

# Weight Bias among Professionals Treating Eating Disorders: Attitudes about Treatment and Perceived Patient Outcomes

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## ABSTRACT

**Objective:** This study aimed to assess weight bias among professionals who specialize in treating eating disorders and identify to what extent their weight biases are associated with attitudes about treating obese patients.

**Method:** Participants were 329 professionals treating eating disorders, recruited through professional organizations that specialize in eating disorders. Participants completed anonymous, online self-report questionnaires, assessing their explicit weight bias, perceived causes of obesity, attitudes toward treating obese patients, perceptions of treatment compliance and success of obese patients, and perceptions of weight bias among other practitioners.

**Results:** Negative weight stereotypes were present among some professionals treating eating disorders. Although professionals felt confident (289; 88%) and prepared (276; 84%) to provide treatment to obese patients, the majority (184; 56%) had observed other professionals in their field making negative comments about obese patients, 42% (138) believed that

practitioners who treat eating disorders often have negative stereotypes about obese patients, 35% (115) indicated that practitioners feel uncomfortable caring for obese patients, and 29% (95) reported that their colleagues have negative attitudes toward obese patients. Compared to professionals with less weight bias, professionals with stronger weight bias were more likely to attribute obesity to behavioral causes, expressed more negative attitudes and frustrations about treating obese patients, and perceived poorer treatment outcomes for these patients.

**Discussion:** Similar to other health disciplines, professionals treating eating disorders are not immune to weight bias. This has important implications for provision of clinical treatment with obese individuals and efforts to reduce weight bias in the eating disorders field. © 2013 Wiley Periodicals, Inc.

**Keywords:** weight bias; obesity; attitudes; treatment

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## Introduction

Weight-based stigma and discrimination are prevalent in North American society<sup>1</sup> and are often rooted in negative weight-based stereotypes that overweight individuals are lazy, unintelligent, weak-willed, sloppy, lacking in self-discipline, and unwilling to make the changes necessary to lose weight.<sup>1,2</sup> These stereotypes perpetuate bias

against persons who are overweight or obese, and they are present in multiple domains of life, including the workplace, health-care settings, educational institutions, the media, and interpersonal relationships.<sup>1,2</sup>

Of particular concern, studies have consistently documented weight bias among health-care providers, including negative stereotypes by physicians, nurses, medical students, dietitians, psychologists, and fitness professionals.<sup>1-4</sup> Providers typically report views that obese patients are lazy, lacking in self-control, undisciplined, and noncompliant with treatment, and that these personality characteristics are the central causes of obesity rather than genetic or environmental factors.<sup>3-6</sup> Providers also report having less respect for their patients as a patient's body mass index (BMI) increases,<sup>7</sup> believe that treatment efforts will be futile, and find treating obesity to be professionally unfulfilling.<sup>1,4,8</sup> Given these negative perceptions, it

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is not surprising that doctors report spending less time with obese patients than with thinner patients, often neglect to discuss weight loss options, and admit that they do not intervene as much as they think they should.<sup>1,9,10</sup> Even health professionals who specialize in obesity exhibit anti-fat bias and endorse implicit stereotypes of obese persons as lazy, stupid, and worthless.<sup>11</sup>

Weight-based stereotypes held by health-care professionals ultimately have important implications for the quality of care that patients receive, with some research showing that weight bias in the health-care setting serves as a barrier to health-care utilization for obese individuals,<sup>12,13</sup> and weight bias increases risk of obesity associated with functional disability as well as impairment in health-related quality of life.<sup>14,15</sup> In addition, considerable research has demonstrated that experiencing weight bias increases vulnerability for numerous psychological consequences, including depression, low self-esteem, anxiety, poor body image, and suicidality, as well as maladaptive eating behaviors, including binge eating, unhealthy weight control practices, increased food consumption, poorer outcomes in weight loss treatment, and eating disorder symptoms.<sup>16–21</sup>

Despite the plethora of studies documenting weight bias among health-care providers and consistent evidence demonstrating negative psychological consequences among those who experience weight bias, there is a notable gap in research examining weight bias among mental health providers. Of three published studies that have examined weight bias among mental health professionals, findings suggest that weight bias is present among mental health providers and may have negative implications for patient diagnosis and treatment.<sup>22–24</sup> However, the lack of research in this area highlights the need for further examination of weight bias among mental health professionals. Of particular importance is examination of weight bias specifically among therapists who specialize in the treatment of eating disorders. To our knowledge, no published research to date has examined weight bias in therapists who specialize in treating eating disorders, and yet this is a critical population to study for several reasons. First, research has demonstrated that obese persons experience high levels of dieting, eating, and body image concerns, as well as binge eating behavior,<sup>25</sup> which have important implications for psychological well-being.<sup>25,26</sup> Binge eating is prevalent among obese individuals, with approximately 30% of overweight individuals who seek treatment engaging in binge eating or compulsive overeating.<sup>27,28</sup> Psycho-

pathology associated with eating disorders has been found to increase psychological distress in all women, independent of their weight.<sup>28</sup> However, research has suggested that associated psychological distress may be particularly severe for obese women. For example, overweight individuals with BED are significantly more likely to suffer from comorbid psychological disorders, such as depression and anxiety, than obese persons without BED.<sup>27,29</sup> Thus, obese persons may be vulnerable to disordered eating and associated psychological distress that necessitate treatment from a mental health provider who specializes in this area.

