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In the "Eye of the Beholder": Prejudice, the In-Group Over-Exclusion Effect, and the Fat Threshold

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IN THE “EYE OF THE BEHOLDER”: PREJUDICE, THE IN-GROUP OVER-
EXCLUSION EFFECT, AND THE FAT THRESHOLD

A Dissertation Presented

by

Leslie Crimin Johnson

to

The Faculty of the Graduate College

of

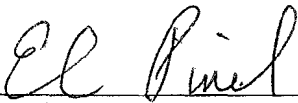
The University of Vermont

In Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
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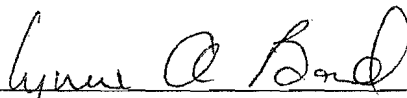
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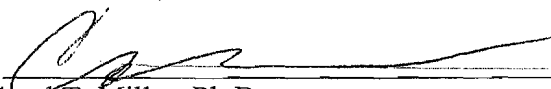
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Abstract

This dissertation examined whether factors specific to the perceiver influence whom he/she labels as “fat.” Building upon research examining the role that one’s level of identification with a group (Castano, Yzerbyt, Bourguignon, & Seron, 2002; Leyens & Yzerbyt, 1992) and one’s prejudice level (Allport, 1954; Allport & Kramer, 1946) play in the process of categorizing others, this dissertation examined whether one’s body weight centrality and prejudice against fat people influence whom he/she labels as “fat.” Further, to understand the mechanism explaining the link between these factors and the labeling process, this dissertation also explored whether motivational factors underlie whom a perceiver labels as “fat.” Undergraduate females who self-identified as “not fat” were recruited for two studies that addressed these goals. Study one examined whether perceivers’ prejudice levels and body weight centrality levels influenced how they categorized others based upon body weight and whether this categorization process represented a threat to the self. Study two examined further examined the role of prejudice and body weight centrality in body weight-based categorization as well as whether the desire to protect the in-group from contamination motivates the categorization process. Hypotheses were tested through a series of multiple regression analyses. Findings suggest that both prejudice towards fat people and the importance that one places upon body weight in one’s feelings of self-worth predicted the fat threshold. Further, evidence did not support the hypothesized impact of motivational factors on the link between prejudice or body weight centrality and the fat threshold. Implications and limitations are discussed.

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In the “eye of the beholder”: Prejudice, the in-group over-exclusion effect, and the fat threshold

“The other day, my editor asked me, ‘Do you really think people feel uncomfortable when they see overweight people making out on television?’ ...My initial response was: *Hmm, being overweight is one thing — those people are downright obese!*” (Maura Kelly, 2010)

In an article for *Marie Claire* magazine online, freelance writer Maura Kelly (2010), discussed her reactions to the main characters of the television sitcom *Mike and Molly* (Garcea, 2010). The plot of the show surrounds the lives of two people, Mike and Molly, during the development of their romantic relationship. An added entertainment-based “twist” to this show stems from the focus on the characters’ body weights as they navigate the process of trying to lose weight. Kelly’s article, “Should ‘Fatties’ get a room? (Even on TV?),” which the magazine *Marie Claire* published shortly after the debut of the show, explores the question of whether a romance between two people perceived as heavier than acceptable by society’s standards represents entertainment for the average American television viewer.

Rather unknowingly, Maura Kelly’s initial reaction to the characters Mike and Molly demonstrates a phenomenon largely overlooked by researchers relevant to labeling other people based upon body weight. Her reactions demonstrate that judgments about body weight often vary depending upon the perceiver. As exemplified by the surprise in Kelly’s reaction, based upon her editor’s initial description of the characters Kelly expected Mike and Molly to be less heavy than Kelly perceived them to be. I argue that

this disconnect between Kelly's reactions and those of her editor serve a key role in understanding the prejudice and discrimination expressed toward people based upon body weight. Drawing upon social cognitive research examining the process of categorization, this dissertation explores what factors specific to the perceiver might lead people, such as Maura Kelly and her editor, to perceive the body weight of a person in their environments differently.

To shed light on the question of whether factors specific to the perceiver predict categorization based upon body weight, in this dissertation I examine whether prejudice and group identification predict the categorization of targets based upon body weight in a manner similar to prejudice and group identification's applications to racial and ethnic categorization. Specifically, I draw upon theorizing from past research (Allport, 1954; Allport & Kramer, 1946; Leyens & Yzerbyt, 1992) to examine whether prejudice level and the importance that one places upon his/her own body weight may influence the degree of "fatness" that he/she accepts when labeling targets as "fat" or "not fat." Throughout this dissertation, I refer to the point on the body weight continuum at which a perceiver begins to label others as "fat," rather than "not fat," as the "fat threshold." Additionally, I refer to the level of importance that one places upon his/her identity as "not fat" as body weight centrality.

