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The Self Relevance Of Stigma: The Impact Of Weight Stigma On Normal Weight Women's Health Cognitions

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Cognitions

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It is no secret that America has an obesity problem. Nearly 70% of US adults over the age of 20 are either overweight or obese (CDC, 2015). Individuals who are overweight tend to be at risk for a wide range of well-known health problems, such as diabetes, heart disease and stroke (CDC, 2015). In addition to the physical costs of being overweight, there are also serious economic side effects of being overweight, such as increased insurance premiums and the costs associated with the need for greater utilization of healthcare services (Ungar, 2012).

In addition to the physical and economic consequences, there are serious social and psychological ramifications of overweight status. As America's waistlines have expanded, so have negative attitudes toward overweight individuals (Andreyeva, Puhl & Brownell, 2008; CDC, 2015). Obesity stigma is one of the few classes of perceived discrimination that has actually *increased* in recent decades (Andreyeva, Puhl & Brownell, 2008). In the mid 1990's, 7.3% of Americans reported experiencing at least some weight discrimination, compared with 12.2% in the mid 2000's (Andreyeva, Puhl & Brownell, 2008). Participants with a BMI above 35 (18-25 is considered "normal" weight, 25-30 is considered overweight, 30-35 is considered obese, and 35+ is considered morbidly obese) had a 40% chance of reporting at least one instance of lifetime discrimination due to their weight (Puhl, Andreyeva & Brownell, 2008). Moreover, women of any weight were twice as likely to report experiencing this kind of discrimination than men, and three times more likely if they were obese, demonstrating gendered societal pressures (Andreyeva, Puhl & Brownell, 2008; Puhl, Andreyeva & Brownell, 2008).

This type of stigma is widespread, and encompasses such critical areas of life as employment, health care, and educational settings (Puhl & Heuer, 2009). People who are

overweight are commonly blamed for their body size, while simultaneously stereotyped as lazy, weak willed, and stupid (Puhl & Brownell, 2003; Puhl & Heuer, 2010). At least one study has reported that experiencing some overt forms of discrimination (e.g. being called names) is more commonly attributed to one's weight than one's race or gender (Puhl, Andreyeva & Brownell, 2008). However, it's necessary to note that these were reports of very explicit behaviors, which are more taboo for the expression of racial and gender prejudice compared to weight prejudice.

Given that prejudice tends to decrease with exposure to people of a certain group, and the growing number of Americans who are overweight or obese, the increasing prevalence of weight discrimination is rather counterintuitive (Amir, 1969; Flegal et al., 2010). One finding that could help explain this development is that obesity stigma is seen as acceptable, even necessary to curb the increase of the American obesity epidemic (Puhl & Heuer, 2010). It's well known that, in most circumstances, punishing someone for engaging in a behavior decreases the odds of that behavior occurring (Reynolds, 1975). The logic that weight stigma would decrease obesity levels is similarly straightforward, especially since body weight is perceived as a controllable phenomenon, despite the wealth of research that implicates genetic and environmental causes (Bell et al., 2005; Sobal & Stunkard, 1989). Moreover, given the fact that America's "obesity epidemic" is no secret, and the well-known health consequences of being overweight, there is substantial motivation to stigmatize obesity (Blacksher, in press; CDC, 2015). Certainly, companies who manufacture diet products do not hesitate to take advantage of (or increase) this stigma (Geier, Schwartz & Brownell, 2003).

In fact, evidence suggests that stigma may be useful in controlling the onset of certain socially derogated behaviors, such as smoking (Bell et al., 2010; Wakefield et al., 2003). Having a negative image of a prototypical person from a certain group (e.g. the "typical smoker" or the "typical drug user") is predictive of being less likely to become a member of that group in the future (Gerrard et al., 2005). Moreover, stigma also translates itself into smoking cessation in more explicit ways. Laws that restrict the marketing and sale of tobacco products are manifestations of societal stigma against smoking, designed for the explicit purpose of reducing tobacco use nationwide (Bell et al., 2010; Blacksher, in press). These laws have been shown to predict reduced smoking uptake and increased quitting—at least among privileged Americans (Bell et al., 2010).

Self-Relevant Discrimination and Health

However, a large portion of the research available on stigma and health shows that stigma directed at a particular group also causes unhealthy behavior among members of that group, while having little to no impact on non-members. This effect has been demonstrated with a wide variety of health outcomes. Some studies have focused on such overarching effects as length of life or mortality. For example, LGBT people who live in more homophobic areas of the United States tend to have significantly shorter lifespans than those who live in less homophobic areas, due to factors such as suicide and heart disease (Hatzenbuehler et al., 2014). Perceived racial discrimination has been found to have negative impacts on risk factors for heart disease in Blacks, but not Whites (Szanton et al., 2012). Other studies have examined stigma toward people with health risks. An example of this would be several studies by Stuber

et al. that demonstrated that smoking stigma is a serious barrier to seeking smoking cessation treatment (Stuber et al., 2009; Stuber et al., 2008). Moreover, many of the negative health outcomes found in the literature have been linked directly and indirectly to obesity. Experiencing self-relevant perceived discrimination is associated with negative outcomes in terms of affective measures and eating (Pascoe & Smart-Richman, 2009). In addition, this kind of effect seems to be much smaller, and occasionally in the opposite direction, for women who do not see themselves as overweight (Major et al., 2014).

Perceived Discrimination and Negative Affect

Negative affect has also been repeatedly linked with experiencing discrimination (Noh & Kaspar, 2003; Simbayi et al., 2007). While this is not a surprising finding in itself, it has important implications for the relation between perceived discrimination and health behavior. Negative affect has been found to be a mediator between perceived discrimination and a wide variety of health risk factors, such as substance use, cancer risk factors, and obesity (Jacobs et al., 2014; Mason & Lewis,2015; Velez et al., 2015). In other words, for members of minority or stigmatized groups, perceiving discrimination leads to negative affect, which leads to negative health outcomes (Mason & Lewis, 2015; Velez et al., 2015).

In addition, the route from negative affect to health behavior seems to be influenced by the specific sub-type of negative affect, as well as individual's race. For example, anger in response to discrimination seems to be more predictive than depression of substance use, while the opposite seems to be true of obesity (Gibbons et al, 2012; Mason & Lewis, 2015). Similarly, active coping styles in response to discrimination (such as confrontation) have been

found to be predictive of better health outcomes compared to emotional coping (such as eating

or substance use) (Noh & Kaspar, 2003). Members of ethnic minorities do not often have the

option of direct confrontation when faced with discrimination, as the perpetrator of said

discrimination is often in a much higher position of power than the target. Thus, having this

option to actively cope with mistreatment may be one of the many reasons why White people

who report racial discrimination do not have the same health side effects as non-White people

(Bratter & Gorman, 2011).

Stereotype Threat

There are other routes that bridge the gap between discrimination and health behavior,

including some that can show an effect of discrimination long after the actual discriminatory

event. Stereotype threat is a type of cyclical effect, wherein being reminded that one is a

member of a socially derogated group in a particular situation is associated with fulfilling the

negative stereotypes of that group that are relevant in that situation (Spencer et al., 1999).

