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Everyday discrimination as a predictor of maladaptive and adaptive eating: Findings from EAT 2018

Cynthia Y. Yoon, PhD, RD^{1,2}, Vivienne M. Hazzard, PhD, MPH, RD³, Rebecca L. Emery, PhD⁴, Susan M. Mason, PhD, MPH¹, Dianne Neumark-Sztainer, PhD, MPH, RD¹

¹Division of Epidemiology and Community Health, School of Public Health, University of Minnesota, Minneapolis, Minnesota, USA 55454

²University of Houston, Department of Health and Human Performance, Houston, Texas, 77204

³Sanford Center for Biobehavioral Research, 120 Eight St S, Fargo, ND 58103, USA

⁴University of Minnesota Medical School, Duluth campus, Department of Family Medicine and Biobehavioral Health, Duluth, Minnesota, 55812

Abstract

Various types of stressors are associated with maladaptive eating, but how the stressor of everyday discrimination (e.g., less respect, poorer service) relates to maladaptive eating and adaptive eating remains unclear. We examined everyday discrimination as a predictor of maladaptive and adaptive eating. Data were collected in a population-based study, Eating and Activity over Time (N=1410, ages 18-30). Everyday discrimination was categorized as none, low, moderate, or high. Outcomes included maladaptive eating (i.e., overeating and binge eating) and adaptive eating (i.e., intuitive eating and mindful eating). Modified Poisson regressions estimated the prevalence ratios (PRs) for overeating and binge eating associated with everyday discrimination. Linear regressions estimated associations between everyday discrimination and intuitive and mindful eating scores. After adjustment for age, ethnicity/race, gender, and socioeconomic status, moderate and high levels of discriminatory experiences were each associated with a significantly greater prevalence of binge eating (PR=2.2, [95% CI=1.3-3.7] and PR=3.1, [95% CI=2.0-4.7], respectively) and lower intuitive ($\beta=-0.4$, [95% CI=-0.7, -0.2] and $\beta=-0.5$ [95% CI=-0.8, -0.3], respectively), and mindful eating scores ($\beta=-0.3$, [95% CI=-0.6, -0.1] and $\beta=-0.5$ [95% CI=-0.8, -0.3], respectively) compared to young adults with no discriminatory experience. Public health efforts to prevent maladaptive eating and encourage the adoption of adaptive eating should consider the potential contribution of everyday discrimination and the need to advocate for equity and inclusion.

Corresponding author Cynthia Yoon, PhD, RD, University of Houston, Department of Health and Human Performance, 3875 Holman Street, Houston, TX 77204 USA.

Ethics Statement

All research was performed in accordance with the Declaration of Helsinki. The Institutional Review Board Human Subjects Committee at the University of Minnesota approved all protocols used in EAT 2018 and all participants provided informed consent before taking part in study procedures.

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Keywords

Everyday Discrimination; Overeating; Binge Eating; Intuitive Eating; Mindful Eating

1 Introduction

Stressors, including discriminatory experiences, are prevalent among adults and can range from major threats to one's well-being to subtle insults or daily hassles (1). Although research on discrimination has grown exponentially over the past decade, most studies on discrimination in maladaptive eating (e.g., overeating, binge eating, and emotional eating) have focused on discrimination that is explicitly related to ethnicity/race (2-4) and weight (5-7).

To fully understand discriminatory experiences' impact on maladaptive eating, it is crucial to examine not only major discriminatory experiences, such as those discriminatory experiences related to ethnicity/race and weight that may affect employment but also, more subtle forms of everyday discrimination such as discrimination related to respect or customer service (8-13).

Everyday discrimination often functions as a stressor (14,15), which can prompt negative emotions that affect an individual's cognitive capacity for self-control and self-regulation (14) and lead to lower self-worth and self-efficacy for coping from everyday discrimination related distress. Consequently, individuals who experience everyday discrimination have been shown to engage in maladaptive eating, including binge eating (9), emotional eating, or eating foods high in fat and sugar (9,16,17), as a means to cope with or avoid the stress arising from such experiences (8,9,18,19).

