

## Discrimination Experiences of Female College Students: Implications for Mental Health Outcomes

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### Abstract

**Objective:** Evaluate the association between discrimination and mental health outcomes among female students in a mid-sized college primarily serving minority populations.

**Method:** Association between Everyday Discrimination Scale (EDS) to that of Kessler 6-scale of psychological distress and self-reported perception of mental health were assessed using bivariate and regression analyses.

**Results:** Among 244 female students, the prevalence of mild to moderate psychological distress and serious psychological distress was 32% and 17%, respectively, and 36% reported poor self-perceived mental health. High mean EDS score was related to having serious psychological distress (mean = 3.95) and reporting poor self-perceived mental health (mean = 3.38). Logistic regression analysis demonstrated that, for every unit increase in the EDS score, there is a 44% higher likelihood of increasing psychological distress level and 32% increase in self-perceived poor mental health status. Most common reasons for discrimination noted were race/ethnicity, gender identity, and other, which further included physical appearance and financial status.

**Conclusion:** The findings call to action campus-based mental health resources, especially among marginalized young adults that feel discriminated against. Initiatives such as, peer education and creation of safe spaces may help alleviate such a burden.

**Keywords:** Discrimination, Mental health, Gender identity, Racism, College students, Young adults

### Introduction

Discrimination is a key social determinant of health that is known to negatively impact health outcomes, including coping mechanisms [1], self-perceived health [2], as well as chronic health outcomes [3]. In recent years, the prevalence of discriminatory practices has risen across the nation with substantial public health efforts currently dedicated to analyzing the everyday discrimination experiences of Americans [4]. Such experiences also have substantial implications for mental health outcomes.

One population that disproportionately shares a higher burden of mental illness are young adults. For example, while current data notes that 25% of American adults have a mental illness [5], 75% of such onset occurs in mid-20s [6,7]; demonstrating the higher burden among young adults. Furthermore, results from the World Health Organization Mental Health Surveys further note that approximately 20% of college students reported a 12-month DSM-IV/Composite International Diagnostic Interview disorders, which included anxiety, mood, behavioral, and substance disorders [8]. In the U.S., survey by the American College Health Association noted over 50% prevalence of feelings of hopelessness and nearly 40% feelings of depression among college students in the past 12 months [9]. In addition, poor mental health status among young adults has been further associated with violence [10] and other unhealthy behaviors, such as tobacco use [11]. Undoubtedly, understanding the various discrimination experiences, especially those beyond racial/ethnic, is critical. Furthermore, whether such discrimination experiences play a substantial role in mental health status of young adults, especially those of college-age, independent of only racial discrimination, remains limited. As such, this study aimed to address the prevalence of everyday discrimination, types of such experiences, and its role in mental health outcomes among female college students. Given the lack of gender-specific data as well as the distinct

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types of discrimination that females face, including institutional, the goal was to primarily focus on the female college student population to elucidate the unique experiences of the population.

## Methods

### Recruitment and variables

Participants were selected from general education courses to ensure diversity of majors and each participant was given the incentive of extra credit. Students in a large general education course were given opportunity to participate in the study. The Institutional Review Board of California State University, San Bernardino approved this study and a total sample size of 300. A total of 244 female participants were included in this study. Missing values were excluded when appropriate.

The primary variables of interest in this study were discrimination and mental health outcomes. The Everyday Discrimination Scale (EDS), which has been previously utilized in the literature for minority populations, in its original or modified version [12,13] was used to assess discrimination experiences. The EDS score can range from 0 (no discrimination) to 8 (highest level of discrimination). In this study, both the composite score and each independent variable in the scale were used to elucidate the key aspects of discrimination that most impacts college students.

The construct of mental health outcomes was evaluated through two variables: psychological distress and self-perceived mental health status. Psychological distress was assessed using the Kessler-6 scale, a validated measure for mental illness screening [14], in which no psychological distress is marked with a score of 0-7, mild to moderate is marked by score of 8-12, and a score of 13 or more is considered as serious psychological distress [15,16]. To evaluate perceived mental health status, participants were asked to respond *very poor*, *poor*, *average*, *good*, or *excellent* to the question "How would you describe your general mental health status?" Self-perceived mental health status was further dichotomized as poor (reporting *very poor*, *poor*, or *average*) versus good mental health status (reporting *good* or *excellent*).

