





# **Reducing Weight Bias in Obesity Management, Practice** and Policy

Sara FL. Kirk PhDi, Ximena Ramos Salas PhDi, Angela S.

- i) School of Health and Human Performance, Dalhousie University
- ii) Obesity Canada
- iii) Department of Health, Kinesiology and Applied Physiology, Concordia University
- iv) Werklund School of Education, University of Calgary

Alberga PhDiii, Shelly Russell-Mayhew PhD, R.Psychiv

#### Introduction

People living with obesity frequently experience weight bias, stigma and discrimination. The role that these play in obesity management has, until recently, been poorly understood. This chapter provides an overview of these constructs, using the best available evidence to illustrate how they influence obesity development, diagnosis, management and prevention. This is the first time that weight bias, stigma and discrimination have been included in Canadian clinical practice guidelines for obesity, in recognition of emerging and compelling evidence that they represent a significant challenge to practice and policy. For questions related to lived experience of obesity and of clinical care, qualitative methods are the appropriate research approach. While we recognize that there is a relative paucity of high-quality evidence on weight

#### **Cite this Chapter**

Kirk SFL, Ramos Salas X, Alberga AS, Russell-Mayhew S. Canadian Adult Obesity Clinical Practice Guidelines: Reducing Weight Bias in Obesity Management, Practice and Policy. Available from:

https://obesitycanada.ca/guidelines/weightbias. Accessed [date].

### **Update History**

Version 1, August 4, 2020. The Canadian Adult Obesity Clinical Practice Guidelines are a living document, with only the latest chapters posted at obesitycanada.ca/guidelines.

bias, stigma and discrimination in this area, the patients and clinicians working on these guidelines feel it is important to highlight. It is our hope that work in this area will continue and richer information will be available for future guidelines.

To support standard practice within chronic disease management, we use people-first language throughout this chapter. For further information, refer to https://obesitycanada.ca/resources/people-first-language.

Given the limited evidence in the published literature, this chapter includes recommendations where sufficient evidence is available, alongside key messages for health professionals, policy makers and patients where evidence is limited.

### **KEY MESSAGES FOR HEALTHCARE POLICY MAKERS**

- · Policy makers developing obesity policies should assess and reflect on their own attitudes and beliefs related to obesity.1
- Public health policy makers should avoid using stigmatizing language and images. It is well established that shaming does not change behaviours. In fact, shaming can increase the likelihood of individuals pursuing unhealthy

behaviours and has no place in an evidence-based approach to obesity management.2,3

 Avoid making assumptions in population health policies that healthy behaviours will or should result in weight change. Weight is not a behaviour and should not be a target for behaviour change. Avoid evaluating healthy eating and physical activity policies, programs and campaigns in terms of population-level weight or BMI outcomes. Instead, emphasize health and quality of life for people of all sizes. Because weight bias contributes to

- health and social inequalities, advocate for and support people living with obesity. This includes supporting policy action to prevent weight bias and weight-based discrimination.<sup>2–8</sup>
- Policy makers should know that most people living with obesity have experienced weight bias or some form of weight-based discrimination. Public health policy makers should consider weight bias and obesity stigma as added burdens on population health outcomes and develop interventions to address them. To avoid compounding the problem, we encourage policy makers to do no harm, to develop people-centred policies that move beyond personal responsibility, recognize the complexity of obesity and promote health, dignity and respect, regardless of body weight or shape.
- Healthcare providers should ensure their clinical environment is accessible, safe and respectful for all patients regardless of their weight or size. Make efforts to improve health and quality of life rather than solely focusing on obesity management. Ask permission before weighing someone, and never weigh people in front of others; instead, place weighing scales in private areas. Healthcare providers should consider how their office's physical space accommodates people of all sizes and ensure they have properly sized equipment (e.g., blood pressure cuffs, gowns, chairs, beds) ready in clinical rooms prior to patients arriving. Because weight bias impacts morbidity and mortality, advocate for and support people living with obesity. This includes action to create supportive healthcare environments and policies for people of all sizes.<sup>8</sup>

#### **RECOMMENDATIONS**

- 1. Healthcare providers should assess their own attitudes and beliefs regarding obesity and consider how their attitudes and beliefs may influence care delivery (Level 1a; Grade A).<sup>1</sup>
- 2. Healthcare providers should recognize that internalized weight bias (bias towards oneself) in people living with obesity can affect behavioural and health outcomes (Level 2a; Grade B).<sup>9–12</sup>
- 3. Healthcare providers should avoid using judgmental words, (Level 1a, Grade A),<sup>2</sup> images (Level 2b, Grade B)<sup>2</sup> and practices (Level 2a, Grade B)<sup>13</sup> when working with patients living with obesity.
- 4. We recommend that healthcare providers avoid making assumptions that an ailment or complaint a patient presents with is related to their body weight (Level 3, Grade C). 13,14