Stereotype threat is a well-established phenomenon that has been used to predict and explain

a wide variety of outcomes, such as minority students' academic underperformance,

underrepresentation of women in STEM fields, and various employment outcomes (Steele et

al., 1995; Spencer et al., 1999; von Hippel et al., 2013). Stereotype threat functions first when

an individual is performing a task that their group is stereotypically poor at—for example, a

woman taking a difficult math test—while the individual is both aware of the stereotype and

their group membership is salient (Spencer et al., 1999; Steele et al., 1995). This activates an

anxious desire to avoid fulfilling said stereotype (Spencer et al., 1999). Ironically, this anxiety impedes performance, which then results in confirming the stereotype (Spencer et al., 1999).

Research has shown that using stereotype threat to impede the performance of majority group members requires a very specific set of circumstances, which rarely occur in day-to-day life (Aronson et al., 1999). This may be one key element that may explain why, in most cases, majority group members do not experience the negative side effects of perceived discrimination. Simply put, one person's actions can be seen as simply an unpleasant individual mistreating another, but when those actions become symbolic of society-wide stigma, it becomes discrimination. Perceived mistreatment may result in negative health side effects when it is group-based, in line with societal stigmas, and is relevant to one's own group.

Weight Stigma and Stereotype Threat

Weight stigma has similar effects on health as other forms of stigma. Weight stigma has been shown to have negative consequences in employment, health care seeking, and mental health outcomes (for a review, see Puhl & Heuer, 2009). Moreover, weight stigma itself has an ironic effect on weight-related behaviors. In addition to longitudinal studies demonstrating that weight stigma is associated with weight gain, obesity, and difficulty losing weight over time, a number of studies have examined relations between weight stigma and eating behavior (Puhl & Suh, 2015). For example, several studies have documented a robust correlational link between perceived weight stigma and binge eating in both clinical and nonclinical samples (for a review, see Puhl & Heuer, 2009). Other studies have used experimental methods to document this effect. For example, a small number of studies have demonstrated that exposure to weight

stigma was associated with an increase in eating behavior, as well as ordering higher-calorie food from a menu, but only among high-BMI participants who saw themselves as overweight (Major et al., 2014; Puhl & Suh, 2015). In other words, women who were in fact overweight—but did not believe themselves to be—were at lower risk than high-BMI women who identified themselves as overweight. Weight stigma is also associated with increased avoidance of exercise, even after controlling for BMI (Vartanian & Novak, 2011; Vartanian & Shaprow, 2008). For overweight individuals, exposure to weight stigma may be a particularly stressful type of stereotype threat, where experiencing discrimination acts as both a reminder of their group membership and activates the stereotypes of that group. Moreover, when one considers that stress eating tends to be a risk factor for becoming or being overweight, this exacerbates the stigma-to-eating relation (Stice et al., 2002). In addition, internalized weight stigma—characterized by endorsing negative weight-based stereotypes about oneself and feeling as if they are to blame for their weight—has been shown to have similar effects on health outcomes (Puhl & Suh, 2015). Internalized weight stigma has been shown to be associated with a variety of eating disorder pathologies, as well as reduced exercise motivation (Puhl & Suh, 2015).

Lowering Stigma

In short, weight stigma may play a role in exacerbating unhealthy eating behaviors among women who believe themselves to be overweight. Thus, one logical solution to this issue would be to use counter-stigma messages, and see if they help protect women from the negative health effects of weight stigma. However, there is a pool of research that has shown that some destigmatization techniques have the potential to backfire (Mann et al., 1997).

Individuals who were exposed to destigmatizing messages about eating disorders were more likely to report eating disorder symptoms (Mann et al., 1997). Neighborhoods where smoking is relatively common, and thus normalized, subtly encourage people to smoke through conformity pressure (Thompson et al., 2007). Granted, there are serious caveats to this relation, such as Utah (an extremely conservative and religious state, with strong taboos surrounding sex) having among the highest rates of pornography consumption in America (Edelman et al., 2009).

The mechanism behind the aforementioned effects is still unclear. Perhaps normalizing eating disorders (which was originally intended to encourage people with said conditions to seek help) created the perception that eating disorders were common among peers, thereby creating a counterintuitive pressure toward conformity (Mann et al., 1997). Educating African American adolescents about the low rates of drug use among their group has been shown to reduce risk of substance use (Brody et al., 2004). It is logical to suggest that the exact opposite happened in the eating disorder studies. The most problematic bit of evidence is that normalizing smoking results in more tobacco use on a community level (Thompson et al., 2007). Almost 70% of Americans over the age of 20 are already overweight or obese (CDC, 2015). Overweight status *is* the norm. Thus, the same effects in place in the "smoking islands" are also in place in the majority of America (though this does vary by demographics of the neighborhood (Thompson et al., 2007)). Indeed, this statistical, if not social, normalization of obesity may have been a significant force behind the rapid increase in national BMI over the past several decades. And yet, it has been repeatedly established that weight stigma is associated with unhealthy eating (Puhl & Heuer, 2009).

Counter-Stigma

One possible solution to this conundrum is to use a different type of stigma reversal than previously studied. Prior research that has examined stigma reversal has done so through awareness campaigns or through efforts to humanize the people who experience stigma (see Finn & Sarangi, 2009). Other research has studied the aftereffects of a massive symbol of social acceptance (e.g. stigmatizing laws being repealed) (Cerda et al., 2012). These are not the most useful tactics to counter the physical health issues associated with obesity epidemic. Another option would be to enact an intervention designed to counter the negative stereotypes about people who are overweight. However, this intervention must be constructed carefully. Clearly, giving participants unrealistically positive information about the medical implications of obesity would verge on unethical. False medical information can be dangerous, and the fact that such information would be coming from an authority figure makes it doubly so. However, countering many of the social stereotypes about overweight people (e.g. that they are unattractive, lazy, sloppy, etc.) is not ethically concerning.

Limitations of Previous Research

Previous work on weight stigma has been limited in several ways. First is the fact that most of the research has been correlational in nature. The reasoning for this is obvious—it is impossible to randomly assign an individual to a specific body type. As a result of this, the overwhelming majority of studies on weight stigma have targeted populations of interest— people with eating disorders, people who are overweight, etc. While this is not a limitation in the practical sense at all—overweight people are the ones most affected by weight stigma, and

thus are the proper population to study—weight stigma research can be more versatile. Since college students are less likely to be *currently* overweight compared to the US population, but are very likely to become overweight later in life, it is possible to utilize the possibility of future weight gain as a manipulation of the *self-relevance* of stigma (CDC, 2015). This is not as possible for many other types of stigma, such as racial or gender discrimination. Thus, while researchers cannot randomly assign individuals to a weight class, we *can* randomly assign individuals to view weight stigma as more or less self-relevant. This allows us to test whether it is self-relevance that moderates the relation between stigma and health outcomes. This makes weight stigma research invaluable to the field as a whole; it allows for innovative, causal inquiries into the relationship between discrimination and health.

