

Original Article:

**THE ROLE OF BELIEFS
OF CONTROLLABILITY IN FAT STIGMA**

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Abstract

Beliefs of the controllability of a stigma, and how they may influence identification with that stigma, have received little empirical attention. Thus, the current research sought to determine if beliefs of the controllability of a stigma affected identification with a stigmatizing trait. Specifically, the current research investigated the moderating role of beliefs of controllability on identification with one's body. Results demonstrated that beliefs of the controllability of weight moderated the relationship between perceived weight discrimination and body identification, while Body Mass Index moderated the relationship between beliefs of controllability and identification. Furthermore, participant gender did not influence these results. Implications are discussed.

Keywords: controllability, body identification, rejection-identification model, fat stigma, discrimination

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INTRODUCTION

Social stigma and discrimination have negatively affected the lives of millions of people. Social stigma is a trait that distinguishes individuals or groups from society at large, such as deformity, deviations of personal traits (e.g., drug addiction), or group based differences (e.g., ethnicity; Nettleton, 2006). As such, stigma and discrimination are topics that have long been of interest to many in the social sciences. A plethora of stigmas have been investigated over the years (i.e., race, gender, age) and there are many theories of how discrimination operates (for a review, see Crandall & Eshleman, 2003). However, there are still unanswered questions about the nature of stigma and discrimination, as well as its influence on both the actors and observers.

The current study was designed to understand the nature of fat stigma and discrimination, a topic of emerging concern given the rising rates of obesity. Although over 70% of American adults are overweight or obese (U.S. Department of Health and Human Services, 2010), anti-fat prejudice remains one of the most pervasive and acceptable prejudices (Carr & Friedman, 2005, 2006; Crandall, 1994; Puhl & Brownell, 2001). One of the most astonishing aspects of fat stigma is that overweight people themselves exhibit these prejudices (Schwartz, Vartanian, Nosek, & Brownell, 2006). This is unlike other stigmatized groups where group members may derive self-esteem benefits from their membership in the group (Crocker & Major, 1989). Perhaps fat prejudice is so pervasive and is exhibited by individuals who possess the stigma because they believe that weight is controllable. It is possible that beliefs of the controllability of weight substantially affects how fat individuals interpret their stigmatization and identify with their bodies.

Beliefs of Controllability and Fat Stigma

The rejection-identification model (RIM; Branscombe, Schmitt, & Harvey, 1999) is a theoretical model addressing how individuals cope with stigma and discrimination. It is an ideal model for framing the influence that beliefs of weight controllability may have when stigmatization or discrimination occurs. The rejection-identification model is a mediational model, positing that when members of a stigmatized group feel discrimination, they will react negatively, as exhibited by a drop in collective well-being (i.e., a lower evaluation of their stigmatized group) and lower personal well-being (i.e., a lower evaluation of their selves). However, the model also posits that perceiving discrimination can also lead people to identify with their stigmatized group which leads to an eventual increase in personal and collective well-being. In other words, identification serves as a mediator between the discrimination and well-being relationship. Identification also buffers well-being, in that the more discrimination people perceive, the more they identify with their stigmatized group, boosting well-being.

The RIM has been examined among many stigmatized groups, including African Americans (Branscombe et al., 1999) and women (Schmitt, Branscombe, Kobrynowicz, & Owen, 2002). However, membership in these groups is permanent and uncontrollable—one cannot change the color of one's skin, for example. An example of the RIM applied to a transient stigma examined age discrimination (i.e., Garstka, Schmitt, Branscombe, & Hummert, 2004). The study argued that both young adults and older adults view their age group as being lower in status than middle-aged adults. Results revealed that older adults identified with their group status to ameliorate the negative outcomes of age discrimination, whereas age discrimination was not related to identification or well-being for younger adults (Garstka et al., 2004). Presumably, this is because young people perceive their low status group membership as changeable—eventually they will be in the high status group—therefore, age discrimination did not prompt identification with age nor did it affect well-being. However, older adults see their low status group membership as permanent, as they have no chance of being in the high status group again. Thus, discrimination prompted identification with age to diminish the negative effects of discrimination on well-being.

