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Interventions in Reducing Weight Bias in Healthcare Providers and Preservice Students

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Interventions in Reducing Weight Bias in Healthcare Providers and Preservice Students

By

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ABSTRACT

Weight bias is harmful to patients and pervasive in healthcare providers and healthcare students. Effective interventions to reduce weight bias in healthcare providers and students are urgently needed and would improve patient care and patient outcomes. A literature review of current research on interventions to reduce weight bias in healthcare professionals and students was conducted to evaluate strategies for efficacy. Twenty articles investigating weight bias reducing interventions in healthcare providers and students were analyzed. Five primary strategies are currently used: self- reflection and awareness of one's own bias; empathy building experiences; the influence and experiences of others; narratives of and contact with obese people themselves; and education on the nonmodifiable factors that affect weight. Among them, education on the genetic, physiological, and environmental causes of obesity was the single most studied and effective strategy used for reducing explicit weight bias. Provider self-reflection on their own bias was also shown to be effective in reducing implicit bias. Contact with and narratives of obese people that presented obese people as happy and fulfilled people consistently reduced bias. Exposure to portrayals of obese people as unhappy or suffering did not reduce weight bias. No strategy was consistently effective in reducing implicit bias. Future research is needed to better understand what strategies best modify implicit weight bias over the long-term. Research that focuses on reducing weight bias in active, practicing healthcare providers is needed to better understand what would be most effective for wide application in healthcare systems.

INTRODUCTION

Obesity rates in America and weight bias against people for having a greater body mass have increased since the 1970s¹. Weight bias is the prejudice against a person based on their

weight. Healthcare providers have contributed to and perpetuated discrimination against overweight people. Obesity is defined by the American Medical Association as a body mass index (BMI) of 30 kg/m² or greater and overweight as a BMI of 25 kg/m² or greater.² Explained by H. Blackburn and D. Jacobs of the University of Minnesota School of Public Health, BMI, as a way of evaluating adiposity that was developed in the nineteenth century by A. Quetelet. Quetelet was a Belgian mathematician that developed the system as a way of analyzing a population. BMI was meant to define an “average man” as determined by the normal distribution. He specified in his work that it is only valid as a way for assessing a population, for example, to compare the average BMI of the population of one city to another. It was not designed to be a measurement of an individual, nor a measurement of health.³ BMI was first applied as a common measurement of health by A. Keys in his article “Indices of Relative Weight and Obesity” in 1972 as American body size began to rise.⁴ BMI has become a ubiquitous clinical diagnostic and obesity is used as shorthand for the correlated metabolic pathophysiology, such as hypertension, dyslipidemia, and insulin resistance.

For the sake of this paper, “obese,” “overweight,” “bariatric,” and “fat” are used interchangeably, or as the cited author refers to them. The term “fat” is used to describe people in this paper only when the author of the research discussed has chosen to use the term. For example, C. Crandall who was one of the first researchers to investigate weight bias and began publishing on the subject in the 1990’s, chose to use the term fat. Of his use of the word he says: “The words fat and antifat were chosen because they are descriptive and because they do not imply a medical condition (e.g. obese), nor do they refer to some normative standard that may be genetically determined (e.g., overweight). The term fat is not used in a pejorative sense.”⁵

Weight bias has been shown to exist in healthcare providers of every level and every discipline including nurses, doctors and medical residents, physical therapists, occupational therapists, dieticians, dentists, dental residents, kinesiologists, psychologists and obesity specialists, as well as the students of these disciplines.^{6,7} A 2014 article published by Khandavala et al. in “Family Medicine” showed that primary care physicians of every of level demonstrated significant weight bias against patients with higher BMIs.⁸ Other research such as Teachman et al in 2001 suggests that healthcare providers have lower explicit bias than the general population, but that “clear evidence of implicit anti-fat bias was found [in] both attitude and stereotype” among healthcare providers.⁹ Teachman also suggests that working with obese patients lessens stigma because providers have lower rates than the general population. Khandavala, however indicates that providers of longer experience have shown greater levels of bias than newer providers.^{8,9}

Weight bias negatively affects patients in dramatic ways. Obese people that have experienced perceived weight bias suffer substantial negative effects including lower education rates, lower average wages, lower self-esteem, higher rates of social anxiety,⁶ higher rates of eating disorders,¹⁰ and an overall lower quality of life.¹¹ It also deeply affects how they are treated by healthcare providers and how they respond to the healthcare system. There is an increasing concern that the stigma of being obese causes significant damage to the health of patients.¹⁰

Weight has traditionally been thought of as a simple cause and effect relationship between the input of calories and the output of activity. That idea is now out of favor as evidence shows that while there are some behavioral contributions to body weight, there are major contributions from a person’s genetics, physiology and environment. Higher BMIs have been

correlated with a variety of illnesses, but if it is considered a modifiable or non-modifiable risk factor is in flux and the current consensus is that it is some of both.¹²

One new area of research has been specifically in the body's response to weight loss. A 2013 article by researchers at the University of Melbourne found that weight loss as currently recommended, with calorie restriction and regular exercise, has physiological changes on the body that encourage weight regain. This is why people that lose weight often regain it, and often gain more than they lost. The mechanism of action is multidimensional including hormone regulation in the hypothalamus and the pituitary and has effects such as reduced resting metabolism, down regulation of adrenal receptors, and increase adipocyte activity.¹² This helps explain the common experience of weight rebound, often to more than one's starting weight before weight loss. This new area of scientific discovery is of great importance to the understanding of weight and weight bias for medical providers and the general population.

BACKGROUND: LITERATURE REVIEW

Interventions to alter weight bias in healthcare professionals and students have been researched for more than twenty-five years.¹³ Many educational strategies have basis in psychological theory and persuasion. These strategies can be broken into five major categories. The first is self-reflection and awareness of one's own bias. This is an approach used in order to make the person aware of the bias that they hold so that they can mitigate it in their own behavior. The second intervention strategy is the use of other opinions. A variety of opinions can be used for this for example peers, celebrities, scientific researchers or the opinions of other healthcare professionals. These opinions can be personal or professional. The third strategy is interaction with obese people or narratives of obese people. Another is empathy building. This relies on the human ability to understand another person's discomfort and pain and use that

experience to inform their thoughts and opinions. The fifth and final is scientific research on the nature of weight. This includes knowledge of the genetic and physiological contributions to a person's weight. Each strategy is covered in the following literature survey.

Self- Reflection and Awareness of One's Own Biases

Several educational interventions to reduce weight bias in healthcare providers and students have been designed to make the participant aware of their own biases. Typically, a part of these studies would be taking one or more of the many bias tests, for example the Anti-fat Attitudes Questionnaire, Beliefs About Obese Persons scale, Anti-fat Attitudes test, or the Implicit Bias Test. Then participants are asked to reflect and perhaps challenge their weight bias. For example, if a participant is implicitly biased to think people that struggle with their weight are lazy or unmotivated, a challenge would be to ask them to reflect on Oprah Winfrey. The participant may reflect "Oprah Winfrey also struggles with weight control, but is she lazy or unmotivated?" In this way participants can challenge their own biases and apply logic to ideas that are unconsciously assumed.

