

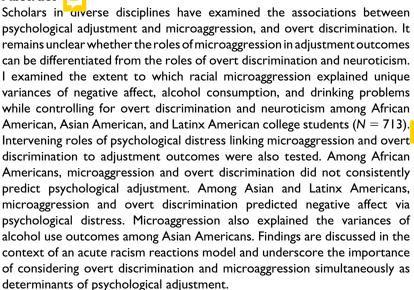
Racial Microaggresson, Overt Discrimination, and Distress: (In)Direct Associations With Psychological Adjustment Ψ

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Abstract



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 Ψ The Division 17 logo denotes that this article is designated as a CE article. To purchase the CE Test, please visit www.apa.org/ed/ce.

Keywords 🔚

intergroup comact, subtle discrimination, racism, unfair treatment, mental health

Significance of the Scholarship to the Public



Racism can negatively affect minority individuals' psychological adjustment through heightened stress reactions. Racial minorities of Asian, African/Black, and Hispanic/Latinx backgrounds who experience overt discrimination are also likely to experience microaggressions, but these two forms of racism are uniquely associated with psychological adjustment by way of distress among Asian and Latinx Americans. Results show that these associations are not fully explained by individual differences in neuroticism.

Racism reflects the belief that individuals are inferior because of their group membership and can manifest in racial prejudice and biased stereotypes; interpersonal racism also can manifest in violent attacks, exclusion, harassment, everyday discrimination, and subtle nonverbal insults (Bryant-Davis & Ocampo, 2005). Racism can negatively impact receivers' mental and physical health (Paradies et al., 2015). A growing body of research has focused on subtle forms of racism, namely racial microaggression. Microaggression incidents are characterized as subtle, automatic, innocuous, and offensive remarks against racial minority groups (Pierce, Carew, Pierce-Gonzalez, & Wills, 1977). These microaggression experiences have been linked to mental anguish, poor self-esteem, and costs to academic success among minority college students (McCabe, 2009; Nadal, Wong, Griffin, Davidoff, & Sriken, 2014). Universities have begun offering—and in some cases mandating—microaggression training on campus (Association of American Colleges & Universities, 2016), and scholars have argued that microaggression complaints can be understood as elements of a "victimhood culture" (Campbell & Manning, 2018). Existing research on racial microaggression has been questioned for its empirical reality: There is limited quantitative differentiation between microaggression and everyday overt discrimination, and little research has considered the possible confounding roles of trait emotionality (e.g., neuroticism) in the relations between microaggression and psychological adjustment (Lilienfeld, 2017a). As shown in a recent research synthesis, few researchers have examined the associations between microaggression and psychological adjustment as distinct from the influences of overt discrimination and trait



emotionality, nor have they tested indirect pathways that link microaggression to adjustment outcomes (Lui & Quezada, 2019). Systematic investigations that help clarify the distinct direct and indirect relations between microaggression and psychological adjustment—independent of overt discrimination and individual differences in emotionality—can shed light on proximal and malleable factors to be targeted in clinical applications (Comas-Diaz, 2016) and advocacy training. Findings also can provide guidance on how colleges may support racial minority students on campus. Thus, I designed this study to test the associations between microaggression and psychological adjustment as distinct from overt discrimination and neuroticism, and whether experiences with racism were associated with adjustment outcomes via psychological distress among racial minority students.

Psychological Adjustment Among Racial Minority College Students

Seventy percent of individuals attend college upon high school completion (National Center for Education Statistics, n.d.). Many of these individuals face developmental and social challenges associated with making a successful college transition. For minority students, higher education can bring added burden associated with racism and hostile campus climate as individuals make the transition to college (Locks, Hurtado, Bowman, & Oseguera, 2008). Research has document that racial minorities persistently experience these racially based disadvantages at disproportionately higher rates than their White counterparts (Dressler, Oths, & Gravlee, 2005; Pieterse & Powell, 2016; Satcher, 2001; Williams & Mohammed, 2009). There continues to be a need for research focused on racism-related factors and the underlying process that give rise to poor psychological adjustment outcomes (Gilman et al., 2008; González, Tarraf, Whitfield, & Vega, 2010; Riolo, Nguyen, Greden, & King, 2005; Watkins, Assari, & Johnson-Lawrence, 2015).

Microaggression and Overt Discrimination as Predictors of Psychological Adjustment

Racism toward racial minorities often is manifested in overt discrimination (e.g. physical violence and unfair treatment), negative representation of individuals by their stereotyped group characteristics, and unjust organizational or systemic policies, (Pierce, 1969; Pierce et al., 1977). Many studies on racism have focused on more overt forms of racism such as attacks and insults (Gee, Ro, Shariff-Marco, & Chae, 2009; Karlsen & Nazroo, 2002),

and an increasing number of studies have also recently examined racial microaggression as a subtler form of racism that nevertheless insults racial minorities and/or invalidates their lived experiences (Sue, Capodilupo, et al., 2007; Wong, Derthick, David, Saw, & Okazaki, 2014). Racial discrimination is positively correlated with poor psychological adjustment such as distress, depression, anxiety, and hazardous alcohol and drug use (Gilbert & Zemore, 2016; Lee & Ahn, 2011, 2012, 2013; Triana, Jayasinghe, & Pieper, 2015; Williams & Mohammed, 2009). Racial microaggression also is positively linked to greater perceived stress and depression symptoms, and lower levels of well-being and self-esteem (Kim, Kendall, & Cheon, 2017; Nadal et al., 2014; Torres, Driscoll, & Burrow, 2010). These two nonintersecting bodies of literature have limited scientific advancement in a comprehensive understanding of the negative impact of racism on psychological adjustment. In the extant literature, there are mixed findings regarding the empirical distinctiveness of microaggression and overt discrimination. Furthermore, progress in clarifying the impact of racism on psychological adjustment is hindered by neglecting to consider individual differences in neuroticism as a possible confound and by the failure to test stress processes that underlie these associations.