Few studies of everyday discrimination and eating have extended the outcomes beyond maladaptive eating to include adaptive eating (20). Adaptive eating, such as intuitive and mindful eating, is gaining attention as an effective weight management method and is associated with positive health outcomes (21-27). Intuitive eating and mindful eating are two distinct but related eating behaviors. Intuitive eating is defined as a tendency to eat when one is hungry; eat the food one desires; understand how food is associated with the body's physical sensation; and use these physical cues to determine what, when, and how much to eat (28,29). Mindful eating emphasizes paying attention to the present moment while eating (30) and to food's effect on the senses as well as being aware of one's physical and emotional sensations in response to eating (31). Both intuitive and mindful eating focus on using internal and physiological hunger and satiety cues rather than emotional or external cues to eat (25,28,29,32). To date, only a small number of studies have identified predictors of intuitive eating and mindful eating (20,33,34), none of which have examined discrimination as a potential predictor. Thus, it remains unclear whether everyday discriminatory experiences are predictors and barriers of adaptive eating. Exploring experiences of everyday discrimination as determinants of maladaptive and adaptive eating has implications at both the individual and the societal levels, including tailoring support for health behaviors, as well as developing policies and programs to reduce and prevent discrimination and its impacts.

In response to the gaps identified in the literature, this study primarily aims to examine the association of everyday discrimination with maladaptive eating (i.e., overeating and binge eating) and adaptive eating (i.e., intuitive eating and mindful eating) in a large population-based, racially and sociodemographically diverse sample of young adults. We hypothesized that experiences of everyday discrimination would be associated with a greater prevalence of maladaptive eating (overeating and binge eating) and lower adaptive eating scores (intuitive eating and mindful eating).

2 Methods

2.1 Study Design and Population

Eating and Activity over Time (EAT 2018) is the follow-up study of Eating and Activity in Teens (2010), an epidemiologic study examining eating, activity, and weight-related health and associated factors among middle-school and senior high school students in Minneapolis-St. Paul, Minnesota (N=2793) (35-37). At EAT 2018, participants were followed-up through online or mailed paper surveys. All study procedures were approved by the University of Minnesota's Institutional Review Board Human Subjects Committee.

This present cross-sectional study was carried out using survey data from EAT 2018, collected in 2017-2018 from 1568 emerging adults. Participants with missing information about discriminatory experiences (n=54), eating behaviors (n=32), or key covariates (n=72) were excluded, leaving an analytic sample size of 1410 participants. The analytic sample of 1410 represents 90% of the 1568 respondents to EAT 2018. Participants in the present study had a mean age of 22.0 ± 2.0 (range 18-30) years, and 59% were women.

As attrition from EAT 2010 to EAT 2018 did not occur completely at random, inverse probability weighting (IPW) was used for all analyses to minimize potential response bias due to missing data (38,39) and to extrapolate back to the original EAT 2010 school-based sample. Weights for IPW were derived as the inverse of the estimated probability that an individual responded to EAT 2018 based on several characteristics reported in 2010, including demographics, past year frequency of dieting, and weight status. There were no significant differences between the analytic sample of this study and the full EAT 2010 sample in demographic characteristics, dieting, or weight status ($p>0.9$). In the weighted analytic sample of this study, the ethnicity/race distribution was 20 % White, 28% African American or Black, 20% Asian American, 17% Hispanic, 4% Native American, and 11% mixed or other.

2.2 EAT Survey Development

Test-retest reliability of measures was assessed at EAT 2010 in a diverse sample of 129 adolescents over a week. At EAT 2018, test-retest reliability of measures was measured twice within a period of three weeks in a diverse sample of 112 emerging adults (35,40,41).

