

ORIGINAL ARTICLE

Framing messages about weight discrimination: impact on public support for legislation

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Objective: To assess the public support for potential legislation to prohibit weight-based discrimination against obese individuals in the United States, and to examine whether certain message frames about weight discrimination influence public support.

Design: Participants were randomly assigned to read one of the four paragraphs that framed the topic of weight discrimination in a distinct way (or a control condition with no paragraph). Participants were then asked to indicate their level of support for six antidiscrimination laws.

Subjects: A national sample of 1114 participants (48% women, 52% men), mean age 44.78 years (s.d. = 15.93).

Results: There was moderate support for several laws to prohibit weight-based discrimination, but gender differences were observed across experimental conditions indicating that some message frames may increase support for certain laws among women, but not men. However, message frames had no effect on support for laws with specific provisions to prohibit weight discrimination in the workplace, suggesting that public support for these particular legal measures is consistent and high (65% of men and 81% of women expressed support) regardless of how the issue of weight discrimination is framed to the public.

Conclusion: The present findings provide evidence of current levels of public support for legislation to prohibit weight-based discrimination, and offer potential ways for policy makers and interest groups to communicate messages about weight discrimination in efforts to increase support.

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Introduction

Obese individuals are frequent targets of weight-based stigma and discrimination, which has been documented in areas of education, employment, health care and the media.^{1,2} Recent estimates suggest that the prevalence of weight discrimination in the United States has increased by 66% over the past decade,³ and is now comparable with prevalence rates of racial discrimination in America.⁴ Weight discrimination stems from pervasive societal stigma and stereotypes that obese persons are lazy, lacking in self-discipline and are personally at fault for their inability to lose weight.^{5–8} Unfortunately, weight bias takes a significant toll on emotional and physical health for those who are affected, increasing vulnerability to depression, low self-esteem, poor body image, suicidal behaviors, unhealthy eating patterns, eating disorders and avoidance of physical activity.^{2,9,10}

Because so many Americans are now overweight or obese, weight discrimination also threatens public health and exacerbates health disparities.¹¹

Inequalities and unfair treatment resulting from weight discrimination are especially apparent in employment settings. A 2006 survey of 2249 overweight and obese adults found that 25% of participants reported experiencing job discrimination because of their weight, and 43% reported experiencing weight stigma from their employers or supervisors.¹² Studies evaluating weight discrimination using national datasets reveal that overweight and obese individuals report frequent weight discrimination.¹³ Research analyzing a nationally representative sample of Americans from the National Survey of Midlife Development in the United States ($N = 3437$) found that 26% of obese persons and 31% of very obese persons reported discrimination in the workplace, which they attributed to their weight and appearance.¹⁴ Examples of weight discrimination in the workplace reported by obese employees include not being hired, being paid less, denied promotions or fired because of one's weight.

In addition to self-report studies of perceived weight discrimination, experimental research has demonstrated

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considerable evidence of pervasive weight-based discrimination in the workplace. Two recent meta-analyses of experimental studies investigating weight discrimination demonstrate that overweight individuals are systematically and consistently denigrated in the workplace, and have more negative employment outcomes compared with their non-overweight coworkers.^{15,16} Discrimination is particularly salient in hiring practices, in which overweight individuals are less likely to be hired compared with non-overweight individuals despite identical qualifications and credentials.¹⁵ As an example, recent experimental research demonstrates that compared with thinner women, obese women with identical qualifications are less likely to be selected for managerial positions and are offered a lower starting salary.¹⁷ Longitudinal research using the National Longitudinal Survey of Youth additionally shows a consistent wage penalty for obese employees compared with thinner counterparts, even after controlling for demographic variables, socioeconomic status and health limitations.^{18–20} Furthermore, several studies have demonstrated lower rates of employment for obese individuals, after adjusting for socio-demographic characteristics, smoking status, exercise and self-reported health.^{21,22}

Although the nature and prevalence of weight-based discrimination is clearly documented in the literature, little research has examined remedies for reducing weight discrimination.² A recent review of studies attempting to reduce weight-based prejudice found that evidence is lacking for the efficacy of existing behavioral and educational interventions to reduce this form of stigma.²³ Given the pessimistic findings and general lack of research on effective stigma-reduction strategies, other remedies need to be considered. One possible solution is to implement legislation to prohibit weight-based discrimination. Currently, no federal legislation exists to protect obese individuals from discrimination based on weight. Only one state (Michigan) and few localities prohibit weight-based discrimination, which are primarily focused on discrimination against obese employees in the workplace.² Although some obese individuals attempted to seek legal recourse for weight discrimination under the Americans with Disabilities Act (ADA), few of these cases have been successful.^{24–26} Few studies have examined public attitudes toward laws to prohibit weight discrimination.^{27–29}

When communicating information to the public about issues that are under consideration for legislation, issues can be framed in different ways that may be more or less effective in eliciting public support.^{30,31} For example, recent research has demonstrated that presenting people with different metaphors about the causes of obesity can shape public attitudes and support for various policies aimed at reducing obesity.²⁸ No studies have assessed whether public support of civil protections for obese persons is influenced by the ways in which the issue of weight discrimination is framed.