Conceptual Differentiation Between Microaggression and Overt Discrimination

The surge of research on microaggression rests on the idea that subtle discrimination experiences are distinct from overt discrimination experiences. As argued in earlier work, microaggression differs from old-fashioned types of overt discrimination in terms of frequency of exposure and the experiences associated with catch-22 and psychological burden (cf. Pierce et al., 1977; Sue, Capodilupo, et al., 2007). Unlike overt discrimination that stems from explicit and intentional prejudice, microaggression incidents facing racial minorities likely stem from automatic and unintentional racism. According to Sue's taxonomy (2007), racial microaggression incidents can be categorized into microinsults, microinvalidations, and microassaults that occur in personal interactions and the environment. Microinsults and microinvalidations in particular can be considered backhanded compliments that nonetheless put down racial minority individuals. Because of the frequent and ambiguous nature of microaggression incidents, they have been theorized to elicit daily hassles and stress reactions: insults and invalidations could cause demoralization and strain people's psychological resources (Sanchez-Hucles, 1999; Sue, Capodilupo, et al., 2007). Conceptually, then, microaggression incidents are distinct from overt discrimination events: The

former tend to be ambiguous in nature, and thereby may require people to frequently and repeatedly make sense of these racism-related experiences.

Despite these conceptual differentiations, currently there is little empirical support for the unique relations between racial microaggression and psychological adjustment as distinct from overt racial discrimination. For example, an investigation with Asian Americans (Yoo, Steger, & Lee, 2010) indicated that frequencies of exposure to subtle racism were highly correlated with frequencies of exposure to blatant racism (r = .76), and subtle racism did not predict self-rated depression, anxiety, and stress once overt discrimination variables were included in the regression model. Similarly, a study with African/Black American women (Donovan, Galban, Grace, Bennett, & Felicié, 2013) showed a robust correlation between frequencies of selfreported microaggression and overt discrimination (r = .49); whereas both racism variables were associated with depression, microaggression did not predict anxiety above and beyond overt discrimination. In fact, two large meta-analyses correlating various adjustment outcomes with microaggression (rs ranged from .09 to .24) and with discrimination (rs ranged from .11 to .18) showed similar effect sizes (Lui & Quezada, 2019; Pascoe & Smart Richman, 2009). Scientific findings to date call into question whether microaggression is associated with psychological adjustment in a manner that is distinct from overt discrimination. To advance this area of research, studies must better differentiate microaggression and overt discrimination empirically. In terms of practical applications, identifying empirical distinctions of microaggression and overt discrimination can inform more domain-specific counseling and university support efforts. Theoretically, this differentiation paves the way for illuminating pathways that underlie the associations between psychological adjustment and various manifestations of racism, and for identifying the conditions under which stress appraisal and coping resources influence these associations (Alvarez, Liang, Molenaar, & Nguyen, 2016).

Possible Confounding Influence of Trait Neuroticism

One critical threat to the empirical validity of the associations between racism-related experiences and minorities' psychological adjustment is the possibly confounding roles of personality characteristics (Lilienfeld, 2017a, 2017b). Among minority college students, despite robust associations between comfort with intergroup contact and depression, anxiety, and life satisfaction, individual differences in trait neuroticism remain the strongest correlate of psychological adjustment (Lui, Vidales, & Rollock, 2018). Trait neuroticism might function as an extraneous factor that explains the relations between subjective appraisals of racism events and psychological adjustment. Individuals with greater neuroticism

(i.e., stress vulnerability and reactivity, and negative emotionality) may be more likely to interpret intergroup contact as racist, experience microaggression incidents as distressing, ruminate over their experiences, and/or report greater adjustment problems (Brondolo, Ng, Pierre, & Lane, 2016). For example, research indicates that higher levels of neuroticism—including anger repression and hostility—may predispose individuals to be more aware of and reactive toward ambiguous interracial interactions, and in turn experience greater psychological distress and adjustment problems (Hunte, King, Hicken, Lee, & Lewis, 2013; Lilienfeld, 2017a). To validate the associations between racism-related experiences and psychological adjustment, research must systematically account for the confounding roles of neuroticism (cf. Weger & Sandi, 2018).

Acute Racism Reactions Process

Given that exposure to racism is one sociocultural factor that can explain racial disparities in health outcomes, researchers have developed a number of theories that contextualize the associations between racism experiences and psychological adjustment (Williams & Mohammed, 2009, 2013). A broad conceptual framework postulates that perceived interpersonal racism affects mental health outcomes by way of heightened stress responses (Pascoe & Smart Richman, 2009), yet most studies have not explicitly examined how individuals feel and make sense of their experiences with racism (Pieterse & Powell, 2016). Stress demarks psychological and physiological processes that take place in person–environment interactions when demands exceed individuals' psychological resources (Dressler et al., 2005; Monroe, 2008).

Consistent with the general conceptual framework for discrimination (Pascoe & Smart Richman, 2009) and according to the acute racism reactions model (Pieterse & Powell, 2016), individuals' responses to racist events may include subjective feelings of distress, stress, fatigue, psychological exhaustion, and increased somatic reactions. To establish a stress process that underlies the relations between psychological adjustment and microaggression, and overt discrimination, research should examine the possible intervening role of psychological distress. As noted by Williams and Mohammed (2009), research risks underestimating the deleterious impact of racial discrimination on health outcomes without a proper understanding of a stress process.

Group Differences in Racism Experiences

How microaggression and overt discrimination predict racial minority individuals' psychological adjustment likely depends on group variations in interracial relations and historical context in the United States. African Americans have been the most frequent targets of hate crimes, followed by Latinx Americans,

American Indians, and then Asian Americans (Federal Bureau of Investigation, 2016). On the one hand, African American students reported more negative racial experiences than their Asian and Latinx American counterparts at the same institution (Reid & Radhakrishnan, 2003). On the other hand, racial discrimination was more strongly correlated with depression and other negative mental health outcomes among Asian and Latinx Americans than among African Americans (Paradies et al., 2015). These paradoxical findings suggest that despite mean variations, there may be meaningful group differences in the extent to which microaggression and overt discrimination impact psychological adjustment. These patterns warrant contextualized examinations of racial and/or ethnic group-specific experiences.

The Present Study

The goals of this study were threefold: (a) differentiate the associations between psychological adjustment and racial microaggression, and overt discrimination, (b) characterize relations between racism-related experiences and adjustment outcomes that are unique from the influences of trait neuroticism, and (c) examine an indirect pathway that underlies the associations between racism and psychological adjustment. Internalizing symptoms associated with depression and anxiety, as well as externalizing symptoms associated with hazardous alcohol use constitute the most common mental health concerns for which college-attending young adults seek counseling services (Center for Collegiate Mental Health, 2017). Thus, I examined negative affect and alcohol use outcomes in this study. Trait neuroticism was included as a covariate in all analyses, and distress was tested as a more proximal psychological factor that links microaggression and overt discrimination to these adjustment outcomes. Figure 1 depicts the hypothesized indirect relations. I expected that there would be different levels of microaggression and overt discrimination, and relations between racism and psychological adjustment among African, Asian, and Latinx Americans. Additionally, based on prior research and the acute racism reactions model, I hypothesized that:

- H1: Self-reported experiences with microaggression would be correlated with experiences of overt discrimination;
- H2: Microaggression would be statistically differentiated from overt discrimination;
- H3: Microaggression would be associated with adjustment outcomes as distinct from overt discrimination and trait neuroticism; and,
- H4: Microaggression and overt discrimination would independently predict negative affect, alcohol consumption, and drinking problems via psychological distress.