In addition to restrictions caused by limited samples, very little of the research currently available assesses the impact of a counter-stereotype intervention—that is, exposing participants to information that is the opposite of the content of stereotypes—on health outcomes. One example of this would be a study conducted by Brody et al., which informs African American adolescents that Black teens are significantly less likely than White teens to use drugs, regardless of the stereotype (2004). While there have been a number of naturalistic observations increases or decreases in stigma, the way that stigma has changed has been largely law- or norm-based. Given the fact that foot-in-the-door and conformity have been thoroughly established as ways of getting people to do things they normally wouldn't, the results of these stigma reversals have been largely unhealthy in nature. However, counter-stereotype information has not been utilized to nearly the same extent.

Given the presence of longstanding push-back from community members against weight stigma (especially in terms of beauty ideals), the dearth of research into the impact of counter-stereotype information is surprising. Granted, if researchers managed to use counter-stereotypic information to reduce weight stigma to such a degree as to turn obesity into a beauty ideal, this would likely lead to an increase in unhealthy eating habits among participants. However, internalized weight stigma is extremely common, despite attempts to embrace a more body-positive view among women who are overweight. It seems unlikely that an intervention that allies with a size-positive counterculture would create a situation where most individuals actually have exclusively positive views of overweight people. Moreover, given the assumption that the primary driving force behind the weight stigma to unhealthy behavior relation is stereotype threat, which is based on anxiety, it seems logical to assume that a reverse-stigma condition that reduced anxiety would also reduce unhealthy behavior.

Another limitation that exists within most discrimination research is the lack of experimental methods. There are several reasons why stigma research has relied heavily on correlational rather than experimental methods. One reason is that it can be incredibly difficult to manipulate certain identities; simply put, you cannot randomly assign participants to have a Black or White identity for the duration of your study. Moreover, a large number of researchers who study the impact of discrimination are more interested in real-life behavioral effects, which can be difficult or impossible to measure in a lab setting. Other research has emphasized reports of *perceived* discrimination due to the assumption that an event must be recognized as discriminatory in order for the event to have effects on health. In addition, in most cases it's impossible to assign participants to members of stigmatized vs. non-stigmatized groups. These

are valid concerns. However, focusing on perceived discrimination opens up the possibility of negative affectivity confounding the results of the study, as having consistently high levels of negative affect may result in people being more likely to both perceive discrimination and to have a variety of negative health outcomes. Fortunately, weight stigma is a mechanism that can be used for a broader array of studies compared to other forms of discrimination. The health climate of the United States, where almost 70% of Americans over the age of 20 are overweight or obese, creates a situation where even normal-weight individuals may potentially be persuaded that they are at risk (or not) for becoming overweight later in life (CDC, 2015). This allows the opportunity for causal inquiries into the role of self-relevance of weight stigma and its influence on health outcomes.

Design and Hypotheses

In sum, it has been demonstrated that stigma and discrimination predict unhealthy outcomes for their targets, that weight stigma in particular is part of a negative cycle that impacts the health of people who are overweight, and that a certain degree of caution must be taken when reducing stigma in order to improve health outcomes. This study asserts that weight stigma is unusually valuable for stigma researchers, as it allows scientists to experimentally manipulate group membership. This study utilized an experimental design in an attempt to understand whether self-relevance and exposure to weight stigma impact health cognitions in normal-weight women. For the sake of this study, "health cognitions" that put participants at risk for weight gain have been specifically operationalized as the ability to inhibit

approach responses toward food images, as well as answers on an exercise avoidance

motivation scale.

Ability to avoid approaching food images was utilized as a measure of inhibition in the

face of food, which is an important protective factor against overeating. The current study

utilized cognitions (as opposed to actual behavior, such as would be found in a snacking

paradigm) for several reasons. Using cognition measures allows the researcher to detect small

effects, unlike most variants of a snacking paradigm. Moreover, having the entire study be

conducted on a computer streamlines the process, enabling the collection of a larger number of

participants. These two advantages allowed for a six-cell research design that enabled the

testing of interaction effects without doubling the length of time needed to conduct the study.

Another variable that has important implications for weight stigma research is exercise

avoidance. Weight stigma is associated with exercise avoidance motivation, as is BMI

(Vartanian & Shaprow, 2008). This is a classic stereotype threat response (Steele & Aronson,

1995). When individuals feel threatened within a particular stereotyped domain, they tend to

avoid that threatening domain entirely (Steele & Aronson, 1995). While there are several

potential ways to measure exercise outcomes, the current study utilized an Exercise Avoidance

Motivation Scale (Vartanian & Shaprow, 2008). While actual exercise behavior would be an

interesting outcome, the fact that this method would require having a researcher monitoring

and recording the behavior would inevitably introduce demand characteristics, while

exponentially increasing the time and resources needed to conduct the study. Using a

questionnaire, while not a perfect reflection of actual behavior, was less likely to result in demand characteristics.

In addition, scores on a shortened Eating Disorder Diagnostic Scale (Stice, 2000) were used both as a filter and a potential moderator. This variable was included as a measure of weight concerns, and as such is a proxy for pre-test levels of the self-relevance of weight stigma. Participants with higher scores on this scale are reporting being more concerned with weight and shape issues in general. Previous studies have demonstrated that internalized weight stigma is a predictor of exercise avoidance in overweight women (Vartanian et al., 2011). This study attempted to replicate this effect with a normal weight sample, with women who have been led to believe that they are at risk for becoming overweight.

Finally, negative affect was included as a potential mediator between stigma and health cognitions. Several studies have demonstrated that perceived discrimination causes increased negative affect, which in turn leads to negative health behaviors (Stice et al., 2002). This study attempted to ascertain whether negative affect underlies the relation between weight stigma and weight-related health behaviors, as well as examine the underlying structure of said effect. This study tested the following hypotheses:

1. Normal weight women who are told that they are at high risk for weight gain are predicted to have more negative health cognitions (faster reaction time toward food, more exercise avoidance motivation) than women who were told that they are at low risk for weight gain.

2. Normal-weight women who are exposed to weight stigma (through exposure to a stigmatizing prompt) are predicted to have significantly more negative health cognitions compared to a control group or a counter-stigma group.

3. The two above effects will interact, in such a way that High Risk participants who are exposed to the Stigma prompt would have the most negative health cognitions.

4. High Risk, the Stigma Prompt, and their interaction will significantly increase the odds of mistakenly approaching food images.

