10.3109/00952991003718072 [PubMed: 20337510]

Table 1

Descriptive Statistics of the Participants

Demographic Characteristics	
Age (mean, SD)	19.83, 1.54
Female (<i>n</i> , %)	93, 63
<i>Race (n, %)</i>	
African American	118, 80
Biracial*	25, 17
Missing	3, 2
<i>Institutional Affiliation (n, %)</i>	
PWIs	130, 88
HBCUs	17, 12
<i>High Risk Drinking Behavior (mean)</i>	
Full Sample	5.31
Men	6.38
Women	4.62
PWIs	5.59
HBCUs	3.18

Note. *N* = 148

* Participants who identified racially as “biracial” with an ethnic identity within the African Diaspora (including Afro-Caribbean and Afro-Latino) (e.g., Nigerian, Cameroonian, Ghanaian, and Trinidadian) were included in the analyses. PWIs: Predominately White Institutions; HBCUs: Historically Black Colleges and Universities.

Table 2
Spearman's ρ Correlations, scale reliabilities, and sample means for Study Variables

	1	2	3	4	5	6	α	<i>M</i>	<i>SD</i>
1. PSS	–						0.83	19.60	6.35
2. SAFE	.38**	–					0.93	41.32	19.18
3. IRRS_Cu	.25**	.47**	–				0.88	22.57	10.50
4. IRRS_Ind	.30**	.52**	.62**	–			0.82	9.49	6.56
5. IRRS_Ins	.17*	.54**	.34**	.57**	–		0.75	4.10	5.17
6. AUDIT	.15	.27**	.17*	.17*	.14	–	0.88	5.31	6.08

* *Note.* Correlation is significant at $p < 0.05$ (2-tailed)

** Correlation is significant at $p < 0.01$ (2-tailed). The Perceived Stress Scale (PSS) measured general life stressors; the Social, Familial, Attitudinal, and Environmental Acculturative Stress (SAFE) measured acculturative stress; cultural race related stress (IRRS_Cu), individual race related stress (IRRS_Ind), and institutional race related stress (IRRS_Ins) were measured by subscales of the Index of Race Related Stress-Brief form; and high risk drinking behavior was measured by the Alcohol Use Disorders Identification Test (AUDIT).

Table 3 Hierarchical Multiple Regression Predicting High-Risk Drinking Behavior from General Life Stress, Race Related Stresses, and Acculturative Stress.

Variable	Model 1		Model 2		Model 3		Model 4	
	B	β	B	β	B	β	B	β
Constant	.020		-1.57		-3.01		-2.25	
Gender	1.60	.129	1.67	.135	1.36	.110	.666	.052
School Type	1.55	.085	.987	.054	1.38	.076	.967	.053
General Life Stress			.131	.140	.070	.075	.022	.027
Cultural Race Related Stress					.057	.100	.030	.055
Individual Race Related Stress					.112	.106	.057	.046
Institutional Race Related Stress					.040	.034	-.045	-.039
Acculturative Stress							.077*	.250*
R^2		.030		.049		.087		.117*
F		2.15		2.36		2.13*		2.56**
R^2		.030		.019		.038		.031
F		2.15		2.72		1.86		4.69*

Note. $N = 148$.

* $p < .05$

** $p < .01$; B = unstandardized regression coefficient; β = standardized coefficient.