I present two studies examining prejudice, body weight centrality, and theorizing built upon past research on categorization of targets based upon race and ethnicity to explore the process of categorizing of targets as "fat." The first study builds upon preliminary research examining the role of prejudice in predicting the fat threshold

(Johnson & Pintel, 2008) and extends this research to examine whether body weight centrality also predicts the fat thresholds of perceivers. Importantly, this study tested the hypothesis that body weight-based categorization represents an identity related threat that a perceiver protects himself/herself from through the labeling process. Study two provides a direct test of the hypothesized motivational mechanism underlying the categorization process by manipulating motivation to protect the in-group from contamination with “fat” out-group members.

Prior to explaining the methodology for studies one and two, relevant background literature will be presented. First, I review literature examining body weight-based prejudice and discrimination in the United States. A review of literature examining what factors predict how perceivers categorize targets who challenge category boundaries follows. Subsequently, I discuss why these factors might influence the categorization process. Next, I present preliminary research drawing a connection between past research on categorization and body weight-based categorization. Finally, I discuss lingering questions from previous research and how the current studies address those questions.

Weight-based stigma

Termed as the last socially acceptable prejudice in the United States, prejudice based upon body weight remains prevalent in American culture (Crandall, 1994; Puhl & Brownell, 2001). Widely publicized statistics of the rates of people who are overweight and obese suggest that the majority of Americans fall into medically defined categories associated with heavyweight status (Hedley et al., 2004).¹ Given the increasingly

normative nature of being heavyweight in the United States, one might expect a decrease in the stigma associated with the attribute heavyweight because of the increase in exposure to heavyweight individuals. Research disconfirms this proposition and shows that reported incidents of body weight-based discrimination rose by 66% between 1996 and 2006 (Andreyeva, Puhl, & Brownell, 2008). In face of the rising rates of people who are overweight and obese, this increase in perceived body weight-based discrimination highlights the pervasiveness of body weight-based prejudice in the United States.

Given the rising rates of people who belong to the medical categories of overweight and obese and the wide-spread prevalence of body weight-based prejudice and discrimination, the question arises, who is perceived as belonging to the social category “fat”? As exemplified by Maura Kelly’s reaction to Mike and Molly, no clear definitions of body weight-based categories, including “fat,” exist. Further, a target may not even realize that people perceive him/her as “fat” unless explicitly called fat by others (Rice, 2007). Additionally, commentaries on perceptions of body weight stress that shifting cultural norms define body weight standards (Campos, 2004; Jacobs Brumberg, 1997). The lack of definitional standards for “fat” and “not fat,” the possible disconnect between perception of body weight by a perceiver and a target, and the shifting cultural standards for body weight ideals collectively suggest that the process of categorizing a person based upon his/her weight status represents a perceptual judgment with no clear “right” or “wrong” answers.

To appreciate why one would even care about the process of body weight categorization, one must first grasp the severity of body weight stigma in the United States. The assertion that heavyweight individuals (i.e., individuals viewed as heavier than cultural standards for “normal” weight) face negative consequences as a result of their body weights spans decades of research. Pioneer stigma researcher and sociologist, Erving Goffman (1963), first discussed being heavyweight as stigmatizing when he labeled the characteristic of heavyweight status a member of the stigma class “abominations of the body.” Studies in the mid-1960’s demonstrated that heavyweight individuals, particularly females, suffer from weight related economic and educational disadvantages (Crandall, 1994; Goldblatt, Moore, & Stunkard, 1965). In 1967 researchers identified common stereotypes characterizing heavyweight individuals as “lazy,” “ugly,” “stupid,” and “dishonest” (Staffieri, 1967). Also during this time period, commentaries based upon case histories of obese individuals seeking weight-loss treatment suggested that the stigma associated with body weight posed detriments to the self-esteem and psychological well-being of people who are obese (Cahnman, 1968).

