THE EFFECTS OF INTERNALIZED WEIGHT STIGMA ON THE PERCEPTIONS OF OTHERS

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ON THE PERCEPTIONS OF OTHERS

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Abstract

Women are held to high societal standards regarding weight, and when they deviate from the ideal, others may negatively stereotype and discriminate against them. This stigma may become internalized as individuals endorse and attribute negative weight-based stereotypes and attitudes to themselves. Internalized weight stigma negatively affects one's body image and psychological well-being, but little research examines how it influences the perception of others. An online-based Qualtrics study using a convenience sample of female undergraduate students was conducted (n = 156). Participants were randomly assigned to complete 3 writing prompts meant to illicit feelings of internalized weight stigma or a neutral writing prompt. Participants were shown one of four vignettes, accompanied by an avatar describing a woman with normal weight, overweight, obesity, and severe obesity. Following the presentation of the vignettes, all participants were asked to complete a variety of measures assessing their stereotypes, desire for social distance, social comparisons, and demographic information. A series of 2x4 factorial ANOVAs were conducted. Overall, the findings from this study partially support the initial hypothesis that participants would endorse greater antifat attitudes toward the target with higher BMIs; however, they desired less social distance from the target with normal weight than the target with obesity or severe obesity. Also, individuals who wrote about internalized weight stigma made fewer downward social comparisons toward the target in comparison to those who wrote about their daily routine. Results from this study may suggest that the participants experienced higher levels of empathy due to their own internalized weight stigma, which impacted their beliefs and behaviors toward others. Future research should continue to explore how internalized weight stigma may impact the perception of others.

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Societal Ideals of Weight

Although the prevalence of obesity has significantly increased in recent years, the pressure for women to remain thin and fit has continued. Women are still held to high societal standards regarding their weight, size, and body type. Thin ideals have been persistent because the media has suggested that very slim women are more popular and successful (Alley & Scully, 1994; Gustafson et al., 1999). The emphasis on beautiful, slender women in the media shows that society tends to objectify women's bodies, putting an emphasis of worth on physical appearance, which trumps the importance of any other characteristic (Fredrickson & Roberts, 1997). Thin ideals are still present today; however, current societal ideals also emphasize a new fit and muscular physique. A study involving female college students found that participants gave higher attractiveness ratings to a thin, muscular woman than to images of the same woman with muscles edited out (Betz et al., 2019). These results show an emergence of an athletic ideal that pressures women to increase muscle mass while remaining thin. The media paints this body type as healthier because it adds the idea of exercise into a woman's routine but is arguably more difficult for the typical woman to achieve than just extreme thinness (Garvin & Damson, 2008). Images in the media are often presented with negative messages that objectify women, induce guilt, and promote dieting and restraint, which can all harm a woman's body image and satisfaction (Betz et al., 2019; Bozsik et al., 2018).

Negative outcomes can occur when current societal standards for female beauty emphasize thinness and muscularity to a level that is impossible for women to achieve (Tiggemann & Slater, 2003). The increase in both slender and muscular images in the media starkly contrasts the rising prevalence of overweight and obesity and can contribute to body

dissatisfaction as women compare themselves to the ideal. In fact, 72% of women have reported substantial body dissatisfaction when comparing themselves with thin ideals (Fiske et al., 2014). In addition, exposure to this new form of the thin muscular ideal has recently been associated with greater physique anxiety, body dissatisfaction, negative mood, eating disorders, psychological disturbances, and lowered self-esteem (Betz et al., 2019; Bozsik et al., 2018; Garvin & Damson, 2008).

Due to the emphasis on maintaining a thin and muscular ideal, individuals tend to hold negative attitudes toward individuals who deviate from these norms. Thus, these negative attitudes can become the basis for discrimination against those with overweight and obesity, which can lead to increased distress and lower body satisfaction. Interestingly, these negative attitudes are even present in individuals with overweight and obesity, but little research has focused on why this may occur. One reason may be that their internalization of attitudes and perceptions regarding weight standards (i.e., internalized weight stigma) may influence their attitudes and judgments toward others. Thus, the present study aims to examine how an individual's own feelings of internalized weight stigma may influence judgments about individuals of different weight categories.

Stereotypes/Prejudice Against Obesity

Individuals with overweight and obesity are often negatively stereotyped and commonly experience prejudice and discrimination. Stereotyping is fundamental to cognition because it serves to organize and structure one's knowledge about the world. By categorizing classes of stimuli into like groups, individuals can organize the vast array of stimuli they encounter daily (Bodenhausen et al., 2011). These social categories allow individuals to develop a sense of identity, belonging, and connection to or alienation from others (Hornsey, 2008). Social

categories can help one infer an individual's goals and intentions, what skills and knowledge they possess, and what general personality traits they are likely to exhibit (Bodenhausen et al., 2011). Biases can be perpetuated when previous experiences and knowledge lead the individual to believe their attitudes are appropriate. For example, if individuals encounter others with overweight and obesity that they perceive negatively, they are likely to continue to attribute these negative traits to the entire category of individuals. Individuals that believe these stereotypes to be true tend to perceive all those with overweight and obesity negatively.

Considerable evidence indicates that individuals in the United States who are overweight or obese, particularly women, are often negatively stereotyped (Smith et al., 2007; Meadows & Calogero, 2018; Seacat et al., 2009). One reason people attribute negative personality characteristics to individuals with obesity is that they are seen as being responsible for their weight (Puhl & Heuer, 2010). Research has documented harmful weight-based stereotypes suggesting that individuals with overweight and obesity are lazy, ugly, unhappy, unintelligent, unsuccessful, socially isolated, lack self-discipline, and are noncompliant with weight loss treatment (Major et al., 2012; Puhl & Heuer, 2010; Puhl, & Brownell, 2006; Smith et al., 2007). Some research suggests that women with obesity are perceived as less sexually skilled and unattractive when compared to their thin counterparts, but this same effect was not found for men (Smith et al., 2007). Another study found that college students rated heavier women as relatively unattractive, unlikely to date, and unworthy of attractive partners compared to normal weight women (Boyes & Latner, 2009). All these negative stereotypes against women with overweight and obesity may be worsened by the media.

The media can exacerbate negative weight-related attitudes and can adversely affect individuals with obesity (Vartanian et al., 2014). Stigmatizing portrayals of people with obesity

are common in television programs, movies, cartoons, and commercials (Puhl & Heuer, 2009; Wang et al., 2004). The media consistently ridicules overweight characters and stereotypically portrays them as less likely to have friends or date, and more likely to be shown eating or be the target of jokes (Greenberg et al., 2003). These stereotypical depictions of people with overweight thus affect individuals' perceptions about being overweight and obesity in general. Research shows a positive association between media exposure and expressions of weight stigma (Latner et al., 2007). In addition to negative portrayals of individuals with overweight and obesity in entertainment media, 72% of individuals who are overweight or obese are depicted in online news photographs in a stigmatizing way (Heuer et al., 2011). The news media reinforces perceptions that bodyweight is within personal control, which serves to justify stereotypes and prejudice as an acceptable response to obesity (Puhl & Heuer, 2010).

Research shows that the media disproportionately emphasizes that an individual is responsible for their own obesity and chooses to ignore how external factors play a role in obesity (Kim & Willis, 2007). This perpetuates the belief that weight is controllable. Therefore, people tend to hold others, and sometimes themselves, responsible for being overweight or obese. Believing that weight is controllable assumes that individuals who are overweight lack the motivation and responsibility to lose weight, but they could escape the stigmatized group if they wanted to. According to Frederick and colleagues (2020), it becomes easier to stigmatize people when they possess a trait viewed as unfavorable and within personal control. Furthermore, since weight is often perceived as being within an individual's control, it is likely that empathy for those with overweight and obesity decreases while antifat attitudes increase (Teachman et al., 2003). The large number of individuals exposed to stigmatizing portrayals of overweight and

obesity may partially explain the pervasive discrimination and stigma directed toward this group.

Weight Discrimination/Weight Stigma

Individuals who are overweight or obese are frequent targets of weight stigmatization (Andreyeva et al., 2008; Puhl & Heuer, 2010). Carr and Friedman (2005) found that individuals in the highest obesity categories were 40-50% more likely to report discrimination than their normal weight peers. In fact, weight stigma ranks among the most common types of discrimination, including ageism, racism, and sexism (Andreyeva et al., 2008). However, weight stigma differs significantly from these other forms of discrimination. Discriminatory acts against one who is overweight or obese are often blatant and can be justified as a way of motivating individuals to lose weight, making it more socially acceptable than other forms of discrimination (Major et al., 2012; Tomiyama, 2014). However, weight stigma hinders weight loss and may actually cause weight gain (Tomiyama, 2014; Vartanian et al., 2014).

Additionally, there have been marked gender differences in weight stigma and discrimination. For example, although research has found that about 40% of men report experiences of weight stigma, women typically report experiencing stigma at lower BMIs than do men (Himmelstein et al., 2018; Puhl et al., 2008). Weight stigma may be worse for women than men because cultural norms emphasize stricter body ideals for women than for men. This may lead to high rates of body dissatisfaction and greater likelihood of having internalized weight stigma in women (Azarbad & Gonder-Frederick, 2010; Himmelstein et al., 2018; Purton et al., 2019).

Weight discrimination has been documented in places of employment settings and healthcare facilities (Andreyeva et al., 2008). In places of employment, a structural bias emerges when individuals with overweight and obesity apply for jobs. There is a large body of

experimental evidence on hiring decisions finding that when employers were given fictional job applications with identical qualifications, applicants with obesity were less likely to be hired than applicants with normal weight (Giel et al., 2010). Furthermore, gender appears to interact with weight in making these decisions. For example, one study found that normal weight males and females had a significantly higher chance of being hired than females with obesity. Additionally, if both job applicants were obese, the male with obesity had a significantly higher chance of being hired in comparison to the female with obesity (Giel et al., 2012). These structural biases can be detrimental to one's ability to get and maintain a decent job, which could explain why women with obesity tend to be lower in socioeconomic status, making less money than their nonobese counterparts (Azarbad & Gonder-Fredrick, 2010). In addition, doctors, obesity specialists, and other healthcare providers have all been found to hold negative attitudes toward, spend less time in appointments, and provide less health education with individuals who are overweight or obese in comparison to normal-weight patients (Azarbad & Gonder-Fredrick, 2010; Diedrichs & Barlow, 2011; Puhl & Heuer, 2010). The commonality of weight-based discrimination can be harmful to one's financial situation and physical and psychological well-being, which hinders the ability to foster positive interpersonal relationships.

Weight stigmatization also occurs within close interpersonal relationships, including those with friends and family members. The most reported experiences by individuals with overweight or obesity have been negative verbal comments from family members, friends, and romantic partners (Cossrow et al., 2001; Vartanian et al., 2014). In addition, other research shows that individuals with overweight and obesity experience verbal harassment while exercising and going out in public, a lack of dating opportunities, and mistreatment from friends (Cossrow et al., 2001). Taken together, these situations may make it difficult for an individual

with overweight or obesity to maintain interpersonal relationships, seek medical help, or incorporate exercise into their daily routine.

