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## Perceived Racial/Ethnic Discrimination among Young Adult College Students: Prevalence Rates and Associations with Mental Health

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### Abstract

**Objective/Participants:** In a large, diverse sample of college students ( $N=2,230$ ), this online study investigated racial/ethnic differences on type of discriminatory event experienced and perceived stress, and whether discrimination-related stress was associated with mental health symptoms.

**Methods:** Prevalence of lifetime/past year discriminatory events was assessed and frequency of discrimination-related stress was compared across racial/ethnic groups. Correlations between discrimination-related stress and mental health symptoms were also examined.

**Results:** All racial/ethnic groups reported experiencing all types of discriminatory events, though prevalence was lowest for White students. Racial/ethnic minority (i.e., Asian, Black, Latinx) students reported greater discrimination-related perceived stress compared to White, non-Hispanics. Across all racial/ethnic groups, discrimination-related stress was positively associated with negative mental health outcomes (e.g., anxiety/depressive symptoms).

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**Conclusions:** These results highlight the need to continue efforts to reduce discriminatory experiences of racial/ethnic minority students and to incorporate antiracism interventions in universities to mitigate the pervasive negative experiences of minority students.

### Keywords

perceived discrimination; mental health; young adults; race/ethnicity; college students

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## Introduction

The passage of the Civil Rights Act of 1964 marked the end of the decades-long era of Jim Crow segregation and discrimination on the basis of race, color, and national origin,<sup>1</sup> yet Black, Indigenous, Latinx, Asian, Middle Eastern, multiracial, and other racial and ethnic minority Americans continue to experience interpersonal and institutional discrimination. An analysis of Pew Research Center 2016 data highlighted high rates of lifetime racial discrimination within the United States (75% for Black, 71% for Pacific Islander, 60% for Asian, 55% for American Indian, and 50% for Hispanic respondents).<sup>2</sup> Perceived discrimination may take the form of microaggressions, which are defined as everyday words, gestures, or environmental displays of prejudice and systemic racism,<sup>3</sup> or overt, intentionally damaging, and ostracizing acts of differential treatment according to racial or ethnic group membership. Racial and ethnic microaggressions are particularly common among college students.<sup>4,5</sup> In light of the widespread and frequent nature of racial and ethnic discrimination in the United States, including among young adult college students, it is imperative that research investigates not only the frequency of discriminatory events across racial/ethnic groups, but also how one's stress appraisal of such events impacts psychological health.

## Experiences of Discrimination

Most college students who identify as racial or ethnic minorities experience racial discrimination or microaggressions in academic and social spaces.<sup>6-11</sup> One sample of students of color enrolled at a majority White university reported experiencing more than three microaggressions each day.<sup>12</sup> For instance, students report being ignored due to their identities in the classroom<sup>5</sup> or hearing other students use hostile slurs.<sup>4</sup> Students of color also report experiencing racial discrimination at minority-serving universities (e.g., Historically Black Colleges/Universities (HBCU), Hispanic-Serving Institutions, Tribal Colleges/Universities, etc.). For instance, one study found that Asian students at an HBCU faced racial stereotyping, Latinx students were called ethnic slurs, and both received stares from fellow students.<sup>13</sup> The extant work has largely focused on the impact of racial discrimination among ethnic and racial minority groups due to race being considered a social indicator of inequality and associated with oppression and marginalization of minority groups.<sup>14,15</sup>

However, and possibly due to greater attention to and prevention of racial discrimination in society, work is emerging on perceived discrimination in White, non-Hispanic individuals. For example, Cabrera<sup>16</sup> conducted semi-structured interviews with a small sample of White, non-Hispanic college men, finding that participants tended to minimize problems related to racism while also endorsing more victimization related to multiculturalism. Despite

research consistently demonstrating that minority groups have poorer outcomes across several life domains than White, non-Hispanic groups,<sup>17–19</sup> many White individuals may still perceive experiences as racially discriminatory. In addition to assessing perceptions of discrimination in students from ethnic and racial minority groups, investigating the extent to which White, non-Hispanic students endorse perceived experiences of discrimination can aid in (a) identifying the extent of problems experienced as a result of perceived discrimination, (b) informing how educators construct racial awareness campaigns across campuses, and (c) developing prevention/intervention efforts to better manage the likely stress associated with perceived discriminatory experiences for students.

### Perceived Discrimination and Mental Health

Beyond the immediate distress caused by discrimination on the basis of racial or ethnic identity, perceived discrimination is associated with numerous deleterious mental health outcomes. Research has linked perceived racial discrimination to a host of psychological issues, including increased anxiety,<sup>20–22</sup> stress,<sup>8</sup> depressive symptomatology among African American young adults,<sup>7,20–23</sup> and depression symptoms among diverse samples of young racial and ethnic minority adults.<sup>5,9,24</sup> Furthermore, perceived racial discrimination has been associated with negative emotionality. For example, prior research has found that discrimination was positively associated with irritability and anger in African American young adults, particularly among men.<sup>25</sup> Moreover, perceived racial discrimination has been linked to worse sleep quality among African American young adults,<sup>26</sup> as well as heightened insomnia symptoms among a sample of older Black women.<sup>27</sup> Particularly alarming are findings that perceived racial discrimination was associated with increased suicidal ideation among diverse samples of racial and ethnic minority young adults<sup>28,29</sup> and that perceived discrimination was positively associated with capability for suicide in Black Americans while controlling for depressive symptoms, suicide ideation, and painful and provocative events.<sup>23</sup>

Not only is the incidence of perceived discrimination linked with greater mental health symptoms, but prior research has found a strong association between the frequency of perceived discrimination and the appraised stress from these experiences.<sup>9</sup> Appraised stress from discrimination has been associated with various psychological and behavioral outcomes, including depression, stress, anxiety,<sup>30</sup> alcohol consumption,<sup>31</sup> and cigarette smoking.<sup>32</sup> These findings in aggregate demonstrate the public health threat that perceived discrimination and appraised stress from discriminatory interactions pose to racial and ethnic minority people living in the United States, including young adults.

