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Can Perspective Taking Lead to Prejudice and Discrimination?

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CAN PERSPECTIVE TAKING LEAD TO PREJUDICE AND DISCRIMINATION?

A Dissertation Presented

by

James J. Hodge

to

The Faculty of the Graduate College

of

The University of Vermont

In Partial Fulfillment of the Requirements
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Abstract

Research on perspective taking generally points to positive outcomes, but a small and growing body of literature highlights conditions where perspective taking can instead lead to undesirable outcomes. The goal of this dissertation study is to test a model of how taking the perspective of someone who struggles to control food consumption may negatively influence prejudice and discrimination toward heavy people. My model predicts that taking the perspective of someone who is effortfully trying not to eat, which requires the use of self-regulatory processes, vicariously depletes the perspective-taker's own self-regulatory capacity. Whether that depletion leads to greater expressions of prejudice and discrimination toward heavy people depends on whether the person has high or low levels of implicit prejudice toward heavy people, and how internally or externally motivated the person is to control weight prejudice. Study participants were randomly assigned to read one of three first-person diary entries about a person in a social context where food was present. The degree to which the food described in the diary entry was appetizing, and whether the person was hungry and tempted to eat the food was manipulated. Half of the participants were instructed before reading the diary entry to take the perspective of the person in the story, while the other half were instructed to simply read the diary entry. Self-regulatory capacity was measured and tested as a mediator between perspective taking and both prejudice and discrimination. Effort and individual differences in implicit attitudes about weight and motivation to control weight prejudice were measured and tested as moderators in the model. Results did not support the primary study model hypotheses.

Dedication

I would like to dedicate this dissertation to my beautiful wife and best friend, Brianne, who has given me unrelenting support and encouragement throughout this journey. I honestly could not have crossed the finish line without you by my side. I love you with all of my heart. I would also like to dedicate this dissertation to my parents, Jim and Sherri, who have cheered me on from the sidelines and covered me in prayer from the very beginning. I love and appreciate you both more than you will ever know.

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Introduction

It is becoming increasingly difficult for people to make it through the day without some reminder of their weight. Newspaper articles, magazine tabloids, and popular television programs like *Biggest Loser* serve as a vehicle to spread the message that there is an obesity epidemic. Further, some of these sources, like the *Biggest Loser*, give people front row seats to the battle against obesity as they observe heavyweight individuals struggle – and often succeed, if only for a short while – to change their lifestyles and lose significant amounts of weight. A popular mantra reinforced by television shows like the *Biggest Loser* is that you can control your lifestyle, and subsequently, your weight, with the right amount of tenacity, commitment, and discipline. Those who successfully navigate this path are often applauded and encouraged to share their journey, both triumphs and struggles, with others. The hope is that those fighting their own weight or even those helping others fight their weight can use these individuals as positive role models to persevere with their own struggles.

But what happens if people adopt the perspective of these role models who are struggling with their weight? One possibility is that adopting the perspective of those who are navigating weight loss will convince the perspective-takers that successful weight loss is in reach. Another possibility is that adopting the perspective of someone trying to lose weight could make the perspective-taker understand that successful weight loss is a struggle. This understanding may decrease negative thoughts or stereotypes about overweight people. Indeed, past research has shown that taking the perspective of an out-group can reduce negative stereotypes and prejudice towards that group (Shih, Wang, Bucher, Stotzer, 2009; Galinsky & Moskowitz, 2000). However, perspective

taking with someone trying to control his or her weight may have a somewhat different effect, because exercising self-control can have negative effects on people's subsequent efforts to control expressions of prejudice (Govorun & Payne, 2006; Park, Glaser, & Knowles, 2008), and taking the perspective of someone engaged in such efforts may have similar effects on people's own abilities to control prejudice and discrimination.

Perspective taking is defined as the "social cognitive process whereby people interpret, and contend with, a world of other's intentions, desires, feelings, and beliefs" (Martinez, Stuewig, & Tangney, 2014). Perspective taking is a skill that is essential in order to successfully negotiate the social world, has long been conceptualized as a fundamental basis for proper social functioning (Mead, 1934), and is argued to be a critical component of higher-order cognitive and moral reasoning (Piaget, 1932; Kohlberg, 1976). Some researchers also describe perspective taking as a social strategy that helps people satisfy the fundamental human desire for creating and maintaining social relationships (Galinsky, Ku, & Wang, 2005).

One important consequence of perspective taking is that it may increase the already strong tendency people have to unconsciously and automatically adopt the actions, goals, and thoughts of another person. For example, research indicates that people imitate the nonverbal behavior of other people (e.g., head nodding or face rubbing) without necessarily being aware that they have done so (Chartrand & Bargh, 1999). Other studies demonstrate that people presented with the goals of another person on some task (e.g., being helpful) act themselves in a manner that is consistent with these same goals on a subsequent and unrelated task, for example helping behavior in a novel context (Dik & Aarts, 2007; Aarts, Gollwitzer, & Hassin, 2004). This suggests that

behaviors or goals that are salient in the social environment can sometimes become activated within the self.

Perspective taking should increase the likelihood of this activation because it involves a deliberate effort to experience what the other person is experiencing. In other words, perspective-takers may mentally simulate the other person's experience (Ruby & Decety, 2001). Simulation occurs when either witnessing or imagining the thoughts or actions of another person evokes largely the same mental representations of those thoughts or actions had they been actually performed by the perceiver (Gallese, Keysers, & Rizzolatti, 2004). When attempting to take the perspective of another person, the perceiver attempts to place himself or herself "in the shoes" of that other person, thereby imagining or simulating the thoughts, feelings, and actions of the other person (Ruby & Decety, 2001).

Research on the effects of perspective taking generally uncovers positive outcomes. For instance, it has been shown to increase the effectiveness of negotiation outcomes (Trotschel et al., 2011; Galinsky, Maddux, Gilin, & White, 2008), provide an advantage in certain competitive interactions (Gilin, Maddux, Carpenter, & Galinsky, 2013), and can even lead people to view a criminal defendant as less culpable of a crime in a mock trial (Skorinko et al., 2014). Perspective taking also has generally shown positive outcomes in the area of stigma, stereotyping, and intergroup interactions. Perspective taking with members of stigmatized or stereotyped groups has been shown to attenuate automatic expressions of race bias and improve interracial interactions (Todd, Bodenhausen, Richeson, & Galinsky, 2011), undermine stereotype maintenance processes (Todd, Galinsky, & Bodenhausen, 2012), increase the likelihood of out-group

helping (Mashuri, Zaduqisti, & Supriyono, 2012; Batson, Chang, Orr, & Rowland, 2002), promote effective communication and social interaction (Bazerman & Neale, 1982; Falk & Johnson, 1977), increase willingness to interact with stereotyped out-group members (Wang, Kenneth, Ku, & Galinsky, 2014), minimize the use of stereotypes in judgments of others (Ku, Wang, & Galinsky, 2010), make the existence of intergroup discrimination more salient and lead people to adopt more positive attitudes toward social policies designed to attenuate intergroup inequalities (Todd, Bodenhausin, & Galinsky, 2012), reduce psychological reactance to a perpetrator (Steindl & Jones, 2012), and promote more favorable intergroup attitudes and increase empathy arousal for an out-group (Vescio, Sechrist, & Paolucci, 2003). In a related vein, Inzlicht, Gutsell, and Legault (2012) found that mimicking the actions of an out-group member reduces prejudice against that out-group.

However, a relatively small but growing body of evidence suggests that perspective taking might not always lead to favorable outcomes like those mentioned above. For example, Skorinko & Sinclair (2013) found that perspective taking with a clearly stereotype-consistent out-group member leads to more stereotyping of the out-group than does perspective taking with a stereotype-ambiguous out-group member. Tarrant, Calitri, and Weston (2012) found that following perspective taking with an out-group member, those strongly identified with their in-group used a greater number of negative traits to describe that out-group member and subsequently judged that person less favorably than those not strongly identified with their in-group. Researchers have also found that after perspective taking, people with high need for cognitive closure use more stereotypic traits when describing a member from an out-group than those low in

need for cognitive closure (Sun, Zuo, Wu, & Wen & 2016). Perspective-takers also are more likely than non-perspective-takers to adopt the negative stereotypical traits and behaviors of the person he or she is perspective-taking with (Galinsky, Wang, & Ku, 2008). Surprisingly, perspective-taking with an out-group member can even lead lower prejudiced individuals to treat an out-group member less favorably than an in-group member during real face-to-face interactions (Vorauer, Martens, & Sasaki, 2009).

One study in particular that builds directly on contemporary research exploring the negative consequences of perspective taking examined the influence of perspective taking on self-control (Ackerman, Goldstein, Shapiro, & Bargh, 2009). Self-control refers to the inhibition of some dominant behavior for the purpose of achieving a desirable long-term outcome (Muraven & Baumeister, 2000). For example, a person on a diet may exert self-control, or regulate his or her behavior with respect to unhealthy food, with the purpose of achieving a more desirable physique in the future. This self-regulation of behavior is thought to draw on a finite, but renewable, resource (Baumeister, Vohs, & Tice, 2007; Muraven & Baumeister, 2000). Thus, self-regulating behavior in one setting (e.g., not eating a cupcake at a birthday party) makes one less likely to successfully self-regulate behavior in some subsequent setting (e.g., trying not to eat that bag of potato chips when you get home from the birthday party). This phenomenon is known as ego depletion (see also Finkel et al., 2006; Fitzsimons, Shah, Chartrand, & Bargh, 2005).