Recent findings build upon historical commentaries that frame weight-based stigmatization as a pervasive problem. In the United States, findings demonstrate that negative attitudes toward heavyweight individuals thrive across seemingly all demographics of people (Carr & Friedman, 2005; Klaczynski, Goold, & Mudry, 2004; Latner, Stunkard, & Wilson, 2005; Perez-Lopez, Lewis, & Cash, 2001). This fact is particularly alarming when one considers that heavyweight individuals themselves tend to endorse anti-fat ideology (Crandall, 1994; Perez-Lopez et al., 2001). An examination

of social settings further exemplifies the pervasiveness of body weight-based prejudice. Findings reveal that body weight-based prejudice exists in the domains of employment, health care, weight management practices, educational settings, interpersonal relationships, legal settings, and in media representations of heavyweight individuals (Puhl & Brownell, 2001; Puhl & Heuer, 2009).

Studies also document body weight-based stigmatization in domains where one might assume that heavyweight individuals remain safe from bias. Some of the most striking evidence of this bias stems from literature demonstrating both explicit and implicit body weight-based prejudice among healthcare professionals (Schwartz, O'Neal Chambliss, Brownell, Blair, & Billington, 2003; Teachman, Gapinski, Brownell, Rawlins, & Jeyaram, 2003). Researchers argue that the presence of this stigmatization explains why heavyweight women seek out routine health care, such as pelvic exams, much less frequently than their non-heavyweight counterparts (Paskiewicz, Peters, & Gianopoulos, 2002; Puhl & Heuer, 2009).

Consistent with the idea that people who are heavyweight face stigma in traditionally “safe spaces,” heavyweight individuals report that their most stigmatizing interactions occur with family members and close friends (Puhl, Moss-Racusin, Schwartz, & Brownell, 2008). Research also suggests that body weight-based prejudice from family members at least partially contributes to the economic disadvantages faced by heavyweight individuals. Crandall (1991; 1995; 1996) demonstrated that heavyweight

women are less likely than their lightweight peers to receive monetary and emotional support from their parents to attend college (see also Crosnoe, 2007).

Not simply an intriguing social psychological phenomenon, the negative nature of body weight-based stigma also possesses tangible consequences for people who are heavyweight. Clinical research suggests that for heavyweight women seeking weight-loss through bariatric surgical procedures, such as gastric bypass surgery, a history of stigmatizing weight experiences may contribute to the development of eating disorders (Rosenberger, Henderson, & Grilo, 2006). In a study examining a sample of 40,086 African American and Caucasian adults, Carpenter and colleagues (1999) reported a positive association between weight-status (as measured by Body Mass Index scores) and Major Depressive Disorder, suicide ideation, and actual suicide attempts. Moreover, in the same study, medically obese individuals demonstrated the highest risk for all disorders of interest as compared to overweight, normal weight, and underweight participants. In an extensive meta-analysis examining the relation between self-esteem and weight-status, Miller and Downey (1999) revealed that self-identification as overweight predicted lowered self-esteem.

In contrast to other forms of prejudice and discrimination, such as racism and sexism, it seems that explicit prejudice toward heavyweight people continues to rise in the United States (Andreyeva et al., 2006). This body weight-based discrimination comes at high costs for heavyweight individuals in the economic, educational, interpersonal, and physical and mental health domains (Puhl & Brownell, 2001; Puhl & Heuer, 2009). From

all perspectives, research suggests that being heavyweight in the United States results in dramatically poor outcomes for heavyweight individuals.

Confusion regarding definitions of “fat”

The research reviewed above clearly demonstrates the stigmatizing nature of being heavyweight in the United States (Crandall, 1994; Puhl & Brownell, 2001; Puhl & Heuer, 2009). Given that findings suggest that body weight-based stigmatization remains severe and negative, it is surprising that it remains unclear exactly what body size constitutes “fatness.” This inconsistency in terminology and operational definitions clouds the interpretation of research findings. In studies examining body weight-based prejudice, a failure to define the targets of interest results in an unclear picture of the nature, pervasiveness, and severity of body weight prejudice. A similar inconsistency in research examining the effects on targets of body weight-based stigma results in findings that do not identify to whom the negative consequences of body weight-based stigma apply.

The diversity in the training of researchers interested in body weight bias provides one explanation for the lack of consistency in body weight terminology. Researchers interested in the stigma associated with body weight originate from various sub-fields of psychology, including clinical psychology, health psychology, and social psychology, as well as other related disciplines, such as sociology and women’s studies. The common association of body weight with poor health outcomes further complicates the landscape

of body weight bias research by drawing interest from public health researchers, medical doctors, and nutritionists.