### Data analysis

First, the association between the EDS score to that of self-perceived mental health status was assessed through independent sample t-test and the association between EDS score to that of psychological distress was evaluated using ANOVA. Next, the relationship between each variable in the EDS to both measures of mental health outcomes (self-perceived and psychological distress), were evaluated using chi-square test for association, with the exception of the variable where respondents reported being threatened or harassed, for which, Fisher's exact test was used due to assumption of chi-square test not being met. Next, logistic regression analysis was conducted to evaluate the association between EDS score and psychological distress (ordinal logistic regression) and self-perceived mental health status (binary logistic regression). All regression models were adjusted for race/ethnicity, grade level, and weight status of participants. Relevant interactions were further assessed. To evaluate if race/ethnicity (Hispanic, White, other) and weight status (obese versus not) were also associated with EDS score, ANOVA and two-sample t-test were used, respectively. Each variable in EDS was also compared to race/ethnicity and weight

using chi-square test for association. All statistical analyses were conducted in SPSS version 24 (IBM, Corp.) and alpha less than .05 was utilized to denote significance.

## Results

### Population characteristics

Table 1 shows the study population characteristics. Of the 244 female college students in our study, prevalence of mild to moderate psychological distress and serious psychological distress was 32% and nearly 17%, respectively. In addition, approximately 36% of the population also reported poor mental health status. The average EDS score was 2.34. When evaluating each EDS variable separately, the type discrimination was varied, with highest prevalence noted among participants reporting that sometimes or always people act as if they are better (61%), followed by, people act as if respondent is not smart (44%), and are treated with less respect than others (36%). In addition, 44% of the population was overweight or obese, 65% were Hispanic, and nearly 53% were third or fourth year students.

### Discrimination and mental health status

The mean EDS score was significantly associated with

**Table 1.** Characteristics of the study population (female college students), n = 244.

Mental health variables		
Psychological Distress	No psychological distress	51.3%
	Mild to moderate psychological distress	32.1%
	Serious psychological distress	16.7%
Self-reported mental health status	Poor	36.1%
	Good	63.9%
Everyday discrimination scale score (mean, SD)		2.34 (2.10)
Everyday discrimination scale variables		
Treated with less respect than other people are	Rarely or never	64.3%
	Sometimes or always	35.7%
Received poorer service than other people at restaurants or stores	Rarely or never	74.5%
	Sometimes or always	25.5%
People act as if they think you are not smart	Rarely or never	56.1%
	Sometimes or always	43.9%
People act as if they are afraid of you	Rarely or never	81.6%
	Sometimes or always	18.4%
People act as if they think you are dishonest	Rarely or never	84.4%
	Sometimes or always	15.6%
People act as if they're better than you are	Rarely or never	39.3%
	Sometimes or always	60.7%
Called names or insulted	Rarely or never	76.2%
	Sometimes or always	23.8%
Threatened or harassed	Rarely or never	89.3%
	Sometimes or always	10.7%
Overweight or obese	No	55.8%
	Yes	44.2%
Race/ethnicity	Other	15.6%
	White	19.3%
	Hispanic	65.2%
Grade level	First or second year	2.90%
	Third or fourth year	52.9%
	Fifth or more year	17.2%

Table 2. Association between discrimination and mental health status.