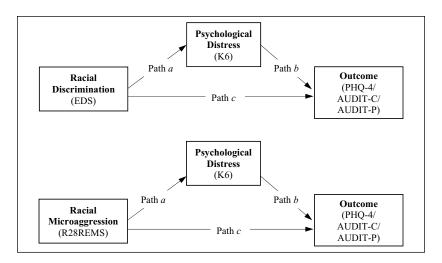


Figure 1. Conceptual diagram depicting indirect regression paths linking racial discrimination (top) and racial microaggression (bottom) to psychological maladjustments via psychological distress. Path c' (not shown) indicates the indirect effect predicting outcome by racial discrimination or racial microaggression via psychological distress.

Method

Participants and Procedures

Participants in the study were racial and/or ethnic minority students (N=713, 50.9% women, 0.4% transgender or nonbinary individuals, $M_{\rm age}=22.72$ years, $SD_{\rm age}=4.76$ years, age range = 18–53 years) at a midsize, predominantly White university in the Southwest. There were 398 Asian Americans (42.0% women, $M_{\rm age}=22.69$ years, $SD_{\rm age}=3.69$ years; 55.5% first-generation immigrants), 133 African Americans (64.7% women, $M_{\rm age}=22.42$ years, $SD_{\rm age}=5.34$ years; 6.8% first-generation immigrants), and 182 Latinx Americans (60.4% women; $M_{\rm age}=23.02$ years, $SD_{\rm age}=6.24$ years; 24.2% first-generation immigrants). According to a 2014 Pew Research Center, this sample's distributions of foreign-born, immigrant individuals across racial groups were similar to demographics of the U.S. population (Brown, 2014). With approval from the University's Institutional Review Board and assistance from the Office of the Registrar, students who identified as African, Asian, or Latinx Americans were recruited via mass emails. Informed consent and data collection took place on Qualtrics, a secure online survey-hosting website. Participants completed a demographic survey and the following

self-report measures, and received cash compensation. Data collection was anonymous and voluntary; the study took less than 60 min.

Measures

Everyday Discrimination Scale (EDS). The EDS (Williams, Yu, Jackson, & Anderson, 1997) is a 10-item scale that measures respondents' experiences with overt racial discrimination experienced in everyday life over the past six months. A sample item is "you are treated with less courtesy than other people are because of your race or ancestry." Except for one, all nine items in the EDS had been found to be invament across African, Asian, and Latinx American groups in a previous study (Kim, Sellbom, & Ford, 2014); thus, this reduced 9-item EDS was used in this study. To the extent that both frequency and stressfulness of discrimination matter to psychological distress (Huynh, Devos, & Dunbar, 2012), participants rated their exposure on a four-point Likert-type scale to each racist incident on both a frequency and a stressfulness scale from 1 (never or not at all) to 4 (often/ frequently or high level). Frequency and stressfulness scores were multiplied to compute an intensity score for each item. In cases that respondents indicated no exposure to the respective racist event, the stressfulness score was coded as zero to differentiate people who did not experience overt discrimination from people who were exposed to the racist event infrequently but reported no subjective stress. Greater EDS mean scores indicated more intense experiences with overt racial discrimination; the present data demonstrated excellent internal consistency reliability (Cronbach's $\alpha = .90$).

Revised 28-item Racial and Ethnic Microaggressions Scale (R28REMS). The R28REMS (Forrest-Bank, Jenson, & Trecartin, 2015) is a 28-item measure that assesses people's experiences with subtle racial discrimination over the past six months, in five areas: assumption of inferiority, second-class citizen/assumption of criminality, assumption of similarities, microinvalidations, and media microaggressions. Items include "someone assumed that I would not be educated because of my race" and "someone asked me to teach them words in my 'native language." The R28REMS is a revised and shortened version of the original 45-item REMS (Nadal, 2011). Items in the R28REMS had demonstrated similar factor structure and psychometric properties across African, Asian, and Latinx American groups (Forrest-Bank et al., 2015; Kim et al., 2014). Consistent with the EDS, participants responded to each item in the R28REMS by indicating the degree of frequency on a Likert-type scale from 1 (never) to 4 (often/frequently), and degree of stressfulness on a 1 (not

at all) to 4 (high level) Likert-type scale. An intensity score was computed for each item. Greater mean scale scores indicated more intense experiences with racial microaggression. Internal consistency reliability was adequate for the overall scale (Cronbach's $\alpha = .95$).

Mini–International Personality Item Pool (IPIP) Neuroticism Scale. The Mini-IPIP Neuroticism Scale (Donnellan, Oswald, Baird, & Lucas, 2006) includes four items that measure individual differences in negative emotionality. A sample item is "I have frequent mood swings." Two negatively we reverse coded, and higher mean scale scores indicated higher levels of neuroticism. Cronbach's α (.62) for the present neuroticism scores was consistent with values reported in previous studies (e.g., Baldasaro, Shanahan, & Bauer, 2013; Donnellan et al., 2006). Given that Cronbach's α s are heavily influenced by the number of items in the scale, the observed below-threshold internal consistency reliability indicated by Cronbach's α likely was a consequence of having only four items in the scale. Average inter-item correlations are independent of the number of items in the measure. As indicated by the average inter-item correlation (.28), internal consistency was adequate for the present neuroticism scores (Clark & Watson, 1995).

Kessler Psychological Distress Scale (K6). The K6 (Kessler et al., 2010) is a sixitem scale that assesses subjective, nonspecific distress during the past month. Items include "how often did you feel nervous" and "how often did you feel that everything was an effort?" Higher mean K6 scores indicated greater psychological distress. Internal consistency reliability was adequate in the present sample (Cronbach's $\alpha = .88$).

Patient Health Questionnaire for Depression and Anxiety (PHQ-4). The PHQ-4 (Kroenke, Spitzer, Williams, & Löwe, 2009) is a four-item measure that assesses internalizing symptoms associated with depression and anxiety over the past month. A sample item is "how often have you been bothered by feeling nervous, anxious, or on edge?" Higher mean scale scores indicated higher levels of internalizing symptoms; internal consistency of the current data was adequate (Cronbach's $\alpha = .86$).