An additional form of weight discrimination is the desire for social distance from an individual who is overweight or obese. Social distance can occur either through direct actions of rejection, shunning, or avoidance of the target and can occur when individuals deviate from societal norms (Crandall, 1994; Link & Phelan, 2001; Maddox et al., 1968). Most research regarding social distance has been examined within the context of mental illnesses. However, recent research has expanded this literature to individuals with overweight and obesity (Angermeyer et al., 2004; Vartanian et al., 2015). People with obesity frequently find themselves distanced from or avoided by others in public situations. For example, one study found that viewing targets with obesity were associated with more negative attitudes, negative stereotypes, and a greater desire for social distance from the target (Vartanian et al., 2015). Another study found that as the weight of female adolescents increased, the more they reported that their peers did not hang out with them, ignored them, and would not sit with them at lunch or in class (Pearce et al., 2002). Due to experiencing discrimination across many domains, an individual with overweight or obesity is likely to face increased distress and internalize their negative weight-based experiences.

Internalized Weight Stigma

Internalized weight stigma is the degree to which one endorses weight-based negative stereotypes and attributes them to themselves. It occurs because of an individual's experience with weight discrimination and their perceptions of stereotypes about people with overweight and obesity (Ratcliffe & Ellison, 2013). Ratcliffe and Ellison (2013) suggest that weight stigma becomes internalized in several ways. First, negative external judgments become internalized

through a process of self-judgment. This self-judgment then influences how the individual interacts with other individuals and their environment. More specifically, individuals with overweight and obesity draw from real-life experiences to make predictions about how others view them, which influences how they view themselves. This relationship between external devaluation and internal evaluation can become self-perpetuating (Ratcliffe & Ellison, 2013).

Second, internalized weight stigma is also influenced by attentional processing, or the way in which individuals recall stigmatizing experiences. A field perspective involves recalling an event through one's own eyes, whereas an observer perspective involves recalling an event from the perspective of a spectator (Ratcliff & Ellison, 2013). If an individual recalls a stigmatizing event from an observer perspective, it has a more negative impact on psychological well-being than using a field perspective (Lau et al., 2009). The tendency to recall adverse events from an observer perspective may prolong its negative effects and maintain anxiety about past social events where an individual felt excluded from society or a group (Lau et al., 2009). Internalized weight stigmatization is often associated with higher levels of depression and anxiety (Durso & Latner, 2008). Moreover, internalized weight stigma and its association with anxiety can lead to avoidance of activities associated with daily functioning, including feeling afraid to travel, uneasiness in crowds, and feeling self-conscious with others (Friedman et al., 2008). As an individual with overweight or obesity chooses to avoid these situations, the opportunity to obtain evidence that disconfirms their belief about others' opinions of themselves reduces. This serves to perpetuate their negative self-perception and how they believe others view them.

Finally, it is likely that negative mood and low self-esteem, which result from experiences of weight stigma, can increase the likelihood that negative attitudes become

internalized (Ratcliffe & Ellison, 2013). The psychological distress induced by weight stigma forces individuals to adopt coping mechanisms to react to these stressors. Encountering negative comments or assumptions from others is associated with increased negative self-talk, which can maintain low self-esteem and body dissatisfaction (Puhl & Brownell, 2006; Puhl & Heuer, 2010; Rodriguez et al., 2016). Further, the more frequently one internalizes weight stigma, the greater one's body image concern, body shame, depression, anxiety, and stress (Durso & Latner, 2008). Individuals who have internalized weight stigma may also hold strong beliefs about and attach a disproportionate amount of importance to their weight (Ratcliff & Ellison, 2013). This extreme focus on weight leads them to disregard their positive attributes, which perpetuates negative self-evaluation.

Internalized weight stigma also impacts general health and eating behaviors. Higher levels of internalized weight stigma have been found to be associated with severe eating disturbances (Durso & Latner, 2008; Latner et al., 2013). In general, humans tend to increase their food intake, particularly of high fat and high sugar foods often labeled as 'comfort foods' when exposed to stress (Epel et al., 2001; Adam & Epel, 2007). Although these episodes of overeating might initially ameliorate negative emotions, they have also been shown to elicit feelings of shame, perpetuating cortisol release and leading to excess weight gain (Tomiyama, 2014). This shows that obesity itself is a significant factor in predisposing and maintaining internalized weight stigma in both men and women (Ratcliffe & Ellison, 2013).

Although men and women of all weight categories experience internalized weight stigma, research suggests that the experience of internalized weight stigma may be different for men and women (Himmelstein et al., 2019; Puhl et al., 2017). Moreover, research shows that internalized weight stigma increases as BMI increases (Puhl et al., 2017; Ratcliffe & Ellison, 2013) but that

women are more likely to internalize weight stigma and have more psychological impairment in comparison to men (Boswell & White, 2015; Puhl et al., 2017). For example, one study found that women who are overweight tend to report that they feel less attractive than other people because of their weight, and heavier women did not believe they were up to the standard of what their current partner wanted in an ideal relationship (Boyes and Latner, 2009). Taken together, these results suggest that internalizing weight stigma affects an individual's life in numerous ways including behaviorally, emotionally, and psychologically.

Less attention, however, focuses on how one's internalized weight stigma may influence their feelings about others with overweight and obesity. However, frequent stigmatization from others that becomes internalized can lead individuals with obesity to hold prejudices and weight-based stereotypes (Ratcliffe & Ellison, 2013). Further, individuals with internalized weight stigma may use downward social comparisons to protect their self-esteem, increasing antifat attitudes toward others (Lew et al., 2007; O'Brien et al., 2007). Additionally, the lack of ingroup preference for individuals with overweight or obesity might lead them to hold more negative attitudes about others in the same BMI category (Durso & Latner, 2008; Latner et al., 2013). Therefore, just as internalized weight stigma influences one's negative attitudes about themselves (Durso & Latner, 2008), it may also influence their negative feelings toward others with overweight and obesity.

Social Comparisons

Internalized weight stigma may influence how individuals perceive others with overweight and obesity through social comparisons. In fact, viewing idealized media, such as images of fashion models, induces social comparisons which becomes a stable way individuals compare themselves to others (Betz et al., 2019). Social comparison theory suggests that

individuals will instinctively engage in upward and downward social comparisons to determine their own worth and value (Festinger, 1954). When individuals compare themselves to others who are superior to them on one dimension, they make an upward social comparison. In contrast, when individuals compare themselves to others who are inferior to them in one dimension, they make a downward social comparison. Research has shown that upward social comparisons typically increase negative self-evaluation, which decreases both body satisfaction and self-esteem (Lew et al., 2007).

In contrast to upward social comparisons, downward social comparisons tend to increase positive self-evaluation and increase body satisfaction and self-esteem (Lew et al., 2007). Downward social comparisons can be critical for individuals with internalized weight stigma to reduce their negative emotions and attitudes they hold toward themselves (O'Brien et al., 2007). When one uses a downward social comparison to regulate their internalized weight stigma, they might compare themselves to someone with a higher BMI and attribute negative stereotypes to the target. Engaging in downward social comparisons instead of upward comparisons can regulate women's body and weight satisfaction, anxiety about one's appearance, the desire to lose weight, and increase positive self-evaluation (Lew et al., 2007). For example, Brown et al. (1992) found that female college students perceived themselves as more attractive when they were asked to compare themselves to an image of an unattractive woman than when they had to compare themselves to an attractive woman.

By comparing oneself to someone who is seen as physically inferior because of their weight, an individual is likely to increase their self-esteem but might develop and enhance negative cognitions and feelings about individuals with overweight and obesity in general. Over time, this process builds stronger implicit associations between those with overweight or obesity

and negative attributes, such as greater dislike for those with higher BMIs and greater belief that these individuals lack willpower and self-control (O'Brien et al., 2007).

Choosing to use a downward social comparison instead of an upward comparison technique can counterbalance a self-image threat by generating a positive experience in the place of a negative one (Lew et al., 2007). This strategy allows the individual to focus on positive aspects of the self rather than negative ones to maintain self-esteem when they experience internalized weight stigma. However, downward social comparisons are to the detriment of others, which can increase antifat attitudes and negative stereotypes about those with higher BMIs. In sum, those who experience internalized weight stigma may be more prone to using downward social comparisons to make themselves feel better, which may further exacerbate negative attitudes toward others.

Ingroup/Outgroup Bias

One's own internalized weight stigma may also negatively affect individuals' perceptions of overweight and obesity due to ingroup/outgroup biases. Individuals with marginalized social identities such as race, gender, and ethnicity typically have a strong sense of identification with their ingroup and show a preference for others perceived to be in the same social group (ingroup) versus those from another group in which they do not belong (outgroup) (Lam & Seaton, 2016). When one has a strong sense of belonging, members of these stigmatized groups are more likely to be motivated to reject the stereotype corresponding to their group (Devine, 1989). Most of the time, affiliation with a specific group is central to an individual's self-concept and self-esteem, and they identify strongly with their social identities (Tajfel, 1978). In addition, research has found that ingroup bias is related to increased trust, group cohesion, cooperation, and increased loyalty, pride, and commitment to the ingroup (Dunne, 2018). However, individuals with

overweight typically do not have a strong sense of identification with their ingroup (Puhl & Heuer, 2010; Schwartz et al., 2006). One reason for this may be that, unlike other social identities, such as race or gender, individuals with overweight typically wish that they were not categorized as overweight, and instead, seek to escape it (Major et al., 2012; Puhl & Heuer, 2010).

Another reason for the lack of ingroup bias among those with higher BMIs is that as overweight and obesity have become more common in the United States, individuals may perceive being overweight as the new 'normal.' This anchoring effect occurs because individuals use the weight of others to decide what resembles 'normal' weight and only view people above this threshold as overweight (Robinson & Kirkham, 2013). Indeed, a considerable amount of people with overweight and obesity misjudge their weight and believe that they are a healthier weight than they truly are (Robinson & Kirkham, 2013). For example, only one in five adult Americans would be classified as obese based on self-reported weight, yet more than one in four based on objectively measured weight (Sturm, 2003).

Individuals with overweight might hold negative attitudes toward themselves and others with overweight or obesity because of both experienced and internalized weight stigma, which contributes to the lack of cohesion within their ingroup (Essien et al., 2020; Wang et al., 2004). It is known that when one is a member of a stigmatized group, they are often the object of ridicule or negative stereotypes, which can further negatively impact self-esteem (Ratcliffe & Ellison, 2015). Since, unlike other social identities, those with overweight or obesity are usually blamed for their weight status, they may be more likely to internalize these beliefs about themselves and others in the same weight category, leading to outgroup preference (Meadows & Calogero, 2018; Rudman et al., 2002). When one has internalized weight stigma, they endorse the negative

stereotypes, and believe them to be true (Durso et al., 2011), which may attribute to the lack of ingroup preference seen in those with overweight and obesity (Rudman et al., 2002). In turn, these negative beliefs about themselves may become externalized and lead individuals to adopt antifat attitudes toward others with overweight and obesity, as those with internalized weight stigma may perceive others in their ingroup as negatively as they view themselves.