### KEY MESSAGES FOR PEOPLE LIVING WITH OBESITY

- Weight bias may affect quality of healthcare for individuals with obesity. For example, weight bias may negatively affect health professionals' attitudes and behaviours toward individuals living with obesity.<sup>8,13</sup>
- Experiences of weight bias can harm your health and wellbeing. Experiencing unequal treatment because of your size or weight, for example, is not acceptable. Talk to your healthcare provider about your experiences with weight bias. Speak up and support action to stop weight-based discrimination. 15-17
- Talk to your healthcare provider about addressing internalized weight bias. Bias can impact your behaviours and your health. Self-stigma and self-blame can be addressed through behavioural interventions, consistent with the principles of cognitive therapy and acceptance and commitment therapy. 9.18-22 (See the Effective Psychological and Behavioural Interventions in Obesity Management chapter for more information on these therapies.)
- Try focusing on improving healthy habits and quality of life rather than weight loss. Weight is not a behaviour and should not be a target for behaviour change.<sup>23,24</sup>

### What do we mean by the terms weight bias, stigma and discrimination?

The terms weight bias, stigma and discrimination are often used interchangeably, but more accurately reflect a continuum, with weight bias describing the negative weight-related attitudes, beliefs, assumptions and judgments in society that are held about people living in large bodies. Weight bias can be expressed in explicit, implicit and internalized forms. Explicit weight bias is defined as having overtly negative attitudes toward people with obesity. Examples of explicit weight bias include assumptions that people living with obesity are lazy, unmotivated, lacking self-discipline or willpower and noncompliant with medical treatment. Implicit weight bias is having unconscious negative attitudes toward people in large bodies. That is, implicit weight-biased attitudes are not acknowledged by those holding them but can nevertheless shape the way that people view and treat individuals living with obesity.

Internalized weight bias, or self-directed bias, is the extent to which individuals living with obesity endorse negative weight-biased beliefs about themselves. Internalized weight bias is already prevalent within the general population (44%); however, individuals living with obesity are more likely to endorse such beliefs (52%).<sup>25</sup> People who have high weight bias internalization tend to believe that they deserve the negative attitudes or negative treatment they receive. This is exemplified by strongly supporting statements such as, "I am less attractive than most other people because of my weight," or "I feel anxious about being overweight because of what people might think of me." Few studies have explored the relationship between obesity management and weight bias; in recent years, research has shown strong associations between internalized weight bias and mental health outcomes.<sup>26–29</sup> Internalized weight bias has been shown to have a negative impact on outcomes that have conventionally been associated with the management of obesity. For example, weight bias internalization has been associated with exercise avoidance and binge eating. 11,20,30-40

Weight or obesity<sup>1</sup> stigma (we use the term weight stigma here, but the term obesity stigma is also often used in the literature) represents the manifestation of weight bias through harmful social stereotypes that are associated with people living with obesity. An example of weight or obesity stigma in the healthcare system is if health professionals believe that individuals with obesity are non-compliant with medical advice or treatment, and hence assume that obesity management strategies will not work. The existence of weight bias and stigma can, in turn, lead to weight discrimination, which is the unjust treatment of individuals because of their weight.<sup>41</sup> Examples of unjust and inequitable treatment include but are not limited to health professionals spending less time, having more insensitive or rushed communications or establishing less emotional rapport with patients living with obesity. In extreme cases, weight-based discrimination can lead to patients being denied treatment or avoiding seeking help from the healthcare system. 42-46

### How prevalent are weight bias, stigma and discrimination?

Weight bias and stigma are pervasive in our society. Approximately 40% of adults report a history of experiencing some form of weight bias or stigma.<sup>4</sup> Weight bias has been documented among parents and families,<sup>47</sup> pre-adolescents and adolescent peers,<sup>48</sup> teachers,<sup>49</sup> employers and human resource professionals,<sup>50</sup> healthcare professionals<sup>48</sup> and even among individuals with obesity themselves.<sup>51</sup> Specifically, weight bias is prevalent among the general population, and has been found to be significantly greater than two other targets of bias that are common in modern society: homosexuality and Muslim faith.<sup>52</sup> There is extensive literature documenting weight bias and stigma across a range of health professionals, including physicians, nurses, dietitians, psychologists and healthcare trainees.<sup>37</sup> Weight bias has also been investigated among pre-service health promotion students.<sup>53</sup>

Weight discrimination manifests across multiple settings as noted above, the consequences of which are far reaching, as explained in the following section.

Weight/height discrimination has been found to have significantly increased between 1995–1996 and 2004–2006, from 7% to 12%.<sup>4</sup> The prevalence of weight discrimination has increased by 66% over the past decade, and is comparable to rates of racial discrimination, especially among women.<sup>4,7</sup> The prevalence of perceived weight discrimination across life domains, such as employment, schools, healthcare and interpersonal relationships, ranges from 19.2% among individuals with Class I obesity (BMI 30–35 Kg/m²) to 41.8% among individuals with severe obesity (BMI > 35 Kg/m²).<sup>54</sup>

### What are the consequences of weight bias, stigma and discrimination?

Weight bias, stigma and discrimination can have several physical, psychological and psychosocial consequences. For example, a systematic review of 23 studies showed that there are many biopsychosocial consequences of weight or obesity stigma in treatment-seeking adults with overweight and obesity.<sup>55</sup> The following sections will describe how weight bias, stigma and discrimination can affect a person's physical and mental health, lead to avoidance of preventive healthcare, hinder obesity management efforts and increase overall morbidity and mortality.