Alcohol Use Disorders Identification Test (AUDIT). The AUDIT (Saunders, Aasland, Babor, & de la Fuente, 1993) is a 10-item measure that assesses levels of hazardous alcohol use over the past six months and can be used to screen for respondents' likelihood of alcohol use disorders. Items were rated on a Likert-type scale from 0 (never) to 4 (daily or almost daily). The AUDIT

yields two subscale scores indicating alcohol consumption (e.g., "how many drinks containing alcohol do you have on a typical day when you are drinking") and drinking problems (e.g., "how often have you had a feeling of guilt or remorse after drinking?"). Scores have been shown to be valid and helpful in detecting hazardous drinking behaviors among college students (Campbell & Maisto, 2018; Kokotailo et al., 2004). Higher scale scores indicated greater alcohol consumption or drinking problems; the present data demonstrated adequate internal consistency (Cronbach's $\alpha = .87$ and .77, respectively).

Data Analytic Plan

Data analyses proceeded in four steps. First, comparisons were conducted on mean levels of, and the correlations among, all key variables. Given that racial groups were expected to differ systematically in the levels of and intercorrelations among these variables, separate analyses were planned for each group. Second, bivariate correlations were used to characterize the associations between microaggression and overt discrimination (Hypothesis 1 and 2). Third, hierarchical multiple regressions were conducted to predict psychological distress, negative affect, alcohol consumption, and drinking problems. Testing Hypothesis 3, trait neuroticism and overt discrimination scores were entered at Step 1, and microaggression scores were entered at Step 2. Fourth, I used PROCESS macro Model 4 (Hayes, 2013) to test the indirect relations linking microaggression and overt discrimination, respectively, to negative affect, alcohol consumption, and drinking problems by way of psychological distress (Hypothesis 4). In PROCESS, the observed sampling distribution was empirically derived and path coefficients representing the indirect relations were estimated using bootstrapped confidence intervals in each regression model (see Hayes, 2013 for details).

Results

Data Screening and Descriptive Statistics

There were only three to eight univariate outliers on each of the study variables in the sample. With the exception of overt discrimination with a larger value on kurtosis, the present data met normality assumptions for multiple regression (Tabachnick & Fidell, 2007). There was a relatively small degree of missingness across study variables (ranging from 1% on neuroticism to 10% on overt discrimination), and I found no systematic patterns in this missingness. Listwise deletions were used in all regression analyses.

Variable	Skewness/ Kurtosis	Asian American	African American	Latinx American	F(df)	
Overt Discrimination	1.93/3.64	1.52 (2.52) ^a	4.45 (4.22) ^{a,c}	1.56 (2.46)°	49.03 (2,640)**	
Microaggression	1.56/2.51	1.72 (2.04) ^{a,b}	3.84 (3.08) ^{a,c}	2.34 (2.49)b,c	38.90 (2,701)**	
Neuroticism	0.18/-0.21	2.69 (0.47)	2.60 (0.89)	2.69 (0.86)	0.72 (2,747)	
Psychological Distress	0.69/0.20	2.14 (0.80)	2.10 (0.81)	2.17 (0.78)	0.29 (2,734)	
Negative Affect	1.02/0.58	1.71 (0.70)	1.84 (0.80)	1.81 (0.71)	2.36 (2,736)	
Alcohol Consumption	0.86/0.01	2.35 (2.41) ^b	2.81 (2.49)°	3.47 (2.59) ^{b,c}	13.52 (2,741)**	
Drinking Problems	1.72/2.50	2.42 (3.36)	2.14 (3.24)	2.69 (3.76)	0.86 (2,555)	

Table 1. Means and Standard Deviations of Racial Discrimination, Racial Microaggression, Psychological Distress, Negative Affect, and Alcohol Use Outcomes by Racial Groups

Note. n=362-414 for Asian Americans, n=118-143 for African Americans, and n=161-190 for Latinx Americans. Statistics involving alcohol-related problems include participants who consumed alcohol in the past six months only. Range of scale scores is as follows: Overt discrimination and microaggression = 0-16; neuroticism and psychological distress = 1-5; negative affect = 1-4; alcohol consumption = 0-12; drinking problems = 0-28. Post-hoc pairwise mean comparisons corrected by Fisher's least significant difference test. Statistically significant pairwise comparisons are indicated by superscripts. ^aAsian vs. African Americans. ^bAsian vs. Latinx Americans. ^cAfrican vs Latinx Americans.

Overall, mean levels of negative affect, alcohol consumption, and drinking problems did not indicate clinically significant impairments. As expected, there were statistically significant racial differences on mean scores of most study variables (see Table 1). Post-hoc pairwise comparisons with Fisher's least significant difference corrections showed that African Americans reported greater intensity of overt racial discrimination than both Latinx and Asian Americans. African Americans also reported higher levels of racial microaggression than their Asian and Latinx counterparts. In terms of psychological adjustment outcomes, Latinx Americans indicated higher levels of alcohol consumption than Asian and African Americans.

Although groups did not differ in levels of psychological distress and negative affect, they differed in zero-order correlations between psychological adjustment and racism-related stresses (see Table 2). Consistent with Hypothesis 1, self-reported microaggression and overt discrimination were strongly correlated with each other across all three racial groups (rs range .69–.78). Although this effect size fell in the large range, they shared approximately 50–60% of the variance. These findings lent support for Hypothesis 2 and suggested that microaggression and overt discrimination were not statistically redundant. According to Fisher's z_r transformation analyses, correlations between everyday overt discrimination and psychological distress

^{*}p < .05. **p < .001.

Table 2. Zero-Order Correlations Among Key Study Variables by Racial Groups

	Asian/African/Latinx American										
Variable	ı	2	3	4	5	6	7				
I. Overt discrimination	_										
2. Microaggression	.69* / .81* / .78*	_									
3. Neuroticism	.19* / .17 / .27*	.20* / .17 / .33*	_								
4. Negative affect	.28* / .15 / .36*	.29* / .21* / .26*	.50* / .59* / .62*	_							
5. Psychological distress	.32* / .09 / .42*	.33* / .11 / .35*	.50* / .54* / .64*	.76* / .72* / .81*	_						
6. Alcohol consumption	.08 / .05 /06	.13* / .09 /11	04 / .05 /04	.04 / .12 /08	.10* / .21* /06	_					
7. Drinking problems	.23* /16 / .08	.25* /01 /02	.09 / .24* / .15	.18* / .22* / .17*	.21* / .40* / .15	.42* / .65* / .60*	_				

Note. Correlations between drinking problems and other variables are reported only for participants who reported alcohol consumption in the past six months. n = 355-392, 114–132, and 158–180, for Asian, African, and Latinx Americans respectively. *p < .05.