The study by Garstka and colleagues (2004) suggested that simply the possibility of changing a stigmatizing status can affect the likelihood of identifying with a stigmatized group. Similar to the stigmatized age groups, people largely believe that they can control their weight, despite a myriad of evidence that weight is primarily genetically determined (Crandall, 1994). Therefore, similar to what is seen with age stigmatization influencing identification, perhaps it is also possible that beliefs of the controllability of weight substantially affect how fat individuals interpret their stigmatization and identify with their bodies.

Controllability, or the extent to which people believe that they have the ability to change aspects of their lives, is an understudied variable in fat stigma research. One of the implications of perceived controllability is that negative outcomes of stigmatization may be perceived as justifiable. For instance, if a stigma is seen as controllable, negative outcomes (such as discrimination) are seen as a deserved consequence of behavior (Crocker & Major, 1994; also see Crandall & Eshleman, 2003). Therefore, if fat people are discriminated against and believe that weight is controllable, they may feel that they deserve discrimination. This leads to questions of how beliefs of controllability and current fat status influence weight identification.

The Current Research

To our knowledge, neither the RIM nor identification in general has been examined in relation to fat bias, even though previous research has speculated that fat people may not identify with their stigma (Crandall, 1994). We believe that beliefs about weight controllability may affect identification with one's body. As Garstka and

colleagues (2004) showed, when a stigma is seen as transient, stigmatized group members are less likely to identify with their group. Therefore, weight based discrimination should negatively affect identification with weight if weight is perceived as controllable. Thus, we hypothesize that beliefs of controllability will moderate the relationship between discrimination and identification. Specifically, low beliefs of controllability will lead to the typical RIM effect, where people will identify with their weight after perceived discrimination. However, high beliefs of controllability will lead to low identification following perceived discrimination--not the typical RIM effect.

Furthermore, if weight is seen as controllable, it is likely that actual level of fatness (e.g., Body Mass Index) may also affect identification. Thus, our second hypothesis is that BMI will moderate the relationship between beliefs of controllability and identification. Specifically, for someone with high beliefs of controllability and high BMI, there is likely little identification—there is no reason for identifying with a low status stigmatized group if they can remove themselves from it whenever they choose. Alternatively, for people with low BMI and high beliefs of controllability there is likely high identification—they are succeeding at controlling their weight and are in the higher status group because of it.

Importantly, given that gender is often related to fat stigma and identification with weight, it is possible that gender may be related to constructs important to this research. Past research has shown that gender and weight discrimination are related (Puhl, Andreyeva, & Brownell, 2008), as well as gender and weight identification (Grover, Keel, & Mitchell, 2003). However, there is no known research on gender and beliefs of controllability and there is no evidence to believe that men and women's beliefs in the controllability of weight differ. Because gender could possibly affect the variables in the current research, the role of gender will also be examined in this study.

METHOD

Participants

Participants were 170 undergraduates recruited from a midsized Midwestern university in the United States. The sample was 68% female (M age = 19.6, SD = 2.53) and the majority of participants were White (77%).

Procedure

First, participants completed a number of scales, which included the measure of beliefs of the controllability of weight. These were completed first to help ensure that responses were not affected by knowledge of one's BMI or BMI category. Rather than

having participants simply report their height and weight in order to calculate BMI, an experimenter actually measured participants' height and weight and calculated their BMI for them. This was to ensure that participants did not, intentionally or otherwise, give false information and thus would have been informed of an inaccurate BMI and BMI category. Participants were told their BMI score and BMI category (e.g., underweight, normal weight, overweight, or obese), and then instructed to complete the identification and discrimination measures with respect to this category. Finally, demographics of age, gender, and race were collected. These were collected at the end to help ensure these demographics were not salient to participants because we wanted their BMI category to be salient while they were completing the dependent measures.

Measures

Beliefs of Controllability: The Dieting Beliefs scale ($\alpha = .75$; $M = 4.10$, $SD = .57$; Stotland & Zuroff, 1990) is a measure of weight locus of control. It consists of 16 items rated on a 1-6 scale of how descriptive each statement is of participants' beliefs (1 = *not at all*, 6 = *very descriptive*). A sample item is "A thin body is largely a result of genetics."