In 2011 researchers Ciao and Latner at the University of Hawaii did an interesting study on this subject titled "Reducing Obesity Stigma: The Effectiveness of Cognitive Dissonance and Social Consensus Interventions." They asked sixty-six pre-health students to take the Portrait Values Questionnaire which measures personal core values and the Anti-fat Attitudes test which measures explicit weight prejudice. Participants returned one week later and were then informed that their values were incongruent with their bias. They were told that they had strong values of kindness and equality, but also significant bias. The authors stated the strategy of creating this incongruity is based on the psychological principle of cognitive dissonance in which a person's values are not in line with their behavior. Ciao and Latner found that after being informed of this,

participants' scores for prejudice were overall lowered and significantly lowered in the Unattractiveness/Physical subscale.¹⁴

A study by researchers Falker and Sledge also investigated the effect of self-awareness to reduce bias. They published their findings in 2011 in the article “Utilizing a Bariatric Sensitivity Educational Module to Decrease Bariatric Stigmatization by Healthcare Professionals.” In their study they recruited working healthcare professionals from fourteen different units in Barnes-Jewish hospital. While they had over three hundred participants, only thirty completed all modules and assessments. The included participants were nurses, patient care technicians, or office staff that reported that they regularly work with bariatric patients. In the study participants completed an eight-statement measurement tool pre-and post-intervention. The measurement tool asked participants to agree or disagree with statements of bias such as “I am sensitive to the psychological concerns of my bariatric patients.” Participants then completed a module on the effects of weight bias on patients. After completing the intervention their bias was again measured. They found that bias was reduced significantly post-intervention.¹⁵

Influence of Celebrity

Another strategy used to reduce weight bias has been to leverage the stories, voices, and opinions of a variety of celebrities. A 2013 study by researchers Swift and colleagues at the University of Nottingham designed a multi-strategy intervention to reduce weight bias in healthcare professionals. Included in their intervention to reduce weight bias endorsement from a model and activist “Emme” as well as the opinions of researchers and academics. The study overall was effective in improving explicit bias, but not in altering implicit bias. This study also used multiple interventional strategies and will be discussed further later.¹⁶

Influence of Peers

The influence of peers has been a frequently used strategy for modifying weight prejudices among healthcare providers and students. The theory behind these strategies is that of social norm. This is the idea that humans are evolved to adapt to the expectations of their peers in order to create connection. It has shown to be useful in reducing other social biases.¹⁷

Researcher Puhl and colleagues at the Rudd Institute at Yale University examined the influence of peers in three experiments published in their 2005 article “Impact of Perceived Consensus on Stereotypes About Obese People: A New Approach for Reducing Bias.” Participants were undergraduate pre-health students. In the first experiment thirty participants were administered the Obese Person Trait survey, Beliefs about Obese People scale, Marlowe-Crowne Desirability scale, and the Just World scale. All are measurements of explicit bias or personal traits. One-week later participants returned and were given individualized feedback either a) that the other participants had a better opinion of obese people than them or b) that their peers had a worse opinion of obese people than them. Puhl et al found that students who were informed that others had a better opinion of obese people than their peers showed improved opinions of obese people and were more likely to assign positive traits to obese people. Participants in the second group who were informed their peers had worse opinions of obese people, had no significant change from their baseline evaluation.¹⁸

In the second experiment published in the same article, Puhl et al focused on if healthcare students’ perceptions of overweight people could be changed by being told that their opinions were similar to those of Ivy League students or if their opinions were changed by being told that their opinions are similar to those of community college students. They named these groups the “in-group” for the Ivy League students and the “out-group” for the community college students.

Fifty-five undergraduate pre-health students participated. As the researchers expected, participants were more likely to have improved feelings towards obese people when they were informed that they had consensus with the prestigious “in-group” peers, than when they had consensus with the unesteemed “out-group” peers.¹⁸

Researchers Zitek and Hebl also explored the influence of peers on a person’s bias in their 2007 publication “The role of social norm clarity in the influenced expression of prejudice over time.” The experiment was based on a previous study by Blanchard and Crandall in 1994, in which the social influence of a peer was tested on the level of discrimination a participant would express. However, in Zitek and Hebl’s experiment more groups that experience bias against them were included. In the study, two hundred and six undergraduate female students were included. Each participant was brought into a room with the experimenter and before the experimenter asked any questions, a second planted person playing another participating student would join. The experimenter would then ask questions about the person’s level of bias towards five different groups: obese people, gay people, Black people, ex-convicts, and racists. The experimenter would always ask the planted student first and then ask the experimental participant. The participant could clearly hear the planted students’ answers. There were two experimental groups and one control, based on the planted students’ answers. In the control group, the plant would respond neutrally to all question. In the first experimental group the plant would strongly condemn all forms of discrimination. In the second experimental group, the plant would strongly condone all forms of discrimination. The researchers found that when the planted student condemned all discrimination, the participant expressed significantly reduced bias towards obese people, gay people, and Black people. They also conversely found that when the planted student condoned all discrimination there was greater bias towards obese people, gay

people, and Black people. Bias towards ex-convicts and racists was also affected by the planted peer, but to a significantly lesser extent. Zitek and Hebl identified social normalization as responsible for the results they saw.¹⁹

Researchers Ciao and Latner at the University of Hawaii in 2011 also tested the influence of peers in their second experiment published in “Reducing Obesity Stigma: The Effectiveness of Cognitive Dissonance and Social Consensus Interventions.” In this second experiment twenty-two undergraduate pre-health students participated. Researchers administered the Anti-fat Attitudes test, a measurement of explicit bias. Then the control participants were told that their level of bias against obese people is consistent with their peers. The experimental participants were informed that they have greater bias against overweight people than their peers. They then measured their bias level again. Ciao and Latner found no significant difference post-intervention between the control and experimental group and concluded this form of social consensus is not effective in reducing weight bias.¹⁴

Contact with and Narratives of Obese People

Utilizing the voices and stories of obese people is a frequently used intervention strategy as well. Most obese people have some story about the difficulties they have faced in healthcare or in attempts to lower their weight to what is recommended. Some also are resounding examples of success and happiness in the face of discrimination. Many researches have used this wealth of experience to attempt to reduce weight bias in active and pre-service providers. Four experiments have been done with the narratives of or contact with obese people as the primary intervention and three have included it as one element of a multi-strategy intervention.

A German study by Hennings and colleagues was published in 2007 and used the narratives of obese people as an intervention with healthcare students. Six hundred and two undergraduate psychology students participated. The participants were shown a twenty-minute video of interviews with obese adolescents. The subjects of the video discussed the discrimination they faced and their reasons for being overweight. The participants were administered an explicit bias questionnaire before and three-months after the intervention. Hennings et al found that there was increased understanding of the issues that obese people face, but that participants' level of bias actually increased.²⁰

Gapinski and colleagues also performed an experiment that used sympathetic narratives of obese people but added another element. Their results were published in 2006 in the article "Can Television Change Anti-Fat Attitudes and Behavior." In the study, a two-part video intervention was shown to participants. One hundred and eight female undergraduate students participated. For the intervention, all participating student were shown a video in which obese people talked about the discrimination they had suffered for their size. According to the researchers, the intention of this first video was to build empathy for obese people and show the negative effects of weight bias. Then each participant was shown one of two second videos. The second video was either a positive example of an obese person or a negative example of an obese person. In the positive video, there were clips of happy, well-adjusted, and successful obese people. They did not talk of a desire to be thinner and did not attempt to evoke empathy. In the negative video, there were clips of unhappy, unlikeable, and unsuccessful obese people. They were purposefully portrayed as the negative stereotypes of obese people. Participants were measured for their explicit bias pre- and post-intervention by the Empathy scale and Feelings scale. Additionally, their implicit bias was measured pre- and post-intervention by the Implicit