2.3 Measurements

2.3.1 Everyday discrimination questions—In epidemiological studies, limited numbers of items are generally used to lessen the burden of participants completing the

survey. For this reason, of the five-item short version of the Everyday Discrimination Scale (42,43), three everyday discriminatory experiences that have been reported to be most prevalent (44,45) were used to assess everyday discrimination in this study. Those three discriminatory experiences include being treated with less respect or courtesy than others, receiving poor service, and other people acting as if they think you are not smart or clever. Responses were scored on a 5-point scale from “never” to “at least once a week”. Items were summed, with higher scores indicating greater everyday discrimination. Based on prior studies (46) and by examining the distribution of the summed scores, scores were further categorized into quartiles: none (score=0), low (score > 0 and < 2), moderate (score >2 and < 6), and high (> 6). Details of the verbatim questions and response options are described in Table 1.

2.3.2 Maladaptive eating and adaptive eating—Variables for this study include maladaptive eating (i.e., overeating and binge eating) and adaptive eating (i.e., intuitive eating and mindful eating). Items used to assess overeating and binge eating were adapted from the Minnesota Adolescent Health Survey (47) and Questionnaire on Eating and Weight Patterns-Revised (48). Items used to assess intuitive eating and mindful eating were adapted from the Intuitive Eating Scale (49) and Mindful Eating Questionnaire (50), respectively. Details of maladaptive eating and adaptive eating are provided in Table 1.

2.3.3 Covariates—Covariates used for this study include age, ethnicity/race, gender, socioeconomic status, and body mass index (BMI) assessed in EAT 2018. Details are provided in Table 1.

2.4 Statistical Analysis

Participants’ demographic characteristics are presented as descriptive statistics. T-tests and chi-square tests were performed to examine differences among none, low, moderate, and high levels of discriminatory experiences. To estimate the associations between everyday discriminatory experiences and the prevalence of overeating and binge eating, multivariable modified Poisson regression models (51) were run, and prevalence ratios (PRs) and 95% confidence intervals (CIs) were reported. To examine the associations of discriminatory experiences with each adaptive eating outcome (intuitive eating and mindful eating scores), multivariable linear regression models were conducted. For each linear regression model, β coefficients and 95% CIs were reported. Interactions between gender and each discriminatory experience were tested to determine whether the associations between discriminatory experiences and eating behaviors statistically differed between women and men. Interaction terms between gender and discriminatory experience predicting eating behaviors were not statistically significant ($p=.43$ for overeating, $p=.21$ for binge eating, $p=.08$ for intuitive eating, and $p=.63$ for mindful eating); thus, we did not stratify analyses by gender. For our primary analyses, models were adjusted for age, ethnicity/race, gender, and parental socioeconomic status. Body mass index (BMI) in EAT 2018 was further adjusted in the fully adjusted models, to address the potential that higher body weight increases likelihood of experiencing everyday discrimination, engagement in maladaptive eating, and difficulty in adopting adaptive eating. All models were weighted so that

the estimates reflect the original EAT 2010 sample population. Statistical analyses were conducted using SAS 9.4 (SAS Institute Inc., Cary, NC).

3 Results

3.1 Everyday discrimination across sociodemographic variables

Of the 1410 participants, 34% (n=475) were categorized as having experienced no discrimination; 14% (n=204) had low discrimination; 29% (n=412) had moderate discrimination; and 23% (n=319) had high discrimination (Table 2). The prevalence of experiences of everyday discrimination was lower in the normal weight category (BMI between 18.5 and 24.9) than in other weight categories. No significant differences in discrimination were found by age, ethnicity/race, gender, or parental socioeconomic status. (Table 2).

Among the 475 participants who had not experienced any discrimination, 13% (n=61) reported overeating, and 6% (n=33) reported binge eating. The mean intuitive eating score was 5.8 (SD = 1.7), and the mean mindful eating score was 8.0 (SD = 2.0), where higher scores indicate greater intuitive and mindful eating (Table 3). Proportions of overeating and binge eating increased, and intuitive eating and mindful eating scores decreased, across the everyday discrimination categories (Table 3).