 $(r_{African}=.09, r_{Asian}=.32, r_{Latinx}=.42)$, and negative affect $(r_{African}=.15, r_{Asian}=.28, r_{Latinx}=.36)$, and between microaggression and psychological distress $(r_{African}=.11, r_{Asian}=.33, r_{Latinx}=.35)$ were smaller among African Americans than Asian and Hispanic Americans. Racial groups did not differ in the correlations between microaggression and negative affect. Among individuals who consumed alcohol in the past six months, racism variables were statistically significantly associated with drinking problems only among Asian Americans (r=.23 for overt discrimination and r=.25 for microaggression) whereas neuroticism was correlated with drinking problems only among African Americans (r=.24). Group variations in means and zero-order correlations were consistent with my expectations and justified the plan to conduct regression analyses for each racial group separately. As shown in these racial variations in the mean levels of experiences with racism and bivariate and multivariate associations between racism-related variables and psychological adjustment, there is a critical need to consider group distinct experiences separately.

Regression Results

Given large bivariate correlations between racial microaggression and overt discrimination, I diagnosed the likelihood of statistical multicollinearity in the planned regression analyses. Evident by conditioning index values < 30 and variance inflation factors < 10, the data did not show multicollinearity and supported the distinctiveness of these variables. Table 3 summarizes hierarchical regression results predicting psychological adjustment outcomes by neuroticism, overt discrimination, and microaggression. Table 4 summarizes regression results testing the direct and indirect relations linking microaggression and overt discrimination to negative affect and alcohol use outcomes via psychological distress. Statistically significant indirect paths were indicated by confidence intervals that did not contain zero.

Asian Americans. Consistent with Hypothesis 3, both microaggression and overt discrimination were positively associated with psychological distress even after accounting for trait neuroticism. Trait neuroticism accounted for most of the variance in negative affect among Asian Americans. More intense microaggression was associated with higher levels of alcohol consumption and drinking problems even when neuroticism and overt discrimination were included in the model (see Table 3). Consistent with Hypothesis 4, microaggression and overt discrimination were associated with higher levels of negative affect, alcohol consumption, and drinking problems via psychological distress even after controlling for neuroticism (see Table 4).

Table 3. Hierarchical Regression Predicting Adjustment Outcomes by Racial Discrimination and Microaggression Across Racial Groups

	Asian American					African A	merican	Latinx American				
	Step I		Step 2		Step I		Step 2		Step I		Step 2	
Variable	B(SE)	β	B(SE)	β	B(SE)	β	B(SE)	β	B(SE)	β	B(SE)	β
					Psycholog	gical Distress						
Neuroticism	.48(.05)	.46**	.46(.05)	.44**	.51(.07)	.56**	.51(.07)	.57**	.50(.05)	.57**	.51(.05)	.58**
Overt Discrimination	.07(.02)	.23**	.04(.02)	.12*	.00(.02)	>00	.01(.03)	.04	.08(.02)	.26**	.09(.03)	.30*
Microaggression			.06(.02)	.15*			01(.04)	05			02(.03)	05
ΔR^2				.01*				>.00				>.00
					Negat	ive Affect						
Neuroticism	.45(.04)	.48**	.44(.04)	.48**	.56(.07)	.61**	.55(.07)	.59**	.47(.05)	.57**	.48(.05)	.60**
Overt Discrimination	.05(.01)	.17**	.03(.02)	.09	.01(.02)	.04	02(.03)	11	.06(.02)	.20*	.10(.03)	.35**
Microaggression			.04(.02)	.12			.05(.03)	.19			06(.03)	19*
ΔR^2				.01				.01				.01*
					Alcohol C	Consumption						
Neuroticism	16(.17)	05	19(.17)	06	.00(.28)	.00	03(.28)	01	02(.25)	01	.03(.26)	.01
Overt Discrimination	.08(.05)	.08	03(.07)	03	.03(.06)	.05	05(.10)	08	07(.09)	06	.05(.14)	.05
Microaggression	, ,		.18(.09)	.15*	, ,		.14(.14)	.17	, ,		16(.15)	14
ΔR^2			` ,	.01*			` ,	.01			,	.01

(continued)

Table 3. (continued)

	Asian American					merican	Latinx American					
	Step I		Step 2		Step I		Step 2		Step I		Step 2	
Variable	B(SE)	β	B(SE)	β	B(SE)	β	B(SE)	β	B(SE)	β	B(SE)	β
					Drinking	Problems						
Neuroticism	.22(.29)	.05	.12(.29)	.03	.91(.39)	.25*	.87(.39)	.24*	.86(.42)	.19*	.92(.42)	.20*
Overt Discrimination	.22(.08)	.17*	02(.12)	02	15(.09)	18	31(.13)	38*	.02(.14)	.01	.18(.22)	.12
Microaggression			.40(.14)	.27*			.29(.18)	.25			22(.23)	14
ΔR^2				.03*				.03				.01

Note. n = 353 for Asian Americans (n = 244 consumed alcohol), n = 114 for African Americans (n = 87 consumed alcohol), n = 158 for Latinx Americans (n = 136 consumed alcohol). Models predicting drinking problems include participants who consumed alcohol in the past six months. *p < .05. **p < .05.

Table 4. Indirect Effects Models Predicting Negative Affect and Alcohol Use Outcomes by Racial Discrimination, Racial Microaggression, and Psychological Distress Across Racial Groups