Public discourse about the necessity and implications of antiweight discrimination laws have involved different types

of messages in favor of legislation,³² with several key themes and topics emerging. For example, in their efforts to communicate weight discrimination as a social injustice, obese advocates of the size acceptance movement have consistently voiced personal experiences of unfair treatment and discrimination to help raise public awareness of the issue.^{33,34} Alternatively, scientists in this field often communicate messages that emphasize research evidence documenting the nature and extent of weight discrimination as justification for the importance of legal measures to protect obese persons from discrimination.^{1,2} There has also been considerable debate and discussion among medical professionals and obesity advocacy organizations about whether obesity should be considered a disability,^{35,36} which has important implications for how obesity is framed to the public and whether the public would support laws that would extend obese persons the same legal rights that protect people with disabilities under the ADA.

Finally, a central debate over whether the causes of obesity are personal or environmental influences both perceptions of obese persons and political responses to the obesity epidemic.³⁷ Obesity is often framed in the media as an issue of personal responsibility,^{38,39} wherein obese individuals are blamed for their weight and stereotyped as lazy, and lacking in self-discipline and willpower.^{2,40} These stereotypes remain prevalent despite an abundance of research demonstrating that even the most intensive obesity treatments can rarely achieve significant, long-term and sustainable weight loss for the majority of obese individuals.^{41–45} Thus, framing obesity as an issue of personal responsibility versus a chronic condition may have a different impact on public opinions and support for antidiscrimination laws. Indeed, a number of experimental studies have demonstrated that providing information about the complex etiology of obesity that challenges weight-based stereotypes increases positive attitudes toward obese persons, whereas emphasizing personal blame worsens weight bias.⁸ This suggests that framing obesity in ways that challenge existing weight-based stereotypes could be useful in efforts to facilitate attitude change or public support for legal measures to prohibit weight discrimination.

Thus, the topic of weight discrimination can be framed in a variety of ways to highlight relevant but distinct messages, such as highlighting personal examples of weight discrimination (for example, 'Rachel is an obese woman who, despite being highly qualified, could not get hired for a job'), emphasizing scientific evidence of weight discrimination (for example, 'research studies show that obese people are consistently discriminated against in the workplace'), challenging weight-based stereotypes (for example, 'Rachel carefully monitors what she eats, is disciplined about eating healthy foods and exercises regularly. Despite her healthy lifestyle behaviors, Rachel is obese') or considering obesity a disability (for example, 'obese persons should be extended the same legal rights as people with other physical disabilities').

In addition, message frames may appeal more or less strongly to different groups, such as women versus men, or liberals versus conservatives.⁴⁶ Previous research examining the origins of weight bias indicate that individuals with a conservative ideology tend to express more weight bias.^{47,48} Thus, it might be expected that liberals would in general express more support than conservatives for laws to protect obese persons, and that the ways in which policy messages are framed would influence each group differently.²⁸ In addition, some research shows that individuals who themselves are obese, or who have experienced weight stigma or discrimination, are less likely to express weight bias,⁴⁹ thus it is reasonable to predict that these individuals would be more likely to support antidiscrimination laws that protect obese persons.

The aims of this study were to assess support for six potential laws to prohibit weight discrimination and to examine whether certain message frames affect the level of support for these laws. We also examined whether individual characteristics (for example, gender, age, body weight, race), political attitudes and personal experience of weight-based victimization influenced support for antidiscrimination laws. It was predicted that greater support for laws would be observed among individuals with higher body weight, those who had themselves experienced weight-based victimization, and persons with a liberal political ideology.

Data and methods

Data source

To test these research questions, we constructed an online survey to measure public attitudes toward antiweight discrimination laws and to test whether certain message frames influence support of laws. Participants were recruited through a survey panel administered by Survey Sampling International. Participants are recruited through thousands of websites to maximize the representativeness of the panel to the online population, with data aggregators that reach millions of users. Survey Sampling International provides a variety of incentives (including information (research feedback), charitable donations and monetary and points rewards) for overall program participation, which is entirely voluntary. Individuals who chose to participate were directed to the online survey for completion. Our aim was to obtain a sample whose demographic make-up was representative of the United States population.