3.2 Associations between everyday discrimination and maladaptive eating

Among young adults, relative to no discrimination, a high level of everyday discrimination was associated with overeating (PR=2.3, [95% CI=1.7-3.2]) after adjustment for sociodemographic variables. High and moderate levels of everyday discrimination were each associated with binge eating (PR=3.1, [95% CI=2.0-4.7] and PR=2.2 [95% CI=1.3-3.7], respectively) (Figure 1, Table 4). Associations of moderate everyday discrimination with overeating and associations of low level of everyday discrimination with overeating and binge eating showed greater prevalence of overeating and binge eating than those with no discrimination, although the point estimates were modest, and the 95% CI overlapped the null value. Little to no change in results was observed after further adjustment for BMI.

3.3 Associations between everyday discrimination and adaptive eating

High and moderate levels of everyday discrimination were each associated with lower scores of intuitive eating ($\beta = -0.5$ [95% CI = $-0.8, -0.3$] and $\beta = -0.4$ [95% CI = $-0.7, -0.2$], respectively) and mindful eating ($\beta = -0.5$ [95% CI = $-0.8, -0.3$] and $\beta = -0.3$, [95% CI = $-0.6, -0.1$], respectively) relative to no discrimination, after the adjustment for sociodemographic variables. Low everyday discrimination was associated with lower scores of intuitive eating and mindful eating than those with no discrimination, although the 95% CI included the null values (Figure 1, Table 4). There was little to no change in the results in the fully adjusted models.

4 Discussion

The objective of the current study was to examine the association of experiences of everyday discrimination with maladaptive and adaptive eating. In this study, we found that experiences of moderate and high levels of discrimination were associated with a greater prevalence of maladaptive eating (i.e., binge eating) and lower scores of intuitive eating (i.e., intuitive eating and mindful eating) compared to no experience of discrimination. Such relationships between discrimination and maladaptive and adaptive eating in this study were maintained even after accounting for BMI, which suggests that the association does not result from those with higher weight statuses both experiencing more discrimination and engaging in certain eating behaviors (14,15).

Our finding of a greater prevalence of maladaptive eating among participants who experienced discrimination aligns with the stress literature suggesting that perceived stress is related to eating disorder pathology, binge eating, and emotional eating (7,9,20,52-55). We further contribute to the literature by reporting significant associations even after adjustment for BMI, which further suggests that everyday discrimination is associated with maladaptive eating, irrespective of body weight. Several theories support our findings by positioning everyday discrimination as a social stressor (14,15) that has serious impacts on health outcomes (56). Stress stemming from everyday discriminatory experiences may trigger negative emotions, decrease self-control capability and impair self-regulation (14), leading individuals to engage in binge eating (9,20) or other uncontrolled eating behaviors, such as emotional eating (7,54,55), to cope with such experiences (16,17). The likelihood of engaging in maladaptive eating may be further exacerbated among individuals who face everyday discrimination due to limited strategies to combat or respond to such events (57,58).

In addition to the findings between everyday discrimination and maladaptive eating, a notable finding of the present study was that experiences of discrimination were associated with lower scores of intuitive eating and mindful eating. Our finding illustrates that everyday discrimination not only trigger engagement in maladaptive eating as a coping strategy but may also operate as barriers for adopting adaptive eating. To the best of our knowledge, only three studies have been conducted to identify predictors of intuitive eating (20,33,34), and while one study has examined the association between perceived stress and intuitive eating (20), no studies have assessed the association of everyday discrimination with intuitive or mindful eating.

Another contribution of our study was the inclusion of both men and women in the examination of the effects of everyday discrimination on maladaptive and adaptive eating. Although prior research has suggested gender differences in responses to perceived stress (59), we found associations of everyday discrimination with maladaptive and adaptive eating to be similar across women and men.