Body Mass Index (BMI): BMI takes into account an individual's height and weight to assess fatness. It is one of the most widely-used techniques for determining one's weight group and is one of the most accepted measures of fatness (Wang, Brownell, & Wadden, 2004). Higher BMI scores indicate higher levels of fatness. In the current study, with Body Mass Index (BMI) consistent categories, 5 participants were underweight (BMI < 18.5), 106 were normal weight (BMI 18.5-24.9), 48 were overweight (BMI 25-29.9), and 11 were obese (BMI > 30). The range was 15.8-40.0 and the mean was 23.80 ($SD = 3.84$). More specifically, in the current study women had a mean BMI of 23.55 ($SD = 3.96$) with a range of 15.80-39.90 and men had a mean BMI of 24.31 ($SD = 3.54$) with a range of 18.60-40. Table 1 depicts the frequencies of the BMI categories by gender.

***Table 1.* Frequencies of BMI category by gender.**

BMI Category	Men	Women
Underweight	0	5 (4.4%)
Normal	33 (61.1%)	71 (62.8%)
Overweight	18 (33.3%)	29 (25.7%)
Obese	3 (5.6%)	8 (7.1%)

Discrimination: Two items were used to assess one's perception of weight discrimination; "How often have you felt discriminated against because of your weight?" rated on a 1-7 scale (1 = *never*, 7 = *all the time*) and "How upset do you feel when you are discriminated against because of your weight?" rated on a 1-7 scale (1 = *not very upset*, 7 = *very upset*). These items were averaged to create a discrimination index ($\alpha = .78$, $M = 2.82$, $SD = 1.64$). These items were compiled to create the discrimination index, as both comprise important components of perceiving stigmatization: frequency and severity.

Weight Identification: Participants were instructed, similar to a measure by Goldenberg, McCoy, Pyszczynski, Greenberg, and Solomon (2000), that "the following items can be conceived as part of one's self. Please respond to the item by indicating how important it is to your sense of self and who you are." Participants then rated the self-importance of various body parts (e.g., "legs," "waist," "physical coordination," etc.) on a 1-5 scale (1 = *not very important*, 5 = *very important*). These body part items were taken from the Body Esteem Scale (e.g., the "weight concern" and "physical condition" items; Franzoi & Shields, 1984). One of the items, "weight", served as the measure of weight identification ($M = 3.80$, $SD = .98$).

Demographics: Demographic items of gender, race, and age were also collected.

RESULTS

To test the hypothesis that beliefs about controllability moderate the relationship between discrimination and weight identification, we conducted a hierarchical multiple regression. The discrimination index and Dieting Beliefs scores were entered into the first block and the interaction term was entered in the second block with weight identification as the dependent variable. Results indicated that there were no main effects of the discrimination index or Dieting Beliefs ($ps > .20$), but the interaction term was significant, $F(3, 167) = 11.54$, $\beta = -.27$, $p = .001$. To interpret the significant interaction, simple slope analyses were conducted following the procedures outlined by Aiken and West (1991) using the continuous independent variables of controllability beliefs and discrimination and the continuous dependent variable of weight identification. Aiken and West suggest using one standard deviation above and one standard deviation below the mean as plotting points for the regression line. As shown in Figure 1, when controllability belief scores were lower, participants were more identified with their weight if discrimination was higher compared to if discrimination was lower ($b = .21$, $t = 3.27$, $p = .001$). When controllability belief scores were higher, there was no difference in identification between participants with higher or lower levels of discrimination ($p = .13$).