Ackerman, Goldstein, Shapiro, and Bargh (2009) examined whether perspective taking can lead to *vicarious* ego depletion in which adopting the perspective of someone else experiencing a state of depletion leads to depletion of the perspective-taker's own self-regulatory capacity. They asked participants to read a story about a hungry waiter or

waitress (matched to the sex of the participant) who worked at a high-quality restaurant but could not eat the food during his or her shift because it was against restaurant policy and would result in termination from the job. This story was written in first-person diary format and went into precise detail about how delicious the food looked and smelled, and how difficult it was for the waiter or waitress to resist eating the food. Before reading this story, participants were randomly assigned to receive instructions that directed them to either simply read the story (control condition), or take the perspective of the person in the story (perspective taking condition) by being asked to “imagine yourself in his or her shoes, and concentrate on trying to imagine what the person was thinking and how he or she was feeling” (instructions adapted from Goldstein & Cialdini, 2007). Results from this study revealed that participants who took the perspective of the person in the story experienced a reduction in self-regulation as evidenced by their willingness to spend significantly more money in a financial decision task than those asked to simply read the story. The researchers argue that perspective taking in this situation produced vicarious ego depletion. That is, taking the perspective of someone who was using his or her self-regulatory resources (i.e., resisting the urge to eat delicious food on the job) depleted also the self-regulatory resources of the perspective-taker (i.e., his or her ability to control simulated spending behavior while tempted by desirable and expensive objects).

In a second study, the researchers examined the effect of perceived effort on self-regulation by manipulating whether the waiter or waitress in the first-person story was actually tempted to eat the food. Participants in this study were asked to read either the same first-person story described above (effortful condition) or a new story in which the waiter or waitress did not have the urge to eat because the waiter or waitress was full and

the food was not appetizing (not effortful condition). Results from this second study indicated that vicarious ego-depletion occurred in the condition in which participants took the perspective of the hungry waiter or waitress. Specifically, participants in this condition showed reduced self-regulatory capacity as indexed by performance on a lexical generation task relative to those who took the perspective of the waiter or waitress who did not need to exert effort to avoid eating because the waiter or waitress was not hungry and the food was not appetizing. Interestingly, participants who merely read about someone using effort to regulate eating actually had enhanced self-regulatory capacity relative to those who read about someone who did not need to exert effort

Taken together, these studies suggest that taking the perspective of someone using effort to refrain from some behavior can vicariously deplete the self-regulatory resources of the perspective-taker (Ackerman et al., 2009). This alone is an interesting finding, and adds to the growing body of evidence highlighting the downfalls of perspective taking. However, important issues stemming from research on perspective taking still remain. Perhaps chief among them is whether the vicarious ego-depleting consequences of perspective taking can be observed in other important and relevant self-regulatory contexts, such as the self-regulation of expressions of prejudice and discrimination against heavy people. So much of what we see about weight control makes salient the struggle it entails, and it is currently unclear whether taking the perspective of someone struggling to regulate his or her behavior around weight control can lead people to experience disruptions in their own self-regulation, and subsequently, whether this disruption attenuates the ability to control expressions of prejudice and discrimination. The extent to which self-regulatory resources are implicated in expressions of prejudice

and discrimination should depend on whether self-regulation is needed to control those expressions in the first place.

A number of modern dual-process theories argue that two qualitatively distinct cognitive processes operate when making social evaluations (for example, Payne, 2008; Deutsch & Strack, 2006; Gawronski & Bodenhausen, 2006). Controlled, or explicit, evaluations involve deliberate and reflective processes. This type of attitude or evaluation is primarily initiated intentionally and operates within conscious awareness (Moors & De Houwer, 2006; Gawronski & Creighton, 2013). In contrast, automatic, or implicit, evaluations are activated automatically and unconsciously when a person encounters a relevant stimulus. Importantly, implicit attitudes can be immediately activated regardless of whether the perceiver believes those attitudes are accurate, whereas explicit attitudes involve an intentional and deliberate declaration of accuracy that develops over time (Ranganath & Nosek, 2008; Gawronski & Bodenhausen, 2006).

In her innovative work on automatic and controlled processes in prejudice and stereotyping, Devine (1989) demonstrated that automatic stereotype activation is equally strong and unavoidable for people endorsing both high and low levels of explicit prejudice, and that both high and low-prejudiced individuals produce prejudice-like responses (i.e., stereotype-congruent evaluations of ambiguous behavior) when they are unable to correct their initial automatic attitudes. However, in a follow-up study, Devine (1989) showed that automatic processes could be inhibited or corrected to align with existing goals when controlled processes were intact. Taken together, Devine (1989) argues that encountering a member of a stigmatized group automatically activates negative implicit attitudes in everyone, but whether those negative implicit attitudes find

expression in consciously regulated thought depends on the recruitment of higher-order cognitive processes (i.e., executive control functioning) needed to inhibit the automatic responses. Further, these studies suggest that automatic processes are implicated first in social evaluations, and controlled processes can later be recruited if corrections for the initial automatic evaluations are warranted (e.g., corrections for personal values or social norms).

The successful utilization of these controlled corrections, which are effortful and deliberate, should depend on a sufficient amount of self-regulatory resources. To this end, strong negative implicit (i.e., automatic) attitudes about weight, coupled with self-regulatory depletion, should increase expressions of prejudice and discrimination because of the inability to successfully correct for the social norm or one's own personal beliefs (i.e., explicit attitude) that it is not appropriate to endorse negative attitudes about, or mistreat overweight individuals. The end result, therefore, should be the expression of the initial (automatic) implicit attitude without the controlled correction for the personal goal or situation. Indeed, research reveals that negative implicit attitudes are more likely to influence behavior, such as discrimination, when self-regulatory capacity is depleted versus intact (Govorun & Payne, 2006).

Another factor that should influence the expression of prejudice and discrimination when self-regulatory resources are depleted is one's motivation to control prejudice. Plant and Devine (1998) were the first to categorize two distinct motivations to respond without prejudice towards a stigmatized or stereotyped group. They concluded that the dilemma experienced by some people concerns appearing prejudiced to themselves or appearing prejudiced to others. Accordingly, their Motivation to Respond

without Prejudice Scale (Plant & Devine, 1998) measures the extent to which controlling expressions of prejudice are internally or externally motivated. An internal motivation to control prejudice refers to one's personally endorsed and deeply internalized goal to act without prejudice, whereas an external motivation to control prejudice centers primarily around extrinsic concerns about appearing prejudiced to other people and the social sanctions for expressing prejudice (Plant & Devine, 1998). In other words, people who are internally motivated to control prejudice believe it is inherently wrong to express prejudice towards a specific group, whereas people who are externally motivated to control prejudice largely lack this inherent belief, and work instead to control their prejudice in order to avoid social sanctions or receive social approval.

The ability to successfully monitor and inhibit prejudice and discrimination when the motivation to control one's prejudice is internally driven should not be as difficult (compared to when it is externally driven) when self-regulatory resources are depleted, since this motivation is central to and internalized in the self. However, the ability to inhibit expressions of prejudice and discrimination in a state of depletion when one's motivation to control prejudice is externally motivated *should* be difficult since this motivation is not internalized and relies largely on more effortful inhibitions for the situation. This should mean that when the resources needed for that effortful inhibition are depleted (e.g., by way of vicariously effortful perspective taking), prejudice and discrimination should ensue. Indeed, research demonstrates that the relationship between resource depletion and discrimination depends on one's motivation to control prejudice, such that those with low internal motivation to control prejudice (and high external motivation to control prejudice) are more likely to discriminate against an out-group

member when self-regulatory resources are depleted versus not depleted (Park, Glaser, & Knowles, 2008).

The Current Study

The purpose of the current study was to investigate whether perspective taking can lead to increased expressions of prejudice and discrimination. There currently exists scattered evidence that perspective taking influences self-regulation capacity depending on vicarious effort (Ackerman et al. 2009), and that self-regulation capacity influences discrimination depending on implicit attitudes (Govorun & Payne, 2006), and motivation to control prejudice (Park, Glaser, & Knowles, 2008). However, there is no research to my knowledge that tests these relationships in a unified model and examines these relationships in the domain of weight control.

To fill this important gap in the literature, this dissertation tests a model of how taking the perspective of someone who struggles to control food consumption may affect prejudice and discrimination toward overweight people (see Figure 1). The study model makes the prediction that taking the perspective of someone who is exerting self-control to avoid eating tasty food will have the ironic effect of making the person more prejudiced against heavy people and more likely to discriminate against them. This is because taking the perspective of someone exerting self-control can deplete the perspective-taker's own self-regulatory capacity, and research shows that controlling the expression of prejudice and avoiding discriminatory behavior both requires self-regulatory resources.

As can be seen in Figure 1, my model for the current study posits that taking the perspective of someone who is using effort to resist eating in a social setting, which

requires the successful self-regulation of behavior, vicariously depletes the perspective-taker's own self-regulatory capacity. Whether that depletion leads to greater expressions of prejudice and discrimination toward heavy people depends on whether the person has high or low levels of implicit prejudice toward heavy people, and how internally or externally motivated the person is to control weight prejudice.

Study Hypotheses

I hypothesize that perspective taking will lead to prejudice and discrimination indirectly through self-regulation, such that those with depleted self-regulatory capacity as a result of effortful perspective taking will be more likely to show general prejudice and weight-based discrimination. It is important to note that my model does not assume that self-regulatory depletion in the context of weight leads only to weight-based prejudice and discrimination, but instead can cause expressions of prejudice and discrimination towards other target groups in addition to weight. The current study measured general prejudice (i.e., prejudice towards multiple target groups), but only examined weight-based discrimination.

My second hypothesis is that people with stronger negative implicit attitudes toward overweight individuals and people with stronger external motivations and weaker internal motivations to control prejudice toward overweight individuals will show greater general prejudice and weight-based discrimination when their ability to self-regulate behavior is diminished. I did not hypothesize, nor test, an interaction between internal and external motivation to control prejudice.

Method

Participants

Males (N = 151) and females (N = 166) aged 18 years and older living in the United States participated in the current study. The majority of the sample was White (80%), followed by Asian (9%), Black or African American (4%), “Other – including Multiracial” (4%), American Indian or Alaska Native (1%), Hispanic or Latino (1%), and Native Hawaiian or Pacific Islander (1%). Coding for subsequent analyses is as follows: Gender (Males = 1, Females = 2); Race (White = 1, Non-white = 2). The mean age was 36.84 years (SD = 11.67). Thirty-eight percent of the sample indicated that they were currently trying to control their weight. Participants were also asked to indicate on a 100-point scale their current mood (M = 66.47, SD = 22.34), and the extent to which they were currently tired (M = 30.98, SD = 24.48), hungry (M = 28.21, SD = 26.78), and anxious (M = 19.20, SD = 24.31). Higher scores indicate that participants were in a better mood, and were more tired, hungry, and anxious, respectively. The mean BMI for the sample was 26.88 (SD = 6.99). All participants received \$2.00 (USD) through Amazon M-Turk for completing the study.