### Physical health consequences

Like other forms of discrimination, including racism, weight discrimination is associated with increased risk for morbidity. There are physiological mechanisms that may contribute to this increased risk to physical health, such as increased chronic stress, which can increase cortisol levels, and oxidative stress independent of adiposity level. 16,56 A systematic review of 33 studies found that weight or obesity stigma was positively associated with obesity, diabetes risk, cortisol level, oxidative stress level, C-reactive protein level, eating

disturbances, depression, anxiety and body image dissatisfaction.<sup>57</sup> One longitudinal study has also shown that perceiving weight discrimination is associated with a 60% increase in mortality risk.<sup>58</sup> Indeed, the effect of weight-based discrimination was comparable to other established risk factors, such as smoking history and disease burden. It is not clear how weight discrimination contributes to mortality. Some theories link experiences of weight discrimination to behavioural risk factors, such as sedentary lifestyles and increased food consumption as coping mechanisms.<sup>58</sup> Distress over obesity is heightened when people perceive themselves to have poorer health because of obesity-related conditions, such as chronic pain, osteo-arthritis and cardiovascular disease.<sup>59</sup>

There is some evidence that internalized weight bias mediates the relationship between weight or obesity stigma experiences and negative psychological outcomes.<sup>55</sup> Weight bias internalization may be associated with even poorer mental health outcomes than the perceived experience of weight bias.<sup>9</sup> In other words, believing oneself to be deserving of weight or obesity stigma may lead to worse psychological outcomes than the actual stigmatizing encounter itself.<sup>9</sup> Furthermore, adults who internalize weight bias are more likely to binge eat. Coping mechanisms for individuals who experience weight discrimination are to engage in unhealthy behaviours. Weight discrimination also increases risk for obesity.<sup>15</sup>

### Mental health consequences

It is well established that being a target for weight bias, stigma and discrimination is associated with negative mental health outcomes. Individuals living with obesity may face negative mental health impacts because of their weight status across multiple levels of their environment. Global measures of mental health indicate that experiences of weight bias are associated with psychological distress in both treatment-seeking and community samples. Psychosocial correlates of weight bias include medication non-adherence, anxiety, perceived stress, antisocial behaviour, substance use, coping strategies and social support. Weight bias is also associated with greater body image disturbance. In treatment-seeking adults with obesity, more internalized weight bias was associated with a stronger negative impact on body image.

Experiencing weight or obesity stigma is associated with poorer psychological functioning in a sample of individuals seeking treatment for obesity.<sup>38</sup> Experiences of stigma also significantly and independently predict psychological concerns in obesity-treatment-seeking individuals after controlling for BMI. Stigmatizing experiences, not only body weight, contribute to adverse mental health consequences in people living with obesity. In one study, the harmful effects of stigma experiences extended beyond psychological distress and morbidity of obesity to include an increased risk in all-cause mortality.<sup>58</sup> In another study, individuals who perceived they had experienced weight stigma were almost 2.5 times more likely to experience mood or anxiety disorders than those who did not, even when accounting for standard risk factors for mental illness and measured BMI.<sup>62</sup>

Depression is associated with weight gain and individuals with obesity are at greater risk of depression, particularly those categorized with Class II and III obesity.<sup>63</sup> Emerging evidence suggests that perceived weight discrimination may be an explanation for this relationship, with particular evidence for middle-aged and older adults.<sup>54,63,64</sup> In a treatment-seeking sample of 255 individuals with binge eating disorder, weight bias internalization was associated with poorer overall mental health scores, and depressive symptoms mediated this relationship.<sup>20</sup>

Stigma and discrimination are also seen as chronic stress conditions attributed to the additional stress that individuals from stigmatized groups are exposed to daily as a result of their position in society.<sup>6</sup> Chronic stress has a significant impact on mental health and discrimination-specific stressors should be considered in intervention approaches.<sup>65</sup> One study showed that overvaluation of shape and weight mediated the relationship between self-esteem and weight bias internalization in a sample of individuals with overweight/obesity and diagnosed binge eating disorder.<sup>66</sup>

#### Population and public health consequences

Weight bias can have social and economic consequences for individuals living with obesity, such as inequities in interpersonal relationships and fewer opportunities for education and employment. A fundamental driver of weight bias is a lack of public understanding of the complex and multi-faceted nature of obesity. When the science about the complexity of obesity is not communicated to the public, it can lead to an oversimplification of obesity. For example, public health strategies that focus on obesity as an issue of unhealthy eating and physical inactivity, and ignore biological, genetic, environmental and societal contributors of obesity, can contribute to the oversimplification of the disease and to a lack of public understanding of the disease.

This can lead to inaccurate social narratives that obesity is a self-inflicted choice and that it is only up to individuals with obesity to address their own obesity. This lack of understanding, in turn, can lead to people experiencing weight bias and stigma. Public health research has identified a need to:

- Change the public health obesity narrative to align with current scientific and medical understanding of obesity as a chronic disease; and
- Develop comprehensive obesity strategies that reflect patient experiences, which may prevent further stigmatization of obesity.<sup>70</sup>

Furthermore, stigma has an independent impact on population health inequalities.<sup>6</sup> As such, weight bias and obesity stigma should be considered as key social determinants of health.<sup>8,71</sup>

Studies have also explored how weight bias may reveal itself through public health campaigns.<sup>5</sup> Public health strategies that emphasize the duty and responsibility of individuals to make healthy choices can end up blaming or punishing those who make unhealthy or

contested choices.<sup>72</sup> Individuals with obesity perceive obesity public health messages as overly simplistic, disempowering and stigmatizing.<sup>2,73</sup> Public health campaigns that promote negative attitudes and stereotypes toward people with obesity, stigmatize youth with obesity or blame parents of children with overweight are not only ineffective in motivating behaviour change but also end up labelling and stigmatizing individuals further.