Indeed, weight biases are prevalent in individuals with normal weight and overweight. Research shows that individuals with overweight do not tend to hold more favorable attitudes toward others with overweight or obesity and tend to report similar levels of antifat attitudes toward individuals who are overweight (Durso & Latner, 2008; Latner et al., 2013; Teachman et al., 2003). For example, a study by Rudman et al. (2002) showed that participants who were overweight held negative associations about others with overweight, and participants with the highest BMIs showed the least automatic preference for their group. Moreover, participants who were overweight also favored those with normal weight over those with overweight or obesity. In contrast, other stigmatized groups, such as individuals who were Jewish or Asian, showed more automatic ingroup bias (Rudman et al., 2002). Another study found similar results by randomly assigning participants to appear obese by wearing a fat suit or normal weight by wearing regular clothes and then instructed them to walk across a college campus. They found that participants who wore the fat suit reported more antifat attitudes than the control group, further exemplifying that individuals with overweight and obesity hold antifat attitudes (Incollingo Rodriguez et al., 2016).

However, a study recently found that individuals with higher BMIs may have higher levels of sympathy toward others with obesity and, in turn, have a lower desire for social distance and fewer antifat attitudes (Sikorski et al., 2015). Other studies have also found similar

results that BMI may be inversely related to implicit antifat attitudes. For example, individuals with higher BMI were found to display lower levels of implicit antifat attitudes in comparison to those with lower BMI; however, the level of explicit and implicit antifat attitudes was relatively high regardless of weight class (O'Brien et al., 2007). Interestingly, this article looked at the role of physical appearance comparisons on implicit antifat attitudes and found that the more one makes appearance-related comparisons, the higher their implicit antifat attitudes. This could explain why the article found that BMI was inversely related to implicit antifat attitudes as those with overweight and obesity may be more likely to use downward comparisons to maintain self-esteem.

It is also important to note that these studies examined how experienced, rather than internalized, weight stigma was related to social distance and antifat attitudes. Internalized weight stigma is associated with an increase in shame and negative attitudes toward the self, and therefore could become externalized when judging others (Durso & Latner, 2008; Ratcliffe & Ellison, 2013). Further, the more frequently one internalizes weight stigma, the greater their depression, anxiety, and stress (Durso & Latner, 2008), which all could affect the way they perceive others. Individuals also might experience higher levels of self-blame due to believing the stereotypes to be true by and might attribute this to other individuals with overweight which may lead to a decrease in empathy, and increase in antifat attitudes (Meadows & Calogero, 2018).

There has also been research suggesting that the extent to which someone identifies as overweight or obese may explain their ingroup/outgroup preference. Phenotypic prototypicality refers to the degree to which an individual's appearance resembles a prototypic member of the group (Davies et al., 2016). Although this term is usually used to explore racial identities, it

could have implications for weight class identification. For example, those who are overweight and have higher similarity to the overweight category may be more likely to identify with their ingroup. However, when someone is on the low end of the overweight category, they may show higher similarity to the normal weight category, identifying more strongly with this group, even if their BMI indicates they are classified as overweight. Essien, Otten, and Degner (2020) found that participants with overweight more strongly preferred individuals with normal weight relative to those with overweight, the lower their self-reported weight status. These higher levels of out-group favoritism occurred partly because participants who reported being less typical for their group were also less likely to identify with that group fully. This could partially explain why some studies have found higher ingroup bias among those with higher BMIs since they are more likely to identify with their specific weight class. This lack of ingroup preference among individuals with overweight and obesity may perpetuate the stigma of obesity. Therefore, outgroup members may be more persuasive in continuing these negative stereotypes and antifat attitudes.

Taken together, experiencing weight discrimination and stereotypes can lead an individual to internalize these beliefs about themselves. This internalization of cultural standards may contribute to the negative evaluation of others with obesity (Klaczynski et al., 2004). While internalized weight stigma may negatively influence one's attitudes toward themselves, it may also influence their beliefs about others with overweight and obesity. The use of downward social comparisons may be used to maintain self-esteem and body satisfaction after experiencing internalized weight stigma. However, it may also increase stereotypes and antifat attitudes about others who are overweight or obese (O'Brien et al., 2007). Furthermore, the lack of ingroup bias seen in individuals with overweight and obesity further enhances these antifat attitudes and may

influence how individuals perceive others with overweight or obesity. It is known that internalized weight stigma affects how individuals perceive themselves (Boyes & Latner 2009; Durso & Latner, 2008; Latner et al., 2013); however, there is little research on how it affects the perceptions of others.

The Present Study

The present study will use a vignette paradigm to examine how activating participants' feelings of internalized weight stigma influence their perceptions, attitudes, and behaviors toward individuals with normal weight, overweight, obesity, and severe obesity. A wealth of research has examined how experiences of weight stigma affect an individual's perception of themselves, along with their own physical and psychological well-being (Giel et al., 2012, Puhl & Heuer, 2010; Diedrichs & Barlow, 2011). Research has also examined the stereotypes that people hold towards individuals with overweight and obesity (Major et al., 2012; Puhl & Brownell, 2006; Puhl & Heuer, 2010; Smith et al., 2007). However, a paucity of research has examined how an individual's own internalized weight stigma may influence the stereotypes they have towards individuals with overweight, obesity, and severe obesity. Understanding how one's own internalized weight stigma may influence how individuals perceive others may provide potential avenues to decrease weight stigma and antifat attitudes.

It is hypothesized that there will be a main effect of the target's BMI, such that the participants' stereotypes, attitudes, and behaviors toward a female vignette target will become more negative as the BMI of the woman in the vignette increases. Specifically, compared to a vignette target with normal weight, participants will have more antifat attitudes towards, make more downward social comparisons about, and desire more social distance from the vignette targets who have overweight, obesity, or severe obesity. Secondly, it is hypothesized that there

will be a main effect of internalized weight stigma. Compared to individuals who write about a neutral topic, participants who write about their own internalized weight stigma will have more antifat attitudes towards, make more downward social comparisons about, and desire more social distance from the vignette target, regardless of the BMI of the vignette. Finally, it is hypothesized that there will be an interaction between participants' internalized weight stigma and the BMI of the target. Specifically, it is expected that activating participants' internalized weight stigma will exacerbate the negative ratings of participants as the BMI of the target increases.

Method

Participants

Participants were a convenience sample recruited from SONA, the undergraduate research subject pool at the University of Indianapolis. To be eligible for this study, participants must have been over the age of 18 and been able to read and respond to an online questionnaire in English. Further, only women were eligible to participate in this study as research has found that both actual and internalized weight stigma may be experienced differently for women and men (Azarbad & Gonder-Frederick, 2010; Himmelstein et al., 2018; Purton et al., 2019). Individuals who were pregnant or had ever been diagnosed with an eating disorder were excluded from this study. All study procedures were approved by the Human Research Protections Program at the University of Indianapolis, and participants were treated in accordance with APA ethical principles. The total number of participants in this study was 193. However, 37 participants were removed because 1) they did not answer the attention check question correctly (n = 17) or 2) they did not answer the comprehension question correctly (n = 20). Thus, the final sample size for this study was 156.

Procedure

Prior to beginning the study, individuals completed a set of questions screening them for eligibility using the SONA prescreen feature. Only eligible individuals had the option to sign up for the study. Eligible individuals who were interested in participating in the study followed a hyperlink to an online survey powered by Qualtrics. Upon starting the study, the individual was asked to read an online informed consent document that described their rights as a participant. Individuals were not allowed to advance to the next screen unless they consented to participate in

the study. Any individual who did not consent to participate was directed to the end of the survey and thanked for their time.

After the informed consent process, participants were randomly assigned to one of two writing conditions. Participants in both groups were asked to complete three brief writing prompts for three minutes each, rather than being asked to write about one prompt for several minutes. Participants in the experimental group were asked to engage in three writing prompts designed to make them think about their own existing internalized weight stigma. Participants in the control condition were asked to engage in three neutral writing prompts. After completing the writing prompts, all participants completed a manipulation check and then were randomly assigned to one of four vignette conditions with a picture and description of a fictional woman named Emily who was 1) normal weight, 2) overweight, 3) obese, or 4) severely obese. Participants were not able to proceed to the next screen until 60 seconds had elapsed to ensure they read the entire vignette. After reading the vignette, participants completed a questionnaire containing a series of measures assessing their demographics and feelings about the woman depicted in the vignette. In addition, participants were asked to answer comprehension and attention check questions to ensure that they read the vignettes and engaged in the study. Any participants who did not correctly answer the comprehension or attention check questions were excluded from the analyses. After completing the survey, participants were thanked for their participation and given credit in SONA.

Measures

A copy of all measures, vignettes, and writing prompts that were used in this study can be found in Appendix B, C, and D, respectively.

Writing Prompts

Participants in the experimental group were asked to spend three minutes responding to writing prompts designed to make them reflect on their own internalized weight stigma. These writing prompts were derived from the control condition of the Neff et al. (2020) self-compassion mindstate induction. First, the participant was asked to think about a particular situation in which they felt self-conscious about their weight or body image for one minute. The participant was also reminded that their responses were completely anonymous, that their writing was confidential, and not to worry about spelling, sentence structure, or grammar. Next, they were given three writing prompts and asked to write for three minutes total. They were told that if they finished before the time was up, they should go back and elaborate on the details of what they already wrote. The following writing prompts were provided for the experimental group: 1) Please write about what exactly is occurring in this situation regarding your weight or body image. Try to be as descriptive as possible. 2) Please write about who is involved in the situation if it involves more than just you. Please describe the people involved with as much detail as possible, even if you are the only one (in this case, describe yourself). 3) Please write any words that have been spoken in the situation, either what you have said to yourself, what other people have said to you, or what you have said to other people. Please use as much detail as possible.

Participants in the control condition were prompted to respond to three neutral writing prompts in relation to their schedule on a normal day. The three neutral writing prompts were displayed in the same manner as the experimental writing prompts. Participants were asked to think about a typical day in their life for one minute before the writing prompts appeared on the next page. The following writing prompts were provided for the control group: 1) Please write about your morning routine. What do you do when you first wake up in the morning? Describe

your activities in as much detail as possible. 2) Please write about your afternoon routine. What do you do during the middle of the day? Describe your activities in as much detail as possible. 3) Please write about your evening routine. What do you do at nighttime? Describe your activities in as much detail as possible.

Vignettes

Participants were randomly assigned to one of four vignette conditions. Each vignette contained information about a woman in her 20s named Emily, who just moved to Indianapolis and was looking for new friends. The vignette included her height, weight, BMI, age, location, occupation, and a list of hobbies. The vignettes were identical except for one factor, namely Emily's weight/ BMI. Weight and BMI were manipulated in each vignette to represent four different weight statuses: normal weight (BMI = 21.5), overweight (BMI = 26.9), obesity (BMI = 34.3), and severe obesity (BMI = 46.9). In addition, an avatar of Emily was provided with each case. Before displaying the vignette, the participants were told that Emily created an avatar to accurately represent herself. The same avatar was used in each photograph to control for variation of attractiveness and physical features, and body shape and weight were manipulated using a photoshop application. In developing the four vignettes, careful consideration was made to maximize internal, external, and construct validity (Evans et al., 2015). Specifically, the vignettes were no longer than 500 words and followed a narrative, story-like progression. Each vignette followed a similar structure, utilized uniform language and identifying information, and maintained neutrality concerning sociocultural variables.

Comprehension and Attention Check

Participants were asked to answer a comprehension and attention check question regarding the vignette. The comprehension question was intended to ensure the participant read

and understood the vignette they were presented with. Specifically, after reading the vignette, participants were asked, “What did Emily’s mom teach her how to do when she was a kid?” a) play sports, b) cook and bake, c) play the guitar, or d) dance. Any participant who did not correctly answer this question (e.g., cook) was excluded from the analyses.