Materials

Toronto Empathy Questionnaire. This 16-item questionnaire (Spreng, McKinnon, Mar, & Levine, 2009) measures a wide range of attributes associated with empathy. Responses were measured using a 5-point Likert-scale (1 = very rarely; 5 = very frequently). Example item: “I get a strong urge to help when I see someone who is upset.” The final score is the average across all items. Higher scores indicate greater empathy. This measure is reliable ($\alpha = .87$). See Appendix B for a copy of this measure.

Lexical Generation Task. This task was used as a measure of self-regulation capacity. In this task, participants were asked to construct new words using letters from five target words (i.e., answer, behavior, bimodal, igneous, and raincoat). Each word was presented on the computer screen for one minute and participants generated as many different words as possible during that time. It should be more difficult to generate new words in this situation while in a state of cognitive depletion. Ackerman et al. (2009) used this task as a measure of self-regulatory depletion and argued that superior performance on active problem-solving tasks, like the current Lexical Generation Task, requires the successful use of controlled processes. Higher scores indicate a greater number of successfully generated words across all trials (i.e., greater self-regulatory capacity).

Motivation to Respond Without Prejudice. This 10-item questionnaire (Plant & Devine, 1998) was used to measure the extent to which one is internally (e.g., “I shouldn’t do that because it is not the right thing to do”) or externally (e.g., “I shouldn’t do that because I might get in trouble”) motivated to control prejudice towards weight. Responses were measured using a 9-point Likert-scale (1 = strongly disagree; 9 = strongly agree). The final score is the average across all items for each subscale. Higher scores for each subscale indicate a greater internal and external motivation to control prejudice, respectively. This measure is reliable; $\alpha = .93$ (Internal subscale), $\alpha = .88$ (External subscale). See Appendix C for a copy of this measure.

Implicit Association Task. This computer task (Greenwald, Nosek, & Banaji, 2003) was used as a measure of implicit attitudes about weight. This task measures the strength of associations between concepts (fat people, thin people) and evaluations (good,

bad) or stereotypes (athletic, lazy). Participants were asked to sort weight-specific words and pictures as quickly as possible to either the left or right-hand side of the computer screen by pressing the “e” key if the word/picture belonged to the category on the left and the “i” key if the word/picture belonged to the category on the right. In the first block, participants were asked to sort weight-specific words and pictures separately into concept-based (i.e., fat people, thin people) and evaluation-based (i.e., good, bad) categories. In the second block, these categories were combined (e.g., fat people/bad, thin people/good), and participants were asked to sort both weight-specific words and pictures into their appropriate categories. In the third block, the placement of the concept-based category switched to the opposite side of the screen, and as a result, the final block presented category combinations in the opposite orientation as before (i.e., fat people/good, thin people/bad). It is important to note that the order in which category combinations are presented were randomized, such that some participants first received the “fat people/good, thin people/bad” combination to protect against practice effects. The final IAT score is based on how long, on average, it takes participants to correctly sort the weight-based words and pictures across category combinations. Specifically, the final score is the difference between sorting times for stereotype consistent and stereotype inconsistent pairings, divided by an index of the variability in reaction times for the participant. This traditional scoring method expresses implicit prejudice as a *d*-score. Higher scores reflect stronger implicit prejudice.

Feeling Thermometer. This 14-item questionnaire was used to measure the extent to which participants view different groups of people (e.g., drug users, black people, child abusers, obese people, people with a mental illness) either favorably or

unfavorably. Responses were measured using a 0-100 scale (0 = very unfavorably; 100 = very favorably), such that higher scores indicate greater favorability towards myriad stigmatized social groups. This measure is reliable ($\alpha = .86$). See Appendix D for a copy of this measure.

Universal Measure of Bias. The fat bias subscale of this measure (Latner, O'Brien, Durso, Brinkman, & MacDonald, 2008) was used to measure anti-fat attitudes (i.e., prejudice) and a proxy for behavior (i.e., discrimination). The current study utilized two subscales of this measure: Negative Judgment and Social Distance. The Negative Judgment subscale includes five items (e.g., "Sometimes I think that fat people are dishonest"), and the Social Distance subscale also includes five items (e.g., "I would not want to have a fat person as a roommate"). Responses were measured using a 7-point scale (1 = strongly disagree, 7 = strongly agree). The final score is the average across all items for each subscale. Higher scores indicate more favorable attitudes toward fat people and less desire for social distance, respectively. This measure is reliable; $\alpha = .90$ (Negative Judgment subscale) and $\alpha = .88$ (Social Distance subscale). See Appendix E for a copy of this measure.

Manipulation Check. Manipulation checks were utilized to measure the degree to which participants thought the person in the story was hungry and had to control the temptation to eat. Immediately after reading the passage, participants were first asked, "How hungry was the person in the passage that you just read about?" Responses were measured on a 3-point scale (1 = Not at all hungry; 2 = Sort of hungry; 3 = Very hungry). Participants were then asked, "How much effort did the person in the story have to use to control the urge to eat?" Responses were measured on a 0-100 scale, with higher numbers

indicating greater effort. Finally, participants were asked, “In which social setting was the person in the passage that you just read about located?” This question assessed whether participants paid attention to the social context in which the passage was framed.

Study Design and Procedure

This study was completed through Amazon M-Turk using Qualtrics. Participants first read the informed consent and proceeded only if electronic consent was provided through Qualtrics. Participants were then asked to indicate the extent to which they were hungry, anxious, and trying to control their weight. After that, participants completed the Motivation to Control Prejudice questionnaire (Plant & Devine, 1998), which measures the degree to which the motivation to control one’s prejudice toward a target group is internally or externally motivated, and the Implicit Association Task (Greenwald, Nosek, & Banaji, 2003) which measures the strength of implicit attitudes toward a target group (e.g., fat people). Both implicit attitudes and motivation to control prejudice were used separately as moderators in the study model (see Figure 1).

Participants were then randomly assigned to read one of three first-person diary entries (see Appendix A). The first diary entry described a situation where the person is at a wedding reception with delicious food and that person is hungry but trying to not eat because that person is watching his or her weight (good food/hungry condition). The second diary entry described a situation where the person is at a wedding reception with bad food and that person is not hungry, so that person does not have to control the urge to eat (bad food/not hungry). The third and final entry described a situation where the person is at a wedding reception with delicious food but that person is not hungry, so that person also does not have to control the urge to eat (good food/not hungry). This latter

condition served as an additional control to the other two conditions above modeled from Ackerman et al. (2009) by testing more precisely whether it is the bad food (i.e., bad food/not hungry condition) or the actual experience of not having to control the urge to eat (i.e., good food/not hungry condition) that drives the effect of perspective taking on diminished self-regulatory capacity when compared to the good food/hungry condition. These conditions will subsequently be referred to as “vicarious effort.” Perspective taking was manipulated by instructing half of the participants to “take the perspective of the person who wrote the diary entry. That is, try to really imagine yourself in their shoes, and concentrate on what the person was thinking and how that person was feeling in that moment.” The other half of participants (control group) were instructed to simply read the diary entry. These instructions were adapted from Ackerman et al. (2009) to intentionally maximize similarity in study context.

All participants then completed manipulation checks that asked participants to indicate whether they correctly understood if the food described in the passage was good or bad, and whether the person was hungry or not. Participants were also asked to correctly identify the social setting described in the passage (i.e., wedding reception). After that, participants completed the Lexical Generation Task, which served as the mediator variable in the study model. Participants then completed measures of general prejudice (feeling thermometer) and weight-based prejudice (Universal Measure of Bias: Negative Judgment subscale) and discrimination (Universal Measure of Bias: Social Distance subscale), which all served as separate dependent variables in the study model. Measures of both general prejudice and weight-based prejudice and discrimination were included to help answer the question of whether depletion in the context of weight leads

only to weight-specific consequences or spills over to other target groups. Participants then completed the Toronto Empathy Questionnaire (Spreng, McKinnon, Mar, & Levine, 2009), which measures trait empathy. Empathy was used as a control variable because it has been implicated with perspective taking outcomes in past research (Vescio, Sechrist, & Paolucci, 2003). Finally, participants completed the demographic questionnaire, were debriefed (see Appendix F), and thanked for their time. Financial compensation was provided through Amazon M-Turk after participants correctly entered the unique study code that was provided at the completion of the study.

Study Model and Hypotheses

Data were analyzed using the Hayes Process Macro in SPSS (Hayes, 2013). Specifically, analysis of the study model utilized Model 21 in the SPSS macro, which is designed to specifically analyze moderated mediation models. My first hypothesis was that perspective taking will lead to prejudice and discrimination indirectly through self-regulation, such that those with depleted self-regulatory capacity, as a result of effortful perspective taking, will be more likely to express general prejudice and weight-based discrimination. As can be seen in Figure 1, perspective taking served as my categorical independent variable (two levels: perspective taking and control), prejudice and discrimination both separately served as my continuous dependent variables, and self-regulatory capacity served as my continuous mediator between those two variables. Effort was modeled as a categorical moderator with (three levels: high effort – good food/hungry; low effort – bad food/not hungry; low effort – good food/not hungry), with contrast coding that compared the high effort condition to both low effort conditions (contrast coding = 2 -1 -1), and in a separate analysis compared the two low-effort (i.e.,

control) conditions to each other (contrast coding = 0 +1 -1). I predicted that effort would be a significant moderator between perspective taking and self-regulation when the high effort vs. low effort comparison was included in the model, but not when the control comparison was included in the model. This is because I anticipated that perspective taking would cause self-regulatory depletion only when effort is high, and that there would be no difference between the two low-effort control conditions. The relationship between perspective taking and prejudice/discrimination should be mediated by self-regulation capacity (Figure 1).