5. Negative affect is predicted to mediate the relation between Prompt and health cognitions.

6. Scores on a partial Eating Disorder Diagnostic Scale (EDDS) is predicted to moderate the main effects of Risk and Prompt.
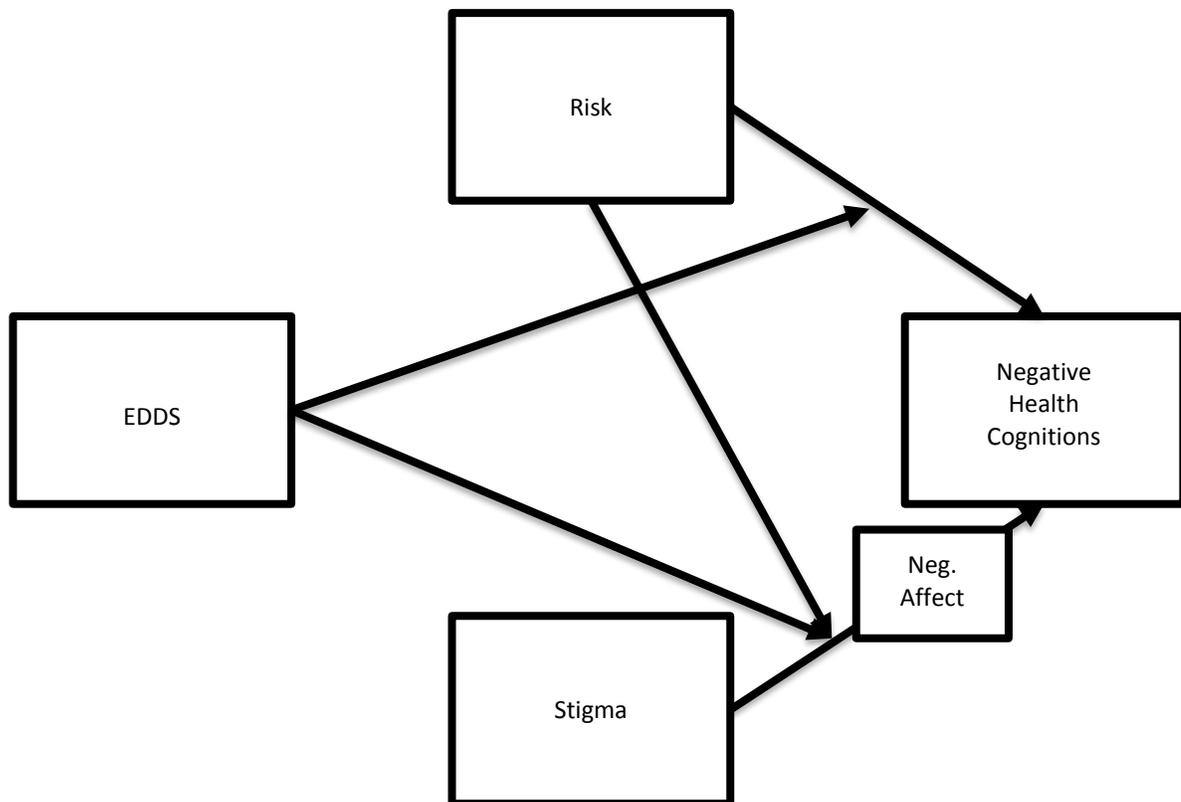
Methods

Participants

Participants were 150 women, age 17-25, mean age 18.7, with BMIs ranging from 18.0-24.8, mean BMI 21.7. All individuals were recruited from the participant pool at a large public university in New England, and were students in an introductory psychology course. Individuals in the pool were not recruited for this study unless they were normal weight (BMI 18-25). 68% of participants self-identified as White, 19% as Asian, 8% as Latina, 7% as Black, 2% as Middle Eastern, 1% as Other, 1% as Native American, and 1% as Pacific Islander (participants were allowed to select more than one race). Participants all had non-problematic responses on the Eating Disorder Diagnostic Scale (EDDS) (see Procedure section for exclusion criteria).

Materials

Prompts. There were three stimulus conditions: weight stigma, counter-stigma, and control condition (for the full prompts, see Appendix A). In all conditions, the stimulus, which was a short vignette, described the experiences of a woman who faced challenges in several areas that are stereotypically associated with being overweight—dating life, experiences at work, etc. In the stigma condition, the character fails to overcome these challenges, and is frustrated and depressed by the situation. In the reverse-stigma condition, the character overcomes these hurdles and succeeds in romance, her career, and athletically. The control condition was roughly an equal mix of the two. In the stigma and reverse-stigma conditions, but not the Control, an image of a woman who was overweight accompanied the text (see Appendix A).

Go No-Go Association Task. In order to assess implicit reactions to food, a food/non-food Go No-Go Association Task (GNAT) was utilized (Teslovich et al., 2014). The GNAT is a reaction time computer task that is designed to measure response latencies for approach behaviors toward a particular category of image (the "Go" category) and whether participants can correctly inhibit the approach behavior toward an incorrect category of images (the "No-Go" category). Thus, it is a measure of ability to inhibit fast (within the realm of milliseconds) approach reactions toward food. For the sake of this study, images of food (half of which were healthy food, half of which were junk food, as other studies have shown differing reactions to the two types of food) were grouped into one set of images, while the other set of images was made up of pictures of toys (Teslovich et al., 2014). Though no predictions were made about specific reactions to healthy vs. unhealthy food, reaction times for the two types of food were recorded and analyzed separately. Each image was flashed on the screen for 650 milliseconds, during which the participant needed to respond with either the approach behavior (pressing the space bar) or do nothing (inhibit response), depending on which category of images was represented on the screen. Immediately following a correct response, a green "O" was flashed on the screen for 1000 milliseconds. If a participant incorrectly pressed the spacebar during a trial in which they were supposed to do nothing, that trial was recorded as a mistake (indicating a failure of inhibition) and a red "X" was flashed on the screen. The order of the images was randomized, as was the order of the blocks (which category was the "Go" stimulus first).

Exercise Avoidance. A questionnaire was also utilized following the GNAT in order to assess explicit attitudes that may put participants at risk for obesity. Given that exercise plays a key role in obesity, an Exercise Avoidance Motivation Scale was used as a measure of this

important factor (see Appendix C) (Vartanian, 2008). This is a three-item questionnaire consisting of the statements, "I feel uncomfortable going to a gym where there are a lot of mirrors," "I avoid going to the gym when I know there will be a lot of thin people there," and "I am too embarrassed to participate in physical activities in public places (e.g. gym or fitness club, walking outside in public, swimming in public, etc.)."

Manipulation Check. A manipulation check created for use in this study was a set of questions asking participants how likely they believe they are to have a heart attack, stroke, or diabetes (all known to be weight-related diseases) by the time they are 65. It was expected that participants in the High Risk condition would score higher on this scale.

Negative Affect. Negative affect, which was hypothesized to mediate the relation between experiencing stigma and scores on the GNAT and Exercise Avoidance Scale, was measured by the Positive and Negative Affect Scale (Watson, Clark, & Tellegan, 1988) (see Appendix D). The PANAS presents a list of positive and negative emotion words (e.g. "Interested," "Distressed," "Excited," etc.) and asks the participant to report what levels of each they are feeling at that particular moment.

Procedure

A prescreening questionnaire was distributed to all of the students currently enrolled in an introductory psychology class at the university. For this study, a BMI calculation and scores on the EDDS were included (Stice et al., 2000), in order to ensure that only normal-weight participants who would not be overly sensitive to the manipulation were recruited. Individuals who circled "Extremely" on the prescreening question, "Over the past 3 months, have you felt

fat?" were excluded from participating in the study. Individuals who reported feeling

"Moderately" fat were allowed to participate, but only if they did not report "Extremely" on

any of the questions asking, "Have you had a definite fear that you might gain weight or

become fat? Has your weight influenced how you think about (judge) yourself as a person? Has

your shape influenced how you think about (judge) yourself as a person?" Thus, the

participants in this study represented the 61.7% of the females in the participant pool that had

both a normal BMI and the aforementioned responses on the EDDS. Score on the EDDS was

also used to test for potential moderator effects.