On beginning the survey, participants were randomly assigned to one of the five experimental conditions, each of which presented participants with one of four brief paragraphs that framed the topic weight discrimination in a distinct way (described below), or no paragraph which served as the control condition. After reading the paragraph, participants were asked a series of questions about their support for antidiscrimination laws as well as their own

experiences with weight stigmatization. Our aim was to obtain approximately 200 participants in each condition, and once that was achieved, the survey was closed to further data collection. Of those participants who began the online surveys, 95% completed the study, yielding a final sample of 1114 participants.

Measures

Demographic and weight information. Participants were asked to report their age, sex, ethnicity, highest level of education completed, annual household income, height and weight. Height and weight information was collected to determine the body mass index of participants, and to determine whether support for weight-based legislation varied among individuals within different weight categories. Participants were also asked to indicate their political ideology and party affiliation. These questions were included because political ideology has been demonstrated to be correlated with antifat attitudes and weight bias,^{5,50} and may be important in the assessment of preferences for legislation to prohibit weight discrimination.

Message frame manipulation. Following completion of demographic information, participants were randomly assigned to one of the five experimental conditions, in which they were presented with one of the four short paragraphs to read, or a control condition with no paragraph. The purpose of these paragraphs was to test whether support for antidiscrimination laws differs according to the way the issue of weight discrimination is framed and communicated.

The content and wording for each of the four paragraphs was developed using previous research about the origins and nature of weight bias and discrimination in the workplace.^{1,6,7,13,15,48} In addition, we consulted literature examining weight-based stereotypes that obesity is caused by poor willpower (which often leads to blame and stigmatization)^{1,5,51,52} as well as media and legal reports addressing debates about extending civil rights to obese persons²⁵ (such as discussions about whether obesity should be legally defined as a 'disability').³⁶ Initially, ten paragraphs/frames were constructed, but after conducting a pilot study and consulting with obesity experts, six paragraphs were excluded (primarily because of the overlap in themes or varied interpretations of the message). The four final paragraphs selected for the study described one of the following: (1) obesity as a disability, (2) a personal account of an obese woman who experienced weight-based employment discrimination, (3) scientific evidence documenting weight discrimination in the workplace and (4) a personal account of an obese woman whose lifestyle behaviors challenge weight-based stereotypes. The full paragraphs are presented below.

1. Obesity as a disability

People with disabilities are sometimes treated unfairly because of their condition. As a result, laws have been implemented to protect disabled people from discrimination

based on their disability. Obesity can be considered a disability, because, like other physical disabilities, obesity can lead to physical impairment and limit normal daily activities. Obese people are also often discriminated against because of their weight. For these reasons, obese people should receive the same legal rights and protections against discrimination as people with physical disabilities.

2. *Personal story of weight discrimination in the workplace*

Rachel is an obese woman who was recently laid off from her job as an office manager because of the company budget cuts. She has impressive qualifications and is highly recommended by her previous supervisor. Despite interviewing with several new companies, she has not received any job offers. When she asks why, employers have implied that her weight is a problem. It is clear that Rachel is being discriminated against based on her obesity. Because there are no laws to protect people against weight-based discrimination, Rachel is still unable to get a new job.

3. *Scientific evidence of weight discrimination in the workplace*

Scientific research shows that obese people are discriminated against in the workplace. Studies consistently demonstrate that obese people are less likely to be hired for jobs than normal weight applicants, despite having the same, or better, job qualifications. In studying data from thousands of Americans in the general population, scientists have found that obese employees also earn lower wages than normal weight people of the same skill level in the same job, and are less likely to be recommended for a promotion than thinner employees. The scientific evidence is clear; discrimination against obese persons is a current and widespread problem.

4. *Personal story that challenges weight-based stereotypes*

Rachel lives a healthy lifestyle. She carefully monitors what she eats and is disciplined about eating healthy foods. She exercises regularly and enjoys playing tennis. Despite her healthy lifestyle behaviors, Rachel is obese. She has tried to lose weight repeatedly under the supervision of her doctor, but despite her best efforts she has been unable to maintain weight loss over time. Rachel has observed that her weight is affecting her job. She has been repeatedly denied a promotion at work, despite her excellent job performance. Because there are no laws to protect people against weight-based discrimination, Rachel cannot do anything to improve her work situation.

Participants were asked to read the paragraph provided to them and were then asked to complete a series of questions. In the control condition, participants were simply provided with the survey questions. Survey questions were as follows:

Support for antidiscrimination laws. Participants were asked to indicate their level of support for six legislative measures to prohibit weight discrimination. These questions were presented in a random order. The content and wording for each question was guided by previous research on legal and public health perspectives of weight discrimination, and the development and pilot testing of these questions are described elsewhere.²⁷ Content of questions included legal measures related to civil rights, protections for people with disabilities and laws specifically pertaining to workplace discrimination against obese employees (see Table 1). Participants indicated their level of agreement to each statement on a 5-point Likert scale (including 'strongly disagree', 'disagree', 'neither agree nor disagree', 'agree' and 'strongly agree').

