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Everyday Discrimination in a Racially-Diverse Sample of Patients with Obesity

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Abstract

Weight discrimination affects a significant proportion of individuals with obesity and contributes to poor mental and physical health. Prior research on weight discrimination has been limited by a lack of racial diversity in samples, and has not considered other potential forms of discrimination that individuals with obesity may experience. The current study assessed different reasons for discrimination in a racially-diverse sample of treatment-seeking individuals with obesity ($N = 122$, 66.4% black, mean body mass index = 38.5 ± 6.2 kg/m²). Results showed that over half of participants reported experiencing at least one form of repeated discrimination, and 30% reported two or more reasons for discrimination. Race and weight were the most commonly reported reasons for repeated, everyday instances of discrimination. Among participants who reported experiencing weight discrimination (28.7%), over 80% reported experiencing at least one other form of discrimination, with 60% reporting discrimination due to race. These findings indicate that individuals with obesity may face multiple forms of discrimination in their daily lives. Further research is needed to understand how all forms of discrimination contribute to obesity-related health problems.

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Conflicts of Interest Statement

RLP discloses serving as a consultant for Weight Watchers. TAW discloses serving on advisory boards for Novo Nordisk and Weight Watchers, as well as receiving grant support, on behalf of the University of Pennsylvania, from Eisai Co. and Novo Nordisk. TAW and AMC have received grant support on behalf of the University of Pennsylvania from Shire Pharmaceuticals. JST and NA disclose serving as consultants for Novo Nordisk. RIB discloses serving as a consultant to Eisai Co.

Keywords

Discrimination; intersectionality; obesity; race

Weight-based discrimination in employment, education, health care, social interactions, or other everyday situations is reported by an estimated 19% of individuals with a body mass index (BMI) of > 30 or < 35 kg/m² (i.e., class I obesity) and 42% of individuals with class II or III obesity (BMI > 35 kg/m²)(1). Women are more likely to experience weight discrimination than men, and some evidence suggests that younger adults and whites are at greater risk for experiencing this form of prejudicial treatment (1). Individuals with obesity who report experiencing weight discrimination, as compared to those who do not, have greater risk for depression, anxiety, substance use disorders, weight gain, poor cardiometabolic health, and even mortality (2–4). These elevated health risks are attributable, in part, to the psychological and physiological stress of encountering discrimination (5). The pathway from perceived discrimination to increased stress and poor health has been demonstrated repeatedly in prior research related to discrimination due to race, gender, sexual orientation, and other stigmatized identities (6).

Researchers have drawn parallels between the health consequences of weight discrimination and those associated with other forms of discrimination (e.g., race), yet little research to date has explored the degree to which these forms of discrimination interact. A recent study by Himmelstein and colleagues (7) emphasized the need to incorporate an intersectional framework in investigations of weight stigma. *Intersectionality* refers to the consideration of multiple social categories (e.g., race and gender) within each individual (8). These social categories have their own respective advantages and disadvantages, and interactions between and among them may lead to different protections and risks for health and well-being. For example, Himmelstein and colleagues (7) found that, while black and white women were equally likely to report experiences of weight stigma, black women were less likely to internalize this stigma and engage in maladaptive coping behaviors, such as disordered eating. Thus, due to potential factors such as different body ideals, black women with obesity may be more protected against the health consequences of weight stigma (7).

To date, most studies of discrimination in persons with obesity have focused solely on weight as a reason for discrimination, without considering other forms of discrimination that individuals with obesity may also face in their daily lives. This may be due, in part, to the lack of racial diversity in prior studies of weight stigma (7). In comparison to other racial groups, obesity rates in the US are highest among black women (9). Thus, a substantial proportion of individuals with obesity may also perceive discrimination due to race, gender, or other reasons. Discrimination in everyday life due to multiple disadvantaged identities increases stress and risk for poor psychological and physical well-being (10, 11), including obesity-related health outcomes (12, 13). Greater racial diversity, and attention to other potential forms of discrimination, are needed in order to provide an inclusive understanding of the relationship between discrimination and health in persons with obesity.