The present study's strengths include its assessment of everyday discrimination, which is a form of discrimination that has been less frequently studied compared to more major forms of discrimination related to ethnicity/race and weight. In addition to the large number

of studies examining the relationship between discrimination and health (8,60,61), we add that everyday discrimination affects eating behaviors. Our study further contributes to understanding of the relationships of daily discrimination experiences with eating behaviors in young adults (aged 18-30 years), a population that has been understudied in assessments of discrimination and eating behaviors. Another strength of our study is the large sample and inclusion of both men and women, which allowed to control for sociodemographic variables and BMI. Using data from a population-based study, rather than from clinical samples, broadens the applicability of our findings to a more generally healthy population. Despite our study's strengths, we acknowledge several limitations. First, participants were drawn from the Minneapolis-St. Paul metropolitan area, which limits the study's generalizability to other geographical regions outside of the midwestern United States. Second, experiences of discrimination were retrospectively assessed and self-reported, which raises the possibility of recall bias. Third, the retrospectively assessed experiences of discrimination using three items from the Everyday Discrimination Scale (EDS) short version rather than the full measure further limits our ability to understand how a broader array of everyday discriminatory experiences impacts eating behaviors. Relatedly, the attributions for everyday discriminatory experiences (e.g., weight, race, gender) were not assessed. Thus, our study does not allow us to examine the extent to which the attribution of discrimination may modify the association of discrimination with eating behaviors. Fourth, maladaptive eating behaviors (i.e., overeating and binge eating) were assessed using single yes/no items. Although brief assessment tools are commonly used in large epidemiologic surveys to assess health at a populational level and lessen the burden on participants, the usage of single items such as these may result in measurement errors. Fifth, caution should be exercised in interpreting the results, given that we used a cross-sectional design, which limits our ability to draw longitudinal inferences about exposure to everyday discrimination and eating behaviors. Last, intuitive and mindful eating measures were found to have low internal consistency, which was likely due to the limited numbers of items.

Our study has several implications for future research. The high prevalence of everyday discrimination and its association with maladaptive and adaptive eating indicates that these types of previously understudied experiences deserve greater research attention. Further research is required to examine (1) the underlying causes and nature of everyday discrimination as well as disrespectful attitudes and behaviors against others, (2) the mechanisms underlying the relationships between everyday discrimination and maladaptive and adaptive eating, (3) the identification of individuals who are more likely to be affected by everyday discrimination, and (4) resources and strategies to help develop resilience against the effects of everyday discrimination. For example, studies suggest that social support and coping style (e.g., confrontation, positive reappraisal) are potential moderators of everyday discrimination and depressive symptoms (8). However, whether these findings hold when applied to maladaptive and adaptive eating remains unclear. Identifying moderators may further assist in identifying individuals who are especially vulnerable or resilient to the effects of discrimination on eating behaviors.

Our findings also have several implications regarding clinical practice. Foremost, the finding that everyday discrimination may be a potential risk factor for maladaptive eating and may interfere with adaptive eating highlights the importance of interpersonal discriminatory

experiences and developing strategies that target and reduce these maladaptive events in order to support and adopt adaptive eating. This finding further illustrates that it is not sufficient to address these behaviors by focusing only on behavioral change. Support should be offered to ameliorate the impact of stress in the form of everyday discrimination on eating behaviors as well as further assistance in processing and managing reactions to discrimination, which will facilitate the development of resilience and the adoption of adaptive coping strategies.

Given our study's cross-sectional design, longitudinal studies that examine the association between discriminatory experiences and eating behaviors are necessary. If such studies report similar findings to ours, such findings may further call attention for the heightened need for policies and programs that advocate for equity and inclusion. Furthermore, because everyone may play a role in the existence and occurrence of everyday discrimination and if individuals who experience everyday discrimination are truly engaging in maladaptive eating as a coping mechanism or a reaction to their negative emotions associated with such experiences, our findings may suggest the importance of broadly encouraging more respectful attitudes and behaviors toward others and offering help to individuals who experienced everyday discrimination to be fully equipped to cope with or respond to such experiences.