In addition, an attention check question was added to the Modified Weight Bias Internalization Scale to determine if participants were attentive and engaged in responding to the questionnaire. This question asked participants to select ‘five’ as the response option. Any participant who did not select the correct response to this attention check was excluded from the analyses.

Manipulation Check

To evaluate the effectiveness of the writing prompt on activating internalized weight stigma, participants completed the Modified Weight Bias Internalization Scale (WBIS-M; Pearl & Puhl, 2014) immediately after they completed the writing prompts. The WBIS-M consists of 11 items based on the original Weight Bias Internalization Scale (Durso & Latner, 2008). However, the WBIS-M was developed to assess internalized weight stigma across all weight categories instead of in individuals with overweight and obesity. Responses were rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Item responses were averaged to produce a mean score, with higher scores indicating higher internalized weight stigma. WBIS-M has high internal consistency and strong construct validity (Pearl & Puhl, 2014). In the present study, the mean amount of internalized weight stigma was 3.31 (*SD* = 1.5, range = 1.00-6.91, $\alpha = 0.95$).

Social Distance

Social distance was measured using a modified version of the Bogardus Social Distance Scale (Bogardus, 1925) and an online social distance task. The Social Distance Scale measured participants' attitudes towards being in a social situation with the vignette target using items adapted from the Bogardus Social Distance Scale. Although first designed to measure prejudice against different races, the items used in this scale are generalized and can therefore be applied to any social group (Wark & Galliher, 2007). The wording of each item was altered slightly to reflect the context of the present study by using the name *Emily* in place of *group member*. Example items from this measure include: *How would you feel about renting a room in your home to someone like Emily?* and *How about as a worker on the same job as someone like Emily?* Each of the items was rated on a 4-point Likert scale ranging from 0 (*definitely willing*) to 3 (*definitely not willing*). Since two of the items ask the participant to think about their feelings about having their child marry or be babysat by Emily, the sentence "If you don't actually have children currently, think about future children" was added to these questions to make them relevant to college-aged students. Participants' responses were summed to produce a total score ranging from 0 to 21, with higher scores indicating higher desired social distance. The scale has high internal consistency reliability and good convergent and construct validity (Johnstone & Grant, 2019). The mean social distance reported in the present study was 2.10 (*SD* = 2.9, range = 0-12, $\alpha = 0.92$).

In addition to the Bogardus Social Distance Scale, participants completed an online Seating Distance Task (Macrae et al., 1994). Historically, the seating task has been done in person instead of online. Participants enter a room where another participant who is really a confederate is already seated. The participants are simply asked to choose a seat, and social

distance is determined by how far the participant chooses to sit from the target. Recent research has found that an online version of the seating distance task is also effective at measuring desired physical distance from a target (e.g., Vartanian, 2015). In the online task, participants were shown an image of a rectangular table with seven seats, with the seat that the target is sitting in marked. The participants then had to decide which seat they would like to take for themselves. The seat in which the participant chose for themselves was coded as follows: one seat away from the target was coded as "1"; two seats away from the target was coded as "2"; and three seats away from the target was coded as "3". Higher scores reflect a greater desire for social distance (Vartanian, 2015). The mean social distance reported on this task in the present study was 1.40 (*SD* = 0.61, range = 1-3).

Antifat Attitudes

The short form of the Fat Phobia Scale (FPS; Bacon et al., 2001) was used to measure antifat attitudes toward the target vignette. The FPS is a 14-item measure scored on a five-point semantic differential scale. Each item contains two adjectives to describe '*fat people'* that are bipolar opposites (e.g., *secure*, *insecure*). The adjectives are measured on a scale from 1 to 5. For the present study, the directions were changed from asking participants to describe *'fat people'* to asking them to describe the target, *'Emily*'. Item responses were averaged to produce a mean score, with higher scores reflecting higher antifat attitudes about Emily. The Fat Phobia Scale short form demonstrates excellent reliability, construct and concurrent validity, and correlates highly with the original 50-item Fat Phobia Scale (Bacon et al., 2001; Yuker et al., 1995). The mean amount of antifat attitudes reported in the present study was 32.05 (*SD* = 5.6, range = 16-53, $\alpha = 0.79$).

Social Comparisons

The Social Comparison Scale (Allan & Gilbert, 1995) was used to measure participants' self-perception of social rank and relative social standing. This scale examined participants' judgments concerned with rank, attractiveness, and how well participants thought they fit in with others in society. One modification was made to the instructions of the scale. Specifically, instead of comparing themselves to other people in general, the prompt was altered so the participants make comparisons of themselves in relation to Emily. Participants rated themselves along a ten-point scale for each of the 11 items from 1 (*inferior*) to 10 (*superior*) in comparison to Emily. For example, a rating of three would mean the participant saw themselves as inferior to Emily, a rating of five (in the middle) indicates they are about equal, and a rating of 7 indicates they believe they are somewhat superior to Emily. Items were summed to create a total scale score, with high scores representing superiority, or greater use of downward social comparisons. This scale has been found to have good reliability with Cronbach alphas of 0.91 and 0.90 with student populations (Allan & Gilbert, 1995). The mean amount of social comparison reported in the present study was 62.09 (SD = 14.5, range = 11-103, $\alpha = 0.89$).

Demographics

Participants completed questions regarding demographic characteristics, including their age, gender, race/ethnicity, self-reported height (inches), and self-reported weight (pounds) to determine BMI. Participants also selected their perceived weight status by responding to a multiple-choice question with answers ranging from 1 (*very thin*) to 5 (*very heavy*).

Analysis Plan

Power analysis

An a priori power analysis using G*Power 3.1 was conducted to determine how many participants were needed for a 2 x 4 between-subjects design to be fully powered to detect significant results if significant results are present. It was determined that a minimum sample of 237 was required to achieve a 0.80 power level when anticipating a medium effect size and using $p < 0.05$ levels of significance (Faul et al., 2007). Using the current sample size of 156, it was determined that the actual power to detect a medium effect size was 0.65, and the power to detect a large effect was 0.98. Thus, the current study was slightly underpowered to detect small or medium effects, but the sample size was sufficient to detect a large effect. However, the study would likely benefit from a larger sample size, as most effect sizes in behavioral science research fall between small and medium (Schäfer & Schwarz, 2019).

Preliminary Analyses

Participants' responses to the internalized weight stigma writing prompt were analyzed using the Linguistic Inquiry and Word Count (LIWC) program as another manipulation check to ensure that participants engaged in the writing prompt and wrote about a topic related to weight stigmatization. The LIWC dictionary is composed of over 12,000 words and phrases divided into categories to assess various psychosocial constructs (Boyd et al., 2022). LIWC is the gold standard in software for analyzing word use that works by counting words in a text and calculating the percentage of words in the given text that fall into a specific category (Boyd et al., 2022). This analysis used to ensure that participants engaged in the writing prompt and wrote about a topic related to weight stigmatization.

Main Analyses

To test the hypotheses, a between-subjects 2x4 factorial ANOVA (i.e., two-way ANOVA) was conducted. A factorial ANOVA is an extension of the one-way ANOVA that allows for the examination of two independent variables on a continuous dependent variable. A factorial ANOVA was the best test for the proposed hypotheses because it allows for the examination of both main and interaction effects (Field, 2013). The main effect is the effect of one independent variable on the dependent variable while ignoring the effect(s) of all other independent variables. Because this study includes two independent variables, it has the potential to have two main effects. In contrast to the main effect, an interaction effect occurs when the effect of one independent variable on the dependent variable changes as a result of different levels of another independent variable (Field, 2013). Using a factorial ANOVA to analyze these data assessed if there is an interaction effect between internalized weight stigma and the BMI of the target in the vignette on the dependent variables.

Results

Participant Characteristics

Efforts were made to recruit a diverse sample; however, the population of the University of Indianapolis is 65.3% White, with 25% of the enrollment from international students and students of color. Table 1 presents the demographic characteristics of the participants (N = 156) in the current study. Participants' average age was 20.10 (SD = 3.8, range = 18-57). The majority of the participants in this sample identified as non-Hispanic (87.8%). Most of the participants in this study identified their race as White (75%) followed by Black (12.8%), Asian (4.5%), Biracial/Multiracial (2.6%), and American Indian/Alaska Native (1.3%). Several participants preferred not to answer (1.2%) or chose other for their race (2.6%). Participants' BMI was calculated using the self-reported height and weight provided by participants. The average BMI was 25.99 (SD = 7.15, range = 15.35-54.86). Most of the participant's BMI fell in the normal weight category (53.2%), followed by overweight (17.3%), obese (12.2%), severely obese (11.5%), and underweight (5.8%). Participants' average perceived body size was 3.01 (SD = 0.81, range = 1 (*very thin*) to 5 (*very heavy*)).

Manipulation Check

Quantitative Analysis of Manipulation

An independent samples t-test was conducted to compare the average internalized weight stigma reported by participants in the internalized weight stigma writing condition (n = 83) to the average internalized weight stigma reported by those in the neutral writing condition (n = 73). Levene's test for equality of variances was non-significant, thus equal variances can be assumed. The t-test was statistically significant, with the internalized weight stigma writing condition group (M = 3.64, SD = 1.5) reporting higher internalized weight stigma than the neutral writing

condition (M = 2.93, SD = 1.5), $t(154) = -2.98$, $p = 0.003$, 95% CI [-1.18, -0.24], $d = 0.48$. These results suggest that the writing condition was effective at inducing feelings of internalized weight stigma.

Table 1

Participant Demographics

	N	**%**
Ethnic Background		
Hispanic or Latino	19	12.2
Not Hispanic or Latino	137	87.8
Race		
White	117	75.0
Black or African American	20	12.8
American Indian or Alaska Native	2	1.3
Asian	7	4.5
Biracial/Multiracial	4	2.6
Prefer not to answer	2	1.2
Other	4	2.6
BMI Category		
Underweight	8	5.2
Normal Weight	83	53.2
Overweight	27	17.3
Obese	19	12.2
Severely Obese	18	11.5
	M	**SD**
Age	20.12	3.81
BMI	25.99	7.12
Perceived Weight Status	3.01	0.81

Qualitative Analysis of Manipulation

The Linguistic Inquiry and Word Count (LIWC) software was used to analyze word use on participants' responses to the internalized weight stigma and neutral writing prompts to ensure that participants appropriately interacted with the writing prompts. Those who wrote about experiences with internalized weight stigma used a higher percentage of emotion and weight-related terms (0.22%; 2.37%) in comparison to those who were in the neutral writing prompt group (0.00%; 0.08%). Further analysis showed that those in the internalized weight stigma group used a higher percentage of words related to happiness (0.13%) than sadness (0.07%) in comparison to the neutral writing group (0.00%, 0.00%).

Preliminary Data Analyses

Assumptions

Before conducting the analyses, the data were examined to assess the assumptions associated with a factorial ANOVA. All of the dependent variables were measured on a continuous level, both independent variables consisted of two or more categories, there was an independence of observations, and no significant outliers were observed in the data. Two of the dependent variables, antifat attitudes and social comparison, were normally distributed. However, both scales measuring social distance were positively skewed. The skewness of the social distance scale was found to be 1.34 and 1.27 for the seating distance task indicating that the distributions were right-skewed. Because the skewness was relatively low, the variables were not transformed (Field, 2013). Levene's test was used to evaluate the assumption of homogeneity of variance for all variables. None of the Levene's tests were significant, indicating that the assumption of homogeneity of variance was not violated. Finally, multicollinearity was not

violated as the two independent variables, vignette condition and writing condition, are theoretically not correlated with one another.