Participants were recruited via a posting on the university's SONA site, an online

research participation tool designed to link research participants with research projects. The

recruitment materials did not disclose that this was in fact a weight stigma study; instead,

participants were told that this was a study examining health, reading comprehension, and

decision making. Upon entering the lab, participants were asked to read and sign an informed

consent form that further supported the aforementioned cover story. Once individuals had

agreed to participate, they were guided through a practice round of the GNAT by a researcher

(either one of two females or a male, all of whom were normal weight and appeared to be

college age). After the training round, individuals were introduced to another layer of the cover

story that also served to randomly assign participants into either the High Risk or Low Risk

group. Participants were told that this study was part of a larger group of studies that were all

testing a profiling system to predict behavior, and that their particular profile either indicated

that they were at high or low risk for becoming overweight later in life.

Immediately following the assignment into the high or low risk group, participants were given one of the three vignettes to read. They were asked to read the vignette first, and then complete the GNAT and the questionnaire. Instructions were posted inside the cubicle, and participants were left alone to complete the tasks. After reading the vignette, completing the GNAT and filling out the questionnaire, participants were fully debriefed. As they exited the lab space, participants completed a brief questionnaire about their experience. This was a stopgap measure to help ensure that the screening process (which had been designed to remove people who would be overly harmed by this study) had worked as intended.

<div align="center">Results</div>

Manipulation Check

A three-item manipulation check asking about perceived susceptibility to weight-related health conditions was included at the end of the questionnaire. The scale had adequate reliability (Cronbach's alpha = .88). A 2 X 3 (Risk X Prompt) ANOVA failed to detect any difference between High and Low risk participants on the manipulation check (F*(1, 148) = .122, p = .73*), despite most participants being able to report their risk profile in the debriefing. There was also no evidence of an interaction effect (*F(2, 148)* = 1.018*, p = .35).

Hypotheses Tests

A 2 X 3 (Risk X Prompt) ANOVA tested whether Risk and Prompt would have main effects and/or interact in their influence on negative health cognitions (reaction time toward food during a GNAT and Exercise Avoidance Motivation). As stated previously, the Go No Go

Task (or GNAT) was split into two blocks. During one block, participants were instructed to click on images of food and ignore all other images (FoodGo); in the other block, the instructions were reversed (FoodNoGo). Thus, longer reaction times toward food during a FoodGo section is indicative of greater inhibition, while mistakenly clicking on food during a FoodNoGo section is indicative of a failure of inhibition. Given that there are differing effects on healthy vs. unhealthy food images, and that participants tended to respond faster (have less inhibition) in the face of unhealthy food compared to healthy food (t = 3.92, p < .001), subsequent analyses will report the two outcomes separately.

Reaction Time Toward Food During the FoodGo Section

Risk did not have a main effect in the 2 X 3 ANOVA for reaction time toward either healthy or unhealthy food during a FoodGo section (F(1, 148) = .33, .28, p = .57, .51). Prompt was also not shown to have a main effect on reaction time toward either healthy or unhealthy food during a Food-Go section of the Go No Go Task (F(1, 148) = .12, .26, *p = .89, .77).* There was no significant interaction of Risk X Prompt (F(2, 148) = .81, .69, p = .45, .50).

Mistakenly Approaching Food During FoodNoGo Section

Participants' odds for mistakenly approaching food images were measured. This outcome was included because being unable to resist a tempting stimulus is an indicator of lowered inhibition that could have important real-world effects on various appetitive behaviors, unhealthy eating especially. Logistic regressions showed that Prompt version did not significantly predict whether a participant mistakenly clicked on an image of either healthy or unhealthy food during a Food No-Go section of the GNAT (Healthy food: all ps > .32; Unhealthy

food: all ps > .38). Risk was not a significant predictor of odds of making a mistake with either

healthy or unhealthy food (all ps > .1).

Exercise Avoidance Motivation

In addition, the aforementioned 2 X 3 ANOVA examined whether High or Low Risk for

weight gain were associated with negative health cognitions. Risk was shown to have a

significant relationship with Exercise Avoidance Motivation ($F(1,148) = 5.36$, $p = .02$), but in the

opposite direction as predicted, with Low risk participants reporting more Exercise Avoidance

Motivation. There were no significant main effects for the association between Prompt and

Exercise Avoidance Motivation ($F(1,148) = .16$, $p = .85$). The interaction was also nonsignificant

($F(2,148) = .97$, $p = .38$).

**Table 1. Exercise Avoidance Motivation and Reaction Time: Summary of Mean Scores and
Standard Deviations**

	Stigma Mean (SD)	Counter-Stigma Mean (SD)	Control Mean (SD)
Exercise Avoidance Motivation			
High Risk	6.04 (3.85)	5.28 (2.64)	5.43 (3.27)
Low Risk	6.44 (3.32)	7.6 (4.08)	6.65 (3.5)
RT Healthy Food			
High Risk	382.6 (124)	393.9 (123.7)	347.2 (166.3)
Low Risk	381.2 (142.5)	380.9 (147.1)	400.7 (124)
RT Unhealthy Food			
High Risk	381.5 (119.4)	368.7 (117)	332.8 (160.4)
Low Risk	368.7 (137)	368.9 (143)	379.5 (115.8)

Mediation: Negative Affect

A mediation effect requires that the mediator be significantly associated with both the independent variable in question (in this case, Prompt version) and the dependent variable. A 2 X 3 (Risk X Prompt) ANOVA was conducted in order to assess whether Prompt (or the Prompt X Risk interaction) predicted Negative Affect. Neither Prompt ($F(1,148) = .45$, $p = .64$) nor the Prompt X Risk interaction ($F(2,148) = .14$, $p = .87$) predicted Negative Affect. Thus, there was no evidence to suggest that Negative Affect is a mediator of any effect of Prompt.

*Moderation: Eating Disorder Diagnostic Scale (EDDS)*

Prior to participating in the lab study, all of the people in the participant pool completed a mass testing survey. Not only were participants screened out if their BMI was above 25 or under 18 (indicating overweight or underweight status, respectively), or if their scores on the EDDS were above a certain threshold, but the prescreening also used the responses to these questions (see Appendix F). The goals of the prescreening analyses were to screen out participants who may have been sensitive to the manipulations used in this study and to test whether scores on the EDDS moderated the main effects of Prompt or Risk.

The four-item excerpt from the EDDS scale had good reliability for females (Cronbach's alpha = .83). This variable was summed and then split at the median score. 82 Participants had a score of 8 or below, while 61 had a score of 9 or above. A three-way 2 X 3 X 2 (High or Low Risk X Stigma, Counter-Stigma or Control Prompt X High or Low EDDS) ANOVA was conducted.