5 Conclusion

This study provides unique information about the associations of everyday types of discrimination with maladaptive and adaptive eating among young adults. As hypothesized, everyday experiences of discrimination were associated with a greater prevalence of overeating and binge eating and lower scores of intuitive and mindful eating. Therefore, a reduction on discrimination must be considered a main strategic goal to prevent the practice of maladaptive eating and to increase the adoption of adaptive eating.

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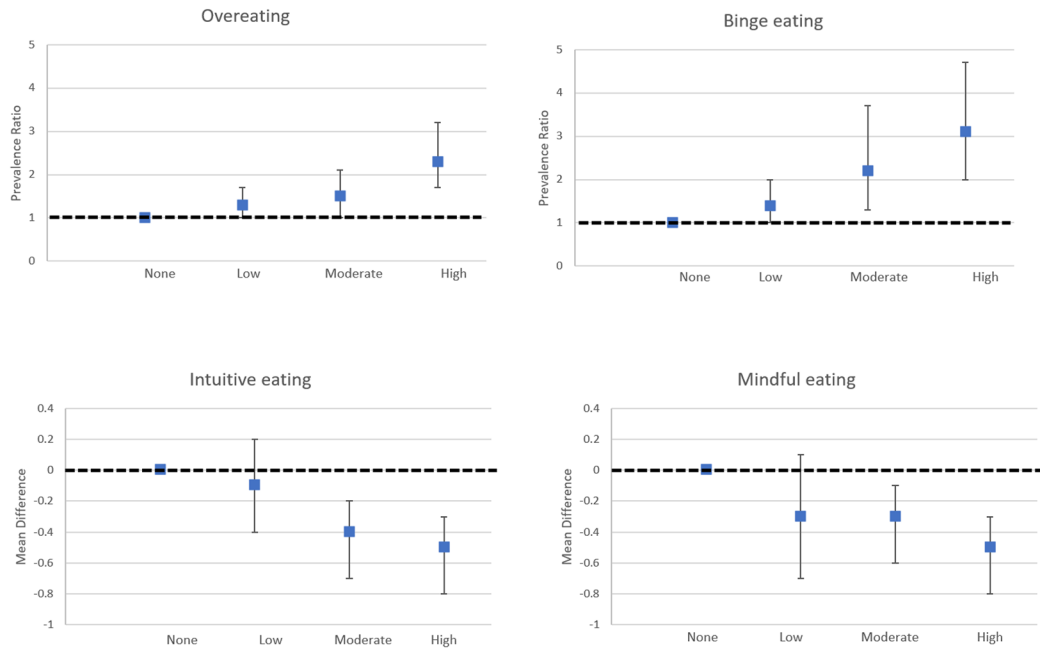


Figure 1. Association between experience of everyday discrimination and eating behaviors (N=1410)

Adjusted for age, gender, race, and parental socioeconomic status

Dotted lines refer to the null value

Higher intuitive and mindful eating scores refer to greater intuitive eating and mindful eating

Table 1.