Main and Interactive Effects of Vignette and Writing Condition

Social Distance Scale

A between groups factorial analysis of variance (ANOVA) was used to investigate the effects of vignette and writing condition on social distance. As shown in Table 2, the ANOVA revealed a statistically significant main effect for the vignette condition $F(3, 148) = 2.72$, $p = 0.047$, $\eta_p^2 = 0.05$. However, no significant main effects were found for the writing condition $F(1, 148) = 3.51$, $p = 0.063$, $\eta_p^2 = 0.02$. Further, no significant interaction effect was found between vignette and writing condition $F(3, 148) = 0.76$, $p = 0.517$, $\eta_p^2 = 0.02$.

Pairwise comparisons revealed no significant difference in the social distance desired between participants in the overweight ($M = 1.94$, $SE = 0.48$, $p = 0.818$) and obese vignette conditions ($M = 1.80$, $SE = 0.40$, $p = 0.818$), and between participants in the overweight and severely obese vignette conditions ($M = 1.70$, $SE = 0.47$, $p = 0.719$). Further, there were no significant differences in the desired social distance for those participants in the obese condition and participants in the severely obese condition. However, contrary to what was predicted, participants in the normal weight vignette condition ($M = 3.35$, $SE = 0.48$, $p = 0.039$) desired more social distance from the target than participants in the overweight vignette condition. Similarly, participants in the normal weight vignette condition desired more social distance from the target than participants in the obesity and severe obesity conditions.

Table 2

The Main and Interaction Effects on Social Distance Scale

	M(*SE*)	**F**	**Partial Eta Squared**	***p***
Vignette Condition		2.72	0.52	0.047
Normal Weight	3.35(0.48)			
Overweight	1.94(0.48)			
Obese	1.80(0.40)			
Severely Obese	1.70(0.47)			
Writing Condition		3.51	0.23	0.063
Control	2.63(0.33)			
IWS	1.77(0.31)			
Vignette x Writing Condition		0.76	0.015	0.517
Control				
Normal Weight	3.60(0.72)			
Overweight	2.73(0.72)			
Obese	2.52(0.59)			
Severely Obese	1.65(0.63)			
IWS				
Normal Weight	3.10(0.63)			
Overweight	1.15(0.63)			
Obese	1.07(0.54)			
Severely Obese	1.75(0.70)			

Social Distance Seating Task

As shown in Table 3, no significant main effects were found for the vignette condition, $F(3, 148) = 1.63$, $p = 0.185$, $\eta_p^2 = 0.03$) or writing condition, $F(1,148) = 0.01$, $p = 0.931$, $\eta_p^2 = 0.00$ on the seating distance task. Further, no significant interaction effect was found between the vignette and the writing condition, $F(3,148) = 0.61$, $\eta_p^2 = 0.01$.

Table 3

The Main and Interaction Effects on Seating Distance Task

	M(SE)	F	Partial Eta Squared	*p*
Vignette Condition		1.63	0.03	0.185
Normal Weight	1.56(0.10)			
Overweight	1.24(0.10)			
Obese	1.42(0.09)			
Severely Obese	1.36(0.10)			
Writing Condition		0.01	0.00	0.931
Control	1.40(0.07)			
IWS	1.39(0.07)			
Vignette x Writing Condition		0.61	0.02	0.607
Control				
Normal Weight	1.47(0.16)			
Overweight	1.33(0.16)			
Obese	1.39(0.13)			
Severely Obese	1.40(0.14)			
IWS				
Normal Weight	1.65(0.14)			
Overweight	1.15(0.14)			
Obese	1.44(0.12)			
Severely Obese	1.31(0.15)			

Antifat Attitudes

As shown in Table 4, the ANOVA for antifat attitudes revealed a statistically significant main effect for the vignette condition, $F(3, 148) = 3.72$, $p = 0.013$, $\eta_p^2 = 0.07$. However, results revealed no significant main effect for the writing condition, $F(1, 148) = 1.45$, $p = 0.230$, $\eta_p^2 = 0.01$. Finally, there was no significant interaction between the vignette and writing conditions, $F(3, 148) = 2.07$, $p = 0.107$, $\eta_p^2 = 0.04$.

Post hoc analyses revealed that participants expressed fewer antifat attitudes toward the target in the normal weight vignette condition (M =29.63, SE = 0.92, p = 0.002) than participants

in the obesity vignette condition (M = 33.39, SE = 0.77, p = 0.002). Similarly, participants in the normal weight vignette condition expressed fewer antifat attitudes toward the target than the participants in the severe obesity vignette condition (M =33.06, SE = 0.91, p = 0.009). However, participants in the normal weight condition did not differ in the amount of antifat attitudes expressed toward the target when compared to participants in the overweight vignette condition (M =31.90, SE = 0.92, p = 0.084). There were also no significant differences found in participants' antifat attitudes toward the target in the overweight vignette and the obese vignette and between participants in the overweight vignette and the severely obese vignette. Finally, no significant effects were revealed for participants' antifat attitudes toward the target in the obese vignette condition and the severely obese condition.

Table 4

The Main and Interaction Effects on Antifat Attitudes

	M(SE)	F	Partial Eta Squared	*p*
Vignette Condition		3.72	0.07	0.013
Normal Weight	29.63(0.92)			
Overweight	31.90(0.92)			
Obese	33.39(0.77)			
Severely Obese	33.06(0.91)			
Writing Condition		1.45	0.01	0.230
Control	32.53(0.64)			
IWS	31.47(0.60)			
Vignette x Writing Condition		2.07	0.04	0.107
Control				
Normal Weight	29.07(1.4)			
Overweight	33.80(1.4)			
Obese	34.74(1.1)			
Severely Obese	32.50(1.2)			
IWS				
Normal Weight	30.20(1.2)			
Overweight	30.00(1.2)			
Obese	32.04(1.0)			
Severely Obese	33.63(1.4)			

Social Comparison

For the model examining social comparison, the ANOVA revealed a statistically significant main effect for the writing condition $F(1, 148) = 5.61$, $p = 0.019$, $\eta_p^2 = 0.04$. However, there was no significant main effect for the vignette condition, $F(3, 148) = 0.32$, $p = 0.808$, $\eta_p^2 = 0.01$. Additionally, the interaction effect between the vignette and writing condition was not significant $F(3, 148) = 1.22$, $p = 0.305$, $\eta_p^2 = 0.02$. Contrary to what was predicted, post hoc analyses (Table 5) revealed that participants who wrote about a neutral topic made more

downward social comparisons (M = 65.06, SE = 1.7, p = 0.019) than participants who wrote about their own internalized weight stigma (M = 59.50, SE = 1.6, p = 0.019).

Table 5

The Main and Interaction Effects on Social Comparison

	M(SE)	F	Partial Eta Squared	*p*
Vignette Condition		0.32	0.01	0.808
Normal Weight	64.17(2.5)			
Overweight	60.84(2.5)			
Obese	62.32(2.0)			
Severely Obese	61.80(2.4)			
Writing Condition		5.61	0.04	0.019
Control	65.06(1.7)			
IWS	59.50(1.6)			
Vignette x Writing Condition		1.09	0.02	0.354
Control				
Normal Weight	70.53(3.7)			
Overweight	62.33(3.7)			
Obese	62.78(3.0)			
Severely Obese	64.60(3.2)			
IWS		0.33	0.01	0.801
Normal Weight	57.80(3.2)			
Overweight	59.35(3.2)			
Obese	61.85(2.8)			
Severely Obese	59.00(3.6)			

Covariates

To assess for possible confounding relationships between the outcome variables and the participants' BMI and perceived body size, bivariate correlations were conducted for each outcome variable. As shown in Table 6, bivariate correlation analyses revealed significant relationships between social comparison and BMI (r = -0.36, $p < 0.001$) and between social comparison and perceived weight status (r = -0.39, $p < 0.001$). There were no other significant

relationships between participants' BMI and perceived body size and social distance, antifat attitudes, and social comparison.

Table 6

Correlations Between BMI and Dependent Variables

Variables	1	2	3	4	5
1. BMI	—				
2. Social Distance	-0.11	—			
3. Antifat Attitudes	-0.14	0.29	—		
4. Social Comparison	-0.36	0.13	0.25	—	
5. Perceived Body Size	0.80	0.03	-0.10	-0.39	—

Main and Interactive Effects of Vignette and Writing Condition Including Covariates

All analyses were repeated using BMI and perceived body size as covariates to examine how adding covariates changed the pattern of results. ANCOVAs were utilized to allow for the inclusion of covariates in the model. Because perceived body type and BMI were highly correlated ($r = 0.80$, $p < 0.001$), they were examined separately as covariates.

When BMI was used as a covariate, there were no appreciable differences in the findings except for one. Specifically, the significance of the main effect of writing condition on social comparison was reduced to marginal significance $F(1, 147) = 3.72$, $p = 0.056$, $\eta_p^2 = 0.03$. However, the mean level of downward social comparisons was still lower in the group who wrote about a weight stigmatizing experience ($M = 60.01$, $SE = 1.5$) compared to the group who wrote about a neutral experience ($M = 64.32$, $SE = 1.6$). When perceived body type was used as a covariate, there were no appreciable differences in the findings.

Discussion

This study used a vignette paradigm to examine how activating participants' own internalized weight stigma influenced their perceptions of a target with differing weights. The results partially supported the first hypothesis that participants would express fewer antifat attitudes toward the vignette with normal weight than the vignette with obesity and severe obesity. However, contrary to what was predicted, participants desired more social distance from the target who was normal weight compared to the target who was shown as overweight, obese, or severely obese. Also, inconsistent with hypothesis two, participants who wrote about a neutral topic made more downward social comparisons than those who wrote about a weight-stigmatizing situation. Furthermore, the findings did not support the hypothesis that the two independent variables, vignette condition (i.e., weight of target) and writing condition (neutral versus internalized weight stigma), would interact and exacerbate the negative ratings of the target.

Main Effects of Vignette Condition on Antifat Attitudes, Social Distance, and Social Comparison

Antifat Attitudes

The findings from this study are consistent with previous literature, demonstrating that individuals express greater antifat attitudes towards others as their BMI increases (Boyes & Latner, 2009; Major et al., 2012; Puhl & Heuer, 2010; Smith et al., 2007). Since weight is often perceived as being within an individual's control, empathy for those with overweight and obesity tends to decrease, while antifat attitudes increase (Teachman et al., 2003). As such, believing that weight is controllable assumes that individuals with heavier weights lack the motivation to lose

weight, making it easier to stereotype them (Frederick et al., 2020; Puhl & Heuer, 2010). These feelings may be exacerbated by the media as it depicts individuals with overweight and obesity in a stigmatizing way, while continuing to emphasize images of successful women who are thin and muscular (Alley & Scully, 1994; Kim & Willis, 2007; Heuer et al., 2011). However, the emphasis of thin images in the media starkly contrasts the increasing commonality of individuals in the United States who are overweight, which may lead to an increase in antifat attitudes towards individuals with normal and heavier weights.