Second, weight stigmatization, in itself, is a risk factor for maladaptive eating behaviors and eating disorder symptoms. Individuals who have experienced weight-based teasing and victimization are more vulnerable to binge eating behavior and have higher psychopathology associated with body image.<sup>19,30,31</sup> Among youth, frequent weight-based teasing has been associated with increased binge eating, dietary restraint, maladaptive weight control behaviors, and higher depressive symptomology for both boys and girls.<sup>18,32,33</sup> Research also suggests that obese persons with BED experience more stigma than overweight individuals who do not exhibit binge eating.<sup>34</sup> The vulnerability of weight-based victimization in this population may result in heightened sensitivity to weight bias, and may play a central role in patients' eating pathology.<sup>35</sup> For example, previous research suggests that overweight individuals consume significantly more calories following exposure to weight stigma than leaner individuals<sup>17</sup> and may eat more food in an attempt to cope with weight-related stigma and associated stress.<sup>36</sup> Importantly, overweight and obese individuals who experience or internalize negative weight bias and blame themselves for being stigmatized are more likely to engage in binge-eating<sup>35,37</sup> and other eating psychopathology,<sup>35,38</sup> and experience poorer outcomes in weight loss treatment.<sup>39,40</sup> It is therefore likely that therapists specializing in the treatment of eating disorders will be treating many individuals with a history of weight-based victimization. As a result, weight biases inadvertently suggested by therapists could be especially damaging for these patients and could interfere with treatment progress.

Given the prevalence of disordered eating and weight stigmatization among overweight and obese persons, it is crucial that they have access to mental health services that can effectively address their eating pathology and associated symptoms in an environment free of bias and stigma. No studies to date have attempted to document weight bias

among mental health professionals who treat eating disorders. However, given the high prevalence of weight bias across the health-care sector, and existing associations between weight stigma and psychological distress, it is important to identify potential weight biases in this population. Thus, this study aimed to (1) assess explicit weight bias reported among mental health professionals who specialize in treating eating disorders; (2) identify to what extent their weight biases are associated with attitudes about treating patients with obesity; and (3) identify individual and demographic factors that may predict more or less weight bias in this population.

## Method

### Participants

To obtain a sample of mental health professionals who treat eating disorders, this study was advertised on websites, electronic newsletters, and/or list-servs of existing professional organizations that specialize in eating disorders. These organizations included the Academy for Eating Disorders, Binge Eating Disorder Association, National Eating Disorders Association, and Eating Disorders Research Society. The study was advertised as a survey for professionals and practitioners treating eating disorders, and contained a weblink to the online survey. Participants who clicked on the weblink were transferred to the survey website (hosted by Qualtrics.com) and were provided with information explaining the survey and inviting them to participate. Participants chose whether or not to participate based on the description of the survey and were required to provide informed consent prior to beginning the survey. All participation was voluntary and anonymous. The survey software (Qualtrics) enabled features to prevent the same user from completing the survey more than once. The study was approved by the university's institutional review board. Data were collected during a 6-week period in the fall of 2012. Five hundred and twenty participants began the survey, with 151 excluded for missing data on several variables, resulting in a final sample of 369 participants whose data were retained for analysis.

### Measures

Data were collected using an anonymous, online self-report questionnaire to assess opinions of eating disorder professionals about obese persons and treating obese patients. We also examined whether certain participant characteristics (e.g., demographic factors, personal history of weight-based victimization and eating disorders) affected individuals' responses to these questions.

**Demographic Information and Professional Experience.** Participants were asked to report their age, gender, ethnicity, and height and weight. In addition, participants were asked to indicate their current occupation, the number of years in their profession, their current practice setting (e.g., clinic, private practice, hospital, etc.), and whether they treat patients with eating disorders and/or obesity.

**Fat Phobia Scale.** Participants completed the Fat Phobia Scale,<sup>41</sup> which assessed their attitudes about obese persons using 14 pairs of adjectives (e.g., "lazy" versus "industrious") as anchors on a 5-point scale. Participants selected a point on the scale that best described their feelings about obese persons for each adjective pair. Scores above 2.5 indicate more negative attitudes toward obese people. Cronbach's alpha for this scale in the present sample was  $\alpha = 0.84$ .

The Universal Measure of Bias-FAT (UMB-FAT) scale contains 20 items assessing participants' general attitudes toward a specified target (in this study, overweight persons).<sup>42</sup> Participants rated their agreement with statements such as "Fat people are sloppy" on a 7-point Likert scale (1 = "strongly agree" to 7 = "strongly disagree"). Several items were reverse scored so that higher scores reflected more negative attitudes toward overweight individuals. The UMB-FAT scale has been shown to correlate with other established measures of bias,<sup>42</sup> and in the present sample, the UMB-FAT scale demonstrated very good reliability ( $\alpha = 0.85$ ).