Variables assessed in the study and description of each survey items

Variables	Description	Response options	Psychometric Properties
Everyday discrimination (42,43,62-64)	Everyday discrimination was assessed with the following three items You are treated with less respect or courtesy than other people You received poorer service than other people in restaurants and stores People act as if they think you are not smart or clever	1=Never 2=Less than once a year 3=A few times a year 4=A few times a month 5=At least once a week A summed score of everyday discrimination was categorized into "none [score=0]," "low [score > 0 and < 2]," "moderate [score > 2 and < 6]," and "high [6]"	test-retest $r = .7$ at EAT 2018
	Overeating was assessed with the item "In the past year, have you ever eaten so much food in a short period of time that you would be embarrassed if others saw you (binge-eating)?"	Yes, no	test-retest % agreement = 90% for overeating at EAT 2018
Maladaptive Eating	Among a subset of participants who confirmed overeating ("In the past year, have you ever eaten so much food in a short period of time that you would be embarrassed if others saw you (binge-eating)?" , sense of loss of control was further assessed with the question, "During the times when you ate this way, did you feel you couldn't stop eating or control what or how much you were eating?")	Yes (to "overeating" and "sense of loss of control"), no	test-retest percent k=.6 for binge eating at EAT 2018
	Intuitive eating was assessed with items adapted from the Intuitive Eating Scale: "I stop eating when I feel full," "I eat everything that is on my plate, even if I'm not that hungry," and "I trust my body to tell me how much to eat,"	0 = "hardly ever," 1 = "sometimes," 2 = "much of the time," 3 = "almost always." The second item, "I eat everything that is on my plate, even if I'm not that hungry" was reverse scored. Each item related to intuitive eating was summed, and possible scores ranged from 0 to 9, with higher scores indicating higher levels of intuitive eating.	McDonald's $\omega = .6$ at EAT 2018 test-retest $r = .6$ at EAT 2018
Adaptive Eating	Mindful eating was assessed with the following items adapted from the Mindful Eating Questionnaire: "I eat so quickly that I don't taste what I'm eating," "I snack without noticing that I am eating" "Before I eat I take a moment to appreciate the colors and smells of my food" and "I taste every bite of food that I eat."	0 = "hardly ever", 1 = "sometimes", 2 = "much of the time", 3 = "almost always" The first two items were reverse coded. Each item related to mindful eating was summed, and possible score ranged from 0 to 12, with higher scores indicating higher levels of mindful eating.	McDonald's $\omega = .5$ at EAT 2018 test-retest $r = .7$ at EAT 2018
Sociodemographic variable (66-68)	Age was calculated from the question "what is your birthdate? (month, day, year of birth)" Gender was assessed with the question, "Are you (1) male, (2) female, (3) different identity?" Ethnicity/race was assessed with the question: "Do you think of yourself as?" (1) White, (2) Black or African American,		Age test-retest correlation = 1.0 Ethnicity/race test-retest agreement = 98%–100%

Variables	Description	Response options	Psychometric Properties
	(3) Hispanic or Latino, (4) Asian American, (5) Native Hawaiian or Pacific Islander, (6) American Indian or Native American, Other SES was determined based on the highest education level of either parent with adjustments made for free/reduced price school meals, family public assistance receipt, and parent employment status. Weights and heights were measured by trained staff following standardized procedures to calculate BMI (kg/m ²)		

Table 2. Demographic characteristics of the analytic sample with and without everyday discrimination (N=1410)

	Everyday discrimination					P value	All participants N=1410
	None (N=475, 34 %)	Low (N=204, 14 %)	Moderate (N=412, 29 %)	High (N=319, 23 %)			
Age in years, <i>M</i> ± <i>SD</i>	22.0±2.0	21.9±1.9	22.2±2.0	22.1±2.0	.2	22.0±2.0	
Ethnicity/Race , <i>n</i> (row %)	.3						
White	122 (36)	60 (17)	107 (31)	56 (16)		345	
Black or African American	111 (38)	37 (12)	90 (29)	64 (21)		302	
Hispanic or Latino	83 (34)	30 (12)	67 (28)	64 (26)		244	
Asian American	100 (32)	49 (16)	89 (27)	81 (25)		319	
Native Hawaiian/other Pacific Islander	3 (39)	1 (16)	3 (31)	1 (14)		8	
American Indian/Native American	16 (29)	7 (13)	15 (28)	17 (30)		55	
Other	40 (30)	20 (14)	41 (30)	36 (26)		137	
Gender , <i>n</i> (row %)	.5						
Women	265 (32)	120 (14)	250 (30)	194 (24)		829	
Men	208 (37)	82 (14)	160 (28)	121 (21)		571	
Not specified	2 (17)	2 (18)	2 (20)	4 (45)		10	
SES , <i>n</i> (row %)	.2						
Low	183 (37)	71 (14)	143 (27)	117 (22)		514	
Low-middle	101 (33)	37 (12)	94 (31)	77 (24)		309	
Middle	80 (36)	36 (15)	58 (24)	58 (25)		232	
Middle-high	77 (33)	38 (17)	66 (30)	46 (20)		227	
High	34 (26)	22 (16)	51 (41)	21 (17)		128	
BMI , <i>n</i> (row %)	<.01						
<18.5	17 (33)	7 (13)	18 (34)	11 (20)		53	
18.5-24.9	208 (36)	90 (15)	190 (33)	102 (17)		590	
25.0-29.9	123 (33)	59 (15)	100 (25)	103 (28)		385	
30.0	127 (33)	48 (13)	104 (27)	103 (27)		382	