Two recent critical analyses of Canadian obesity prevention policies highlight how a focus on individual behaviours, rather than a population approach that addresses social determinants of health, can contribute to weight bias and stigma. The first, by Ramos Salas et al., identified five prevailing narratives that may contribute to weight bias:

- 1. Childhood obesity threatens the health of future generations and must be prevented;
- Obesity can be prevented solely through healthy eating and physical activity;
- 3. Obesity is an individual behaviour problem;
- 4. Achieving a healthy body weight should be a population health target; and
- 5. Obesity is risk factor for other chronic diseases and not a disease in itself.<sup>70</sup>

The second analysis, by Alberga et al., also noted that a Canadian federal report on obesity used aggressive framing and disrespectful terminology with a strong focus on individual behaviours. The authors stated that this may be contributing to weight stigma and recommended that future Canadian policies, reports and campaigns address fundamental social determinants of health.

### Consequences to engagement in primary healthcare

Weight bias in healthcare settings can reduce the quality of care for patients living with obesity.<sup>74</sup> It is established through consistent evidence across a number of studies that healthcare professionals endorse weight bias and stigma about patients living with obesity.<sup>37,48,53</sup> There is also strong evidence that patients with obesity perceive biased treatment in healthcare and that these perceptions may influence patient engagement in primary healthcare services.<sup>75</sup> Patients have reported patronizing and disrespectful treatment from their primary care providers, as well as poor communication and blaming most health issues on excess weight.<sup>74</sup>

Furthermore, there is substantial documented data that weight bias may negatively affect healthcare professionals' obesity management practices.<sup>8</sup> This evidence suggests that patients with obesity are vulnerable to weight bias in healthcare settings, which may impact morbidity and mortality. For example, existing evidence suggests that healthcare professionals may be spending inadequate time

with patients with obesity. <sup>76,77</sup> Patients who experience weight bias in healthcare settings may delay or forgo essential preventive care, like breast, cervical and colorectal cancer screening, for fear of receiving disrespectful treatment and negative attitudes from providers. <sup>5,8,12,42,46,78</sup> They may also engage in "doctor shopping" to find a more respectful healthcare provider. <sup>18,79,80</sup> Patients report being embarrassed about being weighed, <sup>78,81</sup> receiving unsolicited advice to lose weight and a lack of equipment (e.g., gowns and exam tables too small to be functional). <sup>78,82–84</sup> Importantly, and contrary to popular belief, weight bias, stigma and discrimination do not encourage positive behaviour change, as noted in the above sections on the physical and mental health consequences of these issues.

## How do we reduce weight bias, stigma and discrimination in healthcare settings?

International organizations such as the American Academy of Pediatrics and the British Psychological Society (British Psychological Association, 2019), have published policy statements with recommendations for healthcare professionals to reduce weight stigma in clinical practice.<sup>85</sup> Obesity Canada is also working with many national health professional associations to recognize that weight bias, stigma and discrimination should be addressed seriously by all health professionals.

Key to reducing weight bias, stigma and discrimination in health-care settings is for health professionals to be aware of their own attitudes and behaviours toward individuals living with obesity. As noted above, health professionals providing support for obesity management should acknowledge that weight bias is prevalent among health professionals, and that they are not immune to it themselves. They should be willing to reflect on if/how weight bias affects their own attitudes and behaviours toward patients who are living with obesity. This can be achieved by completing a self-assessment tool such as the Implicit Association Test, for weight bias. 86

Given that weight bias is established early, usually before health professionals start their professional training, there is a need for systematic education on weight bias and stigma in all health professional training programs. All professional health disciplines should therefore include weight bias sensitivity training in their curricula.

Because internalized weight bias can have negative impacts on health-related outcomes, it is also important that health professionals assess their patients for internalized weight bias. This can be accomplished through sensitive questioning/dialogue/motivational interviewing (e.g., "Can you share with me if or how your weight affects your perception of yourself?).<sup>85</sup> Coping strategies to address internalized weight bias should be incorporated into behavioural interventions, consistent with the principles of cognitive behavioural therapy and acceptance and commitment therapy. (See the Effective Psychological and Behavioural Interventions in Obesity Management chapter for more information on these therapies.)

Reviews of weight bias reduction interventions have shown that one approach is not sufficient to reduce weight bias among health professionals.<sup>1,67,87</sup> These reviews highlight the importance of moving beyond awareness and information provision to raising skills and competencies in health professionals and advocating change in social norms and ideologies about body weight. A systematic review of 17 weight bias reduction interventions among health student trainees and practicing health professionals identified four key components to help decrease weight bias among health professionals:

- 1. Present facts about uncontrollable and non-modifiable causes of obesity (i.e., genetics, biology, environment, socio-cultural influences and social determinants of health);
- 2. Provide positive contact with patients living with obesity to evoke empathy (i.e., include the patient voice);
- 3. Include empathic obesity experts as peer-modelling health professionals; and
- 4. Repeat exposure to patients living with obesity over the long term.<sup>87</sup>

Promising strategies to reduce stigma in the healthcare setting include:

- Improving provider attitudes about patients with obesity and/or reducing the likelihood that negative attitudes influence provider behaviour;
- Altering the clinic environment or procedures to create a setting where patients with obesity feel accepted and less threatened; and
- 3. Empowering patients to cope with stigmatizing situations and attain high-quality healthcare. 88

### Gaps in our knowledge: questions for future research

Because of the evidence about the negative physical, psychological and social consequences of weight bias noted in this chapter, internalized weight bias is an important consideration for weight bias reduction strategies in healthcare. For example, individuals with higher internalized weight bias report less weight loss, lower physical activity levels, higher caloric intake, greater disordered eating behaviours<sup>35</sup> and even greater cardiometabolic risk.<sup>89</sup> There is therefore a need for more research to better understand, and more effectively assess and reduce, internalized weight bias.