Association Test. The researchers found that the positive video group did not have any significant reduction in explicit or implicit bias, and that surprisingly, the negative video group showed a slight reduction in explicit bias.²¹

Heley and colleagues performed an experiment on the influence of sympathetic narrative message to reduce bias in medical students towards three different stigmatized health populations: obese people, opioid addicts and cigarette smokers. They published the results in 2019 in an article titled “Reducing Health-Related Stigma Through Narrative Message.” Participants were randomized into one of three groups. Then the participant would read an empathetic narrative about a person from one of the stigmatized groups. In the case of the obese person, the narrative was written from the perspective of the parent of an obese child. In the narrative the parent talked about their experience and the stigma their child faced. Notably, the parent also acknowledged the personal responsibility they feel for their child’s weight. Participants completed a questionnaire about their explicit bias against the stigmatized group they were assigned to. In participants that read the narrative of the obese child the authors described their results as “mixed” with some measurements of stigma reduced and some increased. Interestingly, they found that this kind of narrative was effective for reducing stigma against opioid addicts, but not effective for reducing stigma of cigarette smokers.²²

Researchers Alperin and colleagues tried a new experiment using contact with obese people to reduce bias. They published their research in 2014 in the article “Applying the Contact Hypothesis to Anti-fat Attitudes.”. They designed the study around the contact hypothesis, the idea that people gain bias through negative encounters with people of different groups. Accordingly, they characterized the encounters with obese people as either positive or negative. For example, a negative encounter would be one that involved an obese person speaking

negatively about their body and life experience. A positive encounter was one in which an obese person spoke positively about their body and life experience. Participants in the study rated how often they feel they have these kinds of positive interactions with obese people and how often they have negative interactions with obese people. The participants also completed the Antifat Attitudes Test. Alperin et al found that people that had positive encounters with obese people were more likely to show less weight bias. Conversely people that had negative interactions with obese people had more weight bias.²³

Oliver and colleagues designed an experiment similarly around the contact hypothesis, but instead purposely primed participants with positive or negative media images of obese people. The research was published in 2017 in the article “A sympathetic nervous system evaluation of obesity stigma. Participants were “primed” by being shown media images of obese people with nonspecific positive, neutral or negative associations. Before and after priming participants implicit and explicit bias were measured using the Fat phobia scale and perceived physiological stress testing, respectively. Physiological stress testing uses physiological markers such as salivary alpha amylase production and skin conduction to measure implicit bias and has been previously established to be effective. Oliver et al found that through repeated exposure to images of people of larger body sizes with nonspecific positive association, participants had a decreased explicit and implicit bias reaction.²⁴

Three articles also utilized contact with or the narrative of an obese person into their interventions, in addition to the other strategies. The articles are Wiese et al 1992, Rukavina et al 2010, and Kushner et al 2014. They will be discussed further in the “Multi-Strategy Interventions” subsection.

Empathy Building

Empathy building is commonly alluded in reducing bias but is difficult to manufacture in an experimental intervention setting. The purpose is to provide an experience in which a person can better understand the struggle and motivation of another person, in this case a person of larger size. It was used in one article.

Researchers Cotugna and Mallick designed a creative intervention that relied on building empathy. They published their results in 2010 in an article titled “Following a Calorie-Restricted Diet May Help in Reducing Healthcare Students’ Fat-Phobia.” In the study forty dietetic, health, or behavioral health students participated. The participants were asked to follow a calorie restricted diet of 1,200 per day for women and 1,500 per day for men for one week. During the diet, participants maintained a journal reflecting on the experience, specifically how this experience might be for overweight people following the same diet. Some specific assigned prompts included if they were able to maintain the diet, what their difficulties were, how they reacted to failure, and how hungry they felt while dieting. The journals were then qualitatively analyzed by the Cotugna and Mallick who found that students claimed a new understanding and respect for people that struggled to control their weight. More than half failed to maintain the diet and reported constant hunger. The researchers concluded that the “journal entries reflected a newfound respect for individuals struggling to lose weight” and also a self-reported reduction in negative attitude towards overweight patients.²⁵

Unmodifiable Determinants of Weight

Another area of weight stigma reduction has been from a better understanding of the non-modifiable causes of body size. While it is one of the oldest intervention strategies used, it has also changed with greater scientific knowledge. As science has advanced, so has scientific methods and understanding of the many factors that affect a person’s hunger, activity, and

weight. The introduction of knowledge on these unmodifiable determinants of weight was experimentally used to reduce weight bias in six articles and used in combination with other interventional strategies in an additional five: Wiese et al 1992; Puhl et al 2005, experiment 3; Rukavina et al 2010; Swift et al 2013; and Kushner et al 2014.

One of the foundations in the study of weight bias reduction is Crandall's "Prejudice Against Fat People: Ideology and Self-Interest" published in 1994. In the article Crandall did a number of studies, but the one relevant to this paper is "Study 4: Changing Beliefs About the Causes of Obesity." Forty-two psychology students participated. Participants were assigned to read one of two articles. The first was about the genetic determinants of weight including twin studies and the effects of dieting on metabolism. The second was a control in which participants read about the effect of stress on illness. The study was introduced to the students as a test of memory. Participants weight bias was measured pre- and post-intervention using the Antifat Attitudes Questionnaire. Crandall found that participants that were in the experimental group showed reduced bias in the areas of "willpower" and "dislike," but no significant difference in "fear of fat."⁵

O'Brien and colleagues performed a similar study in 2010 and the results were published in the article "Reducing Anti-fat Prejudice in Preservice Health Students: A Randomized Trial." Participating pre-medical students completed a variety of tests including the Anti-Fat Attitudes Questionnaire to look for explicit bias and the Implicit Associations test to look for implicit bias. The study had two interventions and one control. Some students read an article about the behavioral causes of obesity that emphasized personal responsibility. A second group read about the role of genetics and the environmental causes of obesity. The control group read about alcohol use. O'Brien et al found that participants that read about uncontrollable causes of obesity

showed reduction in both explicit and implicit bias, were less likely to implicitly assign “bad” or “lazy” to obese people, and were less likely to say they disliked obese people. Students that learned about the behavioral causes of obesity were more likely to implicitly say obese people are lazy and more likely to say that obesity is caused by a lack of willpower. In this study there was also observed some unexplained reduction in bias in the control group.²⁶

A similar study was conducted by researchers Diedrich and Barlow and in the article “How to Lose Weight Bias Fast! Evaluating a Brief Anti-Weight Bias Intervention” in 2011. Eighty-five students participated and were assigned to one of two experimental groups or the control. The experimental groups received either a lecture on the unmodifiable factors of weight such as genetics or a lecture on the behavioral determinants of weight such as lifestyle choices. Participants completed the Antifat Attitudes Test pre- and post-intervention. Diedrich and Barlow found that participants that experienced the interventional lecture on the unmodifiable determinants of weight were more likely to understand weight as controllable by behavior and less likely to hold negative attitudes towards obese people. However, they did not see any change in belief that obese people lack “strong will.”²⁷