My second hypothesis was that those with stronger negative implicit attitudes toward overweight individuals and those with stronger external motivations and weaker internal motivations to control prejudice toward overweight individuals would show greater general prejudice and weight-based discrimination when his or her ability to self-regulate behavior is diminished. Implicit attitudes and motivation to control prejudice both separately served as continuous moderators in the study model. I anticipated that the extent to which diminished self-regulation leads to expressions of prejudice and discrimination would depend on the level of one's negative implicit attitudes and motivation to control prejudice (Figure 1). I expected that the relationship between self-regulation and prejudice/discrimination would be moderated by implicit attitudes, such that diminished self-regulation would lead to expressions of prejudice and discrimination only when negative implicit attitudes are strong. Further, I expected that the relationship between self-regulation and prejudice/discrimination would be moderated separately by internal and external motivation to control prejudice. I expected that diminished self-regulation would lead to expressions of prejudice and discrimination only when internal

motivation to control prejudice was low, and external motivation to control prejudice was high.

Results

Manipulation Checks

Manipulation checks were first analyzed to ensure that participants paid adequate attention while completing the study protocol and that the perspective taking and effort manipulations were effective. Nearly the entire sample (97%) correctly identified the social setting of the vignette passage. Results revealed a main effect of effort condition on ratings of how much effort the person in the passage had to use to control his or her eating, $F(2, 315) = 210.32, p < .001, \eta^2 = .57$. Bonferroni post-hoc tests revealed that those in the good food/hungry condition (high-effort) reported that the person in the passage had to use significantly more effort to control his or her eating ($M = 93.79, SE = 3.47$) than those randomly assigned to either the good food/not hungry control (low-effort; $M = 26.82, SE = 2.59$) or bad food/not hungry control (low-effort; $M = 28.62, SD = 2.50$) conditions ($p < .001$). There was no difference between the two control conditions, and no main effect of perspective taking or interaction between effort and perspective taking. Results also revealed a main effect of effort condition on ratings of how hungry the person in the passage seemed to be, $F(2, 317) = 410.84, p < .001, \eta^2 = .72$. Post-hoc analysis indicated that participants in the good food/hungry condition reported significantly higher levels of hunger ($M = 2.94, SE = .05$) than those in the good food/not hungry ($M = 1.28, SE = .05$) and bad food/not hungry ($M = 1.24, SE = .05$) low-effort control conditions. There was no difference between the two control conditions,

and no main effect of perspective taking or interaction between effort and perspective taking.

Means and Correlations

Table 1 shows the means and standard deviations for all study variables in each experimental condition and for the total sample. In general, participants reported scores that were slightly below the scale midpoint for weight-based prejudice (negative judgment measure) and discrimination (social distance measure), and at the scale midpoint for general prejudice (feeling thermometer measure). Correlational analyses were also conducted among theoretically relevant study variables (see Tables 2 and 3). As can be seen in Table 2, the three primary dependent variables were positively and significantly correlated. Participants with less desire for social distance from fat people (i.e., were less discriminatory) also harbored more positive judgment towards fat people on the negative judgment scale, and more favorability towards multiple stigmatized groups on the feeling thermometer measure. Those who had a higher BMI endorsed less social distance from fat people, and also had more favorable judgment towards fat people. BMI was not correlated with the feeling thermometer measure of general prejudice. Females were less likely than males to show weight-related prejudice on the negative judgment scale and general prejudice on the feeling thermometer measure. Females also were less discriminatory towards fat people. Surprisingly, empathy was associated with less favorability toward heavy people on the negative judgment and social distance measures, and also less favorability toward diverse groups on the feeling thermometer measure. Furthermore, participants who reported being in a better mood had higher levels of prejudice and discrimination overall. Participants reporting more anxiety

also had higher levels of prejudice and discrimination towards heavy people, while participants who were more tired had an increased desire for social distance from heavy people. Overall, non-white participants showed less favorability towards heavy people than white participants. Other significant correlations between the dependent variables and demographic variables from the current study can be found in Table 2.

As can be seen in Table 3, results revealed a significant positive relationship between performance on the lexical generation task (i.e., self-control) and levels of internal motivation to control weight prejudice, negative judgment towards fat people (more favorable scores), and social distance towards fat people (more favorable scores). Conversely, a significant negative relationship existed between lexical generation task performance and external motivation to control weight prejudice, such that participants who were more externally motivated to control weight prejudice performed worse on the measure of self-control. Results also revealed a significant negative relationship between external motivation to control weight prejudice and all three dependent variables, such that participants who were more externally motivated to control weight prejudice also had greater levels of prejudice (negative judgment and feeling thermometer) and discrimination (social distance). The opposite pattern emerged between the three dependent variables and internal motivation to control weight prejudice. Participants with greater internal motivation to control weight prejudice had lower levels of prejudice and discrimination towards heavy people. Other significant correlations between the study model variables can be found in Table 3.

Study Model Results

Study model results are reported in Figures 2-4. Each figure represents a different iteration of the model, with alternating moderators (i.e., internal motivation to control prejudice, external motivation to control prejudice, and implicit attitudes) and outcome variables that include a Feeling Thermometer (general prejudice), Negative Judgment (prejudice toward fat people), and Social Distance (discrimination toward fat people). Results from the contrast coding analyses described previously did not show a difference between the two control conditions, so subsequent analyses focus on the comparison between the experimental condition and the collapsed control conditions. Study model results did not support my first hypothesis that perspective taking would lead to prejudice and discrimination indirectly through self-regulation, such that those with depleted self-regulatory capacity, as a result of effortful perspective taking, would be more likely to express general prejudice and weight-based discrimination. There was no significant effect of perspective taking and effort on self-regulatory capacity, and further, no effect of self-regulation on endorsements of both general and weight-based prejudice and discrimination. Unstandardized beta coefficients for these pathways can be found in Figures 2-4. I also hypothesized that internal and external motivations to control weight prejudice, along with negative implicit attitudes towards fat people, would moderate the effect between self-regulatory capacity and endorsement of prejudice and discrimination. Results did not support these hypotheses. Internal and external motivation to control weight prejudice, and negative implicit attitudes towards fat people, did not separately moderate the effect between self-regulation and general prejudice (Figure 2), weight-based prejudice (Figure 3), and weight-based discrimination (Figure 4). In all models,

self-regulatory capacity did not mediate the relationship between perspective taking and the dependent outcomes. Indirect effect estimates can be found in Figures 2-4. Further, direct effects of perspective taking on self-regulation, perspective taking on expressions of prejudice and discrimination, and self-regulation on expressions of prejudice and discrimination were not significant (Figures 2-4).

Additional Analyses

Several other iterations of data analyses were conducted for the current study in addition to utilizing Model 21 in the Hayes (2013) SPSS Process Macro for moderated mediation models. These iterations include: (1) Square root, natural log, and log10 transformations were used for variables that violated normality assumptions. (2) Simple mediation and moderation models were tested to examine the influence of the study mediator (i.e., self-regulation capacity) and study moderators (i.e., internal motivation to control prejudice, external motivation to control prejudice, and implicit attitudes) on the dependent variables. (3) ANOVA and ANCOVA techniques were used to examine the effect of perspective taking and effort on expressions of prejudice and discrimination. (4) Data were analyzed both with and without controlling for theoretical variables in addition to variables that were correlated with the outcome measures. (5) High effort condition and control condition were both used as reference variables for the interaction in the regression model. (6) BMI was included as a predictor variable in the study model. (7) Internal and external motivation to control prejudice were both used as moderators between perspective taking and self-regulation capacity. (8) Only the question about “obese people” was used as a dependent outcome in the study model from the feeling thermometer dependent variable. (9) Selected only those participants that responded

“yes” to “are you currently struggling to control your weight?” and those in the top 50% of reported BMI for analyses. (10) Removed participants with incorrect responses to the manipulation check questions. (11) Outliers on study variables were removed from analyses. In all instances, study results remained unchanged, and my hypothesized effects were not found. As a result, final analyses reported in this paper used the most parsimonious regression model, in which control conditions for effort were collapsed, and no theoretical or statistical control variables were included in the model.

Discussion

The current study investigated whether perspective taking can lead to increased expressions of prejudice and discrimination. The current literature points to evidence that perspective taking influences self-regulation capacity depending on vicarious effort (Ackerman et al. 2009), and that self-regulation capacity influences discrimination depending on implicit attitudes (Govorun & Payne, 2006), and motivation to control prejudice (Park, Glaser, & Knowles, 2008). However, these outcomes have yet to be tested in a single study utilizing a model in the context of weight prejudice and discrimination.

This dissertation tested a model of how taking the perspective of someone who struggles to control food consumption may affect prejudice and discrimination toward overweight people. The study model made the prediction that taking the perspective of someone who is exerting self-control to avoid eating tasty food would have the ironic effect of making the person more prejudiced against heavy people and more likely to discriminate against them. This is because taking the perspective of someone exerting self-control would deplete the perspective-taker’s own self-regulatory capacity, and

research shows that controlling the expression of prejudice and avoiding discriminatory behavior both requires self-regulatory resources. The dissertation model predicted that taking the perspective of someone who was using effort to resist eating in a social setting, which requires the successful self-regulation of behavior, would vicariously deplete the perspective-taker's own self-regulatory capacity. And further, whether that depletion leads to subsequent expressions of prejudice and discrimination toward heavy people would depend on whether the person holds high or low levels of implicit prejudice toward heavy people, and how internally or externally motivated the person was to control weight prejudice.

Contrary to my first hypothesis, results from the current study did not support a partial replication of Ackerman et al's (2009) study demonstrating that participants asked to take the perspective of someone using a great deal of effort to avoid a behavior – which requires the successful navigation of self-regulatory capacity – also showed evidence of depleted self-regulation. Participants in the current study, when asked to adopt the perspective of someone using a great deal of effort to avoid eating appetizing food in a social setting because that person was trying to control his or her weight, did not show a subsequent reduction in self-regulatory capacity. These participants performed no differently on the task measuring self-regulatory capacity than participants not asked to engage in perspective-taking, or participants asked to take the perspective of someone not using effort to avoid eating. This is surprising for a couple reasons. First, participants differed greatly in their perceptions of how much effort the person in the story had to use in order to control his or her urge to eat depending on the condition. The effect size for this finding was .57, which is generally interpreted as a medium difference (Cohen,

1992). According to the findings from Ackerman et al. (2009), this medium difference in effort perceptions should have translated to differences in subsequent self-regulatory capacity when asked (or not asked) to adopt the perspective of those people in the story. Second, and perhaps most notable, is that the current study utilized the same perspective taking instructions, story ingredients, and measure of self-regulation as Ackerman et al. (2009). In fact, the current study used a slightly adapted version of the story received directly from the lead researcher from Ackerman et al. (2009). The chief difference between the two stories that participants in both studies were asked to read was the context in which they occurred. The story used in Ackerman et al. (2009) described an employee at a restaurant using (or not using) effort to avoid eating because it was against restaurant policy to eat on the job, while the current study described a person using (or not using) effort to avoid eating at a family gathering because that person was trying to control his or her own weight. It is possible that the social context in which these stories occurred, and the underlying reasons for not eating, contributed to the difference in outcomes. Future work should explore different social contexts to determine whether the findings from Ackerman et al. (2009) are specific to a certain social context or can be observed on a broader spectrum of contexts.