This is perhaps because behaviour change interventions may not be maximizing their potential benefits by ignoring internalized weight bias. Health professionals are advised to address internalized weight bias within any obesity management strategy (i.e., self-compassion as a resource, <sup>19</sup> inducing empathy and influencing controllability attributions <sup>1</sup> and careful and considered use of language and terminology). <sup>18</sup>

Finally, a great deal more research is needed to understand the impact of weight bias, stigma and discrimination on care for people

with obesity. There is a need for more research, beyond convenience or treatment-seeking groups, toward replication with more generalizable populations. The development and testing of novel interventions are also needed to reduce weight bias, or its impact on behaviour, in medical trainees, practicing physicians, other health professionals and other staff members of health organizations.

Downloaded from: https://obesitycanada.ca/guidelines/weightbias

This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND 4.0). For reprint and all other inquiries please contact guidelines@obesitynetwork.ca / +1-(780)-492-8361.

The summary of the Canadian Adult Obesity Clinical Practice Guidelines is published in the Canadian Medical Association Journal, and contains information on the full methodology, management of authors' competing interests, a brief overview of all recommendations and other details. More detailed guideline chapters are published on the Obesity Canada website at www.obesity.canada.ca/guidelines.

#### **Correspondence:**

guidelines@obesitynetwork.ca

#### References

- RLee M, Ata RN, Brannick MT. Malleability of weight-biased attitudes and beliefs: A meta-analysis of weight bias reduction interventions. Body Image. 2014;11(3):251-259. doi:10.1016/j.bodyim.2014.03.003
- Puhl R, Luedicke J, Lee Peterson J. Public reactions to obesity-related health campaigns: A randomized controlled trial. Am J Prev Med. 2013;45(1):36-48. doi:10.1016/j.amepre.2013.02.010
- Shentow-Bewsh R, Keating L, Mills JS. Effects of anti-obesity messages on women's body image and eating behaviour. Eat Behav. 2016;20:48-56. doi:10.1016/j.eatbeh.2015.11.012
- Andreyeva T, Puhl RM, Brownell KD. Changes in perceived weight discrimination among Americans, 1995-1996 through 2004-2006. Obesity. 2008;16(5):1129-1134. doi:10.1038/oby.2008.35
- Puhl R, Peterson JL, Luedicke J. Fighting obesity or obese persons? Public perceptions of obesity-related health messages. Int J Obes. 2013;37(6):774-782. doi:10.1038/ijo.2012.156
- Hatzenbuehler ML, Phelan JC, Link BG. Stigma as a fundamental cause of population health inequalities. Am J Public Health. 2013;103(5):813-821. doi:10.2105/AJPH.2012.301069
- Puhl RM, Andreyeva T, Brownell KD. Perceptions of weight discrimination: Prevalence and comparison to race and gender discrimination in America. Int J Obes. 2008;32(6):992-1000. doi:10.1038/ijo.2008.22
- Puhl RM, Heuer CA. The stigma of obesity: A review and update. Obesity. 2009;17(5):941-964. doi:10.1038/oby.2008.636
- Pearl RL, Puhl RM. The distinct effects of internalizing weight bias: An experimental study. Body Image. 2016;17:38-42. doi:10.1016/j.bodyim.2016.02.002
- Murakami JM, Latner JD. Weight acceptance versus body dissatisfaction: Effects on stigma, perceived self-esteem, and perceived psychopathology. Eat Behav. 2015;19:163-167. doi:10.1016/j.eatbeh.2015.09.010
- 11. Mensinger JL, Calogero RM, Tylka TL. Internalized weight stigma moderates eating behavior outcomes in women with high BMI participating in a healthy living program. Appetite. 2016;102:32-43. doi:10.1016/j.appet.2016.01.033
- Olson CL, Schumaker HD, Yawn BP. Overweight women delay medical care. Arch Fam Med. 1994;3(10):888-892. doi:10.1001/archfami.3.10.888