	Psychological distress			Self-perceived mental health	
	No	Mild to moderate	Serious	Poor	Good
<b>Treated with less respect than other people are<sup>a,b</sup></b>					
Rarely or never	56.8%	32.9%	10.3%	27.4%	72.6%
Sometimes or always	41.2%	30.6%	28.2%	51.7%	48.3%
<b>Received poorer service than other people at restaurants or stores<sup>a,b</sup></b>					
Rarely or never	56.5%	31.1%	12.4%	30.4%	69.6%
Sometimes or always	35.5%	35.5%	29.0%	53.2%	46.8%
<b>People act as if they think you are not smart<sup>a,b</sup></b>					
Rarely or never	60.7%	29.6%	9.6%	25.5%	74.5%
Sometimes or always	39.0%	35.2%	25.7%	49.5%	50.5%
<b>People act as if they are afraid of you<sup>a,b</sup></b>					
Rarely or never	56.1%	30.1%	13.8%	32.7%	67.3%
Sometimes or always	29.5%	40.9%	29.5%	51.1%	48.9%
<b>People act as if they think you are dishonest<sup>a,b</sup></b>					
Rarely or never	56.9%	30.7%	12.4%	31.2%	68.8%
Sometimes or always	18.9%	40.5%	40.5%	63.2%	36.8%
<b>People act as if they're better than you are<sup>a,b</sup></b>					
Rarely or never	63.2%	28.4%	8.4%	20.8%	79.2%
Sometimes or always	43.4%	34.5%	22.1%	45.9%	54.1%
<b>Called names or insulted<sup>a,b</sup></b>					
Rarely or never	57.4%	31.1%	11.5%	29.6%	70.4%
Sometimes or always	31.6%	35.1%	33.3%	56.9%	43.1%
<b>Threatened or harassed<sup>a,b</sup></b>					
Rarely or never	55.1%	30.8%	14.0%	32.1%	67.9%
Sometimes or always	19.2%	42.3%	38.5%	69.2%	30.8%

<sup>a</sup>Significant association between discrimination variable and psychological distress

<sup>b</sup>Significant association between discrimination and self-perceived mental health

psychological distress and self-perceived mental health status. For example, those with serious psychological distress reported the highest EDS score (mean = 3.95, standard deviation [SD] = 2.14), as compared to those with mild to moderate psychological distress (mean = 2.58, SD = 2.07), and no psychological distress reported lower EDS score (mean = 1.65, SD = 1.75). Similarly, those who reported poor self-perceived mental health had a significantly higher EDS score (mean = 3.38, SD = 2.18), when compared to those who reported good self-perceived mental health (mean = 1.76, SD = 1.80).

As further shown in Table 2, when each EDS variable was analyzed separately, there were significant associations between mental health status and each such variable. For instance, results show nearly 41% prevalence of serious psychological distress among participants who reported *sometimes* or *always* to that "People act as if they think you are dishonest," as compared to those reported *rarely* or *never* (12%). Likewise, reporting *sometimes* or *always* to being threatened or harassed was associated with nearly 39% prevalence of serious psychological distress, when compared to reporting *rarely* or *never* (14%).

In addition, there was significant association between each discrimination variable and self-perceived mental health status. For example, respondents who stated *sometimes* or *always* to being threatened or harassed, had a higher prevalence of poor mental health status (69%) as compared to those who reported *rarely* or *never* (32%). Similarly, 63% of respondents stating *sometimes* or *always* to "People act as if they think you are dishonest," had a higher prevalence of poor mental health

perception (63%) compared to their counterparts who reported *rarely* or *never* to the question (31%).

Results of logistic regression analyses further demonstrated that, for every unit increase in the EDS score, there is a 44% higher likelihood of increasing in psychological distress level and 32% increase in self-perceived mental health status (data not shown in table). No further significant associations were found and interaction assessment did not yield significance.

### Discrimination and other characteristics

When evaluating the association between discrimination and race/ethnicity, while the overall EDS score did not yield any significance, results show that among those who reported *sometimes* or *always* to being "Treated with less respect than other people are," a significantly higher prevalence were for Hispanics (52.9%), as compared to Whites (26.4%), and Other (20.7%). Significant association between discrimination and weight status was also found. The EDS score was significantly higher among those who were overweight or obese (mean = 2.65, SD = 2.14), as compared to those who were not (mean = 2.07, SD = 2.00).