My second study hypothesis that those with stronger negative implicit attitudes toward overweight individuals and those with stronger external motivations and weaker internal motivations to control prejudice toward overweight individuals would show greater general prejudice and weight-based discrimination when his or her ability to self-regulate behavior was diminished was also not supported by the current study. While it is the case that these variables were separately correlated in expected directions, they did

not behave in the hypothesized way within the study model. This is likely because the moderating effect of implicit attitudes and motivations to control prejudice between self-regulation and expressions of prejudice and discrimination depended on a diminished state of self-regulation, which, as discussed previously, did not occur as a result of the study manipulation. Without a study manipulation that effectively diminished self-regulatory processes, it is difficult to determine with any reasonable certainty whether my second hypothesis is indeed accurate. Future work should address this shortcoming by utilizing a study manipulation that effectively diminishes self-regulatory processes.

Perhaps the biggest difference between the current and aforementioned studies examining the role of perspective taking on subsequent self-regulation, and the role of implicit attitudes and motivations to control prejudice on expressions of prejudice and discrimination is the social setting in which the study took place. Whereas the current study utilized an online framework to maximize reach and generalizability, the previous studies (e.g., Ackerman et al., 2009; Park, Glaser, & Knowles, 2008) used a more traditional in-person convenience sample that maximized experimental control. Great care was used when defining participant pool parameters for the current study in order to increase validity and reliability, and manipulation check results seem to validate these efforts. For example, nearly all (97%) participants correctly identified the social setting (wedding reception) in which the person in the story occupied, and there was a significant difference in participants' perceptions in the amount of effort the person in the story had to use to avoid eating, depending on the condition. This shows that participants absorbed at least a cursory understanding of the details surrounding the study narrative. Still, there exists other aspects of the study design that might not have worked as well in an online

setting. For example, the Lexical Generation Task, which was used as the measure of self-regulation in this study, requires a great deal of attention in order to finish properly, as does the Implicit Association Task, which was used in the current study as a measure of implicit weight bias. While it is entirely possible to complete these measures at a reasonable level outside of a laboratory setting, it might be the case that performance – and subsequent predictive validity – for these tasks suffered slightly. Other aspects of the study, such as the sensitivity of the manipulation and the total time required to complete the protocol (average time of completion was 26 minutes), might have worked better with an in-person study design where experimental control and consistency are maximized. Future work should explore these avenues.

It is also possible that the results from this study do accurately reflect the impact of perspective taking in the context of controlling one's eating and weight on subsequent self-regulation of the perspective-taker, and expressions of weight-based prejudice and discrimination. To my knowledge, the only demonstration of vicarious self-regulatory depletion in the literature (Ackerman et al., 2009) focused on a social situation in which an individual had to control his or her eating, but unlike the current study, the reason for this self-control had nothing to do with weight concerns. Perhaps there is something unique to taking the perspective of someone trying to control his or her weight that attenuates the pathway to one's own self-regulatory processes. It could be the case that in order for vicarious self-depletion to occur, one must feel empathy for the target, and the stigma surrounding weight issues might be enough to disrupt that necessary component. General empathy was measured and tested as a moderator between perspective taking and self-regulation in an alternate analysis of the current data, but empathy specifically

towards overweight individuals was not measured. Future work should explore this construct, as it could be the key to experiencing vicarious disruptions in self-regulation when the target of perspective taking is someone trying to control his or her weight.

Key findings from the correlational analyses were mixed with respect to past work. Consistent with previous research, gender was correlated with prejudice, such that women had more favorable attitudes toward heavy people and toward diverse groups (feeling thermometer) than males did. Females also expressed more willingness to approach heavy people than males did. While one study suggests that women may harbor more implicit (but not explicit) racial prejudice than males (Ekehammer, Akrami, & Araya, 2003), most studies support the idea that males are more prejudiced than females. In the area of anti-fat prejudice, research suggests that males are more likely to externalize prejudice by expressing dislike of fat people, whereas women are more likely to internalize and report greater body dissatisfaction (Arugente, Yates, & Edman, 2006). Also consistent with past work, participants with greater self-control were less likely to express prejudice and discrimination towards heavy people. Prior work (see Devine, 1989), and the current study model, supports this pattern of results. Finally, external motivation to control weight prejudice was related to less favorability on all measures of weight prejudice and discrimination, whereas internal motivation to control weight prejudice was related to greater favorability on all measures of weight prejudice and discrimination. This finding is generally consistent with previous work exploring the role of motivation to control prejudice on the expression and endorsement of prejudice (see Plant & Devine, 1998; Devine et al., 2002; Butz & Plant, 2009).

Inconsistent with past research, participants in a better mood overall were more likely to express prejudice and discrimination. This finding does not support previous work in the area of mood-as-information. According to this research, one's affective state serves as a lens with which he or she views the social world (Schwarz, 1990; Schwarz, Bless, & Bohner, 1991). Specifically, according to the mood-as-information approach, individuals use their current moods as a source of information when making judgments about others (Schwarz & Clore, 1983), the quality of their own lives (Wyer & Carlston, 1979), and attributions to discrimination towards themselves and others (Sechrist, Swim, & Mark, 2003). It remains unclear, therefore, why participants in the current study viewed others in a more negative light when they were in a good mood. Finally, somewhat inconsistent with past work (see Crandall, 1994), participants in the current study with higher BMI scores expressed less prejudice and discrimination toward heavy people than those with lower BMI scores. This does not support the finding that heavy people have as much anti-fat prejudice as anyone else.

Limitations and Future Work

In addition to the study limitations and need for future work mentioned above, other points merit discussion here. Participants in the current study were asked to read and respond to a hypothetical situation. While this design is consistent with previous research on perspective taking, it does not necessarily mirror real-world consequences of adopting the perspective of another person and then subsequently acting on expressions of prejudice and discrimination. It might be the case that actually witnessing someone trying to avoid eating because of weight concerns elicits a different reaction than merely reading about someone in the same situation. Moreover, the real-world social

consequences of displaying prejudice and discrimination towards fat people were not adequately captured in the current study design, and real-world expressions of prejudice and discrimination might look different than in an online context. To fully understand the impact of perspective taking on expressions of prejudice and discrimination in real settings, future work should extend beyond online study designs.

The dependent variables in the current study relied on self-report measures. The measure of general prejudice asked participants to indicate how favorably or unfavorably – in general – they viewed myriad social groups, while the measures of anti-fat prejudice and discrimination asked participants to indicate their feelings *in the present moment*. Even though the latter measures assessed more transitory feelings about fat people, they might still not have been sensitive enough to detect differences in this context. Future work in this area should consider using state-like behavioral measures, such as Cyberball, a virtual ball-toss game used to measure social exclusion and discrimination, or actual social distance, to assess prejudice and discrimination. However, it is important to highlight that the study manipulation did not have the hypothesized effect on self-regulatory capacity, which suggests that even behavioral measures would not have detected subsequent differences in expressions of prejudice and discrimination.

Participants were asked to complete the moderator measures before being exposed to the study manipulation in an effort to preserve the natural impact of the moderator variables on the dependent outcomes. These measures included the Implicit Association Task, Universal Measure of Bias, and Motivation to Respond Without Prejudice measure. In hindsight, the decision to protect the moderator measures by including them at the beginning of the study protocol may have had an unintended and undesirable impact on

participants' self-regulatory processes. The Implicit Association Task, in particular, requires significant cognitive effort to complete, and the measures of prejudice and discrimination might have placed some participants in a situation where they had to alter their responses to preserve social desirability. As a result, participants may have approached the study manipulation, which sought to influence subsequent self-regulation, in an already altered state of cognitive depletion. If this was the case, the study manipulation would not have had the intended impact on study participants. This is another significant difference from the methodology in Ackerman et al. (2009), and could be a logical reason why the manipulation in the current study did not work as predicted. Future studies should try to first replicate the Ackerman et al. (2009) study without other variables in the model, or simply prioritize the study manipulation over other variables, such as any mediators or moderators.

Unlike the methodology used in Ackerman et al. (2009), the person in the story that participants were asked to read during the current study was not matched to the gender of the participant. The decision to not match gender in the current study was made to increase the generalizability of potential findings. However, there might be something unique about adopting the perspective of someone of the same gender rather than another gender or no known gender, especially in situations where empathy is required to produce subsequent outcomes. Research on social identity and intergroup relations may shine light on this thought (see Tajfel, 2010). Future work should explore whether explicit social group consistency is required to produce subsequent decrements in one's own self-regulation after adopting the perspective of someone using effort to avoid a certain behavior.

Finally, participants in the current study were explicitly asked (or not asked) to adopt the perspective of the person in the story before reading the passage. While this design maximizes experimental control, it likely does not mirror a situation of perspective taking outside of the laboratory or experimental setting. It is possible that more natural perspective-taking produces different outcomes than forced perspective-taking, and future work should seek to understand these potentially different outcomes in addition to understanding the factors that make it more likely for someone to perspective-take in the first place.

Conclusion

Data from this study did not support the hypothesis that perspective-taking with someone using effort to avoid eating would lead to a vicarious state of cognitive depletion, and that being in a state of cognitive depletion would make one more likely to subsequently express general prejudice and weight-based discrimination, depending on one's implicit attitudes toward weight and motivations to control weight prejudice.

Table 1. Means and Standard Deviations for Study Variables by Condition.