The current study explored reasons for discrimination in a racially-diverse clinical sample of individuals with obesity. We were particularly interested in examining the intersection

between weight and race due to a lack of diverse representation in prior studies of weight stigma, and due to disproportionately high rates of obesity in black women (9). We predicted that participants would report relatively high rates of race- and weight-based discrimination (in comparison to other forms of discrimination) and that a significant proportion of participants would report multiple reasons for perceived discrimination.

Materials and Methods

Participants were 178 adults with obesity recruited from the greater Philadelphia area via radio, newspaper, and online advertisements to participate in a weight-loss trial described previously (14). All participants completed a screening visit to determine study eligibility, which consisted of meeting with a psychologist for a psychosocial and behavioral evaluation, and with a physician or nurse practitioner for a medical examination. Eligible participants had a body mass index (BMI) $\geq 33 \text{ kg/m}^2$ (or $\geq 30 \text{ kg/m}^2$ with comorbidities) and $\geq 55 \text{ kg/m}^2$ and were age 21–65 years. They also were free of: current, severe depression; suicidal ideation; type I or type II diabetes; uncontrolled cardiometabolic disease; or medical conditions that contraindicate weight loss. Participants enrolled in the weight-loss trial in three separate cohorts, which began in April 2015, September 2015, and February 2016. The institutional review board approved all procedures.

The main measure used in this study was the Everyday Discrimination Scale (EDS). The EDS is a widely used and validated scale that assesses the extent to which individuals experience everyday instances of discrimination for a variety of reasons (15, 16). The term “everyday” refers to a wide range of day-to-day scenarios in which individuals may perceive discrimination, rather than in a specific context (e.g., workplace discrimination). This scale is meant to assess “chronic, routine, and relatively minor experiences of unfair treatment” which, cumulatively, contribute to stress and poor health (15). Participants respond to nine items (provided in Figure 1) by rating the frequency with which they experience each example of discrimination. We modified the scale such that, if participants rated “a few times a year” or more, they were prompted to select the reason(s) for this repeated experience of discrimination: race/ethnicity; gender; age; weight; religion; sexual orientation; or other (15). This allowed for analysis of item-by-item reasons for repeated discrimination. In item 10, participants were asked to identify the “main” reason they believed they experienced discrimination. The EDS has been used extensively in research on racial discrimination (17), as well as in recent epidemiological studies of weight discrimination (4, 18)

Procedures

Questionnaires were administered online (via REDcap) or in hard copy form. The EDS was not incorporated into the assessment battery until after the main study had begun. As a result, participants across the three study cohorts completed this measure at different times in the program. The third cohort completed the EDS at the start of the program (baseline), the second cohort at week 38, and the first cohort at week 66. The EDS assesses overall perceptions of discrimination, rather than acute or recent experiences, so we did not expect

responses to be significantly affected by the timing of the questionnaire's administration.¹ We provide more information about this limitation in the Discussion.

Demographic characteristics (race, ethnicity, age, and gender) were self-reported at an initial screening visit. Participants also completed a questionnaire that assessed their highest level of education in years (up to 16 years for participants with a college education) and whether they obtained a master's degree (coded as "17") or doctorate (coded as "18"). Height and weight were measured at the screening visit, and weight was assessed again during the first week of the program (prior to any weight loss intervention). Weight was also measured at all subsequent group sessions and assessments, including at weeks 38 and 66. For consistency, body mass index (BMI) was computed from the screening height and the weight measured at baseline, week 38, or week 66, depending on when each participant completed the EDS.

Statistical Analyses

All participants who completed at least one item on the EDS were included in the study. Due to including the EDS later in the clinical trial for cohorts 1 and 2, some of the original 178 participants were lost to follow-up before the questionnaire was administered. Missing data on completed questionnaires can be attributed to participants' omission of specific items. Participants were omitted from analyses for which item-specific data were missing.

Descriptive statistics were computed for each item's frequency and, for participants who endorsed "a few times a year or more" (i.e., repeated discrimination), the reason(s) for endorsing that item. The total number of items each participant endorsed for repeated discrimination was also calculated. Additionally, a binary variable (yes/no) was created for each of the 7 reasons for discrimination, and the percentage of participants reporting each reason for discrimination was calculated across all items. For participants with missing data, the binary variable was created based on completed items.