**Perceived Causes of Obesity.** Participants' beliefs about the causes of obesity were assessed using a modified version of a measure developed by Foster et al.<sup>4</sup> The original measure described 11 factors commonly believed to contribute to obesity (e.g., genetic factors, overeating, poor nutritional knowledge, physical inactivity), and participants were asked to assess how important each factor is in causing obesity. Three additional items were added that have received increasing attention in the past decade as contributors to obesity, including pricing of foods (e.g., inexpensive unhealthy foods), marketing/advertising of unhealthy foods, and food addiction. Responses were provided on a 5-point Likert scale (1 = "not at all important") to (5 = "extremely important"). Subscales were developed through exploratory factor analysis, and only items with adequate scale reliability were retained, yielding 3 subscales including "physiological causes" (3 items,  $\alpha = 0.79$ ), "behavioral causes" (7 items,  $\alpha = 0.81$ ), and "environmental causes" (3 items,  $\alpha = 0.69$ ).

**Attitudes about Treating Obese Patients.** This 18-item measure was developed by the authors to assess views of health providers about obese patients. Participants were asked to indicate their level of agreement on a 5-point Likert scale (ranging from 1 = "strongly disagree" to 5 = "strongly agree") with statements that describe

attitudes toward obese patients. Subscales were developed through exploratory factor analysis, and only items with adequate scale reliability were retained, resulting in two distinct subscales: one subscale reflecting negative attitudes toward obese patients (e.g., “I feel disgust when treating an obese patient”) (12 items,  $\alpha = 0.89$ ) and a second subscale reflecting perceived frustrations in treating obese patients (e.g., “I often feel frustrated with obese patients”) (6 items,  $\alpha = 0.80$ ).

**Perceptions of Treatment Compliance and Success of Obese Patients.** Participants were asked four separate questions about their perceptions of treatment outcomes of obese patients, to assess the extent to which they perceive obese patients to be compliant with treatment recommendations, motivated to change their diet, successful in making dietary changes, able to maintain weight loss once it is achieved. Items were rated on a 5-point scale, with higher scores reflecting more positive perceptions and confidence in the compliance, motivation, and success of obese patients in treatment.

**Perceptions of Weight Bias among Practitioners.** This 4-item measure was developed by the authors to assess participants' perceptions and observations of weight bias toward obese patients among their colleagues. Participants were asked to indicate their level of agreement on a 5-point Likert scale (ranging from 1 = “strongly disagree” to 5 = “strongly agree”) regarding whether they had heard or witnessed other professionals in their field making negative comments about obese patients, and their perceptions of whether other practitioners who treat eating disorders have negative stereotypes and attitudes toward obese patients, or feel uncomfortable treating obese patients. Cronbach's alpha for this scale in the present sample was  $\alpha = 0.87$ .

**Personal History of Disordered Eating, Dieting, and Fear of Fat.** At the end of the survey, participants were asked forced choice (yes/no) questions regarding whether they are currently trying to lose weight, and if they have a personal history of having had an eating disorder. In addition, participants completed the Fear of Fat Subscale of the Anti-Fat Attitudes Questionnaire,<sup>43</sup> which is a 3-item scale that asks participants to indicate their level of agreement (on a 10-point scale ranging from 0 = “very strongly disagree” to 9 = “very strongly agree”) with the following statements: “I feel disgusted with myself when I gain weight,” “One of the worst things that could happen to me would be if I gained 25 pounds,” and “I worry about becoming fat.” Cronbach's alpha for this subscale in the present sample was  $\alpha = 0.82$ .

**Personal History of Weight Victimization.** Finally, participants were asked four separate forced choice questions (“yes” or “no”) to assess whether or not have experienced weight-related stigma or victimization,

**TABLE 1. Sample characteristics**

	<i>n</i>	%		
<i>Demographics</i>				
Female	303	92.1		
Male	26	7.9		
Race/Ethnicity: Caucasian	311	94.5		
Race/Ethnicity: other	18	5.5		
<i>Weight loss &amp; disordered eating</i>				
Currently trying to lose weight				
Yes	77	23.4		
No	252	76.6		
Prior History of an eating disorder				
Yes	125	38.0		
No	204	62.0		
<i>History of weight-based victimization</i>				
Ever been teased because of weight	138	42.0		
Ever been treated unfairly because of weight	67	20.4		
Ever been discriminated against because of weight	46	14.0		
<i>Do you treat patients who are obese?</i>				
Yes	286	86.9		
No	43	13.1		
<i>Do you treat patients with eating disorders?</i>				
Yes	315	96.0		
No	13	4.0		
<i>Practice setting</i>				
Private Practice	161	48.9		
Clinic	61	18.5		
Hospital	35	10.6		
University/Teaching Hospital	35	10.6		
Other	37	11.2		
<i>Occupation</i>				
	<i>n</i>	% of responses		
Psychologist	94	26.9		
Therapist	83	23.7		
Registered Dietitian	49	14.0		
Social Worker	47	13.4		
Other	77	22.0		
	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Age (in years)	45.55	12.49	19.00	76.00
BMI	24.26	4.43	17.85	44.93
Years in profession	16.05	10.74	0.00	42.00
<i>N</i>			329	

including being teased, treated unfairly, or discriminated against due to their weight.