Researchers Persky and Eccleston of the National Institute of Health (NIH) conducted another similar study with medical students in 2011 and also used a genetic causal intervention. Participating medical students were asked to read about either genetic or behavioral mechanisms of obesity. All students were then analyzed interacting with a virtual obese simulated patient and assessed by a multitude of questionnaires. It was found that the group that had been exposed to the genetic causal intervention had significantly lower negative stereotyping of obese people than the behavioral group, compared to their pre-intervention measurements. They also found that medical students that had read the genetic causal information were less likely to make behavior

recommendations like weight loss, exercise, and diet changes. Surprisingly, the study also saw some weight bias reduction within the control group.²⁸

A later study by the NIH was performed by Dr. Poustchi and colleagues in 2013 with medical students from the University of Medicine and Dentistry of New Jersey with similar findings. They used a seventeen-minute video called “Weight Bias in Healthcare” that discussed the genetic and environmental factors of obesity. Students were measured pre- and post-intervention using the Beliefs About Obese Persons, Attitudes Toward Obese Persons, and Fat Phobia scales, all quantitative measurements of explicit bias. They found students had increased beliefs in the genetic and environmental factors and also expressed fewer negative stereotypes of obese people.²⁹

A 2016 study in Germany was conducted by A. Hilbert at the University of Leipzig Medical Center and similarly found that information on the uncontrollable causes of body size reduced weight bias. The study was a randomized control trial conducted with pre-health students. The experimental group was administered an interactive intervention that focused on genetic and environmental causes of adiposity. She found that these students two weeks post-intervention expressed decreased weight stigma, decreased attribution of behavior and increase attribution of genes. Hilbert’s study also noted that this intervention increased students’ willingness to agree with statements of genetic determinism, that human behavior is determined by gene expression and physiology, rather than free will.³⁰

Combination Strategy Interventions

Five of the articles reviewed used multiple strategies in their interventions. These included Wiese et al 1992 which used both the narrative of the experiences of an obese person

and research on the genetic causes of weight¹³; Gapinski et al 2006 which showed participants an empathy building video on the difficulties of controlling weight and positive and negative examples of obese people²¹; Rukavina et al 2010 which used self-awareness of bias, genetic information on weight, and narratives of obese people³¹; and Swift et al 2013 which used genetic information; the opinion of a celebrity, and the narratives of obese people.¹⁶

Researchers Wiese and colleagues used both the narrative of an obese person and education on the unmodifiable determinants of weight in their 1992 experiment, “Obesity stigma in medical students.” Participating medical students were shown a recorded interview with an overweight woman who worked in healthcare and that had struggled with the difficulties of trying to make her weight conform to what she was told was normal. In addition to the interview, participants read an article from National Public Radio on the causes of obesity discussing both the behavioral and physiological. They measured both pre- and post-intervention weight bias in the medical students. Their results showed that the intervention group was less likely to endorse negative stereotypes of obese people and less likely to view obese people as solely responsible for their weight. However, they also found that, contrary to their hypothesis, the students that viewed the intervention video were more likely to agree that the lifestyle changes asked of obese people are easy to do. Interestingly, the students’ knowledge of the causes of obesity did not change post-intervention. Wiese found that even before the intervention the medical students had a good knowledge of the myriad of causes of obesity.¹³

Puhl and associates conducted an additional third experiment, also published in 2005, that compared multiple intervention strategies. Four different interventions were compared: education on the unmodifiable determinants of weight, education on the modifiable determinants of weight, social consensus to an “in group,” and consensus with the “actual” prevalence of traits among

obese people. Participants were assessed pre- and post-intervention with the Beliefs About Obese People scale and the Obese People Trait Survey. They found that when measuring by the Beliefs About Obese People scale, education on the unmodifiable determinants of weight most significantly reduced bias. However, when measuring by the Obese People Trait Survey, social consensus with an in-group most significantly reduced bias.¹⁸

A 2010 article by Rukavina and colleagues titled “A Service Learning Based Project to Change Implicit and Explicit Bias toward Obese Individuals in Kinesiology Pre-Professionals” applied an intervention using a number of strategies including a discussion on the controllability of body weight; awareness of weight stigma and the negative effect it has on patients; hearing a narrative from an obese person with a thyroid disorder; and then a role-playing activity. In the study researchers saw a clear and dramatic reduction in explicit weight bias based on the Anti-Fat Attitudes test. However, on the Implicit Associations Test, there was no change in participants’ implicit bias post-intervention.³¹

Researchers Swift and colleagues at the University of Nottingham published their multi-strategy experiment under the title “Are Anti-stigma Films a Useful Strategy for Reducing Weight Bias Among Trainee Healthcare Professionals?” A group of dietetics and medical students were entered in the randomized control trial. The intervention used a video developed by the Rudd Center for Food Policy and Obesity at Yale University. The video was narrated by an overweight woman who both spoke of her experiences and the stigma she faced, and also debunks myths about the causes of obesity, emphasizing the physiological and environmental causes. Participants were measured pre- and post-intervention at one and six weeks by the Fat Phobia scale, Beliefs About Obese People scale, the Anti-Fat Attitudes Questionnaire, and the Implicit Associations Test. Swift et al found that participants scored significantly lower post-

video on the Beliefs about Obese People scale, the Fat Phobia scale, and the Anti-Fat Attitudes Questionnaire, all measurements of explicit bias. However, again on a test of implicit bias, the Bad/Good and Lazy /Motivated Implicit Associations test, participants showed no significant change post-video.¹⁶

Kushner and colleagues at Northwestern University, Feinberg School of Medicine also conducted a multi-strategy intervention. In the study, medical students were asked to read “Memoirs of An Obese Physician” by JF Majdan and then attend a lecture on the genetic causes of obesity. They were administered a pre- and post-intervention questionnaire that measured negative obesity stereotypes, empathy, and counseling confidence. Kushner et al found only a small reduction in weight bias, but noted a strong improvement in counseling confidence in participants.³²

Systematic Reviews

Additionally, two systematic reviews of weight bias reduction interventions in healthcare professionals were included. The first is a review conducted by Danielsdottir and colleagues in 2010 called “Anti-Fat Prejudice Reduction: A Review of Published Studies.” The review covered sixteen articles published since 1980, though not all were directly addressing weight bias in healthcare providers. The review examined studies based on the number of participants, population participating, intervention strategy, measurements, and findings. They concluded that interventions that utilized social norm and social consensus were the most promising, though they did find them to be scarce. Danielsdottir et al also noted that while information on the multitude of causes and modifiers of obesity increased knowledge, it did not result in a reduction of bias.³³

A second systematic review was conducted by Alberga and colleagues in 2016 called “Weight bias reduction in healthcare professionals: a systematic review.” In it they analyzed and summarized the results of seventeen articles published between 1990 and 2015. All articles included used participants that were practicing healthcare providers or pre-health students. Alberga et al found that interventions that intended to improve a person’s knowledge of the unmodifiable determinants of weight showed the most promise in their ability to reduce weight bias, but ultimately concluded that there was insufficient evidence to prove that these interventions are effective.⁷

Interview with Dr. Stolz

Additionally, Dr. Stolz was interviewed as part of this paper for her thoughts and opinions on how to best reduce weight bias among healthcare providers, based on her experience working in primary care and with patients suffering from eating disorders³⁴. She emphasized a few key parts to effective weight bias reduction: education on the uncontrollability of weight, exercises to reveal unconscious bias, and education on how “fat shaming” is not effective. Ideally an intervention would contain all three.