		erican	African American				Latinx American					
	Overt discrimina	Microaggress	Microaggression		Overt discrimination		Microaggression		ination	Microaggression		
Path	B(SE) [95% CI]	β	B(SE) [95% CI]	β	B(SE) [95% CI]	β	B(SE) [95% CI]	β	B(SE) [95% CI]	β	B(SE) [95% CI]	β
		1			Negat	ive Affect	:					
Α	0.07(0.01) [0.05, 0.10]	.28	0.09(0.02) [0.06, 0.12]	.28	0.00(0.02) [-0.03, 0.03]	.00	0.01(0.02) [-0.03, 0.05]	.02	0.08(0.02) [0.05, 0.12]	.31	0.05(0.02) [0.01, 0.08]	.15
В	0.60(0.04) [0.53, 0.66]	.46	0.60(0.04) [0.53, 0.66]	.46	0.55(0.07) [0.40, 0.70]	.43	0.56(0.07) [0.43, 0.70]	.44	0.60(0.06) [0.48, 0.72]	.47	0.66(0.06) [0.55, 0.77]	.51
С	0.01(0.01) [-0.01, 0.03]	.03	0.01(0.01) [-0.01, 0.04]	.03	0.01(0.01) [-0.01, 0.03]	.03	0.03(0.02) [0.00, 0.06]	.07	0.01(0.02) [-0.02, 0.04]	.02	-0.02(0.01) [-0.04, 0.01]	04
c'	0.04(0.01) [0.03, 0.07]	.13	0.05(0.01) [0.03, 0.08]	.13	0.00(0.01) [-0.02, 0.02]	.00	0.00(0.01) [-0.02, 0.03]	.01	0.05(0.01) [0.03, 0.07]	.14	0.03(0.02) [0.00, 0.06]	.08
Т	0.05(0.01) [0.03, 0.08]	.16	0.07(0.02) [0.04, 0.10]	.16	0.01(0.01) [-0.02, 0.04]	.03	0.03(0.02) [-0.01, 0.07]	.08	0.06(0.02) [0.02, 0.09]	.17	0.02(0.02) [-0.02, 0.05]	.04
					Alcohol (Consumpt	tion					
а	0.07(0.01) [0.05, 0.10]	.28	0.09(0.02) [0.06, 0.12]	.28	0.00(0.02) [-0.03, 0.03]	.00	0.01(0.02) [-0.03, 0.05]	.02	0.08(0.02) [0.05, 0.12]	.31	0.08(0.02) [0.05, 0.12]	.16
Ь	0.51(0.19) [0.14, 0.88]	.14	0.43(0.18) [0.06, 0.79]	.12	0.88(0.35) [0.19, 1.57]	.68	0.72(0.33) [0.07, 1.38]	.56	-0.02(0.38) [-0.77, 0.74]	01	-0.02(0.38) [-0.77, 0.74]	11
с	0.05(0.05) [-0.05, 0.16]	.05	0.13(0.06) [0.00, 0.25]	.11	0.03(0.06) [–0.08, 0.14]	.08	0.07(0.07) [-0.08, 0.21]	.16	-0.06(0.09) [-0.25, 0.13]	18	-0.06(0.09) [-0.25, 0.13]	27
c'	0.04(0.02) [0.01, 0.08]	.04	0.04(0.02) [0.01, 0.09]	.03	0.00(0.02) [–0.04, 0.04]	.00	0.01(0.02) [-0.03, 0.05]	.01	0.00(0.03) [-0.07, 0.07]	.00	0.00(0.03) [-0.07, 0.07]	02
Т	0.09(0.05) [-0.01, 0.19]	.09	0.16(0.06) [0.04, 0.28]	.14	0.03(0.06) [-0.09, 0.14]	.08	0.07(0.08) [-0.08, 0.22]	.17	-0.06(0.09) [-0.24, 0.11]	18	-0.06(0.09) [-0.24, 0.11]	29

Table 4. (continued)

Path		erican	African American				Latinx American					
	Overt discrimination		Microaggression		Overt discrimination		Microaggression		Overt discrimination		Microaggression	
	B(SE) [95% CI]	β	B(SE) [95% CI]	β	B(SE) [95% CI]	β	B(SE) [95% CI]	β	B(SE) [95% CI]	β	B(SE) [95% CI]	β
					Drinkii	ng Problen	ns					
а	0.07(0.02) [0.03, 0.10]	.25	0.08(0.02) [0.04, 0.12]	.25	-0.02(0.02) [-0.05, 0.02]	06	-0.02(0.02) [-0.07, 0.03]	07	0.09(0.02) [0.05, 0.13]	.34	0.05(0.02) [0.01, 0.09]	.16
Ь	0.67(0.32) [0.05, 1.3]	.15	0.59(0.30) [0.00, 1.18]	.13	1.45(0.51) [0.44, 2.45]	1.12	1.52(0.47) [0.59, 2.46]	1.18	0.73(0.58) [-0.43, 0.18]	.56	0.55(0.51) [–0.47, 1.56]	.42
с	0.25(0.08) [0.08, 0.42]	.21	0.31(0.10) [0.13, 0.50]	.22	-0.14(0.08) [-0.30, 0.03]	40	-0.01(0.11) [-0.22, 0.21]	01	-0.04(0.15) [-0.33, 0.24]	13	-0.15(0.13) [-0.41, 0.12]	35
c	0.04(0.03) [0.01, 0.11]	.04	0.05(0.03) [0.00, 0.12]	.03	-0.02(0.03) [-0.11, 0.03]	06	-0.03(0.05) [-0.15, 0.04]	08	0.07(0.06) [–0.04, 0.21]	.19	0.03(0.04) [–0.02, 0.16]	.07
Т	0.29(0.08) [0.13, 0.46]	.25	0.36(0.09) [0.18, 0.54]	.26	-0.16(0.08) [-0.32, 0.01]	46	-0.04(0.11) [-0.26, 0.19]	09	0.02(0.14) [-0.25, 0.29]	.07	-0.12(0.13) [-0.37, 0.14]	28

Note. Neuroticism is included as a covariate in all models. a = direct relation between predictor and psychological distress, b = direct relation between psychological distress and psychological adjustment outcome, c = direct relation between predictor and psychological adjustment outcome, c' = indirect relation between predictor and psychological adjustment outcome via psychological distress, C' = total effects including direct and indirect relations. C' = indirect relation between predictor and psychological distress, C' = indirect relation between predictors and psychological distress, C' = indirect relation between predictors and psychological distress, C' = indirect relation between predictors and psychological distress, C' = indirect relation between predictors and psychological distress, C' = indirect relation between predictors and psychological distress, C' = indirect relation between predictors and psychological distress, C' = indirect relation between predictors and psychological adjustment outcome, C' = indirect relation between predictors and psychological adjustment outcome via psychological distress, C' = indirect relation between predictors and psychological distress, C' = indirect relation between predictors and psychological distress, C' = indirect relation between predictors and psychological distress, C' = indirect relation between predictors and psychological distress, C' = indirect relation between predictors and psychological distress, C' = indirect relation between predictors and psychological distress, C' = indirect relation between predictors and psychological distress, C' = indirect relation between predictors and ps

African Americans. Data did not support Hypothesis 3. Once neuroticism was included in the models, neither microaggression nor overt discrimination were statistically significant in accounting for variances in psychological distress, negative affect, and alcohol consumption. Overt discrimination was negatively associated with drinking problems as distinct from neuroticism, but microaggression did not incrementally explain the variance of drinking problems (see Table 3). Hypothesis 4 was also not supported by the data. Psychological distress directly accounted for the variances of negative affect, alcohol consumption, and drinking problems, but microaggression and overt discrimination did not directly or indirectly predict these outcomes (see Table 4).