GNAT. There were no significant main or interaction effects for Prompt in mistaken reaction time toward either healthy or unhealthy food (all ps > .22). There were no effects of Risk on reaction time toward either healthy or unhealthy food (ps > .05).

Exercise Avoidance Motivation. Prompt did not have a significant main or interaction effect on Exercise Avoidance Motivation (p > .05). Risk did have the previously-reported main effect on Exercise Avoidance Motivation (F = 6.22, p = .01). In addition, Risk interacted with EDDS scores (F = 6.82, p = .01) in predicting Exercise Avoidance Motivation. The interaction indicated that the main effect of Risk (where Low Risk participants reported more exercise avoidance, and High Risk participants reported the opposite) was driven primarily by participants who scored in the top half of the EDDS; participants on the bottom half were virtually indistinguishable from each other regardless of Risk (see Figure 1). This was confirmed by Bonferroni post hoc tests, which showed no significant difference between Risk conditions at the bottom half of the EDDS median split (6.28 for Low Risk vs. 6.28 for High Risk, p > .99), but significant differences between Risk conditions at the top half of the EDDS median split (4.67 for Low Risk vs. 7.74 for High Risk, p = .004).

Figure 1. Means of Exercise Avoidance Motivation as a Function of Risk and EDDS.
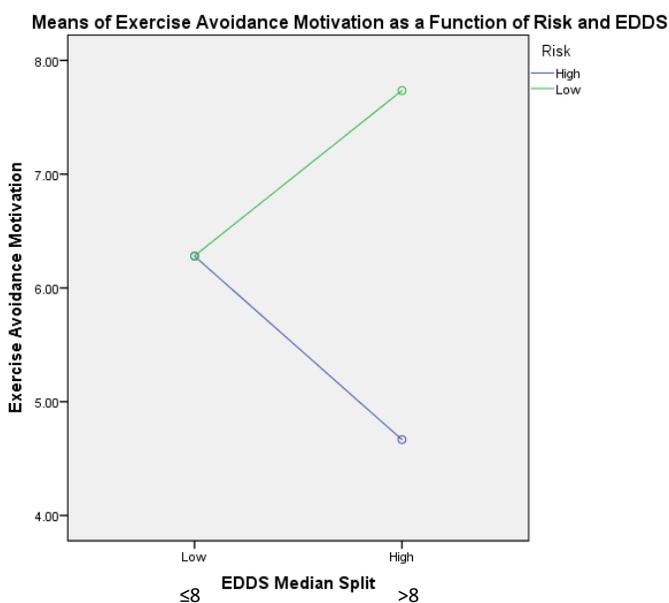
Discussion

Interpretation of Hypothesis Tests

GNAT. This study hypothesized that High Risk, the Stigma Prompt, and their interaction would predict higher levels of negative health cognitions. Negative health cognitions were defined as faster reaction time toward food images, more mistaken clicks on food images, and higher Avoidance of Public Exercise. Negative affect was predicted to be a mediator of the relationship between Prompt and negative health cognitions, and scores on a shortened Eating Disorder Diagnostic Scale were predicted to moderate the main effects of Risk and Prompt. However, several hypotheses of this study were not supported by a-priori tests. Within the context of this study, there was no evidence to suggest that simply having normal weight women read weight stigmatizing or counter-stigmatizing passages significantly influences their

automatic reactions toward food, or their exercise avoidance. It is possible that, under the conditions used in this particular experiment, automatic measures are not ideal proxies for actual behavior. GNAT-type tasks are measures of self-control that happen within milliseconds. Given that participants' responses during the debriefings suggested that they may have been consciously protecting themselves from the threatening High Risk message during the experiment, it seems as if measurements made at the conscious level may yield more relevant results than implicit measures. In addition, behavioral responses to the Risk and Stigma manipulations, regardless of whether they are rooted in unconscious self-control failures or not, are of more immediate use to applied health researchers. For this reason, future research should determine which obesity-related behaviors, if any, are impacted by self-relevant weight discrimination.

Exercise Avoidance Motivation. While giving participants false feedback regarding their risk for future weight gain had no impact on the implicit GNAT measures, this manipulation showed the opposite effect as predicted with Exercise Avoidance Motivation. A closer look at the Exercise Avoidance Motivation scale itself may shed light on possible explanations for this [lack of] effect. High Risk was associated with a very obvious floor effect on this scale, while Low Risk conditions produced a more evenly distributed spread, especially when paired with a Counter Stigma prompt. There are several possible explanations for this difference. The first is that telling participants that they are at Low Risk reduces social desirability concerns, thus resulting in these participants having higher Exercise Avoidance scores than those in the High Risk conditions. In essence, participants in the Low Risk condition may simply feel more comfortable expressing their actual opinions, rather than trying to conform to their perceptions

of the experimenter's values by reporting less Exercise Avoidance. This is supported by the way that the items inquire about current habits (e.g. "I avoid going to the gym when I know there will be a lot of thin people there"), implying that they are asking about participants' past and current behavior and affect, not necessarily future behavior or affect. It could also be argued that the inverse is true, where telling participants that they are at high risk for gaining weight acts as a way to activate stronger social desirability effects. Another argument could be made suggesting that telling women that they are at risk for becoming overweight changes their reference group. That is, high risk participants may report less Exercise Avoidance Motivation because they view themselves as being less exercise avoidant than other women who are at risk for becoming overweight.

In addition, telling participants that they were at high risk may have resulted in reactance, which may have been driving their scores on the Exercise Avoidance Motivation Scale (Stice et al., 2000). Reactance occurs when individuals feel as if freedoms that they should rightly have are being restricted, and participants increase their odds of engaging in the restricted behavior (Edwards et al., 2002). For example, annoying pop-up ads on websites may actually decrease the odds of a participant being willing to purchase the advertised product (Edwards et al., 2002). There were several indicators during the debriefing that reactance may have been occurring. During the exit interview, a substantial number of participants in the high risk condition would spontaneously mention their regular exercise routines, the slender body types common in their families, or their healthy diets. Though the exact number of participants who mentioned such in their debriefings was not recorded, the commonality of this unsolicited response, which seems to function to protect participants from the threat of gaining weight,

should be noted. The significant interaction between scores on the Eating Disorder Diagnostic Scale and Risk suggests that this reactance may be driven primarily by participants who are on the high end of EDDS in this sample (which puts them close to the average of the entire participant pool). This adds an important distinction to the self-relevance framework that this study was based on; it may be possible to manipulate a person's "vulnerability" to a particular stigmatized identity, but only if they're already concerned about it. Additionally, it is interesting to note that these women were reacting to the idea of *being* overweight, not necessarily the health effects of being overweight, as shown by the failure of the manipulation check. This reactance wasn't driven by a fear of death or a fear of illness; it was driven by a fear of fat. The idea that the primary threat that was driving this reactance was not medically based is an important factor for public health professionals to consider when designing interventions.