Table 1 Wording of statements to assess support for measures to prohibit weight discrimination^a

A	The government should play a more active role in protecting overweight people from discrimination.
B	Overweight people should be subject to the same protections and benefits offered to people with physical disabilities.
C	It should be illegal (unlawful) for an employer to do all of the following: (a) Refuse to hire a qualified person because of his/her body weight (b) Fire a qualified employee because of his/her body weight (c) Deny a promotion or appropriate compensation to a qualified employee because of his/her body weight.
D	States have civil rights laws that protect people from being discriminated against because of their race, color, religion, sex and national origin. Michigan is the only state in which the civil rights law also protects people from being discriminated against because of their body weight. The Michigan law states that citizens have the opportunity to obtain employment, housing and equal use of public accommodations without discrimination based on religion, race, color, national origin, age, sex, height, weight and familial status. <i>Please indicate how much you agree with the following:</i> My state should also include weight in their civil rights law in order to protect people from discrimination based on their body weight.
E	The Americans with disabilities act (ADA) protects people with disabilities from being discriminated against in the workplace. One way to protect obese people from discrimination in the workplace is to consider obesity as a disability under the ADA. <i>Please indicate how much you agree with the following:</i> Obesity should be considered a disability under the ADA so that obese people will be protected from discrimination in the workplace.
F	The age discrimination in employment act (ADEA) protects people over 40 years old from age-based discrimination in the workplace. The ADEA makes it illegal (unlawful) for an employer to refuse to hire, pay less wages or fire an employee because of their age. Congress can enact a similar law so that employers cannot refuse to hire, pay less wages or fire an overweight person because of their body weight. The proposed law would be called the weight discrimination in employment act (WDEA), and would make it illegal (unlawful) for employers to discriminate against employees based on their weight. <i>Please indicate how much you agree with the following:</i> Congress should pass the WDEA to protect overweight Americans from discrimination in the workplace.

^aParticipants indicated agreement with each statement on a 5-point Likert scale (including 'strongly disagree', 'disagree', 'neither agree nor disagree', 'agree' and 'strongly agree').

Experiences of weight stigmatization. Finally, participants were asked whether they had ever been teased, treated unfairly or discriminated against because of their body weight. Each question was in a forced-choice format of 'yes' or 'no'.

Results

Sociodemographic characteristics of the sample are presented in Table 2. The study sample consisted of 576 men and 538 women (52 and 48%, respectively), yielding a total sample of 1114 participants. The mean age of participants

Table 2 Sample characteristics ($n=1114$)

Variable	Percentage (%) ^a
<i>Sex</i>	
Women	48
Men	52
<i>Age (years)</i>	
18–34	30
35–54	42
55+	28
<i>Race</i>	
White	78
Latino/Hispanic	4
African American	9
Other	8
<i>Weight status (BMI)</i>	
Normal weight, BMI < 24.9 kg m ⁻²	34
Overweight, BMI 25–29.9 kg m ⁻²	32
Obesity, BMI > 30 kg m ⁻²	34
<i>Education</i>	
High school or GED completed	25
2-Year vocational/technical degree or some college	43
College graduate	32
<i>Annual household income</i>	
Under \$25 000	25
25 000–49 999	32
50 000–74 999	22
75 000–99 999	10
100 000+	12
<i>Political affiliation</i>	
Democrat	35
Independent	37
Republican	28
<i>History of weight-based victimization</i>	
Teased about weight	40
Treated unfairly because of weight	23
Discriminated against because of weight	17
Experienced weight discrimination in the workplace	9
Family members experienced weight discrimination	33
Friends experienced weight discrimination	45
Children experienced weight discrimination	12

Abbreviations: BMI, body mass index; GED, general education diploma or graduate equivalency degree. ^aCalculation of % from valid cases (n).

was 44.78 years (s.d. = 15.93). In all, 78% of the sample was Caucasian, followed by 9% African American, 4% Latino/Hispanic and 8% who indicated 'other' racial categories. The mean body mass index of participants was 28.57 (s.d. = 7.08). Using guidelines of the Centers for Disease Control,⁵³ 32% of participants were classified as overweight, and 34% were classified as obese. These percentages parallel current national rates of overweight and obesity (32.7 and 34%, respectively).⁵⁴

Political affiliation reported by participants included 35% Democrats, 37% Independents and 28% Republicans. Significant gender differences emerged on variables assessing previous history of weight-based teasing, victimization and discrimination, showing that women were more likely than men to endorse personal experiences of weight bias. Specifically, 44% of women versus 37% men reported a history of weight-based teasing ($\chi^2(1, 1062) = 4.99, P < 0.05$); 28% of women and 18% of men reported being treated unfairly because of their weight ($\chi^2(1, 1062) = 15.69, P < 0.001$); and 22% of women and 13% of men reported experiencing weight-based discrimination ($\chi^2(1, 1062) = 12.53, P < 0.001$). There were no significant gender differences observed in age, race, body mass index, education, income or political affiliation among participants.