In academic writings, social psychologists often utilize the term “heavyweight” to describe the social category of individuals perceived as heavier than societally defined “normal” weight (Crandall, 1991, 1994; Crandall & Biernat, 1990; Crandall & Martinez, 1996; Miller & Downey, 1999). Many of these same researchers operationalize “heavyweight” through “fat” terminology, particularly when measuring prejudice toward heavyweight individuals (Crandall, 1991, 1994; Crandall & Biernat, 1990; Crandall & Martinez, 1996; Lewis, Cash, Jacobi, & Bubb-Lewis, 1997). For example, Crandall’s (1994) Anti-fat Attitudes Questionnaire asks participants to rate agreement with items such as, “I really don’t like fat people much” and “Although some fat people are surely smart, I think they tend not to be quite as bright as normal weight people.” Other social psychologists, as well as women’s studies scholars, utilize “fat” terminology in a more consistent manner in academic products and when operationally defining the construct (Lewis et al., 1997; Rice, 2007; Robinson, Bacon, & O’Reilly, 1993; Solovay, Wann, & Rothblum, 2010).

Researchers grounded in clinically based fields tend to utilize terminology associated with obesity when operationalizing and writing about body weight bias (Puhl & Brownell, 2001; R. M. Puhl & Heuer, 2009; Schwartz & Puhl, 2003; Wadden & Stunkard, 1985; Wang, Brownell, & Wadden, 2004; Wing & Jeffery, 1999). For example, the Attitudes toward Obese Persons Scale (Allison, Basile, & Yunker, 1991;

Hedley et al., 2004) utilizes items such as, “Severely obese people are usually untidy” and “Obese workers cannot be as successful as other workers.”²

In the context of the discrepancies in the usage of weight terminology definitions, the most widely used definitions for body weight stem from the medical categorization system of Body Mass Index (BMI). A BMI score is a mathematical value that accounts for both height and weight when characterizing weight status (i.e., weight, in kilograms, divided by height, in meters, squared). Medical professionals utilize BMI scores to categorize patients as “emaciated,” “underweight,” “normal weight,” “overweight,” or one of three categories of obesity, “obese I,” “obese II,” and “obese III” (Hedley et al., 2004).³

Research examining heavyweight targets often turns to the BMI system for guidance in operationalizing weight comparison categories, a tendency confused by the use of non-BMI based terminology in the measurement of outcomes. For example, in a study examining the relation between body weight and automatic and controlled anti-fat attitudes, Schwartz, Vartanian, Nosek, and Brownell (2006) compared prejudice levels of participants in the BMI based categories of underweight, normal weight, overweight, obese, and extremely obese (defined as BMI greater than or equal to 40.0). The researchers established these groups by calculating each participant’s self-reported height and weight and placing him/her into one of the five BMI based categories. During the study, participants completed an Implicit Association Test during which they reported their levels of association of “thin” and “fat” with “good” and “bad,” as well as the

stereotypes “lazy” and “unmotivated.” Participants subsequently completed a series of self-report measures meant to assess explicit anti-fat prejudice, including items such as, “I strongly prefer thin people to fat people.” Participants also filled out a series of “trade-off” measures, during which they rated their agreement with statements such as, “I would rather be an alcoholic than obese.”

Findings revealed that participants in the BMI based category “obese” demonstrated the lowest levels of implicit and explicit anti-fat attitudes; “underweight” and “normal” weight participants demonstrated the highest levels of implicit and explicit anti-fat attitudes. No differences based upon body weight group emerged for implicit stereotypes or the personal trade off questions. The authors further noted that although significant differences emerged in the level of prejudice expressed by participants in each BMI based category, even “obese” and “overweight” participants expressed relatively high levels of implicit and explicit anti-fat attitudes (Schwartz, Vartanian, Nosek, & Brownell, 2006).

The methodology and implications drawn from the findings of this study provide a prime example of the problem surrounding terminology use in the body weight stigma literature. The conclusions of this study suggest that the significant differences seen amongst BMI groups on the different prejudice measures imply an in-group positivity bias because the heaviest participants reported the lowest levels of prejudice. This conclusion relies upon the assumption that the BMI based categories map on to the social groups captured by the prejudice measures. However, the implicit measures utilized “fat”

and “thin” as the groups of interest, whereas the explicit measures utilized “obese,” “overweight,” and “fat” as the groups of interest. The authors did not define these labels for participants and did not gather data explaining how participants defined “fat,” “overweight,” and “obese.” Further, the authors did not ask participants to self-report their own body weight labels. For this reason, the authors cannot confidently say whether their data demonstrate in-group positivity because the participants whom the authors defined as “overweight” and “obese” based upon BMI standards may not personally identify with those labels or the broader category of “fat” people.