### Purpose of the Present Study

The present study aimed to add to the research on perceived racial and ethnic discrimination among young adults by examining the impact discrimination transgressions have on a large, diverse sample of college students. Specifically, the aims of the present study were to: 1) examine lifetime and past year prevalence of varying types of discrimination (e.g., kind of discrimination, type of perpetrator) among young adult college students, 2) examine the appraised stress associated with specific types of racial/ethnic discrimination transgressions (as well as examine differences across racial/ethnic groups), and 3) examine

the associations between appraised stress associated with specific types of racial/ethnic discrimination transgressions and past two-week mental health outcomes (i.e., depression, anger, anxiety, suicide ideation, and sleep problems). We expected appraised stress associated with specific types of racial/ethnic discrimination transgressions to be larger among racial/ethnic minorities compared to White, non-Hispanic students. Further, among all participants, we expected higher appraised stress associated with specific types of racial/ethnic discrimination transgressions to be associated with more mental health outcomes.

## Method

### Participants and Procedures

Participants were college students recruited to participate in an online survey (standardized across sites) from Psychology Department Participant Pools at seven universities (two were Hispanic serving institutions and five were predominantly White universities) across six U.S. states (Colorado, New Mexico, New York, Virginia [two sites], Texas, and Wyoming) between Fall 2019 and Spring 2020 (for more information, see 33). To minimize burden on participants, we utilized a planned missing data design (i.e., matrix sampling),<sup>33,34</sup> which has been utilized in prior college student research.<sup>35</sup> Specifically, each participant received and completed a battery of core measures that focused on substance use (i.e., non-prescription stimulant, alcohol, marijuana, opioids, and other drug use) and a measure of mental health. After completing the core measures, each participant received a random sample of 10 measures from a larger pool (22 total measures). Participants received research participation credit for completing the study. This study used a single-site IRB model and all procedures were approved by the University of Wyoming IRB.

Due to our missing-data-by-design procedure, the analytic sample for the present study was limited to 2,230 students who completed the measure of perceived racial/ethnic discrimination. Among our analytic sample, the majority of students identified as female sex assigned at birth (70.1%), were freshman or sophomores (74.3%), and reported a mean age of 19.89 years (Median = 19.00,  $SD = 3.43$ ). About one third of participants (37.9%) completed the survey after campuses closed and classes were moved online due to COVID-19. With regard to race/ethnicity (students had the option to select all racial and ethnic identities with which they identified); 1,516 (68.0%) identified as White, 568 (25.5%) identified as Hispanic, Latino, or of Spanish origin, 384 (17.2%) identified as Black or African American, 240 (10.8%) identified as Asian, 58 (2.6%) identified as American Indian or Alaska Native, 32 (1.4%) identified as Middle Eastern/North African, 23 (1.0%) identified as Native Hawaiian or Pacific Islander, and 156 (7.0%) identified with another racial or ethnic identity. Post-hoc calculations found that 25% of the sample identified as more than one race/ethnicity.

### Measures

**Perceived Racial/Ethnic Discrimination**—Perceived racial/ethnic discrimination was assessed with the 18-item General Ethnic Discrimination Scale.<sup>36</sup> Each item (see tables 1 – 2 for specific items) assesses a discriminatory event (e.g., type of discrimination, type of perpetrator) and is answered three times, once for the frequency of each discriminatory event

in the past year (6-point response scale: *1 = never, 6 = almost all the time*), once for the frequency of those events in one's entire lifetime (6-point response scale: *1 = never, 6 = almost all the time*), and once for the appraisal of the stressfulness of the events (6-point response scale: *1 = not at all stressful, 6 = extremely stressful*). For the type of perpetrator, students responded to the following prompt: "How often have you been treated unfairly by...". For the type of discriminatory event, students responded to the following prompt: "How often ...". Only students who endorsed experiencing an event (either in the past year or lifetime) answered the stress appraisal item (i.e., "How stressful was this for you?") for each specific discriminatory event.

**Mental Health**—Past two-week psychopathology was assessed using the 23-item DSM-5 Self-Rated Level 1 Cross-Cutting Symptoms Measure—Adult.<sup>37</sup> Participants were asked, "During the past two weeks, how much (or how often) have you been bothered by the following problems?" and responded on a five-point response scale (*0 = none, not at all, 1 = slight or rare, less than a day or two, 2 = mild, several days, 3 = moderate, more than half the days, 4 = severe, nearly every day*). Although the measure assesses 13 distinct domains, the present study focused on domains that are most prevalent among college students: depression, anger, anxiety, suicidal ideation, and sleep disturbances. A score of two or higher in domains, except suicide ideation (score of one or higher) is suggestive of clinically-relevant mental health problems.<sup>38</sup> The prevalence of potential symptom presentation for the five domains (for domains with multiple items, the percentages were averaged) in our analytic sample were as follows: depression (48.7%), anger (37.7%), anxiety (54.0%), sleep disturbance (33.6%), and suicidal ideation (20.8%). The measure has been validated among both clinical samples,<sup>38</sup> as well as among college student samples.<sup>35</sup>