- Alberga AS, Edache IY, Forhan M, Russell-Mayhew S. Weight bias and health care utilization: A scoping review. Prim Health Care Res Dev. 2019;20(e116):1-14. doi:10.1017/s1463423619000227
- Kirk SFL, Price SL, Penney TL, et al. Blame, shame, and lack of support: A multilevel study on obesity management. Qual Health Res. 2014;24(6):790-800. doi:10.1177/1049732314529667
- Sutin AR, Terracciano A. Perceived weight discrimination and obesity. PLoS One. 2013;8(7):e70048. doi:10.1371/journal.pone.0070048
- Himmelstein MS, Incollingo Belsky AC, Tomiyama AJ. The weight of stigma: Cortisol reactivity to manipulated weight stigma. Obesity. 2015;23(2):368-374. doi:10.1002/oby.20959
- Farhangi MA, Emam-Alizadeh M, Hamedi F, Jahangiry L. Weight self-stigma and its association with quality of life and psychological distress among overweight and obese women. Eat Weight Disord. 2017;22(3):451-456. doi:10.1007/ s40519-016-0288-2
- Puhl R, Peterson JL, Luedicke J. Motivating or stigmatizing? Public perceptions of weight-related language used by health providers. Int J Obes. 2013;37(4):612-619. doi:10.1038/ijo.2012.110
- Hilbert A, Braehler E, Haeuser W, Zenger M. Weight bias internalization, core self-evaluation, and health in overweight and obese persons. Obesity. 2014;22(1):79-85. doi:10.1002/oby.20561
- Pearl RL, White MA, Grilo CM. Weight bias internalization, depression, and self-reported health among overweight binge eating disorder patients. Obesity. 2014;22(5):E142-E148. doi:10.1002/oby.20617
- Carels RA, Young KM, Wott CB, et al. Internalized weight stigma and its ideological correlates among weight loss treatment seeking adults. Eat Weight Disord. 2009;14(2-3):e92–e97. doi:10.1007/BF03327805
- Westermann S, Rief W, Euteneuer F, Kohlmann S. Social exclusion and shame in obesity. Eat Behav. 2015;17:74-76. doi:10.1016/j.eatbeh.2015.01.001
- Hilbert A, Braehler E, Schmidt R, Lowe B, Hauser W, Zenger M. Self-compassion as a resource in the self-stigma process of overweight and obese individuals. Obes Facts. 2015;8(5):293-301. doi:10.1159/000438681
- Himmelstein MS, Puhl RM, Quinn DM. Weight stigma and health: The mediating role of coping responses. Heal Psychol. 2018;37(2):139–147. doi:10.1037/hea0000575
- Puhl RM, Himmelstein MS, Quinn DM. Internalizing weight stigma: Prevalence and sociodemographic considerations in US adults. Obesity. 2018;26(1):167-175. doi:10.1002/oby.22029
- Pearl RL, Puhl RM. Weight bias internalization and health: A systematic review. Obes Rev. 2018;19(8):1141-1163. doi:10.1111/obr.12701
- Lillis J, Thomas JG, Levin ME, Wing RR. Self-stigma and weight loss: The impact of fear of being stigmatized. J Health Psychol. 2017;00(0):1359105317739101. doi:10.1177/1359105317739101
- Pearl RL, Wadden TA, Chao AM, et al. Weight bias internalization and longterm weight loss in patients with obesity. Ann Behav Med. 2019;53(8):782-787. doi:10.1093/abm/kay084
- Olson KL, Lillis J, Thomas JG, Wing RR. Prospective evaluation of internalized weight bias and weight change among successful weight-loss maintainers. Obesity. 2018;26(12):1888-1892. doi:10.1002/oby.22283
- Puhl RM, Moss-Racusin CA, Schwartz MB. Internalization of weight bias: Implications for binge eating and emotional well-being. Obesity. 2007;15(1):19-23. doi:10.1038/oby.2007.521
- 31. Schmalz DL, Colistra CM. Obesity stigma as a barrier to healthy eating behavior. Top Clin Nutr. 2016;31(1):86-94. doi:10.1097/TIN.0000000000000000