Despite the common use of BMI in the weight-bias literature, to date, I am not aware of any published research examining whether perceivers identify targets with BMI’s falling within the medical categories of “overweight” and “obese” as belonging to their corresponding medical labels. Further, no study examined whether perceivers think that the BMI categories of “overweight” and “obese” correspond with the label “fat.”

The methodology reviewed above shows that little congruence exists amongst the definitions used by body weight-bias researchers or in the methodologies that they use to operationalize body weight terminology. The use of different terminology across research teams and disciplines creates a landscape of research that lacks consistency. The studies reported here seek to provide clarity to the body weight stigma research by examining whether characteristics specific to the perceiver, specifically his/her prejudice level and body weight centrality, predict who he/she views as “fat.”

Importance of defining “fatness”

In addition to adding clarity to past literature examining body weight stigma, identifying whom perceivers view as “fat” represents a crucial goal for understanding the experiences of both perpetrators and targets of body weight-based stigma. Isolating factors that predict how perceivers label heavyweight targets not only aids in the interpretation of past body weight stigma research but also informs how the stigma operates from the perspectives of both perpetrators and targets. The current literature on body weight stigma does not address the characteristics of the perceiver that matter during categorization. Most research looks at judgments of the target in isolation of their interaction partner’s characteristics, neglecting to consider how the perceiver’s characteristics influence categorization. This dissertation seeks to add that complexity through consideration of the perceiver’s prejudice level, body weight centrality, and motivations.

Understanding whom people view as “fat” holds important implications for how perceivers make sense of and interact with social targets of varying body sizes. Social category labels, such as “fat,” serve as meaningful mechanisms through which perceivers make sense of the world (Fiske & Neuberg, 1990; Quinn & Macrae, 2005). Classic literature on social categorization argues that the process of placing social targets into categories helps perceivers make sense of and effectively navigate complex and confusing social environments (Bruner, 1957; Rosch, 1978). By labeling targets as belonging to the social category “fat,” perceivers draw upon an entire knowledge structure relevant to all members of the targets’ social groups when interpreting their behaviors and intentions (Bruner, 1957; Fiske & Neuberg, 1990). In this sense, labeling a

target as “fat” allows perceivers to apply a host of social stereotypes associated with heavyweight people (e.g., lazy, unmotivated, gluttonous, and low achieving) when interpreting the target’s behaviors (Klaczynski et al., 2004; Puhl & Brownell, 2001; Puhl & Heuer, 2009).

Because of the highly negative nature of the stereotypes associated with heavyweight people, this application of stereotypes possesses potentially detrimental effects for how perceivers interact with heavyweight targets. By gaining information about whom perceivers view as “fat,” future research can begin to understand when stereotyping influences how a perceiver acts toward a target. Although defining the target represents an important aspect of body weight stigma research, many studies do not identify whom perceivers stereotype based upon body weight. For example, Klaczynski and colleagues (2004) examined obesity through a measure that asked participants to endorse words to complete the following statement, “In my opinion, fat people have/are...” (Klaczynski et al., 2004; pg. 312). Although the authors argued that the study examined obesity stereotypes, without defining “fat” as corresponding specifically to obesity the targets that participants considered when responding cannot be identified.

The potential variability in perception of others based upon body weight and the role that perceivers’ own identities play in that process becomes particularly important when one considers interactions with targets whose body weight statuses appear ambiguous, or not clearly “fat” or “not fat.” If perceivers utilize different definitions for “fat,” then interactions with targets who fall on the boundary between “fat” and “not fat”

may sometimes be influenced by body weight-based stigma and other times not. Without knowing when the stigma applies, researchers may not be tapping into the severity of the body weight stereotyping applied by some perceivers.

In addition to the ramifications for understanding body weight stigma from perpetrators' perspectives, identifying the factors that predict whom perceivers view as "fat" greatly impacts how one interprets findings that researchers argue demonstrate the influence of body weight-based stigma on targets. If perceivers apply different criteria when making judgments about body weight, then heavyweight targets constantly face uncertainty about when others view them as "fat." This lack of certainty may result in the constant need to compensate for the potential stigmatization (Miller, Rothblum, Felicio, & Brand, 1995). Further, these compensation activities, such as appearing interpersonally warm, differentially affect various interaction partners. When interacting with individuals who view a target as "fat," compensation may not be sufficient to help the target overcome negative stereotypes associated with being heavyweight. When interacting with others who do not view the same target as "fat," the same behavior may foster positive feelings. This lack of consistency paints a picture of a vastly confusing social landscape for heavyweight individuals.