Interestingly, participants did not differ in their antifat attitudes toward the vignette targets with normal weight and overweight. One reason for this may be that according to the National Health and Nutrition Examination Survey (NHANES) 30.7% of the United States is now considered to be overweight and 42.4% have obesity (2021). By 2030, 81% of men and 75% of women are projected to be overweight or obese (Wang et al., 2020). Thus, individuals may perceive overweight as the new 'normal' weight, only viewing people above this threshold as overweight or obese (Robinson & Kirkham, 2013). This anchoring effect may contribute to a lack of ingroup bias that is typically seen among those with higher BMIs as many people of higher weights believe they are healthier weights than they truly are (Robinson & Kirkham, 2013).

Similarly, participants did not differ in the antifat attitudes toward the vignette targets who were overweight and obese and between the vignette targets who were obese and severely obese. A recent study found that individuals of higher BMIs may have higher levels of empathy or sympathy toward others with obesity, leading to fewer antifat attitudes and higher ingroup preference (Sikorski et al., 2015). Previous research has also found that individuals tend to poorly categorize people into correct BMI categories, which may have influenced the results

(Easton et al., 2017; Robinson & Kirkham, 2013; Sturm, 2003). For example, one study found that only 6.1% of individuals with obesity and 41% of those who were overweight correctly identified themselves as such (Easton et al., 2017). There may not be much noticeable difference between individuals with normal weight or overweight, or between individuals with obesity and severe obesity. However, there is a much more noticeable difference between those with normal weight and obesity or severe obesity.

Social Distance

Inconsistent with previous literature, participants desired more social distance from the target in the vignette condition with normal weight than in the vignette with overweight, obesity, and severe obesity. This finding was surprising given that research typically finds that discrimination and the desire for social distance are positively related to BMI (Angermeyer et al., 2004; Carr & Friedman, 2005; Vartanian et al., 2015). One explanation for this could be that because participants experienced high levels of antifat attitudes toward the target with higher BMIs, feelings of empathy or pity were activated.

Empathy may reduce prejudice toward stigmatized groups in multiple ways. For example, higher empathy levels may reduce blame attributed to others for their weight, increase outgroup evaluations, and decrease anxiety toward others (Batson & Ahmad, 2009; Galinsky & Ku, 2004; Pettigrew & Tropp, 2008). Therefore, even if participants viewed the target in the vignette as someone in an outgroup, they may have perceived them more positively than if they did not experience empathy. Individuals who are perceived as not being responsible for their weight or trying to be healthy, are more likely to elicit pity and less likely to provoke disgust than individuals who are seen as responsible for their weight, potentially reducing avoidance or social distance toward larger-bodied individuals (Beames et al., 2016; Black et al., 2014; Weiner,

1996). As such, it would be important for future research to examine empathy and pity as potential mediators of the relationship between BMI, antifat attitudes, and social distance.

It is also important to note that most of the participants in this study were undergraduate psychology majors, which may impact their behavioral intentions when presented with stigmatizing information. It is possible that due to their major, these students may have a better understanding of their own biases in making judgments. One study that examined empathy levels among students found that helping profession majors, such as psychology, showed statistically significant higher empathy than those students pursuing a degree in STEM, Economics, or Political Science (Olsen & Gebremariam, 2020). As such, the psychology students' empathy levels may have impacted their stereotyping and discriminatory behavior.

Participants in the overweight, obese, and severely obese conditions did not differ from each other in their desire for social distance. This was inconsistent with the first hypothesis that the desire for social distance would increase as BMI increased. It is likely that the nuanced differences between overweight, obese, and severely obese are not as noticeable as one may believe. These difficulties in differentiating between BMI categories may be due to the increasing number of individuals with overweight and obesity in the United States. For example, although a majority of individuals in the United States are overweight or obese, they tend to not accurately classify themselves into the correct BMI categories (Easton et al., 2017). One study also found that the highest prevalence of misperceived BMI categorization was among individuals in the overweight BMI category, in which 56% of participants fell in the overweight range, but only 38% of participants perceived themselves as overweight (Coulson et al., 2006).

This study did not find a significant difference between the vignette group on the outcome measure of the seating distance task. It is interesting that these findings were not

parallel to the findings for the social distance measure. Previous research has found that responses on the social distance measure are significantly correlated with responses on the seating distance task (Vartanian et al., 2015). However, in this study, the responses between them were not correlated ($r = 0.16$; $p = 0.050$), which questions the measure's validity in this study. Furthermore, the participants may have been aware of what the seating distance task was measuring and chose to act in a way that was socially acceptable. Future research in this area may aim to include a measure of social desirability to determine its influence on participants' responses.

It is also possible that the inconsistent findings between vignette group on the social distance seating task might be explained by a mediator. For example, a study examined the role disgust plays in social distance and found that disgust mediated the relationship between a target's BMI and desire for social distance (Vartanian et al., 2015). Also, disgust and contempt have been found to explain the relationship between blame and desired social distance toward individuals with obesity (Wirtz et al., 2015). As feelings of disgust and contempt may increase the desire for social distance, other emotions may decrease the desire for social distance. Previous correlational research has found a negative association between feelings such as affection, enthusiasm, comfortability and desire for social distance from individuals with obesity (Magallares, 2017). It is possible that ingroup and outgroup preference play a role in the likelihood that a participant experiences these positive and negative emotional states, and future research should continue to examine their impact on the desire for social distance.

Social Comparison

The present study did not find any significant differences between the target's BMI and participants' social comparisons toward the target. This is interesting given that individuals tend

to instinctively compare themselves to others to determine their own worth (Festinger, 1954). Those with higher BMIs are typically seen as inferior and having less favorable characteristics than those with normal weight (Major et al., 2012; Puhl & Heuer, 2010; Puhl, & Brownell, 2006; Smith et al., 2007), making them a prime target for downward social comparisons if an individual wishes to increase their self-esteem.

Engaging in social comparisons may be influenced by an individual's goals. If the goal of engaging in social comparison is self-improvement, an individual will use an upward comparison; however, if the goal is self-enhancement, they may use downward (Wood, 1989). It is possible that participants may have compared themselves to the target on non-appearance dimensions such as intelligence, education level, personality characteristics as a way to increase their self-esteem without expressing negative feelings toward the target. This type of comparison allows an individual to focus on other valued aspects of the self, apart from appearance, which counterbalances self-image threats and creates a positive experience in its place (Lew et al., 2007). By comparing themselves to the target on non-appearance dimensions in which the participant felt superior, they also simultaneously place less importance on physical characteristics, such as body shape and size. As a result, the participants may have been less inclined to negatively evaluate the target based on outward appearance alone. Future research should continue to examine alternative social comparisons as a way to regulate self-esteem and decrease antifat attitudes.

Main Effects of Writing Condition on Antifat Attitudes, Social Distance and Social Comparison

Social Comparison

Contrary to what was predicted, participants who wrote about a neutral topic made more downward social comparisons than those who wrote about internalized weight stigma. This suggests that, compared to individuals in the internalized weight stigma writing condition, individuals in the neutral writing condition compared themselves to the target in the vignette and felt superior to the target, regardless of their weight. This finding is surprising, given that previous research has discovered that downward social comparisons may have a protective effect for individuals experiencing internalized weight stigma (Lew et al., 2007; O'Brien et al., 2007). Although downward social comparisons are seen to be helpful to counterbalance a threat to one's self-esteem and self-concept, it may be difficult to actually engage in downward social comparisons. It is possible that individuals who wrote about a neutral writing prompt felt more positively toward themselves than those who wrote about internalized weight stigma due to the negative emotions people experience as a result of internalized weight stigma. These same negative emotions were not elicited for the neutral writing prompt group, which likely led them to feel superior toward the target on one or more domains, resulting in more downward social comparisons.

Antifat Attitudes and Social Distance

This study did not find any significant differences between the internalized weight stigma writing condition and the neutral writing condition on participants' antifat attitudes. It is known that frequent experiences with weight stigmatization can become internalized and lead others to hold antifat attitudes (Ratcliffe & Ellison, 2013). Contrary to previous research that found links between internalized weight stigma and outgroup preference (Meadows & Calogero, 2018; Rudman et al., 2002), the results from this study show that although participants who wrote about weight stigma actually experienced greater levels of internalized weight stigma, these

feelings were not projected onto the target. Other studies have also found that participant BMI is inversely related to implicit antifat attitudes, leading to an ingroup preference (O'Brien et al., 2007). It is possible that the participants recognized their own negative reactions to writing about a time when they experienced internalized weight stigma and did not want others to feel the same way, leading to ingroup cohesion.

Although ingroup and outgroup preference is typically examined through social identities, it is possible that participants who wrote about a weight stigmatizing experience viewed the target as someone who may have also experienced weight stigma, regardless of BMI, making the target a member of their ingroup. This finding has great clinical implications as ingroup preference leads to a stronger sense of identity, increased self-esteem and trust, and the ability to reject stereotypes associated with their group, all of which are central to combat the negative effects of internalized weight stigma (Devine, 1989; Dunne, 2018; Tajfel, 1978). When one has internalized weight stigma, they endorse the negative stereotypes, and believe them to be true, which is associated with low self-esteem and body dissatisfaction (Puhl & Brownell, 2006; Puhl & Heuer, 2010). As such, participants may have recognized their negative feelings toward themselves, and instead of externalizing these beliefs to others, were actually more motivated to reject the stereotypes corresponding to their ingroup. It would be important for future research to use measures examining participants' levels of ingroup and outgroup biases to assess their impact on antifat attitudes and desire for social distance.

The present study also did not find any significant effects on writing condition and social distance or seating distance task. The lack of significant findings show that the desire for social distance may not be directly impacted by experiences of internalized weight stigma. It is possible that the relationship is mediated by participant BMI and in-group bias. For example, although

internalized weight stigma increases with BMI, some research has found that individuals with higher BMIs desire less social distance from others with overweight and obesity, revealing an in-group bias (Sikorski et al., 2015). Due to the increasing number of individuals in the United States who are overweight or obese, it is possible that individuals have common interactions with individuals with bigger bodies and are able to actively discredit stereotypes against them. Research has also found that one of the most effective ways to decrease the desire for social distance is positive social contact with members of the marginalized group (Dunaev et al., 2018; Koball & Carels, 2015). It is important for future research to continue to explore the different avenues that may decrease the desire for social distance, such as in-group preference.

Interactive Effects of Vignette and Writing Conditions on Antifat Attitudes, Social Distance, and Social Comparison

Overall, no significant interaction effects emerged for the hypothesis that activating a participants' internalized weight stigma would exacerbate the negative ratings of antifat attitudes, desire for social distance, and social comparison toward the targets as the BMI of the target increased. The current study was slightly underpowered to detect small or medium effects, which increases the probability of a Type II error (Christley, 2010). As such, the likelihood of detecting an interaction effect, where they truly was one, was reduced, and thus may explain the lack of results. It is also possible that participants' own BMI also played a role in the way individuals rated the targets. Unfortunately, the sample size and distribution of participants into each weight category was too small to analyze data using a 3-way interaction. This would be a potential avenue to explore in the future as research has shown that experiences of internalized weight stigma increases as BMI increases (Puhl et al., 2017; Ratcliffe & Ellison, 2013). Although some research has suggested that individuals with higher BMIs experience sympathy toward others

with overweight and obesity (Sikorski et al., 2015), other studies have found that they express high levels of antifat attitudes (Durso & Latner, 2008; Teachman et al., 2003). Also, adding BMI as a third independent variable may lead to significant effects due to the outgroup bias seen within this population.