### Statistical Analyses

To test study aims, we first conducted descriptive analyses to examine the percent of students who endorsed each specific type of discriminatory event in the past year and lifetime, as well as the appraised stress associated with each discriminatory event. We calculated whether a student had experienced a specific discriminatory event by collapsing responses on past year and lifetime frequency (i.e., *0 = never, 1 = at least once in a while or more frequently*) due to the low number of the total sample of experiencing such events (averages in frequency ranged between never and once in a while). To capture the multifaceted nature of participants' identities, we ran these analyses for specific groups (as well as total sample) without excluding those that selected multiple identities (e.g., responses from participants who identified both as Asian and Black or African American are included for both groups). To examine racial/ethnic differences on appraised stress of each type of discriminatory event, we ran one-way ANOVAs comparing the appraisal across exclusive (i.e., only selected one racial/ethnic identity) racial/ethnic groupings. We chose to only conduct these analyses among "exclusive" groups as we could not determine whether discriminatory events for multiracial participants was due to one identity versus another (or both). Given our limited sample size in some groups, we only conducted these analyses among students who identified solely as Asian, Black or African American, Latinx, or White Non-Hispanic (i.e., the largest samples). Finally, we ran Pearson correlation analyses to examine the relationships between appraised stress associated with specific types of racial/

ethnic discrimination transgressions and mental health outcomes: depression, anger, anxiety, suicide ideation, and sleep problems. All analyses were conducted using SPSS 25.0.

## Results

Prevalence of each specific type of discriminatory event or context is reported in Table 1 (lifetime) and Table 2 (past year). Within the total analytic sample and focusing on type of perpetrator, lifetime experience ranged from 40.2% (perpetrator: strangers) to 14.8% (perpetrator: people in helping jobs [e.g., medical professionals]) and past year experience ranged from 32.0% (perpetrator: strangers) to 11.5% (perpetrator: people in helping jobs [e.g., medical professionals]). Within the total analytic sample and focusing on type of discriminatory event, lifetime experience ranged from 40.1% (Been called a racist name) to 8.0% (Been forced to take drastic steps [such as filing a grievance, filing a lawsuit, quitting your job, moving away, and other act]). Past year experience ranged from 28.8% (Wanted to tell someone off for being racist towards you but you didn't say anything) to 6.7% (Been forced to take drastic steps [such as filing a grievance, filing a lawsuit, quitting your job, moving away, and other act]).

Concerning racial/ethnic subgroups, every group had experienced each type of discriminatory event; however, those who identified as White tended to report the lowest prevalence rates (see Tables 1 and 2). Across the lifetime, strangers were the most common perpetrators for Asian, Black/African American, Hispanic/Latinx, Middle Eastern and North African, and White students. Teachers and professors were the most common perpetrators for American Indian and Alaska Native and Native Hawaiian and Pacific Islander participants. Percentages of discriminatory events were highest for lifetime experiences of being called a racist name for American Indian and Alaska Native, Asian, Hispanic/Latinx, Native Hawaiian and Pacific Islander, Middle Eastern and North African, and White participants. For African American/Black participants, the discriminatory context that was most frequent was being angry about something racist that was done to them.

### Appraised Stress from Perceived Racial/Ethnic Discrimination Transgressions

Descriptive statistics for stress appraisal for each specific type of discriminatory event or context are reported in Supplemental Table 1. Within the total analytic sample and for all types of discriminatory events/context, students on average reported that most events were “somewhat stressful” as means ranged from 3 to 4 on the response scale ( $1 = not\ at\ all\ stressful$ ,  $6 = extremely\ stressful$ ). In examining racial/ethnic group differences on appraised stress for each type of discriminatory event or context among students who solely identified as one of our largest samples (i.e., Asian, Black or African American, Latinx, and White, Non-Hispanic), results were consistent such that ethnic minorities largely reported each event to be more stressful compared to White, non-Hispanic students (see Table 3). Generally, Black and Latinx students noted that discrimination from the specific sources examined (e.g., strangers) was linked to greater perceived stress than White, non-Hispanic students. While Asian students endorsed greater perceived stress levels than White students linked to discrimination from each source besides neighbors, there were fewer significant differences between Asian and White students.

## Correlations of Appraised Stress and Mental Health

Correlations between appraised stress for each specific type of discriminatory event or context and mental health outcomes among the total sample are reported in Table 4. Correlations between appraised stress for each type of discriminatory event or context and mental health outcomes for each racial and ethnic group are reported in Supplemental Tables 2–5. As expected, higher appraised stress for most discriminatory events or contexts was positively associated with depression, anger, anxiety, suicidal ideation, and sleep disturbance. Focusing on type of perpetrator, the strongest associations with mental health outcomes were “people that you thought were friends” and “co-workers, fellow students, and colleagues”. Correlations for Asian students were strongest between appraised stress and anger and were particularly strong when the perpetrator was a co-worker, student, colleague, or stranger. For Black/African American students, the strongest correlation was between appraised stress and anxiety when the perpetrator was a teacher or professor. Correlations for Latinx students were strongest between appraised stress and anxiety and were particularly strong when the perpetrator was a person in a service job, an employer or supervisor, a stranger, or a person they thought was their friend. For White students, the only significant correlations between appraised stress and mental health outcomes were in situations with people they thought were their friends, which was related to depression, anger, and anxiety. Focusing on type of discriminatory event, the strongest associations with mental health outcomes was “Having been called a racist name”, “Having people misunderstand your intentions/motives because of your race/ethnic group”, and “Having been made fun of, picked on, pushed, shoved, hit, or threatened with harm because of your race/ethnic group”.