## Results

### Statistical Analysis

Descriptive statistics, linear regression models (OLS), and nonparametric methods for density estimation were used for analyzing the data. All outcome variables and continuous predictor variables (except age) in the regression models were *z*-standardized to ease interpretation of effect sizes. All analyses were performed using Stata version 11.2, including the user-written module *scdensity* version 1.0.1 for performing the density estimation.<sup>44</sup>

**Sample Characteristics.** Table 1 presents a summary of sample characteristics. The survey was



**TABLE 2. Descriptive Statistics for Outcome Variables (N = 329)**

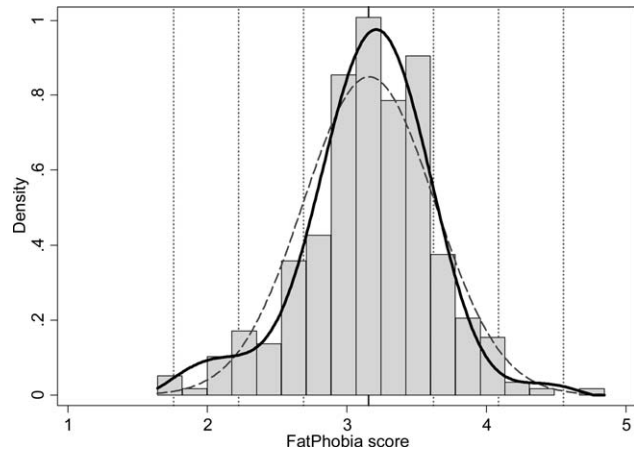
	M	SD	Min	Max
<i>Causes of obesity</i>				
Behavioral causes	3.21	0.76	1.14	5
Medical condition	3.47	0.87	1.33	5
Environmental causes	3.08	0.93	1	5
<i>Weight Bias in Clinical Practice</i>				
Negative attitudes about treating obese patients	1.66	0.57	1	4.18
Perceived frustrations in treating obese patients	2.36	0.73	1	4.33
Perceived treatment outcomes of obese patients	3.44	0.53	1.83	5
<i>Explicit measures of weight bias</i>				
UMB-FAT (total scale)	2.1	0.68	1	4.37
Fat Phobia Scale	3.16	0.47	1.64	4.85
<i>Fear of Fat Subscale (FAAQ)</i>				
Total Sample	4.3	2.25	1	10
Participants currently trying to lose weight	5.67	2.1		
Participants not currently trying to lose weight	3.88	2.12		

completed by 371 participants (71%) and an additional 42 observations were excluded due to occasional item nonresponse, leaving an analysis sample of 329 participants. Of those, 92% ( $n = 303$ ) were women, 95% ( $n = 311$ ) were Caucasian, and the average age was 45.55 years ( $SD = 12.49$ ). The mean BMI of the sample was 24.26 ( $SD = 4.43$ ). Participants described themselves as psychologists (27%;  $n = 94$ ), therapists (24%;  $n = 83$ ), registered dietitians (14%;  $n = 49$ ), social workers (13%;  $n = 47$ ), and other professions such as psychiatrists, nutritionists, nurses, physicians, pediatricians, scientists, and professors, each of which comprised less than 4% of the sample. On average, participants had spent 16 years in their profession, most often in a private practice setting, and high percentages reported treating patients with obesity (87%;  $n = 286$ ) and patients with eating disorders (96%;  $n = 315$ ). Personal experiences of participants indicated that 38% ( $n = 125$ ) had a previous history of an eating disorder, 23% ( $n = 77$ ) were currently trying to lose weight, and many had experienced weight-based victimization, with 42% ( $n = 138$ ) being teased about their weight, 20% ( $n = 67$ ) being treated unfairly due to their weight, and 14% ( $n = 46$ ) being discriminated against because of their weight.

### Descriptive Findings

**Explicit Measures of Weight Bias.** Table 2 presents descriptive findings of the primary measures of interest. The mean score on the Fat Phobia Scale was 3.16 ( $SD = 0.47$ ), which is slightly lower than mean scores on this measure reported among health professionals in other disciplines<sup>45,46</sup> but still indicative of the presence of negative stereo-

**FIGURE 1** Distribution of weight bias scores among eating disorder professionals of weight bias scores among eating disorder professionals. Note: The histogram has origin equal to the minimum Fat Phobia score and 18 bins; overlaid (solid black line) is a density function estimated with the self-consistent method for density estimation; the dashed grey line shows a Gaussian probability density with M and SD of the weight bias scores; dotted gray vertical lines depict standard deviation units as distances from the mean (vertical black line); theoretical range of the Fat Phobia Scale was 15;  $N = 329$ .



types toward obese persons. On this measure, a considerable percentage of participants agreed that obese individuals have poor self-control (33%;  $n = 108$ ), have no willpower (16%;  $n = 53$ ), are self-indulgent (15%;  $n = 49$ ), unattractive (24%;  $n = 79$ ), inactive (38%;  $n = 125$ ), insecure (50%;  $n = 165$ ), and overeat (55%;  $n = 181$ ). Figure 1 shows that the scores on the Fat Phobia Scale are distributed symmetrically around the mean, with decreasing probability mass for scores farther away from the mean. The estimated density function for weight bias thus resembles a Gaussian density (dotted grey line in Fig. 1), but with higher density in the area surrounding the mean (or mode) and less probability mass in the range between around one and two standard deviations on either side of the mean.