The sample size in each of the five experimental conditions ranged from 215–227 participants. There were no differences in participants' sex, age, body mass index or race across conditions. Overall, there was a moderate level of agreement for the six proposed laws to address weight discrimination. Law C (a law making it illegal for an employer to refuse to hire, fire or deny a promotion to a qualified person because of his/her weight) received the highest level of agreement from over two-thirds of participants (70%), followed 59% of participants who supported law F (Congress should pass the weight discrimination in employment act to protect overweight Americans from discrimination in the workplace), 57% of participants who agreed with law D (including weight as a protected category in Civil Rights laws) and 53% of participants who supported law B (that overweight people should be subject to the same protections and benefits offered to people with other physical disabilities). Less than half of participants (49%) agreed with law A (the government should play a more active role in protecting overweight people from discrimination), and law E (Obesity should be considered a disability under the ADA to protect obese people from weight discrimination in the workplace) received the lowest agreement from 40% of participants.

A multivariate analysis of variance was conducted to assess the effect of participants' sex on support for the six antidiscrimination laws controlling for experimental condition and weight category, which revealed that women endorsed stronger agreement than men with law A (the government should play a more active role in protecting overweight people from discrimination) ($F(1,994) = 13.19, P < 0.001$), law B (overweight people should be subject to the

same protections and benefits offered to people with other physical disabilities; $F(1,994) = 11.37, P < 0.001$) and law C (it should be illegal for an employer to refuse to hire, fire or deny a promotion to a qualified person because of his/her weight; $F(1,994) = 27.37, P < 0.001$), law D (my state should include weight in their civil rights law to protect people from discrimination based on their body weight; $F(1,994) = 12.61, P < 0.001$) and law F (Congress should pass the weight discrimination in employment act to protect overweight Americans from discrimination in the workplace; $F(1,994) = 13.77, P < 0.001$). There were no gender differences in support for law E (obesity should be considered a disability under the ADA to protect obese people from weight discrimination in the workplace).

Ordinal logistic regressions were conducted to examine how respondents' demographic characteristics, exposure to the experimental frames, body weight, political attitudes and history of weight-based victimization explained their support for the weight-based antidiscrimination laws. Because of the gender differences observed in overall support for the six laws, separate logistic regressions were conducted for men and women. Regression results showed that the experimental manipulation influenced women's and men's support differently for several of the antidiscrimination laws. For women, compared with those in the control condition, females presented with the 'Challenging Weight-based Stereotypes' message frame were more likely to support law A (odds ratio (OR) = 2.02 (1.20–3.39), law B (OR = 1.70, 1.02–2.85) and law D (OR = 1.66, 1.00–2.80). In addition, women presented with the 'Scientific Evidence of Weight Discrimination in the Workplace' message frame were more likely to support law A (OR = 1.75, 1.03–2.97) and law D (OR = 1.92, 1.12–3.27) compared with the control condition. There was no influence of experimental message frames on the likelihood of women's support for laws C, E or F. In contrast, none of the experimental conditions increased (or decreased) the likelihood of men's support for the six laws.

The regression analyses revealed additional patterns with several sociodemographic variables and support of the six laws among women and men (refer to Table 3). Controlling for experimental condition, age, education, income, race and history of teasing, being treated unfairly or being discriminated against because of one's weight did not change the pattern of relationships observed across all regressions.

Among men, a consistent pattern emerged demonstrating an increased likelihood of supporting each of the laws (except law C) among those who identified their political affiliation as Liberal or Moderate compared with Conservatives, who were less likely to support the laws. This finding did not emerge for women, where political affiliation was unrelated to all laws except for law A.

In contrast, among women there was an increased likelihood of supporting laws among older individuals (35–54 years, and 55+ years) compared with younger women (18–34 years), and among obese women compared with normal

weight women. Body weight was unrelated to men's support for most laws, with the exception of laws B and E, in which the same pattern was observed with increased support for laws among obese men compared with non-overweight men.

Despite these gender differences, several variables were consistently related to support for laws among both men and women. In particular, both men and women who reported being treated unfairly because of their weight were more likely to support laws than those who had not been treated unfairly. In addition, higher education level among both men and women (for example, college degree versus high school or general education diploma or graduate equivalency degree) was related to lower likelihood of support for all six laws compared with less-educated men and women.