Education on the uncontrollability of weight is an area that Dr. Stolz believes is not focused on enough in medical training and practice. This strategy is seen clearly in current research for example Wiese 1992, Hennings et al 2007, O’Brien et al 2010, Diedrich and Barlow 2011, Persky and Eccleston 2011, Swift et al 2013, and Hilbert 2016. Of this Dr. Stolz said “a program like that could go a long way.”

In addition to being undereducated on the determinants of weight, in Dr. Stolz’s opinion medical professionals are often not sufficiently aware of their own biases. She said that medical

professions often attract people that are very stringent about their own weight and eating habits or in her own words “food prudes” and “fat phobes.” However, it’s likely that these medical professionals are not aware of their own biases, and an intervention that would shed light on this would be beneficial. This strategy is used specifically in Cotugna and Mallick 2010 and Ciao and Latner 2011.

Fat shaming education, while not specifically researched in any of the studies analyzed in this paper, is frequently mentioned. There is an impression that fat shaming will inspire a patient to work harder to change their weight. Evidence however has shown that this does not work. This has been shown since the 1980’s.³⁵ More recently, researchers at University College London studied the correlation between perceived weight discrimination and the corresponding weight, waist circumference, and weight status. Their findings showed that patients that experienced weight shaming in healthcare show an increase body mass and size.³⁶

METHODS

The background literature review was conducted by using a PubMed search for articles with the MeSH terms “obesity stigma” and “reduction” with the help of Michael Bloomberg at Lindell Library, Augsburg University There were 103 results. The results were limited to those published in the last fifteen years and there were 73 remaining results. The abstracts of all articles were screened for relevance. Nineteen articles were selected. Additional articles were included if their results were a) foundational and frequently cited and b) not repeated in the last fifteen years. A total of twenty articles were reviewed.

Dr. Allison Stolz was also consulted for her thoughts on how to best reduce weight bias in healthcare providers. Dr. Stolz has worked in primary care and now focuses on the care of patients that struggle with eating disorders. Her interview is printed in full in Appendix-1.

Measurement Scales of Bias

In the research of weight bias many different tests, scales, and questionnaires are used to measure bias. Covered here are the ones frequently used in the background literature review, how they are conducted and what they measure. As different tests examine different elements of bias and judgements, it is essential to understand the differences in what is actually being measured. The most frequently used measurement scales are outlined below.

Anti-fat Attitudes Questionnaire is one of the most commonly used. It was developed by Crandall in 1994 and is one of the first measurements of weight bias.⁵ It is considered one of the most reliable because of its validity, sensitivity, and reliability.³⁷ It breaks prejudices down into sub-categories: willpower, dislike, and fear of fat. Willpower is the measurement of the participants beliefs about the controllability of weight and specifically to what extent the participant believes obesity is due to a lack of willpower. Dislike is a general measurement of prejudice against fat people, for example what qualities they associate with fat people. The last subcategory is “fear of fat.” This refers to the participant’s own concern for fatness in their own body, for example how they would feel if they gained weight. While both “willpower” and “dislike” have been previously used in other measurements,³⁸ Crandall added “fear of fat” as he found it to be an important element of what stimulates a person to be prejudiced against fat people.⁵ It is important to note that the Anti-fat Attitudes Questionnaire is a measurement of explicit bias only. It is used by Swift et al. in 2013, Khandavala et al. in 2014, and Alperin et al. in 2014.^{8,16,23}

The Beliefs About Obese Persons scale was published in 1991 by researchers at Hofstra University. It was one of the first validated measurements of weight stigma and is frequently used.³⁹ It is however also less sensitive and less reliable than other measurements.³⁷ It is used by Puhl et al 2005, O'Brien et al 2010, Swift et al 2013, and Poustchi et al 2013.^{16,18,26,29}

The Anti-fat Attitudes test was developed by researchers at Old Dominion University in 1997. It measures three subfactors of weight bias: social/character disparagement; physical/romantic unattractiveness, and weight control/blame. Some examples of statements that a participant could be asked to agree or disagree with as part of social/character disparagement are: “most fat people are boring,” “I’d lose respect for a friend who started getting fat,” and “it’s hard to take fat people seriously.” Some examples of statements that a participant could be asked to agree or disagree with as part of physical/romantic unattractiveness are: “fat people shouldn’t wear revealing clothing,” “I don’t understand how someone could be sexually attracted to a fat person,” and “fat people should be encouraged to accept themselves the way they are.” Some examples of statements that a participant could be asked to agree or disagree with as part of weight control/blame are: “most fat people buy too much junk food,” “the idea that genetics causes people to be fat is just an excuse,” and “if fat people really wanted to lose weight they could.”⁴⁰ The Anti-fat Attitudes test has shown to be consistent, theoretically clear, valid, and sensitive to change. It is a test of explicit association only.³⁷ It has been utilized in many studies including Rukavina et al. in 2010 and Ciao and Latner in 2011.^{14,31}

The Implicit Association Test was developed by psychologists at the University of Washington in 1998. It tests implicit bias by measuring how hard it is for the participant to make different associations based on their autonomic response time. Participants are asked to associate two opposite words with two categories or populations. For example, assigning participants to

associate “lazy” with obese people and “motivated” with people of “normal” body size. Then the association is reversed. The associations are made on a computer and the time it takes the participant to respond is measured down to fractions of a second. The longer it takes a participant to respond, the more difficult it is to make the association. The response happens at the level of the autonomic nervous system and is not conscious to the participant.⁴¹ Importantly, the Implicit Association Test has been widely validated and applied to a variety of prejudices.³¹ It was used by O’Brien et al. in 2010, Rukavina et al in 2010, and Swift et al in 2013 to measure implicit bias and compare it to explicit bias.^{16,26,31}

DISCUSSION

Self-reflection and Awareness of One’s own Biases

Awareness of one’s own biases seems to be an important first step to reducing bias in healthcare providers and students. This interventional strategy was used with positive results in reducing explicit bias in both Falker and Sledge 2011 and experiment 1 of Ciao and Latner 2011. It is also referenced by Dr. Allison Stolz in her interview.

Ciao and Latner 2011 performed what appears to be a well-designed study in experiment 1, however it does have some weaknesses. To its credit, Ciao and Latner’s study appeared well designed and laid out many of the details of their analysis. They used measurement tools that had been previously studied and peer reviewed. It looked at only explicit bias and made no measurement of implicit bias, so it lacks evidence to say anything about any change to implicit bias. They based their study on the psychological theory of cognitive dissonance, that a person is discomforted by finding that their beliefs and actions do not match. This as a means to reduce bias appears hopeful based on their results.

Falker and Sledge 2011 is unique in this paper in that it used actual practicing healthcare providers which gives importance to its results. However, because it was done voluntarily by working providers, they had a very low final participation number. Of the more than six hundred that initially participated, only thirty nurses, technicians, and other staff completed all elements of the study. This small number weakens the study's results. It also used its own measurement tool that had not been previously tested or reviewed. The measurement tool had only eight questions with which they measured explicit bias. Because of these reasons, Falker and Sledge's evidence is not strong, but still holds importance for its inclusion of experienced healthcare providers.