## Discussion

This study expands on existing work by examining the prevalence of racial discrimination experiences and associated stress and mental health symptoms in a large, ethnically/racially diverse sample of college students. Overall, racial/ethnic minority groups endorsed more of each type of discriminatory experience in the past year and their lifetime than White, non-Hispanic students. Further, and in line with hypotheses, stress related to racial discrimination experiences differed across racial/ethnic student groups such that White, non-Hispanic students, compared to racial/ethnic minority student groups, endorsed less stress related to all types of discriminatory experiences except having been accused or suspected of doing something wrong (e.g., stealing) or having been forced to take drastic steps (e.g., filing a grievance). Finally, and as expected, greater stress related to racial discrimination experiences was associated with greater mental health issues. Collectively, findings emphasize the need to continue efforts around mitigating discriminatory experiences of ethnic and racial minority students and taking steps to improve stress management when faced with discriminatory experiences.

Current findings align with extant work on the prevalent and distressing nature of racial discrimination across minority groups.<sup>2</sup> While racial discrimination has been a pervasive problem throughout U.S. history, the reported rates of past-year discrimination in the current sample underscore that these experiences are major stressors that affect a large number of

ethnic and racial minority students. Specifically, between 7-32% of all students endorsed some past-year racial discrimination, and more than 50% of certain ethnic and racial minority student groups (i.e., American Indian/Alaska Native, African American/Black, Middle Eastern/North African, and Other) endorsed certain discriminatory experiences (e.g., discrimination by strangers). Relatedly, ethnic and racial minority students were more likely to appraise these experiences as more stressful than their White, non-Hispanic student counterparts. Understanding the extent of stress students endure from these experiences is crucial given that extant theories have identified perceived stress as a key mechanism linking racial discrimination and poor health outcomes.<sup>39</sup>

Whereas all students experience varying levels of stress during the college years that may lead to poorer outcomes, the added effects of minority stress place ethnic and racial minority students at greater risk given the likely exacerbation on their coping resources.<sup>40,41</sup> Minority stress refers to heightened stress from experiences that occur because a person identifies with a marginalized group.<sup>42</sup> Relatedly, racial battle fatigue refers to the cumulative toll that discrimination confers on ethnic and racial minority members' mental, physical, and behavioral health.<sup>43,44</sup> The racial battle fatigue framework posits that repeated exposure to discrimination results in elevated stress responses following a discriminatory event; moreover, ethnic and racial minority individuals' attempts to brace against future discrimination further taxes their well-being.<sup>44</sup> Much literature has supported the racial battle fatigue framework by providing evidence for the association between racial discrimination and psychological health outcomes among college students.<sup>45-49</sup> In line with prior research and the racial battle fatigue framework, our findings demonstrated that ethnic and racial minority students experience heightened stress across racial discrimination experiences compared to White, non-Hispanic students. Specifically, and in support with calls to address institutional racism,<sup>50</sup> African American/Black and Latinx students experienced higher levels of stress from racial discrimination by professionals across diverse occupations and from institutions at large. Taken together, it is critical that those who wield institutional power at universities engage in efforts to reduce racial and ethnic discrimination and increase inclusion by modifying discriminatory policies and practices embedded in structures. These efforts are imperative to mitigate the pervasive minority stress and racial battle fatigue experienced as a result of racial discrimination by minority students.

Finally, and in line with prior literature,<sup>9,30,51,52</sup> we found that higher levels of stress due to racial discrimination were associated with greater levels of mental health outcomes. While prior work has largely focused on the frequency of racial discrimination on psychological and physical health,<sup>53-55</sup> we focused on the associations between appraisal of racial discrimination and mental health outcomes, as heightened stress typically leads to reduced coping, which then predicts mental health problems.<sup>42</sup> Specifically, appraised stress was associated with depression, anger, anxiety, suicidal ideation and sleep disturbance in the total sample. Among Asian and Black/African American students, we found associations between appraised stress and depression, anger, anxiety, and suicidal ideation. For Latinx and White, non-Hispanic students, appraised stress was associated with depression, anger, anxiety, and sleep disturbance. These findings may inform future research aimed at identifying mechanisms to attenuate the links between appraised stress and specific racial mental health outcomes (e.g., sleep disturbance among Latinx students). Although sample size



considerations limit a full comparison of the correlations between appraised stress and mental health outcomes across racial groups, these results provide further evidence that appraised stress is associated with poorer psychological health outcomes both across and within racial identity groups.

The present research accentuates the importance of individual- and institutional-level antiracism interventions.<sup>56</sup> For example, higher education institutions can aim to promote diversity, equity, and inclusion by implementing implicit and explicit bias and diversity trainings for school personnel.<sup>57–60</sup> These interpersonal interventions may improve how professors, staff, and administrators communicate with and behave towards ethnic and racial minority students and thus may aid in reducing racial discrimination. Additionally, universities and other institutions that interface with college students may conduct regular needs assessments to identify specific policy reforms and actionable steps to promote accessible and inclusive environments. Racism in the United States is a systemic problem, and thus systemic solutions are necessary. We urge institutions that serve college students to implement preventative and restorative changes to reduce future occurrences of discrimination and mitigate the psychological damage of past harm. Some changes that universities may implement include taking responsibility for their historical participation in institutional discrimination, providing funding for diversity and inclusion trainings for students and personnel, recruiting and retaining faculty from underrepresented backgrounds, supporting open discussions about racial justice, creating and implementing policies that condemn racism and bias on campus, providing funding for social justice work, and creating and maintaining a university-wide antiracism campaign.