This pattern of findings suggest that personal experiences of weight stigmatization and level of education are potentially important predictors of support for antidiscrimination laws regardless of gender, whereas other variables (for example, political affiliation among men, versus age and obesity among women) may have different implications for support among men versus women.

Discussion

Given that weight-based discrimination is rarely discussed in the media and is less prominent in the public consciousness than other obesity-related topics, it is significant to note that the majority of respondents in our sample are in favor of several different laws to prohibit weight-based discrimination. This parallels recent findings by the present authors demonstrating substantial public support for antidiscrimination laws among Americans.²⁷ To our knowledge, only two other published studies have assessed public opinion regarding legal measures to protect overweight people from discrimination. In a 2001 survey, Oliver and Lee asked respondents ($N = 909$) how much they agreed or disagreed with the following statements, 'The government should play a more active role in protecting overweight people from discrimination,' and 'Overweight people should be subject to the same protections and benefits offered to people with other physical disabilities.' In all, 46% agreed with the first statement and 48% agreed with the second statement.²⁹ These percentages reflect similar, although slightly lower levels of support, compared with our findings, which may reflect the 9-year gap between the two surveys, during which time, research shows that weight-based discrimination has increased by approximately 66%.³ In 2006–2007, Barry *et al.*²⁸ asked a national panel of respondents ($N = 1009$) if 'Overweight people should be subject to the same protections and benefits offered to people with other physical disabilities.' However, only 33% supported this policy. It is unclear why there was less support in this case, however respondents in this study were initially provided with seven 'metaphors' describing various causes of obesity, some of which could have primed negative attitudes and lower policy

Table 3 Ordinal logistic regression results: effect of message frames and sociodemographic characteristics on level of support for potential policies and laws to prohibit weight discrimination

	Adjusted odds ratios for men and women ^a	
	Men (N = 576)	Women (N = 538)
<i>Law A: the government should play a more active role in protecting overweight people from discrimination</i>		
<i>Body weight</i>		
Obese versus normal weight		1.71 (1.13–2.61)
<i>Education</i>		
College graduates versus high school/GED	0.45 (0.28–0.72)	0.43 (0.26–0.70)
<i>Age</i>		
35–54 Years versus 18–34 years		1.73 (1.15–2.61)
<i>Political affiliation</i>		
Moderates versus Conservatives	1.56 (1.10–2.21)	
Liberals versus Conservatives	3.53 (2.18–5.72)	1.80 (1.12–2.89)
<i>Ever treated unfairly because of the body weight</i>		
Yes versus no		2.12 (1.29–3.43)
<i>Law B: overweight people should be subject to the same protections offered to people with other physical disabilities</i>		
<i>Body weight</i>		
Obese versus normal weight	1.60 (1.06–2.41)	1.54 (1.02–2.34)
<i>Education</i>		
College graduates versus high school/GED	0.42 (0.26–0.68)	0.47 (0.29–0.78)
<i>Age</i>		
55+ Years versus 18–34 years	1.62 (1.05–2.51)	2.16 (1.38–3.39)
35–54 Years versus 18–34 years		1.78 (1.18–2.68)
<i>Political affiliation</i>		
Liberals versus Conservatives	2.52 (1.56–4.06)	
<i>Ever treated unfairly because of the body weight</i>		
Yes versus no	2.15 (1.31–3.56)	2.60 (1.59–4.23)
<i>Law C: a law making it illegal for an employer to refuse to hire, fire or deny a promotion to a qualified person because of his/her weight</i>		
<i>Body weight</i>		
Obese versus normal weight		1.68 (1.08–2.61)
<i>Education</i>		
College graduates versus high school/GED	0.28 (0.17–0.46)	0.49 (0.29–0.83)
<i>Age</i>		
35–54 Years versus 18–34 years		1.54 (1.00–2.36)
<i>Ever treated unfairly because of the body weight</i>		
Yes versus no	1.81 (1.09–3.01)	3.31 (1.97–5.58)
<i>Law D: my state should include weight in their civil rights law to protect people from discrimination based on their body weight</i>		
<i>Body weight</i>		
Obese versus normal weight		1.85 (1.21–2.83)
<i>Education</i>		
College graduates versus high school/GED	0.39 (0.24–0.62)	0.35 (0.21–0.58)
<i>Political affiliation</i>		
Liberals versus Conservatives	2.73 (1.69–4.43)	
<i>Ever treated unfairly because of the body weight</i>		
Yes versus no	1.90 (1.15–3.14)	2.91 (1.77–4.79)
<i>Law E: obesity should be considered a disability under the ADA to protect obese people from weight discrimination in the workplace</i>		
<i>Body weight</i>		
Obese versus normal weight	1.71 (1.14–2.58)	1.78 (1.17–2.69)
<i>Education</i>		
College graduates versus high school/GED	0.44 (0.27–0.70)	0.46 (0.28–0.76)
<i>Age</i>		
35–54 Years versus 18–34 years		1.62 (1.08–2.43)
<i>Political affiliation</i>		
Moderates versus Conservatives	1.41 (1.00–2.00)	
Liberals versus Conservatives	2.73 (1.70–4.40)	
<i>Income</i>		
\$75–99 999 versus <\$25 000		0.52 (0.28–0.97)
<i>Ever treated unfairly because of the body weight</i>		
Yes versus no	1.67 (1.02–2.74)	2.02 (1.26–3.27)
<i>Law F: Congress should pass the WDEA to protect overweight Americans from discrimination in the workplace</i>		
<i>Body weight</i>		
Obese versus normal weight		1.57 (1.03–2.41)
<i>Education</i>		
College graduates versus high school/GED	0.38 (0.24–0.61)	0.42 (0.26–0.72)
<i>Political affiliation</i>		
Liberals versus Conservatives	2.54 (1.57–4.11)	
<i>Income</i>		
\$75–99 999 versus <\$25 000		0.49 (0.26–0.93)
<i>Ever treated unfairly because of the body weight</i>		
Yes versus no		2.79 (1.67–4.66)