To determine whether certain characteristics increased or decreased vulnerability to discrimination, logistic regression models were constructed for each reason for discrimination, with race, ethnicity, gender, age, years of education, and BMI as predictor variables. A composite score was calculated to represent the number of reasons reported by each participant for experiencing repeated discrimination (possible range 0–7). Linear regression analysis was used to test whether demographics and BMI predicted more or fewer reasons for discrimination.

Results

Completed questionnaires were obtained from 122 participants (see Table 1 for sample characteristics). Of note, most participants were female (86.1%) and black (66.4%).

¹To determine if participants who were further along in the clinical trial might be less likely to endorse weight discrimination (e.g., due to weight loss), we conducted logistic regression analysis, with the time point of assessment as the independent variable and overall endorsement of weight discrimination (yes/no) as the dependent variable. There were no significant differences in endorsement of weight discrimination between participants who completed the EDS at baseline, week 38, and week 66.

Responses to the EDS items

Figure 1 presents the percentage of participants who endorsed each item of the EDS. At least half of participants endorsed items pertaining to being treated with less courtesy than others (item 1), less respect than others (item 2), and as if others were better than them (item 7). For repeated instances of discrimination (i.e., a few times a year or more), 32.0% of participants endorsed item 1, 23.8% endorsed item 2, and 27.9% endorsed item 7. The number of items endorsed by participants for repeated discrimination ranged from 0–8, with a mean of 1.4 ± 1.9 items.

Table 2 presents item-specific responses to the perceived reasons for repeated discrimination. Race was the most commonly reported reason in response to most items. Exceptions included items 2 (“You are treated with less respect than other people are”), 7 (“People act as if they’re better than you are”), and 8 (“You are called names or insulted”), for which weight was the most commonly reported reason for repeated discrimination. Gender was most commonly reported for item 4 (“People act as if they think you are not smart”). Of the 74 participants who responded to item 10, 45.9% of participants reported race as the main reason for discrimination, followed by 20.3% who reported weight, 6.8% gender, 5.4% age, 4.1% sexual orientation, and 1.4% religion (16.2% reported “other”).

Predictors of Repeated Discrimination

Figure 2 presents the overall percentages of participants who reported repeated instances of each form of discrimination. Weight and race were the most commonly reported reasons (28.7% and 27.0%, respectively). Of the 35 participants who reported repeated weight discrimination, 29 (82.9%) reported at least one other reason for discrimination, and 21 (60.0%) reported race as another reason for discrimination.

Logistic regression results ($n=115$)¹ showed that non-white participants were significantly more likely to report race-based discrimination than white participants (black OR = 6.82, 95% CI = 1.55–29.94, $p = .011$; “other” OR = 8.52, CI = 1.17–62.05, $p = .034$). Additionally, higher participant BMI predicted higher odds of reporting weight-based discrimination (OR = 1.12, CI = 1.03–1.21, $p = .006$). Younger age predicted higher odds of reporting gender discrimination (OR = .95, CI = .90–.99, $p = .030$), and participants with more years of education were more likely to perceive age discrimination (OR = 1.50, CI = 1.04–2.17, $p = .031$). Finally, participants categorized as “other” for race, in comparison to white participants, had greater odds of reporting religious discrimination (OR = 16.64, CI = 1.27–218.24, $p = .032$). No other demographic predictors of discrimination were found.

Participants, on average, reported experiencing 1.2 ± 1.5 reasons for repeated discrimination (scores ranged from 0–6). Specifically, 48.4% reported no repeated discrimination, 21.3% reported 1 reason, 9.0% reported 2 reasons, 12.3% reported 3 reasons, and 9.0% reported 4–6 reasons for repeated discrimination. Linear regression analysis did not find any significant predictors of the number of reasons for repeated discrimination.

¹Four responses were missing for ethnicity, and three responses were missing for education.