### Limitations

Study findings must be interpreted in light of the limitations. First, though our sample comprised a wider representation of racial and ethnic categories than typically seen in the literature, our sample is not nationally representative nor does it include students from non-four-year colleges (i.e., two-year colleges or community colleges). Further, the small sample size of certain racial groups resulted in either (a) merging some racial categories to perform analyses (e.g., students from Central and South America were merged to represent Latinx students) or (b) excluding certain groups from analyses (e.g., American Indian/Alaska Native participants were excluded from stress appraisal comparison analyses given the small sample size). Second, we only assessed participants once, preventing our ability to test any causal models, such as the associations among discriminatory experiences, appraisal of such experiences, and subsequent mental health outcomes. Future work employing longitudinal and/or experimental designs may offer clarity on (a) which discriminatory experiences are most distressing across ethnic and racial minority groups, (b) the various ways that these students cope with racial discrimination, and (c) whether a specific or transdiagnostic intervention approach will meet the needs of this population. Finally, our sample consisted primarily of those who were assigned female sex at birth. It is unclear how this unequal distribution may have shaped the results as we did not have the statistical power to examine whether our findings would differ based on the intersection of participants' sex or gender and racial/ethnic identities. Previous research has demonstrated that gender affects how same-race men and women experience microaggressions<sup>61</sup> and how stress related to racial

discrimination impacts health.<sup>62,63</sup> Thus, future research should extend the current work to intersectional populations to inform interventions.

### Future Directions

An important consideration for future work is to capture the multidimensional nature of racial/ethnic identity. For example, a large portion of the current sample identified as mixed race, which aided in our determination of how prevalent individuals identify as mixed race but limited our ability to determine if racial discrimination was based on identifying with one or more than one race. Research has demonstrated that multiracial college students have unique racialized experiences that go beyond those of monoracial majority and minority group members.<sup>64–66</sup> As with monoracial individuals, perceived racial discrimination is associated with greater depression, negative affect, and sleeping problems in multiracial individuals,<sup>65,67</sup> but this relationship is mediated by multiracial identity.<sup>67</sup> Therefore, future research should investigate the experiences of discrimination, perceived stress, and mental health outcomes of multiracial college students as well as the identity unique to multiracial individuals' experiences. Moreover, we did not differentiate between distinct cultures, which may obfuscate our findings. For instance, research has shown that there are unique within-race differences in experiences and coping related to microaggressions specific to Asian American (e.g., Chinese, Korean, Filipinx) and Latinx American (e.g., Puerto Rican, Mexican, Cuban) groups.<sup>68</sup> Future health disparities research should attempt to include more fine-grained categories of inter- and intracultural differences to move the field forward. Additionally, we did not have adequate sample sizes to examine whether participants' experiences of discrimination differed on the basis of the racial and ethnic demographics at their respective universities. As many predominantly White universities, by definition, are likely to have relatively low enrollment of racial and ethnic minority students, future research may need to oversample students from underrepresented communities in order to undertake a rigorous examination of differences and commonalities in student experiences across university environments. Finally, future research should aim to examine whether the appraised stress from discrimination mediates the relationship between the type of discriminatory experience and perpetrator and mental health symptoms. Further, since the relationships between appraised stress and mental health outcomes differed between racial groups, this work should examine whether this pattern differs as a function of student race.

### Conclusion

Despite calls for antiracist institutional reform on college campuses,<sup>5,7,10,50</sup> this study found that several forms of individual and institutional racial discrimination are still present and are associated with myriad mental health issues among college students. As such, we implore the scientific community to conduct more rigorous investigations focused on (a) preventing discriminatory language and practices across social structures *and* (b) treating the chronic stress and psychological consequences of racial discrimination among ethnic and racial minority groups. Furthermore, this work underscores the importance of implementing individual- and institutional-level antiracism interventions in universities to mitigate the pervasive negative experiences of racial and ethnic minority students.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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## Data Availability Statement:

Data and analytic outputs are available at DOI:[10.17605/OSF.IO/9WVVGX](https://doi.org/10.17605/OSF.IO/9WVVGX)

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**Table 1.** Percent of Lifetime Perceived Racial/Ethnic Discrimination by Racial/Ethnic Identity (non-exclusive groups)