- 32. Almeida L, Savoy S, Boxer P. The role of weight stigmatization in cumulative risk for binge eating. J Clin Psychol. 2011;67(3):278-292. doi:10.1002/jclp.20749
- 33. Schvey NA, Puhl RM, Brownell KD. The impact of weight stigma on caloric consumption. Obesity. 2011;19(10):1957-1962. doi:10.1038/oby.2011.204
- Pearl RL, Dovidio JF, Puhl RM, Brownell KD. Exposure to weight-stigmatizing media: Effects on exercise intentions, motivation, and behavior. J Health Commun. 2015;20(9):1004-1013. doi:10.1080/10810730.2015.1018601
- 35. Nolan LJ, Eshleman A. Paved with good intentions: Paradoxical eating responses to weight stigma. Appetite. 2016;102:15-24. doi:10.1016/j.appet.2016.01.027
- Vartanian LR, Novak SA. Internalized societal attitudes moderate the impact of weight stigma on avoidance of exercise. Obesity. 2011;19(4):757-762. doi:10.1038/oby.2010.234
- 37. Pearl RL. Weight bias and stigma: Public health implications and structural solutions. Soc Issues Policy Rev. 2018;12(1):146-182. doi:10.1111/sipr.12043
- Ashmore JA, Friedman KE, Reichmann SK, Musante GJ. Weight-based stigmatization, psychological distress, & binge eating behavior among obese treatment-seeking adults. Eat Behav. 2008;9(2):203-209. doi:10.1016/j.eatbeh.2007.09.006
- Pearl RL, Puhl RM, Dovidio JF. Differential effects of weight bias experiences and internalization on exercise among women with overweight and obesity. J Health Psychol. 2015;20(12):1626-1632. doi:10.1177/1359105313520338
- Vartanian LR, Shaprow JG. Effects of weight stigma on exercise motivation and behavior: A preliminary investigation among college-aged females. J Health Psychol. 2008;13(1):131-138. doi:10.1177/1359105307084318
- Puhl RM, Latner JD, O'Brien KS, Luedicke J, Danielsdottir S, Salas XR. Potential policies and laws to prohibit weight discrimination: Public views from 4 countries. Milbank Q. 2015;93(4):691-731. doi:10.1111/1468-0009.12162
- 42. Drury CAA, Louis M. Exploring the association between body weight, stigma of obesity, and health care avoidance. J Am Acad Nurse Pract. 2002;14(12):554-561. doi:10.1111/j.1745-7599.2002.tb00089.x
- 43. Gudzune KA, Bennett WL, Cooper LA, Bleich SN. Patients who feel judged about their weight have lower trust in their primary care providers. Patient Educ Couns. 2014;97(1):128-131. doi:10.1016/j.pec.2014.06.019
- 44. Gudzune KA, Beach MC, Roter DL, Cooper LA. Physicians build less rapport with obese patients. Obesity. 2013;21(10):2146-2152. doi:10.1002/oby.20384
- Aldrich T, Hackley B. The impact of obesity on gynecologic cancer screening: An integrative literature review. J Midwifery Womens Health. 2010;55(4):344-356. doi:10.1016/j.jmwh.2009.10.001
- Russell N, Carryer J. Living large: The experiences of large-bodied women when accessing general practice services. J Prim Health Care. 2013;5(3):199-205. doi:10.1071/hc13199
- 47. Puhl RM, Moss-Racusin CA, Schwartz MB, Brownell KD. Weight stigmatization and bias reduction: Perspectives of overweight and obese adults. Health Educ Res. 2008;23(2):347-358. doi:10.1093/her/cym052
- 48. Teachman BA, Brownell KD. Implicit anti-fat bias among health professionals: Is anyone immune? Int J Obes. 2001;25(10):1525-1531. doi:10.1038/si.iio.0801745
- Cameron E. Challenging "size matters" messages: An exploration of the experiences of critical obesity scholars in higher education. Can J High Educ. 2016;46(2):111-126.
- Rudolph CW, Wells CL, Weller MD, Baltes BB. A meta-analysis of empirical studies of weight-based bias in the workplace. J Vocat Behav. 2009;74(1):1-10. doi:10.1016/j.jvb.2008.09.008
- Ratcliffe D, Ellison N. Obesity and internalized weight stigma: A formulation model for an emerging psychological problem. Behav Cogn Psychother. 2015;43(2):239-252. doi:10.1017/S1352465813000763

- Latner JD, O'Brien KS, Durso LE, Brinkman LA, MacDonald T. Weighing obesity stigma: The relative strength of different forms of bias. Int J Obes. 2008;32(7):1145-1152. doi:10.1038/ijo.2008.53
- O'Brien KS, Puhl RM, Latner JD, Mir AS, Hunter JA. Reducing anti-fat prejudice in preservice health students: A randomized trial. Obesity. 2010;18(11):2138-2144. doi:10.1038/oby.2010.79
- 54. Spahlholz J, Baer N, König HH, Riedel-Heller SG, Luck-Sikorski C. Obesity and discrimination a systematic review and meta-analysis of observational studies. Obes Rev. 2016;17(1):43-55. doi:10.1111/obr.12343
- Papadopoulos S, Brennan L. Correlates of weight stigma in adults with overweight and obesity: A systematic literature review. Obesity. 2015;23(9):1743-1760. doi:10.1002/oby.21187
- Tomiyama AJ, Epel ES, McClatchey TM, et al. Associations of weight stigma with cortisol and oxidative stress independent of adiposity. Heal Psychol. 2014;33(8):862–867. doi:10.1037/hea0000107
- Wu YK, Berry DC. Impact of weight stigma on physiological and psychological health outcomes for overweight and obese adults: A systematic review. J Adv Nurs. 2018;74(5):1030-1042. doi:10.1111/jan.13511
- Sutin AR, Stephan Y, Terracciano A. Weight discrimination and risk of mortality. Psychol Sci. 2015;26(11):1803-1811. doi:10.1177/0956797615601103
- Taylor VH, Forhan M, Vigod SN, McIntyre RS, Morrison KM. The impact of obesity on quality of life. Best Pract Res Clin Endocrinol Metab. 2013;27(2):139-146. doi:10.1016/j.beem.2013.04.004
- Rand K, Vallis M, Aston M, et al. "It is not the diet; it is the mental part we need help with." A multilevel analysis of psychological, emotional, and social well-being in obesity. Int J Qual Stud Health Well-being. 2017;12(1):1306421. doi:10.1080/17482631.2017.1306421
- Friedman KE, Reichmann SK, Costanzo PR, Zelli A, Ashmore JA, Musante GJ. Weight stigmatization and ideological beliefs: Relation to psychological functioning in obese adults. Obes Res. 2005;13(5):907-916. doi:10.1038/ oby.2005.105
- Hatzenbuehler ML, Keyes KM, Hasin DS. Associations between perceived weight discrimination and the prevalence of psychiatric disorders in the general population. Obesity. 2009;17(11):2033-2039. doi:10.1038/oby.2009.131
- Robinson E, Sutin A, Daly M. Perceived weight discrimination mediates the prospective relation between obesity and depressive symptoms in U.S. and U.K. adults. Heal Psychol. 2017;36(2):112-121. doi:10.1037/hea0000426
- Jackson SE, Beeken RJ, Wardle J. Obesity, perceived weight discrimination, and psychological well-being in older adults in England. Obesity. 2015;23(5):1105-1111. doi:10.1002/oby.21052
- Sikorski C, Luppa M, Luck T, Riedel-Heller SG. Weight stigma "gets under the skin" - Evidence for an adapted psychological mediation framework - A systematic review. Obesity. 2015;23(2):266-276. doi:10.1002/oby.20952
- Pearl RL, White MA, Grilo CM. Overvaluation of shape and weight as a mediator between self-esteem and weight bias internalization among patients with binge eating disorder. Eat Behav. 2014;15(2):259-261. doi:10.1016/j.eatbeh.2014.03.005
- Daníelsdóttir S, O'Brien KS, Ciao A. Anti-fat prejudice reduction: A review of published studies. Obes Facts. 2010;3(1):47-58. doi:10.1159/000277067
- Boyd MA. Living with overweight. Perspect Psychiatr Care. 1989;25(3-4):48-52. doi:10.1111/j.1744-6163.1989.tb01218.x
- Gortmaker SL, Must A, Perrin JM, Sobol AM, Dietz WH. Social and economic consequences of overweight in adolescence and young adulthood. N Engl J Med. 1993;329(14):1008-1012. doi:10.1056/NEJM199309303291406
- Ramos Salas X, Forhan M, Caulfield T, Sharma AM, Raine K. A critical analysis of obesity prevention policies and strategies. Can J Public Heal. 2017;108(5-6):e598-e608. doi:10.17269/cjph.108.6044