Strengths of the Current Study

This study utilized, tested, and found some support for an innovative conceptual framework. Surprisingly few discrimination studies utilize experiments; those that are empirical rarely test the impact of counter-stigma manipulations, and even fewer attempt to manipulate participants' self-relevance. A small number of previous researchers have examined the impact of giving participants false feedback about their identity—for example, Bramel's work wherein researchers falsely informed participants that they had latent homosexual tendencies in order to test whether this would make them more likely to report believing that other ingroup members were gay (1963). However, these studies tended to confound the self-relevance manipulation and the stigma, even going so far as to use the self-relevance condition as a proxy

for a stigmatizing experience. As a result of the limited usage of self-relevance manipulations in the field, extremely few studies have documented the effect of weight stigma (and counter-stigma) on normal weight women. Though the idea of self-relevance of stigma does need refining through further research, it has the potential to be a useful tool for discrimination researchers. There are several studies that have demonstrated that exposing participants to discrimination that is not relevant to their own group protects against unhealthy behavior (Major et al., 2014). This effect may partly be an artifact of self-relevance. If the discrimination is not relevant to the participants, it may simply fail to be interpreted as a stressor, and may even be implicitly interpreted as praise toward the participants' group by comparison, thereby avoiding any potential negative health impacts.

Limitations

Though this study did demonstrate some potentially interesting effects and have an innovative take on discrimination research, there are several flaws with this design that need to be addressed. The most critical flaw of this study is the fact that the people most likely to be affected by the manipulation were screened out. Nearly half of the sample had Fear of Fat scores that were considered a priori to be too high to participate in the study. Granted, this was done for a logical reason—it was thought that participants who reported feeling extremely fat despite being normal weight may have been overly sensitive to the manipulations used in this study. The restrictions were recognized beforehand as potentially being overly conservative; nevertheless, it was not anticipated that such a large percentage of the normal-weight people in the pool would have such concerning scores. Ironically, this issue further demonstrates the

critical need for weight stigma research. In addition, the fact that the manipulations were able to impact normal weight participants who were on the low end of the Eating Disorder Diagnostic Scale is impressive, as these women should be resistant to such manipulations to begin with. Further research should test whether these effects hold (or are magnified) in a more nationally representative sample.

In addition to sampling issues, the manipulation check and dependent variables had shortcomings that should be noted. The manipulation check clearly did not function as intended. Based on conversations with the participants in the debriefing, it seems as if a substantial number of them were unaware that diabetes, stroke, and heart disease were all weight-related conditions. While this in itself has implications for health researchers and policy, the problem remains that there is no recorded manipulation check for Risk in this study. While nearly all of the participants in the High Risk condition were able to recall their risk level in the debriefing (with Low Risk participants, that question was not built in to the debriefing), this kind of manipulation check is less than ideal.

Another issue with the manipulation check was that one did not exist to measure the impact of the Prompts. While the vast majority of the participants who were asked in the debriefing about the image of the woman who accompanied the Stigma and Counter-Stigma prompts correctly reported that she was overweight, there were no recorded measures of this reporting. Moreover, it is not entirely certain whether participants realized that the prompts revolved around issues associated with weight stigma. In hindsight, the way the prompts were written may not have been overt enough to adequately communicate weight stigma to

participants. Granted, there were several reasons for this weakness. Previous weight stigma manipulations relied on participants either being able to report a situation where they had personally experienced weight stigma, or reading a stigmatizing prompt wherein normal-weight individuals were described as superior to overweight individuals (Major et al., 2014). These kinds of manipulations are not ideal for use with normal weight women, and were not able to be adapted to be used as a Counter Stigma manipulation. Thus, three new prompts were created for this study, in such a way as to be useful with a wider population. Nevertheless, future research would be best served by using prompts that have been repeatedly established to be stigmatizing in the eyes of participants.

Regarding dependent variables, it seems as if an actual snacking paradigm may have been a better measure of relationship with food. Not only does it have superior external validity, but it can capture eating behavior that may or may not be caused by depleted self-control. However, there is a serious concern of transparency with a snacking paradigm, as it increases the likelihood of reactance within this paradigm, which might result in participants controlling their impulses when they otherwise wouldn't. And yet, it could also be argued that experiencing weight stigma and then immediately encountering junk food in everyday life could cause a similar reaction, thus making the reactance concern moot. In addition, having only two dependent variables—the GNAT and Exercise Avoidance Motivation Scale—in hindsight, was far from ideal.

Future Research

Future research should test and refine the self-relevance framework using both experimental and survey methods. This study was the first attempt at using this framework, and as such, significant development is needed before it can become precise enough to be used in the field with maximum effectiveness. If possible, measuring the impact of perceived and manipulated self-relevance of stigma on actual eating behavior, exercise behavior, or eating disorder symptoms over time would be useful to the field as a whole, and potentially have implications for interventions. In addition, it would be prudent to test how to best frame the self-relevance manipulation in such a way as to avoid reactance. Perhaps instead of leveling the kind of threat presented in this study (telling people that they were at high or low Risk for becoming overweight), researchers might try to see which techniques are useful for getting normal weight people to view overweight people as members of their ingroup. Perspective-taking manipulations may be useful in this context, or simply use of the contact hypothesis (Amir, 1967). Though this type of manipulation will likely do nothing to manipulate participants' own self-perceived weight class, it would be interesting and important to test whether "Allies" of a particular stigmatized group (e.g. straight people who support LGBT rights) experience health impacts as a result of discrimination against that group, and whether this varies by the perceived self-relevance of the discrimination.

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Appendix A: Prompts

Regular text is the stigmatizing prompt. *Italics are used to show the tweaks made for the counter-stigma prompt.* The Control passage lacked a picture, and was a blend of both passages.

Hello. My name is Tiffany Phelps. I'm twenty five years old, unhappily single, and am having trouble at my job (*happily dating and am perfectly content with my job).*

Most of the time, if I see something I want, I'll chase it and won't rest until I get it. Dating was a bit of an exception (*dating was no exception*). There have been a couple times where I would meet somebody that I liked, so after getting to know them a little better I would ask them out. They almost always said no (*yes*). I've had really bad (*really good*) luck with finding guys who are into me. Things went on like that for a little while, with me trying to get to

know some people a little better before finding out that we just weren't quite the right fit for each other; long story short, he just wasn't attracted to me (*he just wasn't attracted to the same things as me*), so there wasn't much chance of being able to build something more, you know? After a long time, I managed to work up the courage to ask out the guy I'd had a crush on since high school. He said no (*yes).* Shortly thereafter, I knew it was pointless trying to find a boyfriend (*I knew I had found the perfect person).*

Work is more of the same. I try my best every day, and people never notice (*notice).* I think that was the reason why I got passed up for that promotion (*got offered that promotion).* I talked to somebody who had overheard those meetings, and the biggest concern that people had about promoting me was that they thought I didn't have the self-control necessary for a leadership position (*they weren't sure they could find somebody with the self-control necessary for my old position*). A couple people thought that I was poorly suited for long-term projects because they didn't think I could stay focused for long stretches at a time; they thought I would be better suited with shorter projects since they don't require as much discipline (*A couple people thought I was well suited for long-term projects because they knew I could stay focused for long stretches at a time; they thought I would be better suited for those than shorter projects, which don't require as much discipline).*

My boss is terrible (*awesome*). He calls me a slacker (*a star*) behind my back. When I make a mistake he just takes it as proof that I'm sloppy (*proof that I'm human).* Other people do it too. And then, on those days when I'm working faster than everybody else, he takes it as unexpected (*takes it as expected).*He's also a cheapskate; he constantly complains about how my health insurance premiums are more expensive than everyone else's. He thinks it's my fault that I'm treated differently (*Even though he's a cheapskate, he never complains about how my health insurance premiums are more expensive than everyone else's. He thinks it's the company's fault for treating me differently).* I do not like that man (*I like that man).*

I should probably end here; I need to leave for my yoga class in a couple minutes. I'm really dreading this class; I always feel so exhausted afterwards (*I'm really looking forward to this class; I always feel so exhilarated afterwards).* In any case, that's how life has been going recently for me.