Discussion

The current study provides novel, descriptive data of perceived discrimination in a racially-diverse, clinical sample of individuals with obesity. As predicted, race and weight discrimination were the most commonly reported reasons for repeated discrimination. More participants identified race as the main reason for perceived discrimination than weight. This may reflect a higher actual incidence of race versus weight discrimination (particularly among racial minorities), or a tendency for minorities to attribute discrimination to race when the reason is ambiguous (19).

Some prior studies have examined different forms of discrimination (including due to weight) in the general population (11), compared the effects of weight and race discrimination (20), or controlled for weight discrimination when evaluating the effects of race discrimination on health (21). However, this is the first study to our knowledge to focus on reasons for perceived discrimination specifically among individuals with obesity. Over 80% of participants who reported weight discrimination also reported another reason for repeated discrimination, and over 20% of participants reported 3 or more reasons for repeated discrimination. Prior studies suggest that individuals who report multiple forms of discrimination (including weight) have worse mental and physical health (11, 22). Thus, the current findings highlight the need to consider how other forms of discrimination may affect health outcomes for persons with obesity.

This study had several limitations. The sample was predominantly female, limiting the extent to which we could draw conclusions about whether gender predicts different forms of discrimination. Additionally, we were underpowered to analyze results from participants who did not identify as white or black ($n = 9$), so conclusions about the effects of this “other” race category should be interpreted with caution. Future research on weight discrimination should include more diversity of gender (i.e., men), race/ethnicity (e.g., Hispanics), and other social identities (e.g., sexual orientation) in order to understand the effects of these intersecting identities on perceptions of discrimination. Finally, the EDS was not administered at a uniform time point for all participants. We found no evidence that the timing of the measure’s administration affected perceptions of weight discrimination. However, future studies should assess perceptions of discrimination at consistent times across all participants.

Strengths of this study included a large proportion of black participants (representative of the demography of the Philadelphia area), which is often an underrepresented group in weight stigma research (7). This study also focused on measuring repeated experiences of discrimination, rather than isolated incidents. Although a single discriminatory encounter may negatively impact an individual, more work is needed to differentiate between retrospective reports of past experiences (e.g., in childhood), versus ongoing, everyday experiences of unfair treatment.

The current study’s findings emphasize that weight and weight-based discrimination cannot be examined in isolation from the other social categories to which individuals belong and for which they may be mistreated. This study represents a first step in documenting the number

of forms of discrimination that individuals with obesity may face in their daily lives. Future research would benefit from applying an intersectional framework to more comprehensively understand how discrimination, in all forms, may contribute to or exacerbate obesity-related health problems. Specific attention to interactions between race, gender, and other underrepresented identities (e.g., sexual minorities) can be included in studies assessing the effects of weight discrimination on mental and physical health. In order to examine these interactions, increasing the diversity of samples must be a research priority. Researchers and clinicians should also consider the diversity of persons with obesity when developing interventions to reduce weight discrimination and its associated health consequences. Efforts to acknowledge intersectionality in this area of research will help to ensure that all persons with obesity (and not just a select subset) benefit from advances in knowledge about weight discrimination, as well as contribute to a broader understanding of the effects of all forms of discrimination on health.

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RLP held primary responsibility for this specific study design, data analysis, and manuscript preparation. TAW was responsible for the design and oversight of the clinical trial and assisted with manuscript preparation. JST, AMC, and NA assisted with data collection and provided feedback on the manuscript. RIB assisted with the design and oversight of the clinical trial and provided feedback on the manuscript.

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What is already known about this subject

- Many individuals with obesity experience weight discrimination.
- Discrimination has negative health consequences.
- The intersection of multiple social categories (e.g., race and gender) can affect experiences and outcomes related to discrimination.

What this study adds

- In a racially-diverse sample of patients seeking obesity treatment, over half of participants reported experiencing at least one form of repeated discrimination.
- Race and weight were the most commonly reported reasons for everyday discrimination.
- Most patients who reported experiencing weight discrimination also reported experiencing at least one other form of discrimination.