In Dr. Allison Stolz's interview, she outlines being aware of one's own biases as an important part of reducing weight bias so that providers are aware that the issue exists and that they potentially carry that bias. A problem cannot be addressed if it is not acknowledged. Dr. Stolz believes that medical providers are often not consciously aware of their own biases and that they could benefit from an awareness intervention. Dr. Stolz's opinion based on years of experience, appears to be supported by experimental evidence.

Overall, self-awareness of one's own bias is likely an effective intervention strategy in reducing weight bias in healthcare professionals and students. It is the only intervention strategy within this paper that was shown to be effective in practicing healthcare providers.

Unfortunately, no study examined the role of being aware of one's own implicit bias.

A benefit of bias awareness is that it would be practical to apply in practice. It can easily be imagined how integrating weight bias awareness could be integrated into workplace and educational trainings. The use of cognitive dissonance as applied by Ciao and Latner, fabricating a person's results from a belief survey to sway them towards reduced bias, would be hard to

replicate directly in the real world and unethical. However, with some changes it could be practical. Each provider has good qualities and beliefs that are incompatible with treating a patient unfairly based on circumstances they cannot control. A modified application of the principle of cognitive dissonance seems possible in workplace and educational trainings.

Additionally, any self-awareness training could also easily be adapted to include implicit bias. The Implicit Bias Test is easy to administer and complete, and many providers may be surprised to learn of bias that they are carrying unconsciously. Being aware of one's implicit bias would likely be an even more powerful intervention in reducing biased opinions and actions, however the evidence is not yet shown.

Influence of Celebrity

The influence of celebrities on healthcare providers and students does not have conclusive experimental support. It has been used by Swift et al 2013 as one part of a multidimensional intervention to reduce weight bias. The intervention measured both explicit and implicit weight bias and saw a reduction in explicit weight bias. However, it did not see a reduction in implicit weight bias. Again, this result was from an intervention that also included the narratives of obese people and information on the genetic determinants of weight, so even this reduction in explicit bias cannot be concluded as a result of the celebrity included in the intervention. For this reason, the influence of celebrity cannot be said to reduce weight bias based on the articles included in this paper.

Additionally, a healthcare provider should not be getting professional input based on a celebrity without medical training. In application, of course a celebrity's opinion would be easy to use in a future intervention, but it is not proven to be helpful and is unprofessional to try. To

take the opinion or narrative of a celebrity in medical decision making would be problematic and unethical. Therefore, in the author's opinion, it should not be further examined as an interventional strategy to reduce weight bias in healthcare providers or students.

Opinion of Peers

The influence of peers has mixed results. This intervention strategy was investigated by Puhl et al 2005, experiments 1 and 2; Zitek and Hebl 2007; and Ciao and Latner 2011, experiment 2. Puhl et al 2005, and Zitek and Hebl 2007 showed encouraging results. It was also concluded from the systematic review of Danielsdottir et al 2010 that the use of peer influence and social consensus was the most promising area of research to reduce weight bias. However, Ciao and Latner 2011, experiment 2 showed discouraging results.

Both Puhl et al 2005 and Zitek and Hebl 2007 appeared well conducted experiments that used previously established measurement tools. Participation numbers were less than ideal, but still reasonable and accounted for in their statistical analysis. They both showed a reduction in explicit bias with a peer influence. This influence occurs when that peer is present like in Zitek and Hebl and when the peer is only referred to and not physically present like in Puhl et al. In both, the peer was not someone the participant personally knew.

In the second experiment of Puhl et al, they further identified that the peer influence was more effective in reducing bias when the peer was thought to be from an Ivy League university. Puhl attributed this to the participant believing this peer to be more prestigious. A likely conclusion is that a person is more influenced by a peer that they have greater respect for.

Conversely, Ciao and Latner found that when participants were told their level of bias was higher than their peers, the researchers saw no reduction in explicit weight bias. This is

surprising given the Ciao and Latner's experiment was very similar to Puhl et al's first experiment. Both had similar participation. The difference likely comes from the different measurement tools, with Ciao and Latner mainly using the Antifat Attitudes test and Puhl using the Beliefs About Obese Persons scale. Based on this one can conclude that both results are valid, but that different measurement tools capture slightly different elements of bias.

Overall, one can conclude that peer influence can effectively reduce bias. Also, the effect is likely stronger when the peer is one that the participant respects. It is noteworthy that implicit bias was tested in both Puhl et al and Ciao and Latner and that neither showed any change in implicit bias.

In practice this intervention technique would be harder to apply than it is in a laboratory setting. One shouldn't fabricate data about healthcare providers peers and call it an interventional tool. However, there are many distinguished healthcare providers and researchers that talk about the harms of weight bias and strive to treat obese patients fairly. These role models may serve as respected peers. An effective intervention to reduce weight bias should likely include the opinions of these real-life respected peers in order to reduce weight bias in other healthcare professionals.

Contact with and Narratives of Obese People

The narratives of and contact with obese people has a mixed response as an intervention strategy but studies like Alperin et al 2014 and Oliver et al 2017 highlight an important differentiation, whether the obese person is depicted as happy or unhappy. Hennings et al 2007 and Heley et al 2019 both used sympathetic narratives of obese people. They showed obese people as sad and down trodden. While the stated intention by the authors was to frame them in

an empathetic light, to show the difficulties of being discriminated against, the overall effect was no reduction in weight bias in the participants. Gapinski et al 2006 experimented with the difference between positive narratives and negative narratives of obese people and found that neither reduced bias. However, it's important to recognize that both experimental groups first watched a sympathetic narrative of an obese person. While the intention of this first sympathetic narrative was to build empathy and understanding for the discrimination that obese people face, it likely explains why there was no significant difference between the two experimental groups.

Alperin et al and Oliver et al both differentiated between positive and negative exposure to obese people, and found different results depending on the type of exposure. Alperin et al asked participants to characterize their interactions with obese people based on how the obese person talked about their body and life. They found that participants with positive interactions had less weight bias than those with negative interactions. Similarly, Oliver et al found that by priming participants with positive or negative images would affect their level of bias.

These studies together identify the importance and the power of having positive images of obese people and of hearing obese people speak well of themselves. Seeing people be sad about their size makes the observer feel that to be obese is a sad fate. Seeing people be happy about their size validates the obese life as a happy and fulfilling one, rather than a limited one. Healthcare providers see the health problems that are correlated with larger body sizes, and so it is understandable that as a group they would have significant weight bias. As an intervention tool, the strategy of introducing positive fat role models seems applicable to workplace trainings and educational programs. One a larger scale is also an important public health strategy.

Empathy Building

Cotugna and Mallick 2010 was the only example of an empathy building interventional strategy included in this paper. It asked pre-health students to go on a diet for a week and record their experiences and reflections in a journal. The researcher reported a reduction in weight bias. However, the study's analysis is weak. The results were qualitative and done by the researchers themselves. There was no control group. The bias analyzed seems the most superficial explicit bias. While Cotugna and Mallick failed to show good evidence of the efficacy of a calorie restricted diet, it seems like it could be a simple yet effective intervention strategy. Ideally this same intervention would be tested again but with better organization, measurements and analysis. It could also be easily applied to workplace and educational trainings. However, based on the evidence given it cannot be conclusively recommended.