Latinx Americans. Hypothesis 3 was partially supported. With trait neuroticism in the models, overt discrimination consistently explained the variances of psychological distress and negative affect, but not alcohol use outcomes. Accounting for overt discrimination and neuroticism, microaggression was significantly and negatively associated with negative affect (see Table 3). There was a positive zero-order correlation between microaggression and negative affect, thus the negative association in the multiple regression analysis suggested the presence of a suppressor effect. The results also partially supported Hypothesis 4. Indirect associations between negative affect and microaggression, and overt discrimination were statistically significant. Although microaggression and overt discrimination were both directly associated with psychological distress, psychological distress did not account for the variances of alcohol consumption and drinking problems.

Overall, the findings indicate that racial microaggression was more consistently associated with internalizing and externalizing symptoms among Asian Americans, whereas overt discrimination was more likely to be related to internalizing symptoms among Latinx Americans. By contrast, experiences with overt and subtle forms of racism were robustly related to these adjustment outcomes among African Americans.

Discussion

This was one of the first studies that simultaneously examined experiences with, and a stress processes underlying, racial microaggression and overt discrimination as they pertain to psychological adjustment. I demonstrated that despite high correlations, microaggression and overt discrimination were not statistically redundant. Microaggression and overt discrimination were associated with psychological adjustment even when accounting for neuroticism, but the degree to which microaggression captured unique variances in distress,

negative affect, and alcohol-related outcomes varied by racial groups. Except for African Americans, I found initial empirical support that the relations between perceived racism and psychological adjustment were not simply a function of individual differences in neuroticism. Through psychological distress, microaggression and overt discrimination were indirectly associated with negative affect, alcohol consumption, and drinking problems among Asian Americans, and with negative affect among Latinx Americans.

This study contributes to the broader literature in three ways. First, I differentiated microaggression from everyday overt discrimination, and their associations with psychological adjustment. Second, I showed that for Asian and Latinx Americans, experiences with microaggression and overt discrimination were uniquely associated with adjustment outcomes that were distinct from neuroticism. Although neuroticism was consistently associated with psychological distress and negative affect, it did not reliably predict alcohol consumption or drinking problems. Research has shown a strong link between daily stress and negative affect among individuals with higher levels of neuroticism (Mroczek & Almeida, 2004). Perhaps negative emotionality is more closely linked to internalizing symptoms than health risk behaviors such as alcohol consumption and related outcomes (Lui & Quezada, 2019). Additionally, other contextual and cognitive factors (e.g., drinking norms and liberal college alcohol beliefs) are likely more robust determinants of drinking behaviors than neuroticism among college students (Borsari & Carey, 2003; Lui, 2019). Nonetheless, accounting for trait neuroticism in the regression analyses ruled it out as a confound in the link between racism experiences and psychological adjustment.

Third, in addition to the direct associations, I found that racism experiences were indirectly linked to negative affect among Latinx Americans, and to negative affect and alcohol-related outcomes among Asian Americans by way of psychological distress. Evidence indicates that both microaggression and overt discrimination can elicit psychological distress, which in turn predicts adjustment outcomes. Still, overt discrimination and microaggression may precipitate psychological maladjustment through factors other than perceived distress. For example, studies have shown that overt discrimination is related to traumatic stress symptoms and in turn depression and alcohol use (Flores, Tschann, Dimas, Pasch, & de Groat, 2010; Torres & Vallejo, 2015), whereas microaggression is related to nonspecific stresses and cultural mistrust (Kim et al., 2017; Torres et al., 2010).

Distinct Racial Group Experiences

Focusing on Asian, African, and Latinx Americans in the same study, I showed distinct patterns across these racial and ethnic groups. Patterns of

racial and ethnic group mean differences in the sample are similar to results in other college samples (Carter, 2007). Even after accounting for neuroticism and overt discrimination, microaggression remains a unique risk factor for psychological distress, alcohol consumption, and drinking problems among Asian Americans. Consistent with prior research regarding the relation between microaggression and maladjustment, data continue to challenge the model minority stereotype about Asian Americans (Alvarez, Juang, & Liang, 2006; Sue, Sue, Sue, & Takeuchi, 1995). Similar to national statistics (FBI, 2016), Asian Americans are found to report lower levels of racism than other racial minorities; yet, microaggression—but not overt discrimination—was reliably associated with adjustment outcomes. Perhaps, Asian Americans are less likely to be confronted with overt racism, but they are regularly faced with the challenge of having to make sense of experiences with racial microaggression. The burden on their psychological resources therefore can elicit greater distress and symptoms of psychopathology. Among Asian Americans, acculturation and collective self-esteem have been studied as critical risk factors in psychological adjustment, including alcohol-related problems and internalizing symptoms (Liang & Fassinger, 2008; Lui & Zamboanga, 2018). For example, Asian American individuals who believe that Asian Americans are not of worth and are not U.S.-oriented experience greater drinking problems (Pedersen, Hsu, Neighbors, Lee, & Larimer, 2013). When confronted with racism-related stressors and the model minority stereotype, Asian Americans may resort to using alcohol as a coping strategy.

Latinx Americans in this sample reported similar intensity levels of overt discrimination and microaggression as Asian Americans, but overt discrimination seems to be a relatively more important predictor of psychological distress and negative affect. Although Latinx and Asian Americans are the most recent immigrant populations in the United States, contemporary sociopolitical contexts surrounding these two groups differ in the Southwestern regions of the country. Latinx individuals may be more vulnerable to overt forms of discrimination than microaggression alone because of group-specific negative stereotypes. To the extent that there have been more qualitative research on the Asian (and African) American experiences with microaggression (Sue, Bucceri, Lin, Nadal, & Torino, 2007; Sue, Capodilupo, & Holder, 2008), it is also possible that the current microaggression measure taps fewer racially salient risk factors for Latinx Americans. I also found evidence suggesting a greater conceptual overlap between microaggression and everyday overt discrimination among Latinx Americans than the other two racial groups. The suppressor effect suggests that a large proportion of shared variance between microaggression and psychological adjustment may be explained away by neuroticism and/or overt discrimination.