Abbreviation: GED, general education diploma or graduate equivalency degree. Odds ratios are adjusted for each of the five experimental conditions, and participants' body weight, age, education, income, race, political affiliation and history of weight-based victimization. Odds ratios > 1 indicate increased likelihood of support for antidiscrimination laws; odds ratios < 1 indicate decreased likelihood of support for laws. ^aAll adjusted ratios presented are significant at $P < 0.05$.

support (for example, 'Fat people can't do their jobs well and cost us all more for their health care').

The gender differences observed in support for antidiscrimination laws and across experimental conditions in this study are noteworthy. Providing information that challenges weight-based stereotypes or research evidence about weight-based discrimination elicited higher support for legislation among women, but not men. Some research suggests that women are more vulnerable to weight discrimination than men and may experience weight discrimination at lower levels of body weight than men.⁴ This was also true in this study, wherein higher percentages of women reported weight-based teasing, unfair treatment and discrimination compared with men. This increased susceptibility may lead women to be more aware of inaccurate weight-based stereotypes and more easily persuaded by (or likely to agree with) research evidence confirming their own experiences of weight bias. This could partially explain why the message frames addressing weight-based stereotypes and research evidence increased the likelihood of support for antidiscrimination laws among women.

Thus, framing the issue of weight discrimination using a combination of scientific evidence and personal stories that challenge weight-based stereotypes may be a useful strategy for increasing endorsement of this legislation among women. Ample resources already exist to provide advocates and lawmakers with tools to implement these communication strategies. Several decades of published scientific research demonstrates the prevalence and nature of weight-based discrimination in the workplace,^{2,15} which can be broadly disseminated to the public. Similarly, there are increasing media portrayals of obese individuals (for example, celebrities) who challenge weight-based stereotypes, which can be used to increase public awareness and potentially improve attitudes.

For men, our findings suggest that framing the issue of weight discrimination with themes of disability, personal stories, research evidence or information challenging weight-based stereotypes may not be useful or necessary in increasing support for legislation. Alternatively, it may be that other types of message frames not tested in this study could be influential in increasing support for antidiscrimination legislation among men. For example, a previous study found that emphasizing messages of social consensus about weight bias (for example, that members of one's in-group report positive attitudes toward obese persons) can lead to reduced bias and improved attitudes.⁵⁵ A social consensus model has not been studied in relation to support for antidiscrimination legislation, but this may be an informative topic for future research. In addition, it is possible that message frames emphasizing individual stories of discrimination would have more influence for men if the stories were about men, rather than women (as in this study). However, initial pilot testing of message frames describing personal accounts of weight discrimination by the present authors did not change attitudes or support of

antidiscrimination laws when these accounts portrayed a man versus a woman.⁵⁶

Our predictions that greater support for antiweight discrimination laws would be expressed among individuals with a liberal political ideology were supported among men, but not for women. Similarly, our hypothesis that body weight would be related to increased support for laws was supported for women, but less so for men. Increasing research has documented internalization of weight bias among obese persons, who come to believe that negative societal stereotypes are true and blame themselves for the prejudice they experience.^{57,58} Thus, a possible explanation is that some overweight or obese individuals who have internalized weight stigma (and consequently blame themselves) may express antifat attitudes and be less likely to support this type of legislation. This could be one reason for the lack of significant findings for increased support across all laws among obese men, although it is not clear whether (or why) men might have heightened vulnerability for internalization of stigma. Thus, more work is needed to examine the ways in which political attitudes and internalization of weight stigma intersect with gender, and the influence this has on support for public policies and legislation related to weight discrimination.