	Sample Size (n =)	AI/AN 58	Asian 240	Black/African American 384	Hispanic/Latinx 562	NH/PI 23	ME/NA 32	Other 155	White 1,511	Total Sample 2,223
*How often have you been treated unfairly by ...										
Teachers and professors		63.8%	56.5%	61.7%	49.8%	34.8%	46.9%	57.8%	26.9%	37.5%
Employers, bosses, and supervisors		37.5%	29.1%	43.3%	31.2%	18.2%	25.0%	39.2%	16.3%	23.4%
Co-workers, fellow students and colleagues		56.1%	57.4%	57.8%	46.3%	38.1%	53.1%	55.3%	26.7%	36.6%
People in service jobs (e.g., by store clerks, waiters)		52.6%	49.2%	58.6%	43.0%	17.4%	31.3%	52.3%	20.7%	31.6%
Strangers		63.2%	60.7%	67.3%	54.0%	30.4%	59.4%	63.2%	28.6%	40.2%
People in helping jobs (e.g., medical professionals)		21.1%	20.3%	33.4%	18.9%	13.0%	12.5%	25.3%	8.1%	14.8%
Neighbors		29.3%	27.4%	34.3%	26.7%	21.7%	25.0%	27.5%	11.2%	17.9%
Institutions (e.g., schools, universities, the police)		31.0%	31.6%	44.6%	25.7%	27.3%	21.9%	33.1%	13.1%	21.3%
People that you thought were your friends		41.4%	36.7%	42.0%	29.6%	26.1%	29.0%	29.7%	17.6%	24.0%
*How often...										
Have you been accused or suspected of doing something wrong (such as stealing, cheating, not doing your share of the work, or breaking the law)		40.4%	21.7%	51.6%	32.2%	26.1%	21.9%	39.2%	12.6%	21.6%
Have people misunderstood your intentions/motives because of your race/ethnic group		47.4%	35.4%	57.3%	34.5%	26.1%	34.4%	39.6%	20.2%	29.4%
Did you want to tell someone off for being racist towards you but you didn't say anything		55.2%	53.8%	61.2%	44.2%	21.7%	53.1%	53.2%	25.1%	35.3%
Have you been really angry about something racist that was done to you		58.6%	51.0%	64.6%	43.9%	34.8%	45.2%	54.9%	22.9%	34.4%
Have you been forced to take drastic steps (such as filing a grievance, filing a lawsuit, quitting your job, moving away, and other act)		20.7%	7.1%	18.6%	10.3%	13.0%	9.4%	10.6%	5.1%	8.0%
Have you been called a racist name		63.8%	57.7%	53.7%	50.6%	43.5%	68.8%	51.7%	33.6%	40.1%
Have you gotten into an argument or a fight about something racist that was done to you or done to another member of your race/ethnic group		46.6%	34.5%	45.8%	38.1%	34.8%	37.5%	42.5%	20.9%	27.1%
How often have you been made fun of, picked on, pushed, shoved, hit, or threatened with harm because of your race/ethnic group		44.8%	36.3%	34.2%	29.0%	13.6%	31.3%	30.5%	17.5%	22.4%

Note.

\* We calculated whether a student had experienced a specific discriminatory event by collapsing responses on lifetime frequency (i.e., 0 = never, 1 = at least once in a while or more frequently) due to the low number of the total sample experiencing such events (averages in frequency ranged between never and once in a while). Participants had the option to select all racial and ethnic identities with which

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they identified. This table reflects the multifaceted nature of participants' identities in representing participants with multiple racial and ethnic identities in each group they selected (e.g., responses from participants who identified both as Asian and Black or African American are included in both columns). AI/AN = American Indian or Alaska Native; NH/PI = Native Hawaiian or Pacific Islander; ME/NA = Middle Eastern or North African.



**Table 2.** Percent of Past Year Perceived Racial/Ethnic Discrimination by Racial/Ethnic Identity (non-exclusive groups)

	Sample Size (n =)	AI/AN 58	Asian 240	Black/African American 384	Hispanic/Latinx 564	NH/PI 23	ME/NA 32	Other 156	White 1,516	Total Sample 2,230
*How often have you been treated unfairly by ...										
Teachers and professors		27.6%	22.5%	33.3%	22.9%	17.4%	28.1%	29.5%	12.1%	18.4%
Employers, bosses, and supervisors		22.8%	19.6%	32.6%	21.7%	19.0%	18.8%	24.0%	11.4%	17.0%
Co-workers, fellow students and colleagues		40.4%	38.4%	45.4%	31.7%	28.6%	50.0%	38.2%	19.9%	27.2%
People in service jobs (e.g., by store clerks, waiters)		43.1%	35.3%	47.5%	33.7%	8.7%	31.3%	40.9%	16.7%	25.2%
Strangers		54.4%	45.0%	58.7%	42.5%	21.7%	50.0%	54.5%	21.2%	32.0%
People in helping jobs (e.g., medical professionals)		19.0%	15.0%	26.2%	14.2%	13.6%	12.5%	17.4%	6.4%	11.5%
Neighbors		27.6%	13.3%	24.6%	18.4%	13.0%	21.9%	19.2%	7.6%	12.2%
Institutions (e.g., schools, universities, the police)		29.3%	23.6%	34.7%	21.1%	17.4%	15.6%	26.1%	10.2%	16.9%
People that you thought were your friends		26.3%	24.2%	31.3%	19.7%	18.2%	28.1%	18.2%	12.3%	17.3%
*How often...										
Have you been accused or suspected of doing something wrong (such as stealing, cheating, not doing your share of the work, or breaking the law)		28.1%	12.0%	37.5%	19.2%	21.7%	12.5%	26.1%	8.2%	14.6%
Have people misunderstood your intentions/motives because of your race/ethnic group		36.8%	24.7%	47.7%	25.4%	21.7%	21.9%	31.2%	16.3%	23.6%
Did you want to tell someone off for being racist towards you but you didn't say anything		52.6%	43.6%	50.5%	35.4%	22.7%	41.4%	44.4%	19.8%	28.8%
Have you been really angry about something racist that was done to you		44.8%	40.2%	50.0%	30.6%	34.8%	37.5%	37.0%	15.9%	25.5%
Have you been forced to take drastic steps (such as filing a grievance, filing a lawsuit, quitting your job, moving away, and other act)		13.8%	5.4%	14.9%	8.5%	8.7%	15.6%	10.4%	4.2%	6.7%
Have you been called a racist name		43.1%	34.9%	37.9%	30.3%	26.1%	48.4%	30.7%	20.1%	25.1%
Have you gotten into an argument or a fight about something racist that was done to you or done to another member of your race/ethnic group		32.8%	22.5%	33.2%	28.7%	26.1%	37.5%	34.4%	14.5%	19.9%
How often have you been made fun of, picked on, pushed, shoved, hit, or threatened with harm because of your race/ethnic group		24.6%	19.7%	22.5%	15.3%	8.7%	22.6%	15.6%	9.6%	13.1%

Note.