	Perspective Taking Conditions			No Perspective Taking Conditions			Total
	Good food/hungry	Good food/not hungry	Bad food/not hungry	Good food/hungry	Good food/not hungry	Bad food/not hungry	
Lexical Task	17.14 (11.65)	18.15 (13.02)	16.56 (9.36)	16.86 (9.28)	15.68 (8.45)	15.50 (12.42)	16.44 (10.73)
IAT	.33 (.41)	.26 (.37)	.30 (.36)	.32 (.28)	.34 (.43)	.27 (.41)	.30 (.39)
Internal MCP	5.42 (1.34)	5.52 (1.36)	5.77 (1.17)	4.80 (1.70)	5.16 (1.42)	5.50 (1.33)	5.37 (1.41)
External MCP	3.51 (1.58)	3.41 (1.60)	3.76 (1.52)	3.53 (1.69)	3.74 (1.82)	3.60 (1.62)	3.42 (1.66)
+/- Judgment	5.23 (1.22)	5.31 (1.43)	5.48 (1.11)	5.20 (1.42)	5.08 (1.45)	5.28 (1.41)	5.26 (1.34)
+/- Social Distance	5.12 (1.20)	5.31 (1.44)	5.61 (1.18)	5.40 (1.21)	5.07 (1.36)	5.52 (1.21)	5.34 (1.27)
Feeling Thermometer	48.03 (14.53)	48.96 (16.61)	46.30 (14.99)	45.94 (16.16)	46.43 (15.30)	50.41 (13.31)	47.62 (15.11)

Note. Standard deviations are shown in parentheses. IAT = Implicit Association Task; Internal MCP = Internal Motivation to Control Prejudice; External MCP = External Motivation to Control Prejudice.

Table 2. *Correlations for Dependent Variables and Demographics.*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. +/- Social Distance													
2. +/- Judgment	.74**												
3. Feeling Thermometer	.49**	.40**											
4. BMI	.17**	.12*	.06										
5. Gender	.30**	.27**	.20**	.03									
6. Race	-.14*	-.13*	-.13*	-.07	-.02								
7. Age	.10	.15**	.03	.08	.14*	-.07							
8. Tired	-.17**	-.09	-.02	-.04	.02	.16**	-.05						
9. Hungry	-.07	-.12*	.06	.02	-.10	-.05	-.12*	.30**					
10. Anxious	-.21**	-.14*	.05	.01	-.02	.12*	-.17*	.48**	.38**				
11. Mood	-.21**	-.13*	-.10*	-.01	.07	-.17**	.23**	-.55**	-.24**	-.49**			
12. Control Weight	-.05	-.04	.01	-.43**	-.21**	-.08	-.12*	-.11*	-.06	-.08	.11		
13. Empathy	-.56**	-.41**	-.28**	.07	.38**	-.08	.24**	-.12*	-.07	-.17**	.27**	-.04	

*Correlation is significant at the .05 level (2-tailed)

**Correlation is significant at the .01 level (2-tailed)

Table 3. *Correlations for Model Variables.*

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Perspective Taking									
2. Effort	-.01								
3. Lexical Task	-.07	-.04							
4. External MCP	.13*	-.09	-.24**						
5. Internal MCP	-.15**	.15**	.19**	-.06					
6. IAT	.06	-.04	-.01	.11	-.03				
7. +/- Judgment	-.06	.05	.13*	-.22**	.52**	-.15*			
8. Feeling Thermometer	-.01	.03	.04	-.11*	.26**	-.08	.40**		
9. +/- Social Distance	-.01	.06	.16**	-.19**	.60**	-.06	.74**	.49**	

*Correlation is significant at the .05 level (2-tailed)

**Correlation is significant at the .01 level (2-tailed)

Figure 1. Conceptual Moderated Moderated Mediation Study Model.

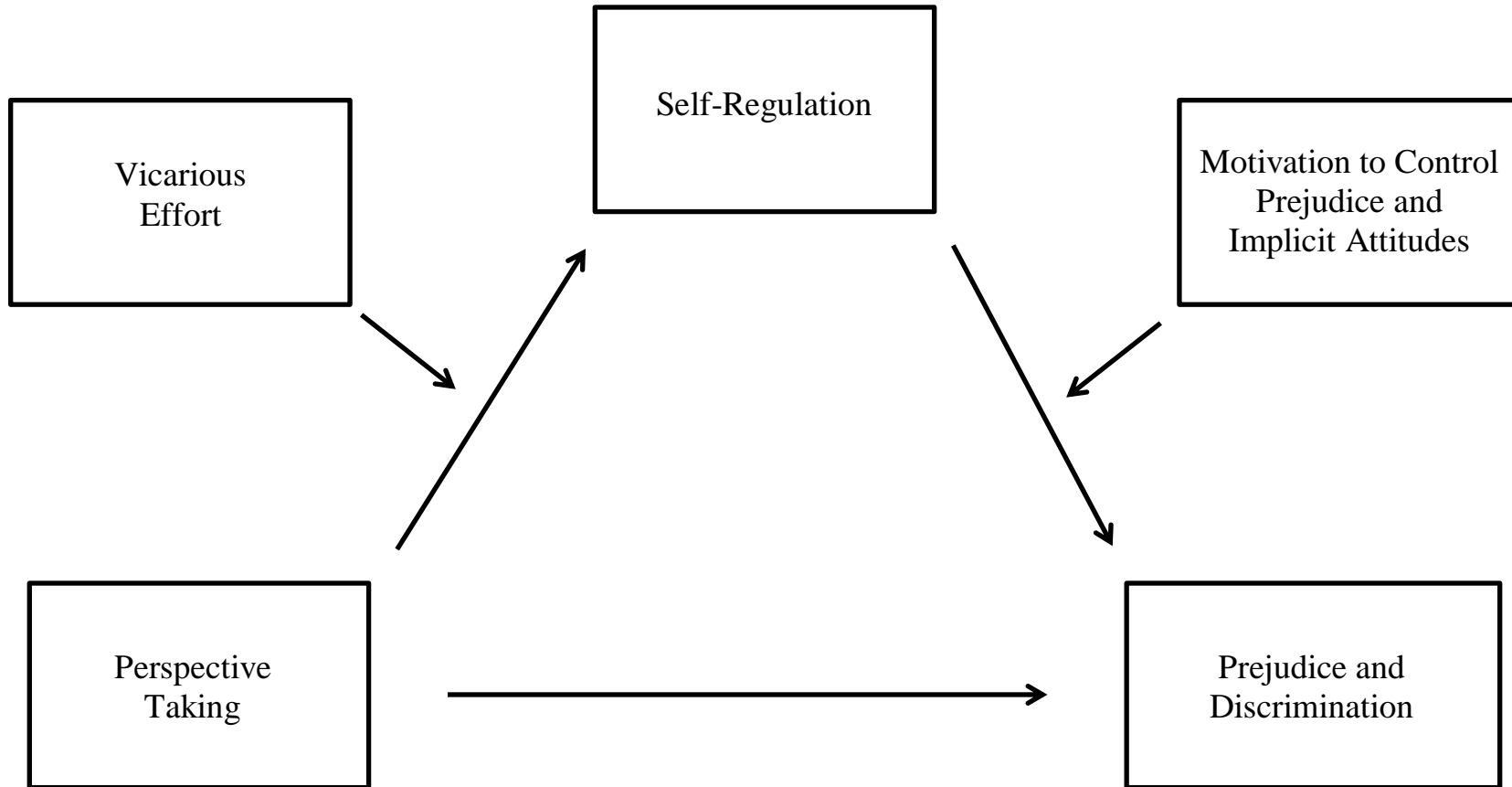


Figure 2. Moderated Moderated Mediation Effect Between Perspective Taking and General Prejudice.

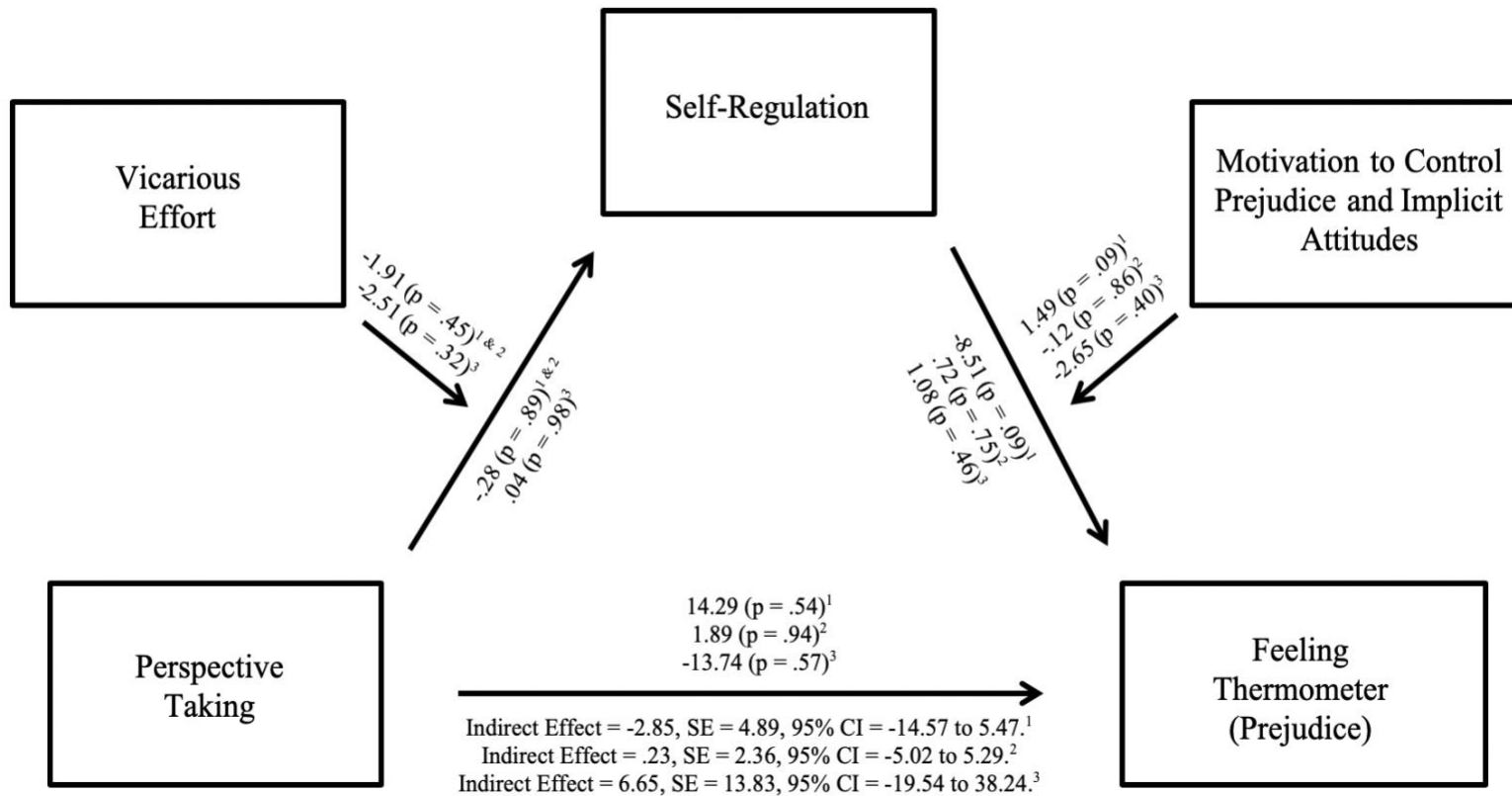


Figure 3. Moderated Moderated Mediation Effect Between Perspective Taking and Anti-Fat Prejudice.