African Americans in this study paradoxically report relatively high intensity of racism experiences but showed the weakest associations between psychological adjustment and microaggression, and overt discrimination. There are three possible explanations for this finding. First, given their greater likelihood of experiencing racial discrimination, as suggested by nationally representative data, African Americans may have come to expect both subtle and overt forms of racism in their everyday lives. Realistic expectations and other coping strategies may have buffered the negative associations between discrimination and psychological adjustment and promoted resilience among participants (Reynolds & Gonzales-Backen, 2017; Saleem et al., 2016; Smart Richman, Bennett, Pek, Siegler, & Williams, 2007; Wang & Huguley, 2012). Thus, after accounting for individual differences in neuroticism, there are no residual variances in psychological adjustment associated with racism-related stress. Second, the present sample may have reflected a somewhat privileged group of African Americans who do not experience high levels of (interpersonal and institutional) racism. Racism-related consequences can be especially profound among individuals with low socioeconomic status (Williams, 1999); having been students at a private, elite institution may have served as a protective factor. Third, individuals in this sample may not have the racial identity profile that predisposes them to be more negatively affected by racismrelated stress. Greater centrality of racial identity and lower public regard have been shown to intensify the psychological correlates of direct and vicarious racism (Mason et al., 2017; Sellers & Shelton, 2003). Future studies therefore should examine socioeconomic status and racial identity to further examine the conditions under which racism-related experiences are associated with psychological maladjustment among African Americans.

Limitations

It is important to acknowledge that data were collected during a time when rates of hate crimes and other racist incidents were heightened at the university where sampling occurred, across other college campuses, and around the United States (see Dreid & Najmabadi, 2016). Contemporary climate and individuals' prior racialized experiences can be related to stress responses, to personal encounters with microaggression, and overt discrimination (Franklin, Smith, & Hung, 2014; Smart Richman et al., 2007). Therefore, the results should be interpreted with these sociocultural contexts and the limitations detailed next in mind.

First, despite conceptual justification, psychological distress and negative affect were not as clearly differentiated in the data. This could be a function

of similar wording across some items in the K6 and PHQ-4. Future research would benefit from using measures of racism that measure event-specific distress, and/or other scales assessing internalizing symptoms. Second, additional to psychological distress, there may be other more specific affective and behavioral responses (e.g., rumination, flashbacks, avoidant behavior) to racist events that underlie individual differences in psychological adjustment. For example, depressive rumination over racial discrimination may be relevant for understanding negative affect and other internalizing symptoms whereas angry rumination may be relevant for understanding alcohol misuse and other externalizing symptoms (Borders & Liang, 2011; Hicken, Lee, Ailshire, Burgard, & Williams, 2013).

Third, as described in an acute racism reactions process, I focused only on primary stress appraisal and did not examine individual differences in secondary appraisals concerning their coping resources. Individuals are not passive receivers of racist treatments (Swim, Hyers, Cohen, Fitzgerald, & Bylsma, 2003). Thus, examining individual differences in adaptive and maladaptive responses to microaggression and overt discrimination would facilitate a deeper understanding regarding for whom and under what conditions racism-related experiences may be more closely associated with psychological adjustment. Fourth, other sociodemographic dimensions have been shown to moderate the relations between racism-related experiences and psychological adjustment. Minority individuals with lower level socioeconomic status, gender, sexual orientation, and gender identity may experience greater racism-related stress and poorer adjustment outcomes (English, Rendina, & Parsons, 2018; Neblett, Bernard, & Banks, 2016).

Finally, although racial microaggression and overt discrimination were uniquely associated with psychological adjustment, I observed large correlations between these forms of racism across groups. The present findings should be replicated in other samples and noncollege settings. Earlier publications on microaggression have emphasized its "subtle and stunning" nature (Pierce, 1969) and the psychological burden to navigate the catch-22 situation (Sue, Capodilupo, et al., 2007). Yet, more recently, it appears that microaggression is considered distinct from overt discrimination because the former is much more frequent than the latter, and the ambiguity surrounding microaggression incidents is de-emphasized (see Sue et al., 2019). If that is the case, perhaps microaggression and overt discrimination are simply aspects of the same psychological construct that varies in severity and frequency. In fact, there was overlapping content in existing measures of microaggression and overt discrimination. Future research must evaluate the construct validity of existing measures of overt discrimination and microaggression and test the nomological network of racism to shed light on conditions under which microaggression, everyday discrimination, and less-frequent discrimination similarly and differentially are linked to psychological adjustment (Lui & Quezada, 2019).

Implications for Practice, Advocacy, Education/Training, and Research

The findings from this study can inform culturally competent clinical practice, education, training, and advocacy in three ways. First, it would be important to understand racial minority individuals' subjective experiences with both microaggression and overt discrimination in counseling and educational settings. Acknowledging possible psychological distress provoked by overt and subtle racism can validate people's racialized experiences and avoid blaming the victim for their emotional over-reactivity and trait neuroticism. Second, evidence regarding the acute racism reactions process suggests a viable model for clinicians and educators to conceptualize how experiences with racism may be linked to minority individuals' maladjustment. These can set the foundation for promoting effective coping strategies to alleviate psychological distress associated with racism-related experiences. Third, findings highlight racial group variations in the exposure to, perception of, and possible impact of microaggression and overt discrimination, particularly among Asian and Latinx Americans. Continued research on malleable buffers of racism-related stresses, such as social support, psychological hardiness, or ethnic identity, may inform ways in which college campuses and society can best support and advocate for their constituents. Future studies should examine these pathways and moderating conditions, and differentiate affective and behavioral responses provoked by different types of racism. Furthermore, tests of these potential mediating pathways should utilize longitudinal designs to establish temporal precedence of the relevant factors in the future.

Author's Note

This study was previously presented as a poster entitled "Racial discrimination and psychological health: Untangling overt discrimination and microaggression" at the 5th Biennial convention of the Society for Psychological Study of Culture, Ethnicity, and Race in Austin TX, July 2018.

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Data Accessibility Statement

Data and syntax files are made publicly available on the Open Science Framework online repository at https://osf.io/svx7z/.

Notes

- To better understand the experiences of students in higher education, I recruited data from undergraduate and graduate students. Preliminary results did not differ with only undergraduate students in the data; thus, all analyses included both undergraduate and graduate students to maximize our sample size, statistical power, and generalizability.
- 2. Among immigrant students, the average length of residence was 4.61, 13.67, and 12.70 years for Asian, African, and Latinx Americans, respectively.
- The present university hosts 0.5% students of American Indian or Pacific Islander backgrounds, which had proven difficult to collect a large enough sample for this study.

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