- Phelan JC, Lucas JW, Ridgeway CL, Taylor CJ. Stigma, status, and population health. Soc Sci Med. 2014;103:15-23. doi:10.1016/j.socscimed.2013.10.004
- 72. Fry C. Critical questions we should ask in a changing Australian preventative health landscape: Competing interests, intervention limits and permissible health identities. Heal Promot J Aust. 2010;21(3):170-175. doi:10.1071/he10170
- Thompson L, Kumar A. Responses to health promotion campaigns: Resistance, denial and othering. Crit Public Health. 2011;21(1):105-117. doi:10.1080/09581591003797129
- Alberga AS, McLaren L, Russell-Mayhew S, von Ranson KM. Canadian Senate report on obesity: Focusing on individual behaviours versus social determinants of health may promote weight stigma. J Obes. 2018;2018:8645694. doi:10.1155/2018/8645694
- Mensinger JL, Tylka TL, Calamari ME. Mechanisms underlying weight status and healthcare avoidance in women: A study of weight stigma, body-related shame and guilt, and healthcare stress. Body Image. 2018;25:139-147. doi:10.1016/j. bodyim.2018.03.001
- Hebl MR, Xu J. Weighing the care: Physicians' reactions to the size of a patient. Int J Obes. 2001;25(8):1246-1252. doi:10.1038/sj.ijo.0801681
- Bertakis KD, Azari R. The impact of obesity on primary care visits. Obes Res. 2005;13(9):1615-1623. doi:10.1038/oby.2005.198
- Amy NK, Aalborg A, Lyons P, Keranen L. Barriers to routine gynecological cancer screening for White and African-American obese women. Int J Obes. 2006;30(1):147-155. doi:10.1038/sj.ijo.0803105
- Hansson LM, Rasmussen F. Association between perceived health care stigmatization and BMI change. Obes Facts. 2014;7(3):211-220. doi:10.1159/000363557
- Gudzune KA, Bleich SN, Richards TM, Weiner JP, Hodges K, Clark JM. Doctor shopping by overweight and obese patients is associated with increased healthcare utilization. Obesity. 2013;21(7):1328-1334. doi:10.1002/oby.20189
- Forhan M, Risdon C, Solomon P. Contributors to patient engagement in primary health care: perceptions of patients with obesity. Prim Health Care Res Dev. 2013;14(4):367-372. doi:10.1017/S1463423612000643
- 82. Pryor W. The health care disadvantages of being obese. N S W Public Health Bull. 2002;13(7):163-165. doi:10.1071/NB02066
- 83. Kaminsky J, Gadaleta D. A study of discrimination within the medical community as viewed by obese patients. Obes Surg. 2002;12(1):14-18. doi:10.1381/096089202321144513
- 84. Merrill E, Grassley J. Women's stories of their experiences as overweight patients. J Adv Nurs. 2008;64(2):139-146. doi:10.1111/j.1365-2648.2008.04794.x
- The British Psychological Society. Psychological Perspectives on Obesity: Addressing Policy, Practice and Research Priorities.; 2019.
- 86. Project Implicit.
- 87. Alberga AS, Pickering BJ, Alix Hayden K, et al. Weight bias reduction in health professionals: a systematic review. Clin Obes. 2016;6(3):175-188. doi:10.1111/cob.12147
- Phelan SM, Burgess DJ, Yeazel MW, Hellerstedt WL, Griffin JM, Ryn M Van. Impact of weight bias and stigma on quality of care and outcomes for patients with obesity. Obes Rev. 2015;16(4):319-326. doi:10.1111/obr.12266
- Pearl RL, Wadden TA, Hopkins CM, et al. Association between weight bias internalization and metabolic syndrome among treatment-seeking individuals with obesity. Obesity. 2017;25(2):317-322. doi:10.1002/oby.21716