**Attitudes about Treating Obese Patients and Perceived Treatment Outcomes.** Table 3 summarizes participants' agreement with statements about treating obese patients, as well as their perceptions of weight bias among other professionals in their field. High percentages of participants agreed that it is important to treat obese patients with compassion and respect (94%;  $n = 309$ ), that treating obese patients is professionally rewarding (72%;  $n = 237$ ), and that they feel confident (88%;  $n = 290$ ) and professionally prepared (84%;  $n = 276$ ) to provide quality care to these patients. In contrast, relatively low percentages of participants (1–17%) expressed negative attitudes about treating obese patients. However, the majority of participants (56%;  $n = 184$ ) also indicated that they had heard and

**TABLE 3. Attitudes about Treating Obese Patients**

Scale Items	Agreement (%)
<i>Positive Attitudes</i>	
It is important to treat obese patients with compassion and respect	94
I feel confident that I can provide quality care to obese patients	88
I feel professionally prepared to effectively treat obese patients	84
Treating obese patients is professionally rewarding	72
<i>Perceptions of Weight Bias Among Other Professionals Treating Eating Disorders</i>	
I have heard/witnessed other professionals in my field make negative comments about obese patients	56
Other practitioners who treat eating disorders often have negative stereotypes about obese patients	42
Practitioners feel uncomfortable when caring for obese patients	35
My colleagues tend to have negative attitudes toward obese patients	29
<i>Negative Attitudes</i>	
I feel that obese patients are often noncompliant with treatment recommendations	17
Obese patients can be difficult to deal with	15
I often feel frustrated with obese patients	11
I feel that obese patients lack motivation to make lifestyle changes	9
Treating an obese patient is more frustrating than treating a nonobese patient	6
Treating an obese patient is more stressful than treating a nonobese patient	5
I would rather treat a nonobese patient than an obese patient	5
Treating an obese patient is more emotionally draining than treating a nonobese patient	4
Obese patients tend to be lazy	3
I dislike treating obese patients	3
I feel disgust when treating an obese patient	2
I feel more irritated when I am treating an obese patient than a nonobese patient	2
It is difficult to feel empathy for an obese patient	2
Treating an obese patient repulses me	1

Note: Agreement = Responses of "Agree" or "Strongly Agree".

witnessed other professionals in their field making negative comments about obese patients, 42% ( $n = 138$ ) agreed that other practitioners who treat eating disorders often have negative stereotypes about obese patients, 35% ( $n = 115$ ) agreed that practitioners feel uncomfortable caring for obese patients, and 29% ( $n = 95$ ) agreed that their colleagues tend to have negative attitudes toward obese patients. The high endorsement of positive attitudes and low endorsement of negative attitudes toward obese patients reported by participants appear inconsistent with their reports of attitudes among their colleagues, suggesting that a considerable degree of weight bias is observed among professionals treating eating disorders.

In addition, participants expressed considerable pessimism with respect to treatment outcomes of obese patients. Despite the high percentage of participants stating that they felt professionally pre-

pared to treat obese patients and that doing so was professionally rewarding, substantially lower percentages of participants indicated that obese patients could be successful in making behavior changes (53%;  $n = 174$ ) and were motivated to change their diet (51%;  $n = 168$ ). In addition, only 36% ( $n = 118$ ) expressed agreement that obese patients are compliant with treatment recommendations, and only 24% ( $n = 79$ ) expressed confidence that obese patients can maintain weight loss once it is achieved.

### Regression Models

**Beliefs about the Causes of Obesity.** Table 4 shows regression results, predicting beliefs about the causes of obesity. The three models were fit separately for beliefs regarding behavioral, medical, and environmental causes, respectively. Weight bias was positively associated with beliefs that obesity is caused by behavioral factors, indicating stronger beliefs in behavioral causes with greater weight bias scores ( $b = 0.212$ ,  $p < .001$ ). Participants who were trying to lose weight at the time of the survey also endorsed stronger beliefs in behavioral causes of obesity ( $b = 0.493$ ,  $p < .001$ ). However, participant's BMI had a negative effect on these scores ( $b = -0.216$ ,  $p < .001$ ), indicating that participants with higher BMIs were less likely to endorse behavioral causes of obesity. There was no effect of weight bias (or other effects) for beliefs of medical or environmental causes of obesity, with the exception that age was modestly associated with beliefs in environmental causes ( $b = 0.019$ ,  $p < .01$ ).

**Attitudes toward Obese Patients.** Table 5 presents regression results for attitudes towards obese patients as outcome variables. Increasing weight bias was positively associated with an increase in scores both for negative attitudes about treating obese patients ( $b = 0.304$ ,  $p < .001$ ) and perceived frustrations in treating obese patients ( $b = 0.419$ ,  $p < .001$ ). A negative weight bias effect was observed for perceived treatment outcomes of obese patients ( $b = -0.343$ ,  $p < .001$ ), indicating that poorer perceived treatment outcomes were associated with higher weight bias scores. Participants who were trying to lose weight at the time of the survey had more negative attitudes about treating obese patients ( $b = 0.414$ ,  $p < .01$ ), and greater perceived frustrations in treating obese patients ( $b = 0.254$ ,  $p < .05$ ).