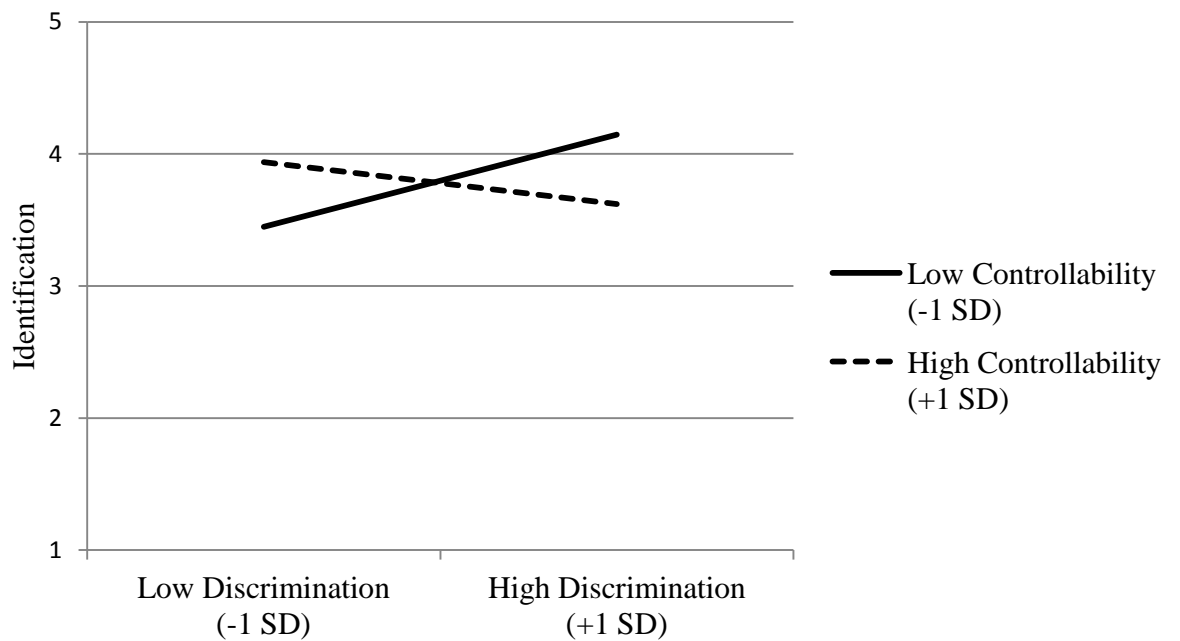


Figure 1. Interaction of discrimination and Dieting Beliefs on weight identification.

To test our second hypothesis, that BMI and beliefs about controllability interact to predict identification with weight, we conducted a hierarchical multiple regression. We entered BMI and Dieting Beliefs into the first block and the interaction term was entered in the second block with weight identification as the dependent variable. Results indicated that there were no main effects of BMI or Dieting Beliefs ($p > .60$), but the interaction term was significant, $F(3, 167) = 5.80$, $\beta = -.19$, $p = .017$. Again, the interaction was interpreted by following the procedures outlined by Aiken and West (1991). Specifically, we used the continuous independent variables of controllability beliefs and BMI and the continuous dependent variable of weight identification. Again, we used one standard deviation above and below the mean as plotting points for the regression line per the suggestion of Aiken and West. As shown in Figure 2, when BMI was lower, participants were more identified with their weight if they had higher controllability beliefs compared to if they had lower controllability beliefs ($b = .45$, $t = 2.40$, $p = .017$). When BMI was higher, there was no difference in identification with weight due to controllability beliefs ($p > .15$).