Unmodifiable Determinant of Weight

Interventions based on physiological causes of obesity more reliably reduce weight bias than any other intervention analyzed in this article survey. Successful reduction in explicit weight bias was seen in Crandall 1994, O'Brien et al 2010, Diedrich and Barlow 2011, Persky and Eccleston 2011, Poustchi 2013, and Hilbert 2016. Each used an intervention that educated participants about the genetic, physiological, environmental or otherwise uncontrollable factors of obesity. Similarly, all five multi-strategy interventions used some education on the uncontrollable nature of weight and saw some reduction in explicit bias: Wiese et al 1992; Puhl et al 2005, experiment 3; Rukavina et al 2010; Swift et al 2013; and Kushner et al 2014. In addition, the systematic review by Alberga et al in 2016 concluded that information about genetics, weight physiology, and other unmodifiable determinants of weight is the most promising intervention in weight bias reduction in healthcare providers and students.

Educating providers and students about the unmodifiable elements of weight showed the most reliable strategy for lowering weight bias. One of the explanations of the success of weight physiology information to reduce weight bias, is the psychological concept of attribution theory. This is the focus on the phenomenon that distress caused by uncontrollable factors elicits pity and sympathy, while distress from controllable factors elicits anger. In this way knowledge of the genetic, physiological and environmental factors of weight alters the foundation of weight bias.

However, the research of Wiese et al suggests that perhaps it is more complicated than knowledge. Interestingly, while the study had good success reducing explicit weight bias, they found that the medical students had a good knowledge of the physiological causes of obesity even before reading the article. Of these results the authors said: “Accurate knowledge is widely accepted [about] the influence of genetics on the utilization of calories and obesity, however does not reduce willingness to blame the obese for their condition.”¹³ These results suggest that possibly there is more to weight bias than the belief that a person’s weight is a direct consequence of their actions.

Another interpretation of the success of scientific evidence in the causes of obesity is a kind of influence from others, the influence of scientific researchers and respected healthcare professionals. The same way that healthcare has added to obesity stigma, for example by designing and then heavily using the Body Mass Index scale (BMI) and defining some scores as “normal” and others as “overweight” or “obese,” the influence of respected researchers and providers can also lessen the stigma. In this way perhaps the influence of knowledge of the unmodifiable determinants of weight is due in part to a kind of social consensus like the one used in Puhl et al 2005. The power of respected providers and researchers setting an example that

weight bias is something to be reduced and has a strong influence on others in the field to be mindful of their own bias and how it affects their patients.

In application, education on the genetic, physiological, and environmental causes of obesity to reduce weight bias would be straight forward and simple to do in practice. It could be taught in pre-practice education programs at colleges and universities. It could also be a point of continuing education or workplace training for practicing providers.

Implicit versus Explicit Bias

An important difference in the results of the strategies to reduce weight stigma in healthcare students and providers has been at what level the bias is measured, explicit or implicit. Implicit bias is a more useful measurement of true weight bias, as this is expressed even when the perpetrator is not aware. As said by Rukavina et al., “Implicit bias is deeply engrained in one’s mind and behaviorally manifested when critical environmental cues activate them, such as when individuals unknowingly fail to open a door for an overweight individual.”³¹

Most studies, including the ones with the most striking and hopeful results, measured only explicit bias. While using interventions rooted in the physiology and environmental causes of obesity have shown the most success by far, the majority of them have done measurements only of explicit bias using the tests of explicit bias including: Wiese et al 1992, Crandall 1994, Diedrich and Barlow 2011, Persky and Eccleston 2011, Poustchi et al 2013, and Hilbert in 2016. These studies all showed success in reducing explicit bias towards obese people using education on the nonmodifiable causes of obesity but did not measure implicit bias.

The few studies that measured implicit bias often saw no reduction post-intervention. This includes Rukavina et al 2010, and Swift et al 2013. O’Brien et al. in 2010 is unique in that it

has a design similar to other studies and did find a reduction in implicit bias after receiving an intervention that focused on the uncontrollable reasons for obesity such as genetics and environmental factors.²⁶

From this it can be concluded that these methods are hopeful, but at this time there is not sufficient evidence to show that they consistently reduce implicit bias. Implicit bias is a more meaningful gauge of prejudice and should be integrated into future studies. More research that utilizes implicit measurements is needed.

Longevity

Even in many studies that saw initial improvement, no positive effect was shown long term. The longest improvement demonstrated was at one year, shown by Wiese et al. in 1992. There it was found that while the intervention group still had lower weight bias than the control group, the level of bias had increased over the year. Other studies analyzed had only one evaluation post-intervention immediately following, or followed up two, six, or seven weeks post-intervention. While these follow ups are important, they do not inform if these interventions would be meaningful for practicing healthcare providers for their entire careers. Longer studies are needed to know how long interventions are effective for.

Effect on Control

Surprisingly, some studies showed a general increase in positive notions of overweight people between pre- and post-intervention, even in the control group. This was seen in O'Brien et al. in 2010 and Persky and Eccleston 2011. One possible interpretation of these results is that this is actually from self-awareness. Taking the evaluations stimulated reflection on the participant's own bias and encouraged positive change. This could suggest that a healthcare

professional experiencing any intervention that stimulates thought about how overweight people are viewed and the reasons for the variation in size of people may on its own help a person to understand their bias and decrease weight bias towards obese patients. However, if this is the case it should have occurred in other studies as well. No matter the reason, it is problematic for any study to see change in the control as it reduces the credibility of the study and its results, but the results of O'Brien et al and Persky and Eccleston were luckily confirmed by a number of other studies.

Healthcare Students versus Practicing Providers

The studies in this paper were overwhelmingly performed with healthcare student participants rather than practicing providers. There are a lot of good reasons to start education on weight bias and its effects on patients early in students' careers as they are still forming their practice and ideas. However, data from student populations does not necessarily apply to working healthcare professionals that already have their foundation. Research has also shown that the longer a provider has been practicing, the more likely they are to express weight bias.⁸ Work with students is important, and one can hope that interventions done in education would follow into practice, however there is not data to suggest that interventions effective in students are necessarily also effective in practicing providers.

The sole exception is Falker and Sledge 2011 which recruited practicing healthcare providers. Unfortunately, many aspects of the research are very weak. They had a small participant pool. The measurement tool they used was not previously tested or peer reviewed. In addition, it was also quite brief and appeared to only measure the most superficial explicit bias, essentially only asking participants to gauge if they are biased or not for themselves. Falker and

Sledge 2011 was however included because it is one of the very few studies done on weight bias in practicing healthcare providers.

The medical profession is unique, and the dynamics of a clinic or hospital are different than that of a university. While there is a trend toward more patient- centered healthcare, in practice there is a significant divide between providers and patients. Providers are accustomed to acting as authority figures and their opinions and biases may be harder to sway. This is why it is important to do weight bias reduction research with practicing providers and not just students.

It is easy to understand why students would make more convenient participants to researchers working in universities, but research that works with practicing providers is needed, though it may be harder to acquire. One possible solution to this is to ask for the participation of a university medical system. Falker and Sledge show that it is possible to get the participation of practicing providers.