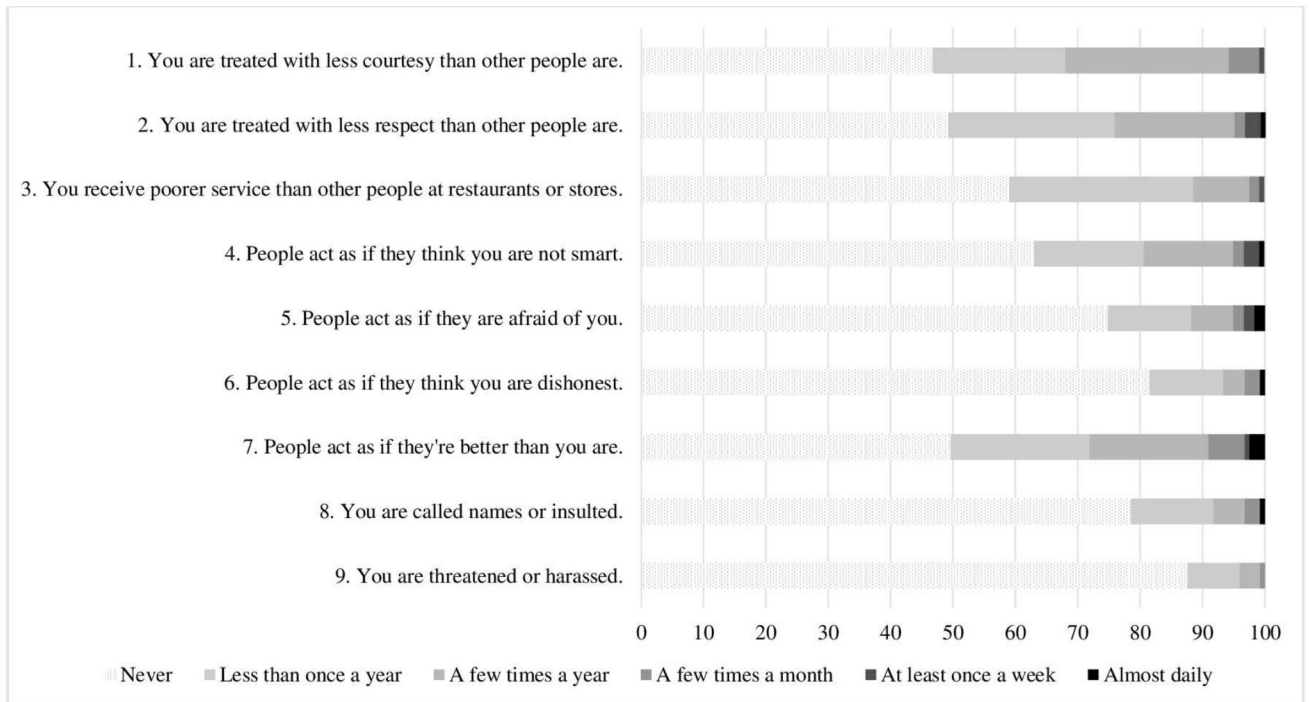


Figure 1.
 Percentage of participants endorsing frequency of each item on the Everyday Discrimination Scale

Note. *N*s ranged from 119–122.