Limitations

The present study has several limitations that should be acknowledged. First, the study utilized a convenience sample of undergraduate students recruited from a psychology research subject pool. The majority of participants were students between the ages of 18-22, and all were female. Thus, the homogeneity of the sample limits the generalizability of the results. It is known that men experience weight stigma and internalized weight stigma, although they experience them differently (Himmelstein et al., 2019; Puhl et al., 2017). For example, women experience stigma at lower BMIs than men and are more likely to experience negative psychological effects as a result (Boswell & White, 2015; Himmelstein et al., 2019, Puhl et al., 2017). As such, it would be important to add to the limited research on internalized weight stigma and men to see if it may affect the perception of others in similar or different ways.

Second, there was a lack of diversity in the sample of this study as a majority of participants were White and fell into the normal weight category. If there were equal distributions across race, BMI category, and perceived body weight, differences within and between groups could have been explored. For example, research has found that racial differences play a role in stigmatization of individuals with obesity. Latner and colleagues (2005) found that African Americans and Asians perceived others with obesity in a better light than Whites. As such, it could be interesting for future research to explore how a more diverse sample may have impacted the results.

A third limitation to the present study was the use of a visual avatar in place of real photographs. The use of avatars is becoming increasingly popular in online communication. Previous communication research has found that people make inferences and judgments about another based off their avatars, which may continue to affect their behaviors in the future (Nowak, 2015). However, the process of making social inferences based on an avatar or the actual image of a human may be different. Although sparse, a few research studies have included photographs that have been manipulated to alter the body weight of the individual to assess weight stigma (Hebl & Xu, 2001). It would be important for future research to compare the use of avatars to real photographs to better understand weight stigma and weight discrimination based on visual cues.

Strengths

Although the present study has limitations, it adds to the current literature in novel ways. First, to our knowledge, this is one of the first studies that examines how internalized weight stigma influences biases towards others with heavier weights using a vignette paradigm. Most studies examine the negative impact of internalized weight stigma on the individual who experiences it. For example, previous research focuses on the behavioral, emotional, and psychological effects of internalized weight stigma and has found that it is associated with higher levels of anxiety and depression, body dissatisfaction, and severe eating disturbances (Durso & Latner, 2008; Latner et al., 2013; Puhl & Brownell, 2006). Continuing to understand the overlap between internalized weight stigma and weight biases held by individuals with higher weights can provide further information on decreasing antifat attitudes and weight-based discrimination.

Second, this study used visual images to accompany a written vignette to ensure that participants accurately envisioned the target's weight and BMI. This is particularly important in

the United States as overweight and obesity have become more common, leading individuals to only perceive others over a certain threshold as overweight or obese (Robinson & Kirkham, 2013). Furthermore, written vignettes are commonly used to assess stigma. Previous research has found that participants blamed targets less for their weight when using a written stimulus in comparison to visual stimuli (e.g., videos and images). As such, providing a visual image in combination with a written stimulus addressed these methodological issues. Lastly, most research studies that have included visual stimuli to assess weight stigma utilize stereotypical (i.e., eating, emphasizing abdomen/lower body region, not shown as professionals/in professional clothing) or counter-stereotypical (i.e., walking, lifting weights, doing yoga) images (Dunaev et al, 2018; Heuer et al., 2011; Myre et al., 2020). As such, the addition of neutral avatars to accompany written vignettes provides a new addition to the research. Using neutral images instead of stereotypical or counter-stereotypical media provides less information about the target and allows for greater interpretation from the participant. This may address a gap in the research that compels the participant to make more inferences about the target's behaviors and personality characteristics that are not discussed in the vignette or shown in the avatar.

Additionally, this study used an experimental design, the gold standard for research, which strengths the results of the study. Participants were also randomly assigned to control and experimental groups which controls for extraneous variables and continues to decrease the potential for biased results. Furthermore, due to the methodological design of this study, causal implications can be made with more confidence between BMI and antifat attitudes, such that as BMI of a target increases it causes antifat attitudes to also increase. As such, the current study builds upon previous research using experimental designs to examine antifat attitudes and allows future research to continue to examine the validity of the current results.

Implications and Clinical Applications

Although a wealth of interventions have been conducted to reduce weight stigma and negative attitudes toward individuals with overweight and obesity (Breithaupt et al., 2020; Griffiths et al., 2018; Levin et al., 2018; Talumaa et al., 2022), it continues to be a prevalent issue. The findings from this study continue to emphasize the need to address the effects of internalized weight stigma on an individual's psychological and physical well-being. As the frequency of individuals with overweight, obesity, and severe obesity continues to increase across the world, clinicians will need to better understand how to treat patients who have experienced weight stigma or who have internalized weight stigma.

This is important for practicing clinicians to understand when working with larger bodied individuals. Clinicians need to understand the impact of weight related biases and internalized weight stigma. Furthermore, it is imperative that they recognize their own biases and how this may influence their approach to therapy with heavier bodied clients. Recognizing and examining one's beliefs allows a clinician to identify the assumptions they hold and be able to actively change them. This includes a continual need for self-examination and feedback from others to promote understanding and acknowledgment of one's biases to promote a positive therapeutic experience.

Utilizing specific theoretical orientations that emphasize self-esteem and strengths may be especially important when working with clients with higher BMIs. Specifically, using concepts from positive psychology may help to increase positive experiences and relationships, and increase character strengths and virtues, thus improving self-esteem (Peterson, 2009). Acceptance and Commitment Therapy (ACT) has gained recent attention in the weight stigma research due to the desire to increase psychological flexibility in how one experiences cognitions

and emotions related to their physical appearance (Hayes et al., 2006). Regardless of the theoretical orientation, clinicians should ensure to provide a facilitative, growth-producing environment that will allow the client to move toward self-understanding and reconstruct how they view themselves, which may lead to an increase in self-efficacy and self-esteem, and decrease body image concerns (Cooper, 2013).

On a larger scale, policies need to be implemented to protect individuals who are overweight and obese from continued discrimination and weight bias. Although weight-based discrimination is legal in the United States, few states and cities have begun to pass legislation prohibiting weight-based discrimination (Pomeranz, 2008). With the exception of these areas, individuals have no means for seeking legal action after enduring weight discrimination in the workplace as civil rights laws (1970) are limited to prohibiting discrimination based on race, ethnicity, color, religion, and sex. Not only does weight bias negatively impact emotional and physical health, but it can also lead to social or economic disparities in the workplace especially, contributing to increased stress across various areas of an individual's life.

Knowing the pervasive negative impacts that experienced and internalized weight stigma has on a majority of the population in the United States, it would be helpful to adopt a weight-inclusive approach, such as Health at Every Size (HAES) to health and wellness. The Health at Every Size approach may be imperative to individuals with internalized weight stigma as it focuses on body acceptance, physical health, and living a meaningful lifestyle (Bacon & Aphramor, 2011; Robinson, 1999; Robinson, 2005). Unlike other health-related programs that emphasize weight loss as their main goal, HEAS focuses on ensuring the overall well-being of the individual, regardless of their body size and shape (Robinson, 2005, Hunger et al., 2020). Moreover, this approach may help individuals reject weight-based stereotypes and increase self-

esteem through body positivity and acceptance. Data collected from this study highlights the importance of examining the effects of internalized weight stigma on the perception of others as a way to decrease weight-related stigma and discrimination.

Conclusion

Weight stigmatization and internalized weight stigma are immensely intertwined but often studied separately. Studying how an individual's internalized weight stigma may perpetuate weight bias, stereotypes, and discrimination toward others contributes to the complex body of research on weight stigma. Although participants in this study felt negatively toward the target with higher weights, they did not discriminate at higher rates. It is possible that participants experienced negative emotions targeted at the self due to internalized weight stigma and did not want others to have a similar experience. As such, they may have had higher levels of empathy or exhibited in-group biases, which are not typically seen with heavier bodied individuals. Future research should continue to examine the complex relationship between internalized weight stigma and the effects it has on the perceptions of others.

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Appendices

Appendix A:

Informed Consent

College of Applied Behavioral Sciences

KEY INFORMATION FOR POTENTIAL RESEARCH PARTICIPANTS

Your consent is being sought for research regarding participants' thoughts, attitudes, and perceptions about themselves and others. Your participation in this research is voluntary and will take a total of about 15 minutes. After engaging in a brief writing exercise, you will be asked to read a description of a person and then will answer a series of questionnaires regarding your thoughts, attitudes, and feelings about yourself and the person depicted in the vignette. It is possible that you may experience slight emotional discomfort when engaging in the writing prompts and responding to some of the questionnaires, but you are free to skip any questions you do not wish to answer. You will receive .25 SONA credits for your participation in this research study. If you choose not to participate in this study, there are alternative assignments available on SONA that you may choose to complete.

CONSENT TO PARTICIPATE IN RESEARCH STUDY

Thoughts, Attitudes, and Perceptions of People

Study Principal Investigator (PI): Erin, Fekete, Ph.D.
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Study Co-Investigator: Victoria Silvati
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Erin Fekete, Ph.D. and Victoria Silvati, M.A. from the College of Applied Behavioral Sciences at the University of Indianapolis (UIndy) are conducting a research study.

Why is this study being done?

This study is being done to gain a better understanding of how individuals form thoughts, attitudes, and perceptions about others.

What will happen if I take part in this research study?

If you volunteer to participate in this study, the researcher will ask you to do the following:

- Provide consent to participate in the study.

- Complete a brief writing exercise.
- Read a vignette about a person.
- Complete a series of brief questionnaires regarding your thoughts, attitudes, and perceptions about yourself and the person in the vignette.

How long will I be in the research study?

Participation will take a total of approximately 15 minutes on one occasion.

Are there any potential risks or discomforts that I can expect from this study?

It is possible that some participants may feel uncomfortable when they participate in the writing exercise or when they answer some of the questions in this study. If you experience any emotional and/or psychological discomfort as a result of participating in this study, you can contact the Principal Investigator, Dr. Erin Fekete, at feketee@uindy.edu (317) 788-8030 or the University of Indianapolis Student Counseling Center (317) 788-5015.

Are there any potential benefits if I participate?

You will not directly benefit from your participation in the research. However, the results of the research may provide information that could help professionals and researchers have a better understanding of how we develop attitudes and perceptions about others.

What other choices do I have if I do not wish to participate?

If you choose not to participate in this study, you may participate in alternative assignments on SONA, such as critiquing a research article. Please reach out to the SONA administrator if you have questions about these alternatives. Additionally, individual instructors may offer other alternatives to participating in a research study; you should review your course syllabus or reach out to the instructor of the course to learn more about these alternatives.

Will I receive course credit for participating?

If you sign up and participate in the study via the SONA system, you will receive .25 credits.

Will information about me and my participation be kept confidential?

Yes, we are not collecting personal identifiers. The results of this study may be published in a scholarly book or journal, presented at professional conferences, or used for teaching purposes. Only aggregate data will be used. There will be no way to identify you or your data.

Will the data from my study be used in the future for other studies?