Weight Stigma Unique Among Prejudices

Unique strategies are needed for reducing stigma against obese people in healthcare settings. Strategies that are effective in reducing bias against other populations are not effective in reducing weight bias. In the 2019 article by Heley et al, the researchers found personal narrative to be effective for reducing stigma of opioid addiction, but not of obesity.²² Conversely Zitek and Hebl found that found social consensus to be effective in reducing bias against obese people, gay people, and Black people, but ineffective in reducing bias against ex-convicts.¹⁹ Prejudice towards different populations is justified in different ways and because of the partial role that behavior plays in weight, stigma against people of larger sizes has been more resilient.

CONCLUSION

Weight bias in healthcare providers is a pressing issue and requires urgent attention. Obesity rates in American have risen steeply in the past fifty years along with weight bias against people of a larger body size. Weight bias exists not only in the greater population, but also in healthcare providers at every level of every discipline. The nature of weight and obesity is the product of a complex combination of behavior, genes, physiology, and environment, though it is often treated as a simple behavioral issue. When patients experience stigma for their weight in healthcare settings, they are reluctant to go back and when they receive subpar medical care by healthcare providers because of their weight those patients are harmed in a multitude of ways. Weight bias and fat phobia are in part a product of the actions of the medical community, and as such it is the responsibility of the medical community to expediently search for efficient and effective interventions to reduce weight bias in healthcare providers and future healthcare providers.

Twenty articles investigating interventions to reduce weight bias in healthcare providers and students were analyzed. From these it was found that three strategies are consistently effective. An ideal intervention would include all three. First, an intervention should include some self-reflection exercise in which a person can recognize their own bias and the potential damage that it may cause to patients. Next, interventions that utilize education about the myriad of uncontrollable factors that determine weight including genetic, physiological, and environmental determinants, are the most useful in reducing explicit bias. Additionally, seeing positive examples of obese people and hearing them talk about living happy and fulfilling lives is also effective in reducing weight bias. However, negative depictions of obese people do not reduce weight bias and should correspondingly be avoided or limited in interventions for healthcare professionals. Though not consistently shown to be effective in reducing bias, the

influence of respected peers seems likely beneficial. Other intervention strategies such as the use of celebrity opinion or empathy building exercises currently lack enough evidence to recommend.

More work is yet to be done and is urgently needed to develop effective interventions. While the current interventions show great promise, they can be improved by assessing for implicit bias, using practicing healthcare providers as participants, and looking for changes in bias over time. Current research largely investigates explicit bias, but implicit bias is a better determinant of biased opinions and actions. More research is needed on strategies to reduce implicit bias. Studies published currently often leave out practicing healthcare providers in favor of pre-healthcare students. Reducing weight bias in experienced healthcare providers presents a potentially greater challenge than students and more research is needed to understand what is effective in that population. Finally, the longevity of these interventions has not been adequately assessed for, with the longest any researcher followed their participants post-intervention being one year. A stronger idea of how long interventions are effective is necessary to know how often interventions should occur. With these additions, an effective intervention for reducing weight bias in healthcare professionals and students can soon be developed and implemented for the benefit of patients.

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APPENDIX

1 - Interview with Allison Stolz, MD on her experience with and ideas of weight stigma and interventions to reduce weight stigma.³⁴

July 8th-20th, 2019. Via email correspondence with Nora Powers, PA-S2. Shared with permission.

1. What productive strategies do you use or see used in practice for working with patients of higher BMIs to avoid weight stigma?

Having the right equipment and furniture easily accessible is important. Examples are wider chairs, wider exam tables that can be lowered down further, bigger gowns, bigger blood pressure cuffs, scales that go up higher, longer speculums etc. Bigger patients often feel awkward going to the doctor, but having the right equipment available (without having to search around for it or improvise) sends a more welcoming message.

2. What strategies do you see used that you find problematic?

Top down campaigns to address obesity are really problematic. During my years as a doctor, I have been on the receiving end of 2 such “quality improvement” campaigns mandated by the health systems I was working for at the time. Both involved using BMI parameters to define patients as normal, overweight, or obese and then a mandate to tell the patient (or their parent) their category and warn them about risks. It was really damaging and stigmatizing, and left a lot of patients in tears, and in both cases I ended up refusing to do it.

3. What are the changes that you would like to see at the policy or procedural level to reduce weight stigma?

The first is an easy one: no more weighing in the hallway. Move the scale to a private location.

Second, a policy of asking patients before you weigh them whether they want to know the number or whether they opt out of knowing. For some patients (like those with history of eating disorders) hearing their number can be really triggering. As it stands now, they have to display the presence of mind to ask the nurse not to show them the number. It's embarrassing to have to ask for something special. Instead the script could be "Now I would like to weigh you in case your provider needs to calculate a medication dose or something like that. Do you want me to tell you the number, or would you rather opt out from knowing?"

4. Do you think healthcare should diagnose and treat obesity as its own condition rather than just a risk factor? Do you think that making this diagnosis would be more damaging than helpful? Do you think there would be significant benefit to have greater insurance coverage for treatment? I see the argument made a lot on either side and feel inconclusive.

I'm on the side of not making it a separate diagnosis. Or at least not a separate diagnosis as it is termed now with labels like overweight, obesity, and morbid obesity. Patients have a lot of access to their charts now, and they get really upset when their chart says obese. Medical professionals may say it's just a scientific term, but it comes across very differently in the lay world where that is considered (rightly or wrongly) an insult. If we have to have a diagnostic code for billing and insurance purposes, I would prefer simple number categories such as BMI 30-35/BMI 35-40/BMI 40-45 etc. or some such. BMI categories like this still are a poor tool for determining health risks (I have patients with BMIs of ~40 who are living healthy lives in their 80's) but at least they wouldn't be attached to pejorative labels.

5. When you see colleagues (or policies that indicate) speaking or acting in a way that perpetuates weight stigma, what do you do?

That's a tough one. Frankly, a lot of doctors are food prudes, fat phobes, or both. Some clinicians seem to almost take enjoyment in chiding their patients about their weights. When you are a young clinician you may get labeled as a troublemaker if you speak up too forcefully against what you see a colleague doing. But show patients some compassion and you will rapidly build your practice from patients fleeing your coworker's shaming approach. Anyway, I am hoping that fighting the so-called Obesity Epidemic has lost some of its trendiness. For a while it was such a huge topic in healthcare and in the media. It seems to me that the conversation around weight is (maybe?) getting a little more compassionate already.

6. If you were to design a training or intervention to try to reduce weight bias in healthcare providers, what would you do? What do you think would be some of the strategies that you believe would be most effective in getting people to view patients of larger size more positively? Have you seen any trainings used? Were they effective?

I haven't seen any trainings used. I have heard about programs that 1) educate about the fact that weight is to a large extent out of our control. 2) do unconscious bias exercises to make providers aware 3) talk about how shaming doesn't help

A program like that would go a long way towards helping I would bet.

7. Anything else you would like to add that I haven't addressed in my questions?

My policy in primary care was never to bring up a patient's weight unless they brought it up themselves. This was the direct opposite of the approach I was taught which was that patients are ignorant or in denial and that they need the doctor to bring it up and make them take their weight seriously. But what I found was that most patients are absolutely dreading the doctor's weight lecture and expecting it to start any second. So, when you get to the end of the physical and ask

“is there anything else you want to talk about?” they are shocked they haven’t received “the lecture” and they bring up their weight concerns voluntarily. This then can be the jumping off point for a respectful conversation about their relationship to food, weight, and body image. This may be the first time in their lives they have ever engaged in a respectful conversation about this aspect of their lives and that in itself can be healing.



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