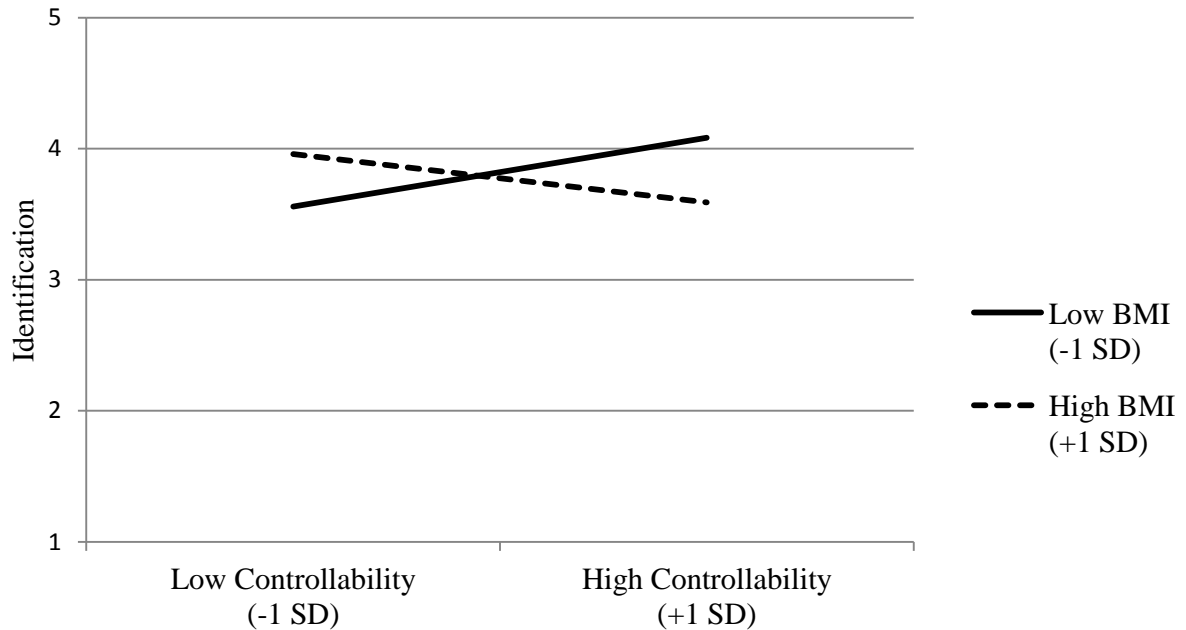


Figure 2. Interaction of BMI and Dieting Beliefs on weight identification.

Previous research has shown that women are the target of fat prejudice significantly more than men in myriad domains (for a review, see Puhl & Heuer, 2009). Because of these empirical findings, the influence of gender on the study variables was examined. First, point biserial correlations showed that gender (1 = *male*, 2 = *female*) was unrelated to all study variables except weight discrimination, $r = .219$, $p = .005$. This correlation replicates past research demonstrating that women experience significantly more weight discrimination than men (i.e., Puhl et al., 2008). Secondly, partial correlations of all study variables show that when gender is controlled for, there are no changes in the relationships among any of the study variables.

DISCUSSION

Our first hypothesis was partially confirmed; we found evidence of the moderating effect of controllability on the discrimination-identification relationship. Results demonstrated that when controllability beliefs were low, there was more identification with weight if someone experiences more discrimination compared to if they experience less discrimination. These individuals likely believe that there is little they can do to change their weight, therefore identifying with the group alleviates the negative outcomes of discrimination. When controllability beliefs were high, results did not show differences in identification based on level of discrimination. It is possible that when people believe that weight is controllable, they will not identify with their weight after discrimination because they believe weight is changeable. In other words they can

avoid discrimination (if they are currently in an undesirable weight category but lose weight) or they may someday be subject to the discrimination (if they are currently in a desirable weight category but gain weight). This is similar to the findings from Garstka and colleagues (2004) who examined stigmas whose status was transient. Furthermore, it is possible that when controllability beliefs are high and individuals are not subject to discrimination, there is not the needed catalyst for identification according to the RIM.

Our second hypothesis was also partially supported; results provided evidence for the moderating role of BMI on the controllability-identification relationship. Specifically, when BMI was low, there was more identification if controllability beliefs were high. Thus, as predicted, these low BMI individuals are successful in controlling their weight and are in a desirable group because of their successful behavior. Thus, they would be identified with a higher status group that they have been able to place themselves in. However, for those with higher BMIs, there was no difference in identification based on controllability beliefs.

Importantly, gender does not seem to affect beliefs of controllability or weight identification. In the current study, gender was only related to weight discrimination, such that women were more likely to experience weight discrimination. Furthermore, when gender was controlled for, there were no changes to the relationships among all other study variables. This suggests that gender did not play a driving role in these results, and the moderation analyses were not simply proxy correlations for the role of gender.