As shown in Table 3, participants who reported *sometimes* or *always* to any of the discrimination variables, were further asked to identify what they perceived the underlying reason would be. The most common perceived reasons for discrimination were: race/ethnicity or skin color (25.8%), gender identity or sexual orientation (19.9%), followed by "Other" (16.2%). Qualitative analysis of such responses demonstrated the predominant "Other" perceived reasons for discrimination were: physical appearance,

**Table 3.** Study population perception of reason(s) for discrimination.

Religion	3.7%
Race or ethnicity	18.7%
Skin color	7.1%
Gender identity	17.0%
Sexual orientation	2.9%
Immigration status	2.5%
Disability	1.2%
Other	16.2%

especially related to weight, followed by socioeconomic status. A few also noted factors such as being a single or teen mother as well as age being additional factors.

Next, we combined discrimination reported for race/ethnicity or skin color as one variable in addition to gender identity and sexual orientation as a second variable due to overarching themes and evaluated the prevalence of mental health outcomes among such subgroups. Among those who reported race/ethnicity or skin color-related discrimination, the prevalence of mild to moderate psychological distress was nearly 27% and serious psychological distress was nearly 16%, and 40.3% self-perceived poor mental health status.

Likewise, among those who reported gender identity/sexual orientation-related discrimination, the prevalence of mild to moderate psychological distress and serious psychological distress were approximately 31.7% and 15.0%, respectively, while self-perceived poor mental health status was 43.8%.

## Discussion

In our study, we aimed to expand the literature to assess the role of discrimination on mental health well-being among female college students. Our results demonstrate a substantial relationship between discrimination and psychological distress and self-perceived mental health status. Such results are aligned with the empirical evidence on other populations. For example, in evaluating the relationship between HIV/AIDS related discrimination and mental health, Deb et al. [17] noted that discrimination was substantially related to suicidal ideation and attempts. Likewise, Bogart and colleagues [18] noted that Black men with HIV with perceived discrimination had significantly higher PTSD symptoms. While substantial evaluation of such an association remains low among the general college student population, a study in Mexico City noted that students with darker skin tone were more likely to have lower self-esteem [19]. Hwang and Goto [20] also noted that perceived racial discrimination was related to negative mental health outcomes among Asian and Latino college students.

Our study adds to this body of literature by noting the association between both the overall EDS scale as well as each variable to that of psychological distress and self-perceived mental health status. While self-perceived mental health status can be a subjective assessment of how college students feel, the Kessler scale allows for clinical implications highlighting the severe risk of mental illness among the population and thus the need to alleviate such a burden. While the literature focuses discrimination as race-related in most cases, our study assessed the relationship between any discrimination and mental health outcomes, thus in turn we were able to elucidate

relationship to weight status, as well as identification of gender identity/sexual orientation-related discrimination. Specifically, those who reported gender identity/sexual orientation-related discrimination had a higher rate of self-perceived poor mental health status (43.8% vs. 36%), when compared to overall prevalence noted in the study. Since college campuses can often provide a safe space for marginalized populations, such findings demonstrate the need for culturally-sensitive programs that lead to social integration and improve mental health outcomes. Similarly, those who reported discrimination due to race/ethnicity or skin color, also had a higher prevalence of self-reported poor mental health status than the overall study population (40.3% vs. 36%); cumulatively demonstrating the negative mental health burden among those who perceive discrimination on a routine basis. Given the negative health outcomes related to self-perception of poor mental health status [21], it is critical that interventions to reduce perceived discrimination and coping mechanisms are implemented for such an at-risk population.

The results of our study are not without limitations. We primarily focused on female students and thus our findings are not generalizable to the male college student population. Self-reported data is prone to bias, and given the topic of discrimination and mental health, social desirability biases are inherent and thus the prevalence may be underreported. We did not assess healthcare discrimination and mental healthcare utilization as our primary goal was to evaluate a putative association between the construct of discrimination and mental health outcome, though future studies can assess utilization of services.

Notwithstanding such limitations, our study adds to the current body of literature in several ways. Our results specifically focused on females as most of the literature does not provide gender-specific data and thus may mask unique set of health disparities faced by female young adults. While most studies focus on racial/ethnic discrimination, as noted in our study, gender identity as well as physical appearance, were also major reasons for perceived discrimination, thus highlighting the need for addressing such determinants of mental health outcomes. Furthermore, in addition to self-perceived mental health status, we also assessed psychological distress through Kessler 6-scale, which in turn demonstrates the emerging clinical mental health needs of the population.

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