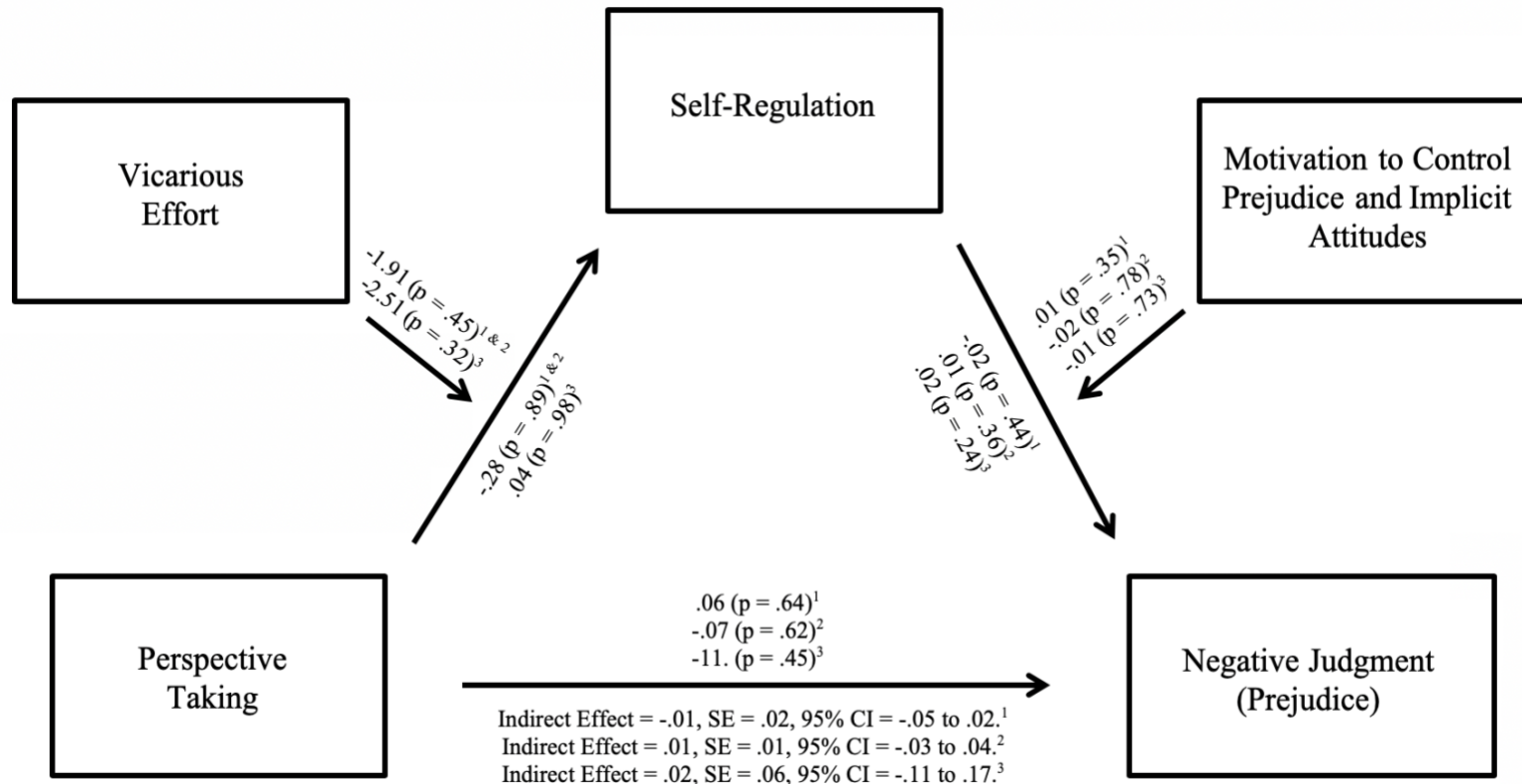
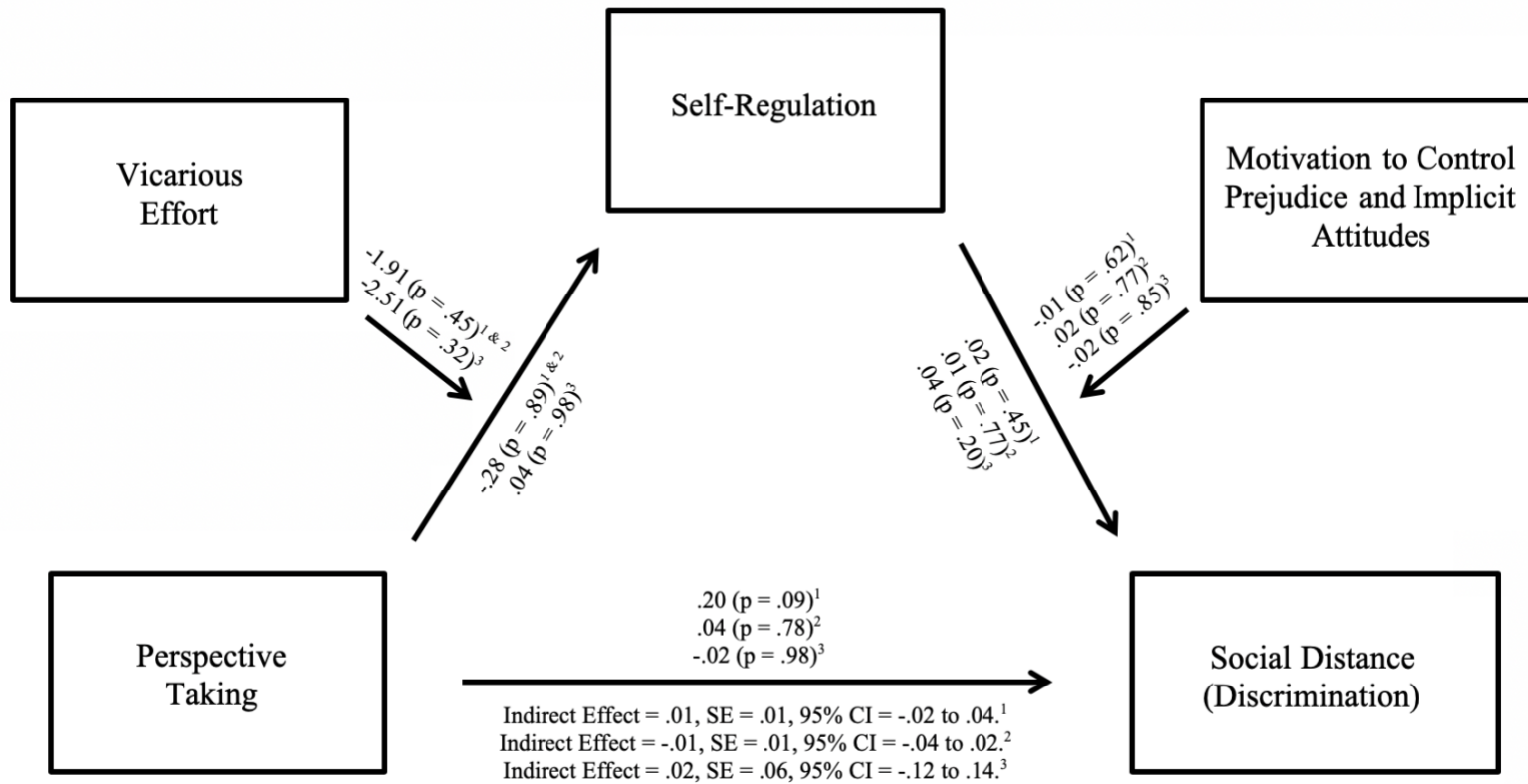


Figure 4. Moderated Moderated Mediation Effect Between Perspective Taking and Anti-Fat Discrimination.



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APPENDIX A

Diary Scenarios

Good Food/Hungry Condition (Depletion story)

Today I went to a family wedding. The reception was at a good banquet hall. Not too fancy, but really tasty food. Unfortunately, I cannot eat the tasty food because I am currently watching my weight. But I am starving. Haven't eaten anything since a quick bite at breakfast. When I walk into the reception, my stomach growls loudly and I know it's going to be a long night. I walk towards the main table in the room and I see trays loaded with every type of delicious dish imaginable. Platters chock-full of steaming chicken and vegetable skewers, nachos with salsa and sour cream, succulent sausages, golden toasted Italian bread with dipping sauces, and gourmet sesame crackers topped with authentic French spreads. And those are just the appetizers!

After the bridal party enters and the bride and groom have their first dance, the main dishes are introduced. My mouth is watering as they bring out the chicken alfredo. This is one of the banquet hall's specialty dishes – the perfect blend of spices and herbs mixed in a buttery, creamy sauce over free-range organic chicken and homemade pasta. I am literally almost drooling like a dog I am so hungry. And I can't eat anything because I am watching my weight!