**Predictors of Weight Bias.** Finally, Table 6 shows regression results predicting weight bias scores. Participants with a higher BMI had lower weight bias scores ( $b = -0.161$ ,  $p < .01$ ). A similar effect was observed for years of professional experience, indicating less weight bias for participants with more

**TABLE 4. Predictors of participants' beliefs about the causes of obesity**

	Behavioral Causes	Medical Condition	Environmental Causes
Fat Phobia Scale	0.326 <sup>c</sup>	−0.074	0.054
Gender (female)	0.196	0.059	0.085
Race/ethnicity (other)	−0.014	0.250	0.269
Age (in years)	0.007	−0.006	0.019 <sup>b</sup>
BMI	−0.216 <sup>c</sup>	−0.110	−0.089
Years in profession	−0.150	−0.030	−0.124
Currently trying to lose weight	0.493 <sup>a</sup>	0.135	0.081
Eating disorder in the past	−0.042	−0.078	−0.038
WBV: Teased	−0.043	0.025	−0.114
WBV: Treated unfairly	0.012	0.122	0.150
WBV: Discriminated against	0.092	0.059	−0.025
Constant	−0.613	0.174	−0.938 <sup>a</sup>
<i>N</i>	329	329	329
<i>R</i> <sup>2</sup>	0.222	0.031	0.043
Adj. <i>R</i> <sup>2</sup>	0.195	−0.003	0.009

Note: All outcome variables as well as Fat Phobia Scale, BMI, and years in profession are z-standardized; the three models shown were also fit with the UMB-FAT scale as predictor instead of the Fat Phobia Scale, resulting in similar effects ( $b = 0.212$ ,  $p < .001$ ;  $b = -0.139$ ,  $p < .05$ ;  $b = -0.016$ ,  $p > .05$ , respectively); significance levels

<sup>a</sup> $p < .05$

<sup>b</sup> $p < .01$

<sup>c</sup> $p < .001$ , OLS-regressions.

**TABLE 5. Predictors of participants' attitudes about treating obese patients**

	Negative Attitudes about Treating Obese Patients	Perceived Frustrations in Treating Obese Patients	Perceived Treatment Outcomes of Obese Patients
Fat Phobia Scale	0.304 <sup>c</sup>	0.419 <sup>c</sup>	−0.472 <sup>c</sup>
Gender (female)	−0.177	−0.179	−0.068
Race/ethnicity (other)	0.125	0.582 <sup>b</sup>	−0.130
Age (in years)	−0.001	0.017 <sup>b</sup>	−0.013 <sup>a</sup>
BMI	−0.069	−0.047	−0.100
Years in profession	−0.001	−0.091	−0.002
Currently trying to lose weight	0.414 <sup>b</sup>	0.254 <sup>a</sup>	0.107
Eating disorder in the past	0.065	0.154	0.105
WBV: Teased	0.002	−0.151	−0.048
WBV: Treated unfairly	−0.333	−0.211	0.277
WBV: Discriminated against	0.203	0.258	−0.095
Constant	0.123	−0.673 <sup>a</sup>	0.568
<i>N</i>	329	329	329
<i>R</i> <sup>2</sup>	0.146	0.236	0.230
Adj. <i>R</i> <sup>2</sup>	0.116	0.210	0.203

Note: All outcome variables as well as Fat Phobia Scale, BMI, and years in profession are z-standardized; the three models shown were also fit with the UMB-FAT scale as predictor instead of the Fat Phobia Scale, resulting in similar effects ( $b = 0.468$ ,  $p < .001$ ;  $b = 0.434$ ,  $p < .001$ ;  $b = -0.343$ ,  $p < .001$ , respectively); significance levels

<sup>a</sup> $p < .05$

<sup>b</sup> $p < .01$

<sup>c</sup> $p < .001$ , OLS-regressions.

job experience ( $b = -0.18$ ,  $p < .05$ ). Of note, participants who were trying to lose weight reported significantly higher levels of weight bias than those who were not trying to lose weight ( $b = 0.383$ ,  $p < .01$ ).

**Participant Attrition.** Finally, it is noteworthy that of the 522 participants that began the survey, only 371 completed it. This level of attrition has not been observed in previous studies assessing weight bias by the authors. Figure 2 illustrates the attrition pattern of participants, and shows that some participants initially dropped out at the beginning of the survey when they were asked their gender and

age, followed by further attrition when participants were asked for their height and weight, and whether they treat individuals with eating disorders or obesity. The largest attrition occurred when the explicit measures of weight bias were presented to participants, and then when participants were queried about their attitudes towards obese patients.