It is possible that data from this study could be used for future research or shared with other researchers for use in studies without additional informed consent.

What are my rights if I take part in this study?

- You can choose whether or not you want to be in this study, and you may withdraw your consent and discontinue participation at any time.
- Whatever decision you make, there will be no penalty to you and no loss of benefits to which you are otherwise entitled.
- You may refuse to answer any question/s that you do not want to answer and still remain in the study.

Whom can I contact if I have questions about this study?

- **The Research Team:** If you have any questions, comments, or concerns about the research, you can talk to one of the researchers. Please contact:
  - **Study Principal Investigator (PI) and Faculty Sponsor:** Erin Fekete, Ph.D.
  - **UIndy Email:** feketee@uindy.edu UIndy Telephone: (317) 788-8030
  - **UIndy Co-Investigator:** Victoria Silvati, **UIndy Email:** silvativ@uindy.edu

- **The Director of Human Research Protections Program (HRPP):** If you have questions about your rights as a research participant, or you have concerns or suggestions and you want to talk to someone other than the researchers, you may contact the Director of the Human Research Protections Program, by either emailing hrpp@uindy.edu or calling 1 (317) 781-5774 or 1 (800) 232-8634 ext. 5774.

How do I indicate my informed consent to participate in this study?

If you consent to participate in this study, then you affirm that you satisfy inclusion criteria, and your consent is voluntary. To indicate your voluntary consent and proceed with the questionnaire, select one of the following options:

I voluntary consent to participate in this study.
I do NOT consent to participate in this study.

Appendix B:

Study Measures

Modified Weight Bias Internalization Scale (WBIS-M)

Please rate your agreement with the following items on a scale of 1-7(1=strongly disagree; 7 = strongly agree)

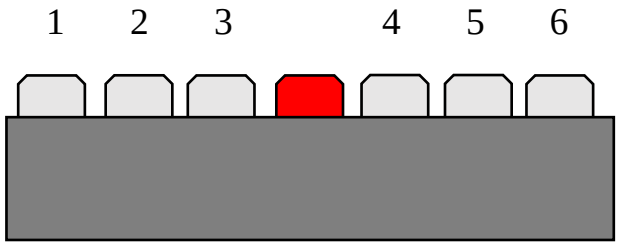
	Rating 1-7
1. Because of my weight, I feel that I am just as competent as anyone.	
2. I am less attractive than most other people because of my weight.	
3. I feel anxious about my weight because of what people might think of me.	
4. I wish I could drastically change my weight.	
5. Whenever I think a lot about my weight, I feel depressed.	
6. I hate myself for my weight.	
7. My weight is a major way that I judge my value as a person.	
8. Please select somewhat agree (5) as the answer to this question.	
9. I don't feel that I deserve to have a really fulfilling social life, because of my weight.	
10. I am OK being the weight that I am.	
11. Because of my weight, I don't feel like my true self.	
12. Because of my weight, I don't understand how anyone attractive would want to date me.	

Bogardus Social Distance Scale

		Definitely willing	Probably willing	Probably not willing	Definitely not willing	
		0	1	2	3	Score
1.	How would you feel about renting a room in your home to someone like Emily?					
2.	How about being a worker on the same job with someone like Emily?					
3.	How would you feel having someone like Emily as a neighbor?					
4.	How about having someone like Emily babysit your children for a couple of hours? (if you don't have children currently, think about future children)					
5.	How about having one of your children marry someone like Emily? (if you don't have children currently, think about future children)					
6.	How would you feel about introducing Emily to someone you are comfortable with?					
7.	How would you feel about recommending someone like Emily for a job working for a friend of yours?					

Seating Distance Task

This is an image of a table with 7 chairs around it. The red chair is where Emily has decided to sit. Please choose the number above the seat that you would choose to sit in yourself.



Fat Phobia Scale

Listed below are 14 pairs of adjectives. For each adjective pair, please mark the bubble closest to the adjective that you feel best describes Emily.

Industrious	○	○	○	○	○	Lazy
Has will power	○	○	○	○	○	No will power
Unattractive	○	○	○	○	○	Attractive
Poor self-control	○	○	○	○	○	Good self-control
Slow	○	○	○	○	○	Fast
Having no endurance	○	○	○	○	○	Having endurance
Inactive	○	○	○	○	○	Active
Strong	○	○	○	○	○	Weak
Self-sacrificing	○	○	○	○	○	Self-indulgent
Likes food	○	○	○	○	○	Dislikes food
Shapely	○	○	○	○	○	Shapeless
Overeats	○	○	○	○	○	Undereats
Secure	○	○	○	○	○	Insecure
High self-esteem	○	○	○	○	○	Low self-esteem

Social Comparison Scale

Please mark the number at a point which best describes the way in which you see yourself in comparison to Emily.

In relationship to Emily, I feel:

Inferior	1	2	3	4	5	6	7	8	9	10	Superior
Incompetent	1	2	3	4	5	6	7	8	9	10	More competent
Unlikeable	1	2	3	4	5	6	7	8	9	10	More likeable
Left out	1	2	3	4	5	6	7	8	9	10	Accepted
Different	1	2	3	4	5	6	7	8	9	10	Same
Untalented	1	2	3	4	5	6	7	8	9	10	More talented
Weaker	1	2	3	4	5	6	7	8	9	10	Stronger
Unconfident	1	2	3	4	5	6	7	8	9	10	More confident
Undesirable	1	2	3	4	5	6	7	8	9	10	More desirable
Unattractive	1	2	3	4	5	6	7	8	9	10	More attractive
An outsider	1	2	3	4	5	6	7	8	9	10	An insider

Demographics

How old are you? (slide the bar to indicate your appropriate age)

18-100

What is your gender? (check one)

- Male
- Female
- Transgender Female
- Transgender Male
- Non-Binary/Gender Non-Conforming
- Other
- Prefer Not To Answer

Which of the following best describes your racial/ethnic background?

- Hispanic or Latino (A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture of origin, regardless of race)
- Not Hispanic or Latino

What race do you most identify with? (Check one)

- White (A person having origins in any of the original peoples of Europe, the Middle East, or North Africa)
- Black or African American (A person having origins in any of the black racial groups of Africa)
- American Indian or Alaska Native (A person having origins in any of the original peoples of North and South America, including Central America, and who maintains tribal affiliation or community attachment)

- Asian (A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam)
- Native Hawaiian or Other Pacific Islander (A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands
- Biracial/Multiracial
- Prefer not to answer

What best describes your body size? (Check one)

- Very thin
- Thin
- Average
- Heavy
- Very heavy

Self-reported Height (Open response)

Self-reported Weight (Open response)

Appendix C:

Vignettes

Normal Weight Vignette

Name: Emily
Age: 20
Hair Color: Brown
Eye Color: Brown
Height: 5 feet, 4 inches
Weight: 125
BMI: 21.5

Hi! My name is Emily and I just recently moved to the Indianapolis area for college. I am a student at University of Indianapolis and I'm studying Psychology. I am interested in learning what other interesting things there are to do in the area besides watching sports. I don't know many people in the area yet, so I am excited to meet new friends and engage in new social experiences. I enjoy spending time with my family, reading mystery novels, going for walks in the park, and exploring new places. Growing up, my mom taught me how to cook and now I love cooking and baking for my friends, so if you are a foodie, we will get along! I also love listening and dancing to live music of all kinds. There is nothing better than going out with friends, listening to music, and trying new food at different restaurants. As adventurous as I might be, I will never be one to pass up a night in with my friends, wearing pajamas, ordering a pizza, and watching good movies.

Overweight Vignette

Name: Emily
Age: 20
Hair Color: Brown
Eye Color: Brown
Height: 5 feet, 4 inches
Weight: 157
BMI: 26.9

Hi! My name is Emily and I just recently moved to the Indianapolis area for college. I am a student at University of Indianapolis and I'm studying Psychology. I am interested in learning what other interesting things there are to do in the area besides watching sports. I don't know many people in the area yet, so I am excited to meet new friends and engage in new social experiences. I enjoy spending time with my family, reading mystery novels, going for walks in the park, and exploring new places. Growing up, my mom taught me how to cook and now I love cooking and baking for my friends, so if you are a foodie, we will get along! I also love listening and dancing to live music of all kinds. There is nothing better than going out with friends, listening to music, and trying new food at different restaurants. As adventurous as I might be, I will never be one to pass up a night in with my friends, wearing pajamas, ordering a pizza, and watching good movies.

Obese Vignette

Name: Emily
Age: 20
Hair Color: Brown
Eye Color: Brown
Height: 5 feet, 4 inches
Weight: 200
BMI: 34.3

Hi! My name is Emily and I just recently moved to the Indianapolis area for college. I am a student at University of Indianapolis and I'm studying Psychology. I am interested in learning what other interesting things there are to do in the area besides watching sports. I don't know many people in the area yet, so I am excited to meet new friends and engage in new social experiences. I enjoy spending time with my family, reading mystery novels, going for walks in the park, and exploring new places. Growing up, my mom taught me how to cook and now I love cooking and baking for my friends, so if you are a foodie, we will get along! I also love listening and dancing to live music of all kinds. There is nothing better than going out with friends, listening to music, and trying new food at different restaurants. As adventurous as I might be, I will never be one to pass up a night in with my friends, wearing pajamas, ordering a pizza, and watching good movies.

Severe Obesity Vignette

Name: Emily
Age: 20
Hair Color: Brown
Eye Color: Brown
Height: 5 feet, 4 inches
Weight: 273
BMI: 46.9

Hi! My name is Emily and I just recently moved to the Indianapolis area for college. I am a student at University of Indianapolis and I'm studying Psychology. I am interested in learning what other interesting things there are to do in the area besides watching sports. I don't know many people in the area yet, so I am excited to meet new friends and engage in new social experiences. I enjoy spending time with my family, reading mystery novels, going for walks in the park, and exploring new places. Growing up, my mom taught me how to cook and now I love cooking and baking for my friends, so if you are a foodie, we will get along! I also love listening and dancing to live music of all kinds. There is nothing better than going out with friends, listening to music, and trying new food at different restaurants. As adventurous as I might be, I will never be one to pass up a night in with my friends, wearing pajamas, ordering a pizza, and watching good movies.

Appendix D:

Writing Prompts

Writing Prompts

Experimental Writing Prompts

First, think about a particular situation in which you felt self-conscious about your weight or body image. Think about this situation for one minute, and then you can proceed to the next page where you will be asked to write in detail about this situation.

1) Please write about what exactly is occurring in this situation regarding your weight or body image. Try to be as descriptive as possible.
2) Please write about who is involved in the situation if it involves more than just you. Please describe the people involved with as much detail as possible, even if you are the only one involved (in this case describe yourself).
3) Please write any words that have been spoken in the situation, either what you have said to yourself, what other people have said to you, or what you have said to other people. Please use as much detail as possible.

Control Writing Prompt

First, think about a typical day in your life, what you do daily. Think about your everyday routine for one minute, and then you can proceed to the next page where you will be asked to write in detail about your daily activities.

1) Please write about your morning routine. What do you do when you first wake up in the morning? Describe your actions in as much detail as possible.
2) Please write about your afternoon routine. What do you do during the middle of the day? Describe your actions in as much detail as possible.
3) Please write about your evening routine. What do you do at nighttime? Describe your activities in as much detail as possible.