\* We calculated whether a student had experienced a specific discriminatory event by collapsing responses on past year frequency (i.e., 0 = never, 1 = at least once in a while or more frequently) due to the low number of the total sample experiencing such events (averages in frequency ranged between never and once in a while). Participants had the option to select all racial and ethnic identities with which

they identified. This table reflects the multifaceted nature of participants' identities in representing participants with multiple racial and ethnic identities in each group they selected (e.g., responses from participants who identified both as Asian and Black or African American are included in both columns). AI/AN = American Indian or Alaska Native; NH/PI = Native Hawaiian or Pacific Islander; ME/NA = Middle Eastern or North African.

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**Table 3.** ANOVA Results for Appraised Stress by Racial/Ethnic Identity (exclusive groups [only selected one racial/ethnic group])

	Asian (n = 95)	Black (n = 163)	Latinx (n = 81)	White Non-Hispanic (n = 175)	Significant Differences	F	p	$\eta^2$
Teachers and professors	3.48 (1.34)	3.79 (1.42)	3.94 (1.34)	3.29 (1.34)	Black, Latinx > White	6.02	<.001	.034
Employers, bosses, and supervisors	Asian (n = 55)	Black (n = 112)	Latinx (n = 54)	White Non-Hispanic (n = 113)	Significant Differences	F <td>p <td><math>\eta^2</math></td> </td>	p <td><math>\eta^2</math></td>	$\eta^2$
	3.65 (1.34)	4.20 (1.29)	3.85 (1.42)	3.59 (1.18)	Black > White	4.65	.003	.041
Co-workers, fellow students and colleagues	Asian (n = 95)	Black (n = 143)	Latinx (n = 74)	White Non-Hispanic (n = 186)	Significant Differences	F <td>p <td><math>\eta^2</math></td> </td>	p <td><math>\eta^2</math></td>	$\eta^2$
	3.47 (1.41)	3.87 (1.38)	3.82 (1.44)	2.88 (1.22)	Asian, Black, Latinx > White	17.93	<.001	.098
People in service jobs (e.g., by store clerks, waiters)	Asian (n = 90)	Black (n = 155)	Latinx (n = 72)	White Non-Hispanic (n = 110)	Significant Differences	F <td>p <td><math>\eta^2</math></td> </td>	p <td><math>\eta^2</math></td>	$\eta^2$
	3.21 (1.43)	3.63 (1.34)	3.67 (1.52)	2.85 (1.12)	Black, Latinx > White	9.18	<.001	.061
Strangers	Asian (n = 99)	Black (n = 167)	Latinx (n = 81)	White Non-Hispanic (n = 163)	Significant Differences	F <td>p <td><math>\eta^2</math></td> </td>	p <td><math>\eta^2</math></td>	$\eta^2$
	3.34 (1.35)	3.69 (1.36)	3.64 (1.65)	2.73 (1.12)	Asian, Black, Latinx > White	16.29	<.001	.088
People in helping jobs (e.g., medical professionals)	Asian (n = 42)	Black (n = 88)	Latinx (n = 33)	White Non-Hispanic (n = 47)	Significant Differences	F <td>p <td><math>\eta^2</math></td> </td>	p <td><math>\eta^2</math></td>	$\eta^2$
	3.21 (1.30)	3.85 (1.34)	3.97 (1.51)	3.13 (1.12)	Black, Latinx > White	5.19	.002	.070
Neighbors	Asian (n = 47)	Black (n = 79)	Latinx (n = 41)	White Non-Hispanic (n = 52)	Significant Differences	F <td>p <td><math>\eta^2</math></td> </td>	p <td><math>\eta^2</math></td>	$\eta^2$
	2.83 (1.39)	3.52 (1.24)	3.46 (1.45)	2.98 (1.28)	Black > Asian	3.74	.012	.050
Institutions (e.g., schools, universities, the police)	Asian (n = 55)	Black (n = 122)	Latinx (n = 43)	White Non-Hispanic (n = 82)	Significant Differences	F <td>p <td><math>\eta^2</math></td> </td>	p <td><math>\eta^2</math></td>	$\eta^2$
	3.73 (1.46)	3.89 (1.49)	4.37 (1.53)	3.07 (1.30)	Black, Latinx > White	8.97	<.001	.083
People that you thought were your friends	Asian (n = 55)	Black (n = 115)	Latinx (n = 40)	White Non-Hispanic (n = 116)	Significant Differences	F <td>p <td><math>\eta^2</math></td> </td>	p <td><math>\eta^2</math></td>	$\eta^2$
	3.60 (1.42)	3.70 (1.29)	3.78 (1.48)	3.12 (1.26)	Black, Latinx > White	4.67	.003	.042
	Asian (n = 33)	Black (n = 137)	Latinx (n = 51)	White Non-Hispanic (n = 59)	Significant Differences	F <td>p <td><math>\eta^2</math></td> </td>	p <td><math>\eta^2</math></td>	$\eta^2$