## Discussion

To our knowledge, this study is the first to systematically assess weight bias among professionals

**TABLE 6. Predictors of weight bias among participants**

	Fat Phobia	UMB-FAT
Gender (female)	−0.040	−0.401
Race/Ethnicity (other)	−0.183	0.136
Age (in years)	0.001	0.008
BMI	−0.161 <sup>b</sup>	−0.199 <sup>b</sup>
Tenure (years in profession)	−0.180 <sup>a</sup>	−0.179 <sup>a</sup>
Currently trying to lose weight	0.383 <sup>b</sup>	0.341 <sup>a</sup>
Eating disorder in the past	−0.032	0.207
WBV: Teased	−0.020	−0.059
WBV: Treated unfairly	0.086	−0.370
WBV: Discriminated against	−0.030	0.361
Constant	−0.075	−0.133
<i>N</i>	329	329
<i>R</i> <sup>2</sup>	0.066	0.082
Adj. <i>R</i> <sup>2</sup>	0.037	0.053

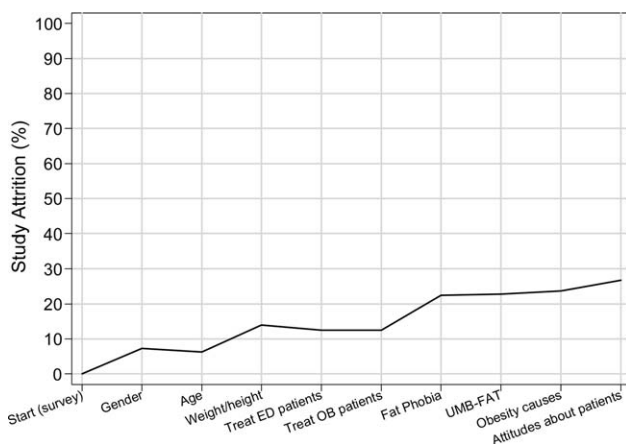
Note: Outcome variable as well as BMI and tenure are z-standardized; significance levels

<sup>a</sup>*p* < .05

<sup>b</sup>*p* < .01

<sup>c</sup>*p* < .001, OLS-regressions.

**FIGURE 2** Pattern of study attrition over the course of the survey. Note: The graph shows the percentage of participants with missing data (y-axis) at selected variables which are ordered sequentially with respect to the survey progression (x-axis). For multi-item batteries (Fat Phobia Scale, UMB-FAT, causes of obesity, attitudes toward obese patients), the item that appeared first in the survey was used.



who specialize in the treatment of eating disorders. Our findings indicate that weight bias is present among these professionals, similar to professionals in other health disciplines. Mean scores on explicit measures of weight bias in this sample were somewhat lower than scores reported in previous work with professionals in other medical and health disciplines.<sup>45,46</sup> However, the majority of participants in this study (56%; *n* = 184) reported that they had heard or witnessed other professionals in their field making negative comments about obese patients, 42% (*n* = 138) perceived that other practitioners who treat eating disorders often have negative stereotypes about obese patients, 35% (*n* = 115) perceived that practitioners feel uncomfortable caring for obese patients, and 29% (*n* = 95) perceived that

their colleagues tend to have negative attitudes toward obese patients. These findings suggest that weight bias is indeed commonly perceived among professionals who treat eating disorders.

In addition, despite feeling professionally prepared to provide quality care to obese patients, participants expressed considerable pessimism about treatment outcomes for these patients, including patients' motivation to improve their diet, ability to make behavior changes, and ability to maintain weight loss once achieved. The fact that only 36% (*n* = 118) of participants believed that obese patients are compliant with treatment recommendations indicates that a commonly held assumption by professionals is patient noncompliance, a weight-based stereotype that is similarly endorsed by many other health providers.<sup>4,47,48</sup> It is possible that the psychologists, therapists, social workers, dietitians, and other practitioners in this study may have treatment targets or strategies that differ from each other and that may not always involve dietary or behavioral change or weight loss; and caregivers may still have some confidence in their patients' abilities to make psychological or life changes. However, participants' stereotypes that patients are generally noncompliant, across treatment domains, indicate a belief that their patients are unwilling or unable to follow recommendations regardless of the treatment target.

Our findings further suggest that weight biases among professionals in the eating disorders field may have important implications for their beliefs about the causes of obesity and attitudes about providing treatment to patients with obesity. Those who exhibited stronger weight bias were more likely to (1) believe that obesity is caused by behavioral factors (such as overeating and lack of will-power) rather than environmental or biological/genetic contributors, (2) express negative attitudes and frustrations about treating obese patients, and (3) perceive poorer treatment outcomes for these patients compared to professionals who endorsed less weight bias. Previous research has also shown that greater attribution of controllability and individual responsibility for the development of disorders (obesity as well as eating disorders) is associated with more stigmatizing attitudes toward that disorder.<sup>49</sup> Whether or not these associations translate into compromised quality of treatment for obese patients remains to be tested, but they nevertheless suggest that this is a plausible outcome and that these attitudes are cause for concern.

Taken together, these findings suggest that efforts to reduce weight bias among professionals in the eating disorders field are warranted. Several



experimental studies have demonstrated effective strategies to reduce weight bias among students and professionals in health-related fields. This work indicates that providing educational interventions that emphasize the complex etiology of obesity (e.g., information on biological and genetic contributors to body weight that are outside personal control) and challenge common weight-based stereotypes can effectively reduce weight bias.<sup>50–52</sup> These strategies have been tested using different approaches (e.g., via lecture format, written information, brief educational films), suggesting that these stigma-reduction interventions can be feasibly implemented in clinical training or practice settings. In light of the pattern of attrition observed in this study, as well as the discrepancy between the relatively low personal endorsement of weight-based stereotypes and high endorsement of weight bias observed among colleagues and other professionals in the eating disorders field, it is possible that some professionals may exhibit some resistance in response to stigma reduction efforts that involve confronting one's own personal attitudes and assumptions about body weight or people who are obese. If future research replicates a similar attrition pattern as the present study, this may be an issue that needs to be considered in the development and implementation of stigma reduction interventions.