Note: Percentage is weighted to reflect the original population-based sample of EAT 2010, while n represents observed count

SES= socioeconomic status

Everyday discrimination categories: None (everyday discrimination summary score=1.0), low (score 1.3-1.6), moderate (score 2.0-2.6), high (score >3.0)

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Table 3. Maladaptive and adaptive eating by experiences of everyday discrimination (N=1410)

Everyday discrimination	Eating behaviors					
	Maladaptive eating			Adaptive eating		
	Overeating n (row %)	Binge eating n (row %)	Intuitive eating M±SD	Mindful eating M±SD		
None (N=475)	61 (13)	33 (6)	5.8±1.7	8.0±2.0		
Low (N=204)	41 (20)	18 (9)	5.7±1.9	7.6±2.1		
Moderate (N=412)	98 (23)	58 (14)	5.4±1.7	7.7±1.9		
High (N=319)	93 (29)	65 (20)	5.3 ±1.8	7.5±2.1		

Note: Percentage is weighted to reflect the original population-based sample of EAT 2010, while n represents observed count

Associations between experience of everyday discrimination and eating behaviors (N=1410)

Table 4.

	Everyday discrimination	Overeating PR (95% CI)	Binge eating PR (95% CI)	Intuitive eating β (95% CI)	Mindful eating β (95% CI)
Model 1	None (N=475)	1.0 (ref)	1.0 (ref)	0.0 (ref)	0.0 (ref)
	Low (N=204)	1.3 (1.0-1.7)	1.4 (1.0-2.0)	-0.1 (-0.4, 0.2)	-0.3 (-0.7, 0.1)
	Moderate (N=412)	1.5 (1.0-2.1)	2.2 (1.3-3.7) *	-0.4 (-0.7, -0.2) *	-0.3 (-0.6, -0.1) *
	High (N=319)	2.3 (1.7-3.2) *	3.1 (2.0-4.7) *	-0.5 (-0.8, -0.3) *	-0.5 (-0.8, -0.3) *
Model 2	None (N=475)	1.0 (ref)	1.0 (ref)	0.0 (ref)	0.0 (ref)
	Low (N=204)	1.3 (0.9-1.8)	1.4 (0.9-2.1)	-0.1 (-0.5, 0.3)	-0.1 (-0.7, 0.3)
	Moderate (N=412)	1.3 (0.9-2.1)	2.1 (1.1-4.0) *	-0.4 (-0.7, -0.2) *	-0.4 (-0.7, -0.2) *
	High (N=319)	2.4 (1.6-3.6) *	3.2 (1.9-5.5) *	-0.6 (-0.9, -0.3) *	-0.6 (-0.9, -0.3) *

Note. PR = prevalence ratio; CI = confidence interval.

* denotes statistical significance

Model 1 adjusted for age, race, gender, and parental socioeconomic status

Model 2 adjusted for model 1 and BMI