Appendix B: Manipulation Check Questions

How likely do you think you are to develop diabetes by the time you are 65?

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Very
Unlikely

Neither
Likely or
Unlikely

Very
Likely

How likely do you think you are to have a heart attack by the time you are 65?

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Very
Unlikely

Neither
Likely or
Unlikely

Very
Likely

How likely do you think you are to have a stroke by the time you are 65?

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Very
Unlikely

Neither
Likely or
Unlikely

Very
Likely

Appendix C: Exercise Avoidance Scale

1. I feel uncomfortable going to a gym where there are a lot of mirrors

1	2	3	4	5	6	7
Not at all true			Somewhat true			Completely true

2. I avoid going to the gym when I know there will be a lot of thin people there

1	2	3	4	5	6	7
Not at all true			Somewhat true			Completely true

3. I am too embarrassed to participate in physical activity in public places (e.g., gym or fitness club; walking outside in public; swimming in public, etc.).

1	2	3	4	5	6	7
Not at all true			Somewhat true			Completely true

Appendix D: Positive and Negative Affect Scale

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way at the moment. Use the following scale to record your answers.

1. Interested

1	2	3	4	5
Very Slightly		Moderately		Extremely

2. Distressed

1	2	3	4	5
Very Slightly		Moderately		Extremely

3. Excited

1	2	3	4	5
Very Slightly		Moderately		Extremely

4. Upset

1	2	3	4	5
Very Slightly		Moderately		Extremely

5. Strong

1	2	3	4	5
Very Slightly		Moderately		Extremely

6. Guilty

1	2	3	4	5
Very Slightly		Moderately		Extremely

7. Scared

1	2	3	4	5
Very Slightly		Moderately		Extremely

8. Hostile

1	2	3	4	5
Very Slightly		Moderately		Extremely

9. Enthusiastic

1	2	3	4	5
Very Slightly		Moderately		Extremely

10. Proud

1	2	3	4	5
Very Slightly		Moderately		Extremely

11. Irritable

1	2	3	4	5
Very Slightly		Moderately		Extremely

12. Alert

1	2	3	4	5
Very Slightly		Moderately		Extremely

13. Ashamed

1	2	3	4	5
Very Slightly		Moderately		Extremely

14. Inspired

1	2	3	4	5
Very Slightly		Moderately		Extremely

15. Nervous

1	2	3	4	5
Very Slightly		Moderately		Extremely

16. Determined

1	2	3	4	5
Very Slightly		Moderately		Extremely

17. Attentive

1	2	3	4	5
Very Slightly		Moderately		Extremely

18. Jittery

1	2	3	4	5
Very Slightly		Moderately		Extremely

19. Active

1	2	3	4	5
Very Slightly		Moderately		Extremely

20. Afraid

1	2	3	4	5
Very Slightly		Moderately		Extremely

Appendix E: Debriefing

Funneled Debriefing Script for Weight Stigma Study

Q: Do you have any initial thoughts or reactions about this study?

Q: Did you notice anything odd, or anything that stood out to you as strange during this study?

Q: What do you think this study was about?

Q: (If in high risk for gaining weight group): I know that hearing that you are at risk for weight gain can be kind of rough. What were your initial reactions when you heard this?

Note: Don't ask for personal details of any sort (for example, if they mention that they used to be teased about their weight, ask them if this study reminded them of that teasing, and if it made them feel the same way the teasing did. Don't ask for more details about the teasing itself; they can disclose it if they like, but that's a study for another day.

Q: Why do you think we had you read that article?

Q: Was there anything about that article that stood out to you?

Q: Did it feel like we were trying to get you to behave or think in a certain way at some points? If so, at what point?

Note: Treat everything they did as normal.

TRANSITION: We gave you some information at the beginning of the study about what this was all about, but that wasn't the complete story. I'd like to tell you a little bit more about what we were trying to do.

I already mentioned this at the beginning, but this study is designed to look at the way people respond to reading certain types of passages. What I didn't mention specifically, but have sort of hinted at throughout the study, is that I'm interested in looking at behaviors that put people at risk for weight gain. I wanted to see what kinds of thoughts and experiences influence how people react to food, how much they want to avoid exercise, that sort of thing. This study is based off of the concept of stereotype threat, which states that if you remind people that they're a member in a certain social group, say that they're likely to become overweight, they'll start acting in more stereotypic ways. That's what this study was about.

Here's the thing though; there's another layer to this study as well. Do you remember that I said you met a particular personality and behavior profile that put you at risk? Well, as far as I know, there's no personality profile that's unique to people who are going to become overweight. I didn't profile you based on your personality, or your behaviors, or anything at all really. I didn't even look at 99% of what was on your prescreening. I knew almost nothing about you before you came in. In reality, I have no idea whether you're at risk for gaining weight; I told you this because I randomly assigned you, and half of the other people in this study, to be told this. That's all. If I could have, I would have just asked everybody to predict how they would react in the situation, but people aren't actually all that great at that, so I did things this way instead.

Okay, so I think that pretty much wraps things up here. Do you have any questions for me? (Answer any questions she may have.) I would appreciate it if you didn't discuss the specific details of this study with other people, since I want participants to act completely natural in the lab. I don't think that people would act the same if they knew that I really had no idea whether they were going to gain weight or not. Does that make sense? Will you promise me not to tell them the specific details? You can tell people general things, like where it was, how many credits, whether you would recommend it, and that sort of thing, I just need you to leave the specifics out, so that it doesn't completely wreck my study.

Okay, thank you so much for your time! (Have her complete the anonymous exit survey designed to assess harm. Leave her alone for that part. When she's ready, show her out of the lab).

Appendix F: Eating Disorder Diagnostic Scale Items

Over the past 3 months…

1. Have you felt fat?

1	2	3	4
Not at all	Slightly	Moderately	Extremely

2. Have you had a definite fear that you might gain weight or become fat?

1	2	3	4
Not at all	Slightly	Moderately	Extremely

3. Has your weight influenced how you think about (judge) yourself as a person?

1	2	3	4
Not at all	Slightly	Moderately	Extremely

4. Has your shape influenced how you think about (judge) yourself as a person?

1	2	3	4
Not at all	Slightly	Moderately	Extremely