Finally, it is interesting to note several personal characteristics that were associated with expressions of weight bias in this sample. Participants who had been a professional in the field for longer expressed lower bias compared to more junior professionals. This finding is similar to previous research demonstrating that older individuals and those with more work experience express less negative attitudes toward obese persons compared to younger persons with less professional experience.<sup>8,12</sup> In addition, participants in the present sample with a lower BMI expressed stronger weight bias than those with higher body weights, which is also consistent with previous research demonstrating a negative correlation between BMI and weight bias.<sup>53</sup> In light of this finding, it may seem puzzling that individuals who reported currently trying to lose weight exhibited stronger weight bias, and more negative attitudes and frustrations about treating obese patients compared to individuals not trying to lose weight. It might be expected that individuals who themselves are trying to lose weight would appreciate the difficulties of losing weight and maintaining weight loss, and in turn have more empathy for other individuals who are struggling with excess weight. However, the aver-

age BMI of those trying to lose weight in the present study was 27, thus it may be that they perceived their weight loss efforts to be substantially different than those of obese individuals who are heavier and desire to lose more weight. Alternatively, recent research has also indicated that expressions of weight bias are significantly associated with heightened concern about becoming fat,<sup>54</sup> and this was also true for participants in the current sample who were trying to lose weight, who expressed stronger fear of fat (as measured by the AFA) compared to those not trying to lose weight. Given that current efforts to lose weight among professionals were associated with more negative attitudes and frustrations about treating obese patients, there is a need to study this association further. Although having a prior history of an eating disorder diagnosis was not significantly related to weight bias or attitudes toward treating obese patients in this study, it would be informative for future research to include comprehensive validated measures of disordered eating and weight preoccupation to identify whether (and to what extent) these are associated with expressions of weight bias among eating disorder professionals. It may also be useful to directly compare these potential relationships (and expressions of weight bias) among eating disorder professionals to other groups of health providers. Ultimately, a better understanding of the nature and correlates of weight bias in professionals treating eating disorders will help to guide targeted interventions to improve therapeutic relationships and client outcomes.

Several limitations should be noted. The cross-sectional nature of this study precludes causal inferences from the present findings. Given prior research demonstrating that weight biases among health professionals can impair quality of health-care delivery,<sup>8–10,12</sup> it will be important to examine whether weight biases toward obese patients expressed by professionals who treat eating disorders affect actual patient outcomes or aspects of the patient–therapist relationship. It will also be useful to identify whether similar weight biases and attitudes emerge in a more ethnically diverse sample of professionals, and whether attitudes differ by gender or towards youth compared to adults with obesity. The proportions of male and non-Caucasian participants were too low to examine gender or ethnic differences in the present study.

The reason for the pattern of participant attrition, with patients increasingly dropping out upon presentation of the weight bias measures, is unclear. It could be that participants felt increasingly uncomfortable about responding to questions

that ask for their opinions about obese persons as they completed the survey, or that participants felt unwilling to answer questions that might indicate they have biased attitudes. It may be that individuals with higher levels of weight bias were more likely to drop out when presented with the explicit bias measures in the survey. Given that the study was anonymous, it is puzzling that this attrition pattern occurred, and it will be interesting to observe whether similar attrition occurs in future studies with this population. Given the attrition rate in our study, it will be important for additional studies to examine weight bias in this population, which may benefit from the use of implicit measures of bias (in addition to explicit measures), as well as measures of social desirability, to assess whether participants' responses on weight bias measures are influenced by social desirability tendencies. Finally, it is important to acknowledge that weight bias among eating disorder professionals could be harmful to patients, regardless of their patients' body weights. Although the emphasis in the present study focused on bias associated with obesity, weight stigmatization could also be harmful for thinner patients seeking treatment for eating disorders. For example, it is not known whether therapists' negative weight biases could reinforce unhealthy attitudes, beliefs, and symptoms that characterize eating disorders in thinner patients. Furthermore, some patients seen by eating disorder specialists may perceive themselves to be overweight, even if they are not, and they might be at risk for internalizing any potential weight bias if expressed by their care provider. It will be informative for future research to examine weight biases related to both thinness and obesity among professionals who treat eating disorders.

Although more research is needed to clarify the nature and extent of weight bias among professionals treating eating disorders and whether this bias might impact the therapeutic relationship with patients, the present study offers important insights about these issues that have previously not been studied. Like health professionals in other disciplines, professionals who treat eating disorders are not immune to weight bias, and these biases are associated with negative attitudes and frustrations about the clinical treatment of obese persons. These findings, coupled with the high percentage of professionals in our study who reported observing negative weight biases amongst their colleagues in the eating disorders field, highlight the importance of increasing attention to the issue of weight bias and its negative consequences for

obese individuals, as well as initiating stigma reduction efforts in training and clinical practice.

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