Taken together, these results support the utility of the RIM when examining weight. However, as the current research demonstrates, it would be prudent to consider controllability beliefs. These results are similar to those of Garstka and colleagues (2004), in that the more someone believes in the transience of a stigma, the less likely they are to identify with that stigma. The current research supports this notion and extends its application to the subject of fat stigma. Future research should investigate the rest of the RIM when applied to fat stigma, namely whether controllability beliefs or BMI affect well-being.

Additionally, the current research provides evidence that the presence (vs. absence) of the stigma affects the controllability-identification relationship. The research suggested that those having a stigma but also believing the stigma is controllable will likely not identify with that stigma. Thus, our results suggest that fat stigma is different from other kinds of stigma, in that fat individuals only conform to the RIM under certain conditions, namely when they do not believe that weight is controllable. This suggests that BMI should be taken into consideration as well when studying fat stigma or weight discrimination.

This notion that fat prejudice is different than other types of prejudices is supported by some past research as well. For example, fat people do not blame perpetrators of discrimination as other stigmatized groups do (Crocker, Cornwell, &

Major, 1993) and fat people themselves hold the same prejudices toward fat people as nonfat people do (Wang et al., 2004). Future research should investigate additional ways in which fat prejudice differs from other prejudices.

Additionally, past research has found that the more personal responsibility one takes for a stigma, the more likely they are to want to change it. Previous research has found that alcoholics who take personal responsibility for their problem are more likely to accept responsibility for their recovery and seek treatment (Morojele & Stephenson, 1992). That is, alcoholics who attributed their problem to a disease were less likely to seek treatment than alcoholics who attributed their problem to their own volition (West & Power, 1995). Future research could investigate if those who are overweight and believe it is due to their own choices are more likely to attempt to lose weight than those who are overweight but believe it is uncontrollable.

The present research has implications across the social sciences. Given that fat prejudice is prevalent and explicit, future research could examine the extent of fat prejudice and discrimination, as well as investigate effective strategies for combating the view that weight is controllable. For instance, it would be meaningful to examine how fat bias and stereotypes about weight controllability influence the workplace. The stereotype that weight is controllable may lead to other stereotypes about fat people, such as the stereotype that fat people lack willpower or are lazy. Because of stereotypes like these, it is possible that fat people are less likely to be hired or promoted. However, this discrimination likely goes unnoticed, as organizations and legislation rarely acknowledge fat bias. While organizations typically stipulate that they do not discriminate by age, gender, race, disability status, and sometimes sexual orientation, it is unheard of to see an organization acknowledge fat bias. Future research should explore the impact of such stereotypes as well as investigate the prevalence of fat bias in the workplace.

Because the current research suggests that the misperception of weight as controllable adversely impacts identification and well-being, it is important to change this controllability belief. A good deal of media, particularly surrounding dieting, communicates that weight can be lost quickly, easily, and permanently. It also emphasizes looking thin, rather than health. As mentioned earlier, a major factor that impacts weight is genetics (Crandall, 1994). In addition to genetics, there are many cultural variables that impact weight, and it is important to turn to public health, sociology, anthropology, and other related fields to get a full understanding of the causes of weight problems. For instance, the prevalence of inexpensive fast food and lack of grocery stores in poorer neighborhoods make weight a socioeconomic issue (Ball & Crawford, 2005). Research needs to be conducted on how to best communicate that weight is not controllable, but can also be influenced by many socio-cultural factors as well.

Furthermore, perhaps the results of this study can help fat individuals cope with their stigmatizing trait. Specifically, educational training on the causes of obesity could

help individuals understand that weight is not entirely controllable. In turn, this could cause individuals with high BMI to identify with their body, thus potentially improving well-being. Additionally, investigating how to increase identification with a stigmatizing trait could be applied to other stigmatized groups to help alleviate the consequences of having a stigmatizing trait and to increase one's overall well-being.

Although obesity is becoming more prevalent (U.S. Department of Health and Human Services, 2010), the current research demonstrates that the stigma of being fat still exists and has implications for identifying with one's body. The current research has implications for many of the social sciences that study stigma and discrimination by helping to inform them of the importance of the role that beliefs of controllability may have on identifying with stigmatizing traits as well as the role that identification can have on well-being.

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