Finally, some unexpected findings emerged in this study. It is unclear why higher education level (and in some cases, higher income) among participants was associated with lower likelihood of support for laws compared with less educated individuals. Oliver and Lee similarly observed that individuals with lower education levels were more likely to support policies related to extending civil protections to overweight and obese individuals.²⁹ It may be that individuals with lower education or income have increased susceptibility to weight discrimination (for example, in employment or health care settings), although no research has tested this association and more work is needed to examine the ways in which socioeconomic status intersects with weight discrimination. In addition, it is not clear why older women expressed more support for laws compared with younger women. Similar results have been documented in a previous study by the present authors.²⁹ It may be that because of women's potentially increased vulnerability to weight stigmatization (compared with men), that over time they are more likely to experience unfair treatment because of their weight, and are therefore more supportive of legislation to prevent these occurrences compared with younger women who may have experienced fewer instances of weight stigma. Alternatively, it is possible that older women may encounter discrimination based both on weight and on age, especially given sociocultural ideals of female physical attractiveness, which emphasize a youthful appearance. Testing these associations is beyond the scope of this study, but it will be informative to examine links between age, weight bias and attitudes toward relevant policies.

Overall, this study indicates considerable public support for antidiscrimination laws, regardless of how the issue of

weight discrimination is framed. It is interesting to note that the law E (obesity should be considered a disability under the ADA to protect obese people from weight discrimination in the workplace) received the lowest level of support among participants (40%), and that the 'Obesity as a Disability' message frame had no effect on support for any laws. Although some obese people have attempted to seek legal recourse under the ADA, these attempts have been largely unsuccessful because courts have found that obesity is not considered a disability in most cases.²⁵ In addition, in 2009 the American Medical Association announced their position that obesity is not a disability.³⁶ Thus, these present findings appear to echo views from the medical field and legal system, suggesting that the majority of Americans are unlikely to consider obesity as a disability or the ADA as a viable means for pursuing legal action for weight-based discrimination.

In contrast, laws that make specific provisions to prohibit weight discrimination in the workplace received substantial support by participants in the present study. Over two-thirds (70%) of participants expressed support for legislation that would make it illegal for employers to refuse to hire, deny a promotion or terminate a qualified individual because of his or her weight (law C). Similarly, almost 60% of participants supported the proposed weight discrimination in employment act legislation (law F). This proposed legislation is modeled after the age discrimination in employment act, and would include the identical prohibitions stated in the age discrimination in employment act, but applied to weight instead of age.²⁵ Importantly, message frames had no effect on support for either of these proposed laws, suggesting that public support for these legal measures is consistent (and high) regardless of how the issue of weight discrimination is framed. Given that the majority of participants in this study were in favor of such legislation, this may be a promising avenue for policy makers to pursue further.

There are several limitations to this study that should be noted. First, both height and weight of participants were self-reported. However, given that self-reported weight and height data are generally correlated above 0.90,⁵⁹ and that the weight distribution of the present sample is very similar to general population statistics, it seems unlikely that results were skewed by the self-report nature of this data. Second, although the demographic make-up of the sample was representative of the United States population, it is not known whether the findings will generalize to more diverse samples of American adults. Third, self-reported attitudes indicating support for the laws presented in this survey may not reflect their actual voting behaviors for antidiscrimination legislation. That is, our findings infer that expressed opinions toward various laws are indicative of real-world behaviors, but more work is needed to establish whether self-reported attitudes about weight discrimination legislation have real-world validity in predicting actual voting decisions. Finally, other factors that were not included in this study may affect participants' support for antidiscrimination laws, such as experiences of workplace discrimination,

knowledge of family members or friends who have been treated unfairly because of their weight, or personal history of weight loss or weight gain. The use of additional message frames, and whether or not participants support other civil rights protections are examples of other explanations that were outside the scope of this study.

Currently, there are no legal protections to prohibit discrimination toward an individual based solely on body weight, and employers have the right to hire thin employees rather than heavy employees, or to penalize heavy employees in unfair ways. Weight-based discrimination is pervasive, damaging and worsens health disparities for obese adults.¹¹ It is critical for the public health community to recognize that this type of institutionalized bias is, in fact, both a social injustice and a public health issue.¹¹ History has demonstrated that legislation has the power to reduce institutionalized bias against stigmatized groups, thus researchers, advocacy groups and the public health community can help promote protective legislation for overweight and obese persons.²⁵ Public support is key to enacting legislation, and the present findings provide a starting point to explore public attitudes toward laws that prohibit discrimination based on weight, and offer potential ways for policy makers and interest groups to communicate messages about weight discrimination in efforts to increase support for antidiscrimination laws.

Conflict of interest

The authors declare no conflict of interest.

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