All around me, people are piling food onto their plates. The aroma from their plates fills the room – beef tenderloin, fresh sweet corn, buttered potatoes, and just-baked French bread. I try to keep my eyes focused on the floor and tables in front of me and not on the food. I think I am beginning to hallucinate that the cheese tray is calling my name.

Then it is time for dessert. A series of cakes are on the menu, and the one in front of me looks so delicious with its layered, rich chocolate frosting. I think about dipping my finger into the frosting when no one is looking, but I am able to control myself. The tables are now piled high with chocolate and vanilla cupcakes, angel's food cake with berries and real whipped cream, just-out-of-the-oven pies filled with raspberries and peaches and topped with a flaky crust, and a decadent array of chocolate-covered strawberries. How much longer do I have to go on like this?

APPENDIX A Cont.

Bad Food/Not Hungry Condition (Control story #1)

Today I went to a family wedding. The reception was at a bad banquet hall. It's not run-down, but the food is just unappetizing. I am currently watching my weight, but fortunately, I am full from a big lunch, and the food here is gross. When I walk into the reception, my stomach gurgles with satisfaction and I know it's going to be a good night. I walk towards the main table in the room and I see trays loaded with every type of dish imaginable. Platters chock-full of overcooked chicken and vegetable skewers, soggy nachos with bland salsa and sour cream, fatty sausages, stale Italian bread with flavorless dipping sauces, and "gourmet" sesame crackers topped with processed-cheese spreads. And those are just the appetizers!

After the bridal party enters and the bride and groom have their first dance, the main dishes are introduced. My eyes are watering as they bring out the chicken alfredo. This is one of the banquet hall's specialty dishes – but the blend of spices and herbs is overpowering and mixed in a thick, lumpy sauce over chicken and generic store-brand pasta. I literally have no appetite because of my earlier meal. Regardless, I wouldn't want to eat anything here. I am not tempted at all.

All around me, people are piling food onto their plates. The foul aroma from their plates fills the room – stringy beef tenderloin, canned corn, oily potatoes, and day-old French bread. I try to keep my eyes focused on the floor and tables in front of me and not on the food. I think I am beginning to hallucinate that the cheese tray is coming to get me.

Then it is time for dessert. A series of cakes are on the menu, and the one in front of me looks far from delicious with its hard, dried-out chocolate frosting. I think about dipping my finger into the frosting when no one is looking, but I wonder if I would hurt my finger. The tables are now piled high with artificially flavored cupcakes, fruitcake and imitation whipped cream, past-their-prime pies filled with overripe fruits and topped with a plain crust, and a sinless array of sugar-free candies. Why do people even eat here?

APPENDIX A Cont.

Good Food/Not Hungry Condition (Control story #2)

Today I went to a family wedding. The reception was at a good banquet hall. Not too fancy, but really tasty food. I am currently watching my weight, but fortunately I am full from a big lunch. When I walk into the reception, my stomach gurgles with satisfaction and I know it's going to be a good night. I walk towards the main table in the room and I see trays loaded with every type of delicious dish imaginable. Platters chock-full of steaming chicken and vegetable skewers, nachos with salsa and sour cream, succulent sausages, golden toasted Italian bread with dipping sauces, and gourmet sesame crackers topped with authentic French spreads. And those are just the appetizers!

After the bridal party enters and the bride and groom have their first dance, the main dishes are introduced. The reception staff brings out the chicken alfredo. This is one of the banquet hall's specialty dishes – the perfect blend of spices and herbs mixed in a buttery, creamy sauce over free-range organic chicken and homemade pasta. I literally have no appetite because of my earlier meal.

All around me, people are piling food onto their plates. The aroma from their plates fills the room – beef tenderloin, fresh sweet corn, buttered potatoes, and just-baked French bread.

Then it is time for dessert. A series of cakes are on the menu, and the one in front of me looks so delicious with its layered, rich chocolate frosting. The tables are now piled high with chocolate and vanilla cupcakes, angel's food cake with berries and real whipped cream, just-out-of-the-oven pies filled with raspberries and peaches and topped with a flaky crust, and a decadent array of chocolate-covered strawberries. Good thing I already ate a big lunch and have no appetite!

APPENDIX B

Toronto Empathy Questionnaire

For the following items, please indicate the extent to which the statements match your experiences using the scale provided below. Please answer honestly. There are no right or wrong answers.

**The scale ranged from 1 (Never) to 5 (Always).

1. When someone else is feeling excited, I tend to get excited too.
2. Other people's misfortunes do not disturb me a great deal.
3. It upsets me to see someone being treated disrespectfully.
4. I remain unaffected when someone close to me is happy.
5. I enjoy making other people feel better.
6. I have tender, concerned feelings for people less fortunate than me.
7. When a friend starts to talk about his\her problems, I try to steer the conversation towards something else.
8. I can tell when others are sad even when they do not say anything.
9. I find that I am "in tune" with other people's moods.
10. I do not feel sympathy for people who cause their own serious illnesses.
11. I become irritated when someone cries.
12. I am not really interested in how other people feel.
13. I get a strong urge to help when I see someone who is upset.
14. When I see someone being treated unfairly, I do not feel very much pity for them.
15. I find it silly for people to cry out of happiness.
16. When I see someone being taken advantage of, I feel kind of protective towards him\her.

APPENDIX C

Motivation to Control Prejudice Questionnaire

The following questions concern various reasons or motivations people might have for trying to respond in nonprejudiced ways. Some of the reasons reflect internal-personal motivations whereas others reflect more external-social motivations. Of course, people may be motivated for both internal and external reasons; we want to emphasize that neither type of motivation is by definition better than the other. All your responses will be completely confidential. We are simply trying to get an idea of the types of motivations that people in general have for responding in nonprejudiced ways. If we are to learn anything useful, it is important that you respond to each question openly and honestly. Please give your response according to the scale below.

**The scale ranged from 1 (strongly disagree) to 9 (strongly agree).

1. Because of today's politically correct standards, I try to appear nonprejudiced toward people who are overweight.
2. I try to hide any negative thoughts about people who are overweight in order to avoid negative reactions from others.
3. If I acted prejudiced toward people who are overweight, I would be concerned that others would be angry with me.
4. I attempt to appear nonprejudiced toward people who are overweight in order to avoid disapproval from others.
5. I try to act nonprejudiced toward people who are overweight because of pressure from others.
6. I attempt to act in nonprejudiced ways toward people who are overweight because it is personally important to me.
7. According to my personal values, using stereotypes about people who are overweight is OK.
8. I am personally motivated by my beliefs to be nonprejudiced toward people who are overweight.
9. Because of my personal values, I believe that using stereotypes about people who are overweight is wrong.
10. Being nonprejudiced toward people who are overweight is important to my self-concept.

APPENDIX D

Feeling Thermometer

For the following items, please indicate how favorably or unfavorably you view each social group. Please answer as honestly as possible. There are no right or wrong answers.

100 = Very Favorably

0 = Very Unfavorably

1. Drug users
2. Feminists
3. People with a mental illness
4. Gay people
5. Black people
6. Racists
7. Elderly people
8. Obese people
9. Ugly people
10. People with HIV/AIDS
11. Alcoholics
12. Homeless people
13. Gang members
14. Child abusers

APPENDIX E

Universal Measure of Bias: Anti-Fat Subscale

For the following items, please indicate the extent to which you agree or disagree RIGHT NOW. We are interested in your thoughts about each statement in the PRESENT moment. Please answer as honestly as possible. There are no right or wrong answers.

**The scale ranged from 1 (strongly disagree) to 7 (strongly agree).

1. Fat people tend toward bad behavior. ^{NJ}
2. Fat people are sloppy. ^{NJ}
3. Sometimes I think that fat people are dishonest.
4. Fat people have bad hygiene. ^{NJ}
5. In general, fat people don't think about the needs of other people. ^{NJ}
6. I would not want to have a fat person as a roommate. ^{SD}
7. I like fat people. ^{SD}
8. I don't enjoy having a conversation with a fat person. ^{SD}
9. I would be comfortable having a fat person in my group of friends. ^{SD}
10. I would like having a fat person at my place of worship or community center. ^{SD}

NJ = Negative Judgment subscale

SD = Social Distance subscale

APPENDIX F

Debriefing Statement

Thank you for your participation in this study.

In today's study you read a story about a person watching their weight that was in a situation where food was present. After this, you completed a few questionnaires and a categorization task.

We manipulated two aspects of the story that you read. The first aspect that we manipulated was whether you were prompted to adopt the perspective of the person in the story or simply read the story. The second aspect was whether the person in the story resisted the temptation of eating food because of a restrictive diet to lose weight (high effort) or he/she was not hungry (low effort). We expect these variations in the story to influence your responses on the cognitive measures that you completed. Specifically, we expect that taking the perspective of the person in the story (versus not taking their perspective) that used high self-control (versus low self-control) should also deplete one's own self-regulatory capacity.

You completed one cognitive measure that is a measure of self-regulation. This measure is called the Lexical Generation Task. You also completed a categorization task where you were asked to categorize words (e.g., large, slim, joyful, terrible) into different categories (Fat People/Thin People and Good/Bad). This categorization task is called the Implicit Association Test (IAT) used as a measure of implicit attitudes toward fat people.

We apologize for not disclosing this information to you earlier. It is important to understand that the information that was presented today was in the context of a research study. In psychological experiments it is sometimes necessary to disguise or mislead people about the true purpose of the study when the scientific question under investigation cannot be answered if people knew exactly what was being investigated. If we told you about the different experimental conditions and measures before you participated in the study, you may have unintentionally responded differently, making us unable to look at your natural response. We ask that you please do not share the actual purpose of this study with anybody else for the same reasons just mentioned.

Thank you again for taking part in this study. Your participation is extremely valuable in helping us make progress in the scientific study of perspective taking and self-control. If you have any questions or concerns regarding any aspect of this study, please contact James Hodge at james.hodge@uvm.edu or (802) 656-2670. If you have any questions about your rights as a participant in a research project or for more information on how to proceed should you believe that you have been injured as a result of your participation in this study you should contact the UVM Director of the Research Protections Office at 802-656-5040.