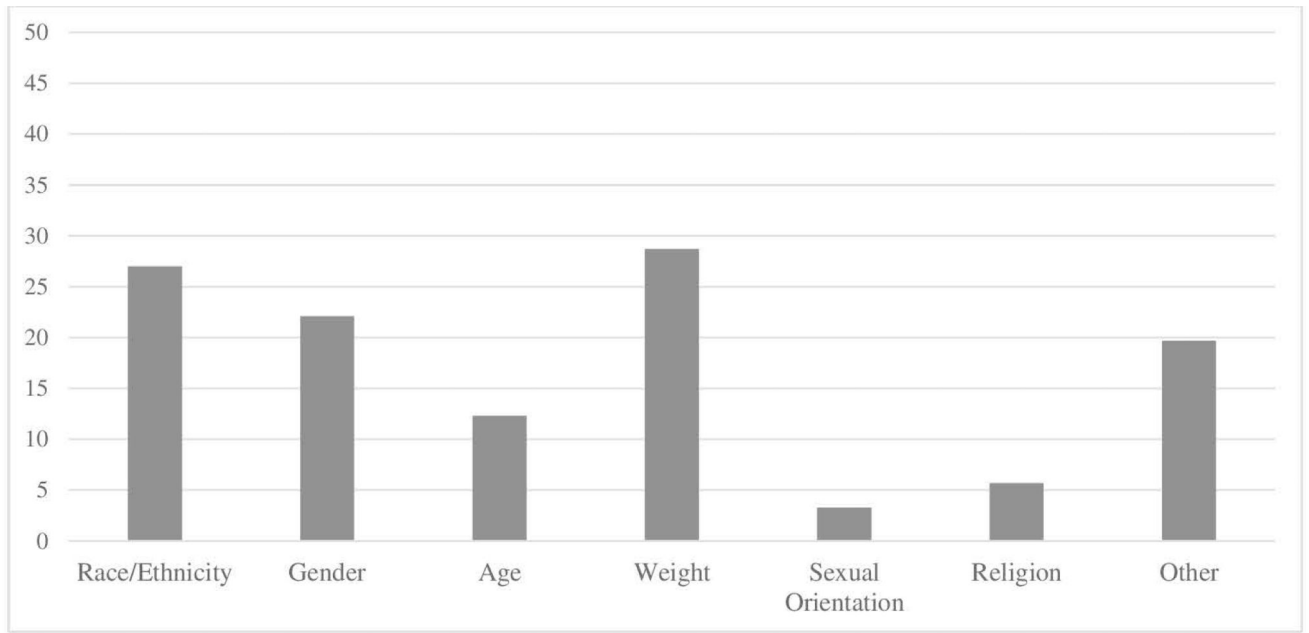


Figure 2.
 Overall percentage of participants reporting different reasons for discrimination
 Note. *N*=122. Examples of “other” forms of discrimination perceived by participants included education and height, although few participants provided specific reasons.

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Table 1Sample demographics ($N = 122$)

Variable	Mean \pm Standard Deviation or N (%)
Gender	
Women	105 (86.1%)
Men	17 (13.9%)
Race	
Black	81 (66.4%)
White	32 (26.2%)
Other ^a	9 (7.4%)
Hispanic and/or Latino/a	5 (4.1%)
Age (years)	46.3 \pm 10.5
Education ^b	
Some or all of high school	26 (21.3%)
Some or all of college	60 (49.2%)
Postgraduate degree	33 (27.0%)
Total years in school	14.9 \pm 2.0
Body mass index (kg/m ²)	38.5 \pm 6.2

Note.

^aExamples of “other” racial categories included Asian and multicultural.^bYears of education were coded as follows: High school years 9–12; College years 13–16; Master’s degree = 17; Doctorate = 18. No participants reported less than at least some high school education. Three participants had missing education data.

Number (and percentage) of participants reporting different reasons for repeated discrimination in response to EDS items

Table 2

Item	Reasons for Discrimination							
	Race/Ethnicity	Gender	Age	Weight	Sexual Orientation	Religion	Other	
1	21 (17.2)	7 (5.7)	9 (7.4)	19 (15.6)	2 (1.6)	4 (3.3)	8 (6.6)	
2	12 (9.8)	7 (5.7)	8 (6.6)	13 (10.7)	0	1 (0.8)	10 (8.2)	
3	11 (9.0)	4 (3.3)	1 (0.8)	4 (3.3)	0	1 (0.8)	2 (1.6)	
4	10 (8.2)	11 (9.0)	9 (7.4)	8 (6.6)	0	2 (1.6)	7 (5.7)	
5	7 (5.7)	2 (1.6)	1 (0.8)	2 (1.6)	0	0	6 (4.9)	
6	5 (4.1)	2 (1.6)	0	2 (1.6)	0	1 (0.8)	1 (0.8)	
7	18 (14.8)	10 (8.2)	11 (9.0)	20 (16.4)	2 (1.6)	3 (2.5)	4 (3.3)	
8	3 (2.5)	4 (3.3)	2 (1.6)	5 (4.1)	0	1 (0.8)	4 (3.3)	
9	0	0	0	1 (0.8)	0	0	2 (1.6)	

Note. Ns ranged from 119–122. EDS = Everyday Discrimination Scale. Reason with highest frequency per item is highlighted in bold.