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Have you been accused or suspected of doing something wrong (such as stealing, cheating, not doing your share of the work, or breaking the law)	3.82 (1.59)	4.05 (1.34)	3.82 (1.58)	3.47 (1.43)	None	2.24	.083	.024
	Asian (n = 60)	Black (n = 154)	Latinx (n = 58)	White Non-Hispanic (n = 151)	Significant Differences	F	p	$\eta^2$
Have people misunderstood your intentions/motives because of your race/ethnic group	3.12 (1.46)	3.60 (1.40)	3.71 (1.44)	2.99 (1.26)	Black, Latinx > White	7.19	<.001	.049
	Asian (n = 87)	Black (n = 166)	Latinx (n = 58)	White Non-Hispanic (n = 148)	Significant Differences	F	p	$\eta^2$
Did you want to tell someone off for being racist towards you but you didn't say anything	3.61 (1.36)	4.06 (1.41)	4.28 (1.55)	3.26 (1.35)	Black, Latinx > White Latinx > Asian	11.69	<.001	.072
	Asian (n = 85)	Black (n = 163)	Latinx (n = 70)	White Non-Hispanic (n = 138)	Significant Differences	F	p	$\eta^2$
Have you been really angry about something racist that was done to you	3.74 (1.36)	3.95 (1.42)	4.20 (1.50)	3.18 (1.32)	Asian, Black, Latinx > White	11.17	<.001	.069
	Asian (n = 8)	Black (n = 53)	Latinx (n = 16)	White Non-Hispanic (n = 33)	Significant Differences	F	p	$\eta^2$
Have you been forced to take drastic steps (such as filing a grievance, filing a lawsuit, quitting your job, moving away, and other act)	3.50 (1.07)	3.91 (1.46)	4.31 (1.70)	3.27 (1.07)	None	2.56	.059	.067
	Asian (n = 77)	Black (n = 133)	Latinx (n = 62)	White Non-Hispanic (n = 177)	Significant Differences	F	p	$\eta^2$
Have you been called a racist name	3.12 (1.38)	3.77 (1.63)	3.34 (1.67)	2.31 (1.26)	Asian, Black, Latinx > White Black > Asian	27.06	<.001	.154
	Asian (n = 52)	Black (n = 110)	Latinx (n = 54)	White Non-Hispanic (n = 107)	Significant Differences	F	p	$\eta^2$
Have you gotten into an argument or a fight about something racist that was done to you or done to another member of your race/ethnic group	3.52 (1.36)	3.85 (1.34)	4.20 (1.48)	3.04 (1.23)	Black, Latinx > White	11.36	<.001	.096
	Asian (n = 51)	Black (n = 82)	Latinx (n = 41)	White Non-Hispanic (n = 102)	Significant Differences	F	p	$\eta^2$
How often have you been made fun of, picked on, pushed, shoved, hit, or threatened with harm because of your race/ethnic group	3.41 (1.36)	3.55 (1.29)	4.02 (1.47)	3.02 (1.36)	Latinx > White	5.89	.001	.061
	Asian (n = 51)	Black (n = 82)	Latinx (n = 41)	White Non-Hispanic (n = 102)	Significant Differences	F	p	$\eta^2$

Note. Values under each racial/ethnic group represent Means ( $J = \text{not at all stressful}$ ,  $6 = \text{extremely stressful}$ ) and SDs for perceived stress associated with each type of discriminatory event or context. Significant mean differences across groups were determined with post-hoc multiple comparisons with a Bonferroni correction. We ran ANOVAs comparing the appraisal across exclusive (i.e., only selected one racial/ethnic group) racial/ethnic groupings.

**Table 4.** Correlations between Domains of the DSM-5 level 1 Measure and Appraised Stress from Perceived Racial/Ethnic Discrimination Transgressions

	Sample Size	Depression	Anger	Anxiety	Suicidal Ideation	Sleep Disturbance
Teachers and professors	785	.12***	.10**	.13***	.07	.06
Employers, bosses, and supervisors	495	.10*	.08	.14***	.03	.04
Co-workers, fellow students and colleagues	752	.17***	.15***	.21***	.12**	.13**
People in service jobs (e.g., by store clerks, waiters)	646	.16***	.14***	.21***	.12**	.07
Strangers	797	.11**	.09*	.16***	.13***	.02
People in helping jobs (e.g., medical professionals)	300	.11	.12*	.18**	.16**	.13*
Neighbors	351	.07	.07	.06	.18**	.01
Institutions (e.g., schools, universities, the police)	440	.06	.04	.09	.03	.01
People that you thought were your friends	487	.20***	.14**	.22***	.13**	.17***
Have you been accused or suspected of doing something wrong (such as stealing, cheating, not doing your share of the work, or breaking the law)	436	.06	.04	.14**	.04	-.05
Have people misunderstood your intentions/motives because of your race/ethnic group	598	.13**	.12**	.21***	.13**	.08
Did you want to tell someone off for being racist towards you but you didn't say anything	699	.15***	.07	.15***	.06	.09*
Have you been really angry about something racist that was done to you	699	.14***	.09*	.19***	.06	.10**
Have you been forced to take drastic steps (such as filing a grievance, filing a lawsuit, quitting your job, moving away, and other act)	164	.07	.03	.34***	.06	.10
Have you been called a racist name	697	.11**	.07	.15**	.13***	.12**
Have you gotten into an argument or a fight about something racist that was done to you or done to another member of your race/ethnic group	524	.07	.11*	.18**	.09*	.05
How often have you been made fun of, picked on, pushed, shoved, hit, or threatened with harm because of your race/ethnic group	432	.16**	.10*	.22***	.11*	.15**

Note.

\*  $p < .05$ ,

\*\*  $p < .01$ ,

\*\*\*  $p < .001$ .