In sum, identifying whom perceivers view as "fat" and "not fat" represents a question crucial to understanding body weight stigma research. Past research did not provide clear operational definitions for "fat" and "not fat," clouding interpretations of findings and their implications. Further, if perceivers' motivational factors predict whom

they view as “fat,” identifying a way to systematically predict this distinction offers a solution for body weight stigma researchers interested in both the targets’ and the perceivers’ experiences. I turn to research examining categorization of people who challenge clear category boundaries to understand which factors past research suggests predict the categorization process and therefore may be relevant to categorization based upon body weight.

Predicting categorization

The process of social categorization acts as a powerful tool used by perceivers to make sense of the social environments in which they live (Macrae & Bodenhausen, 2001; Rosch, 1978). Upon assigning a category label to a target, perceivers activate related attributes and stereotypes and often apply those stereotypes to that target (Gilbert & Hixon, 1991; Gilbert, Pelham, & Krull, 1988; Taylor, 1981; Taylor, Fiske, Etcoff, & Ruderman, 1978). In the case of heavyweight individuals, labeling a target “fat” allows for the association of stereotypes, such as lazy, gluttonous, low achieving, and unmotivated (Klaczynski et al., 2004; Staffieri, 1967).

Most research in the social perception realm focuses on instances where the group membership of a target can be easily labeled based upon visual inspection of attributes such as skin tone and hair style (Blair, Judd, & Fallman, 2004; Livingston & Brewer, 2002). Relatively less research focuses on instances when applying a category label to a target may be challenging because he/she lacks attributes that clearly signal one distinct group membership or because the group boundaries lack clarity. The literature that

addresses this second circumstance plays a crucial role in the current dissertation because body weight-based categorization depends upon how the perceiver views the target.

As exemplified by the lack of data demonstrating a correspondence between the medically defined BMI based categories of “overweight” and “obesity” and the social label of “fat,” as well as the varying operationalizations of “heavyweight” utilized by researchers across studies and disciplines, defining who is “fat” may truly be in the “eye of the beholder.” The subjective nature of body weight-based categorization makes literature examining how perceivers make sense of categorically ambiguous targets particularly applicable to this dissertation.

Although past research did not directly examine the question of what factors predict the categorization of targets based upon body weight, for decades researchers examined factors that predict how perceivers make sense of others based upon targets’ racial and ethnic identities, including instances when targets’ identities appear ambiguous. A series of seminal studies conducted by Gordon Allport and colleagues (1954; Allport & Kramer, 1946) provide evidence relevant to this idea by identifying an individual difference that influences the process of categorizing others based upon ethnicity. Specifically, Allport and others (Allport, 1954; Allport & Kramer, 1946; Dorfman, Keeve, & Saslow, 1971; Himmelfarb, 1966) argued that a perceiver’s prejudice level largely influences how he/she labels the ethnic identities of in-group and out-group members as well as the identities of individuals whose ethnic identities appear ambiguous.

Allport and Kramer (1946) presented the first in a series of studies designed to test whether anti-Semitism influenced the accuracy with which perceivers categorized targets as “Jewish” or “not Jewish.” To test this basic question, the researchers asked participants to engage in a visual classification task. During the task, participants viewed a series of photographs of individuals whose actual group identities were known by the researchers. Participants assigned one of three labels to the targets: Jewish, not Jewish, or I don’t know. Prior to the task, the authors pre-tested participants’ levels of anti-Semitic attitudes. Findings revealed that high prejudice individuals not only categorized more pictures as “Jewish,” they actually made more *correct* ethnic categorizations than low prejudice individuals (Allport & Kramer, 1946).

Allport and Kramer’s (1946) finding that prejudice level influenced categorization of targets based upon ethnicity spurred a series of follow up studies that set out to replicate the initial findings. Lindzey and Roglosky (1950) conducted the first of the follow-up studies and further expanded upon Allport and Kramer’s (1946) initial work by introducing ambiguity in group membership into the paradigm. In this study, the authors utilized pictures from a college year book ranging from “very Jewish looking” to “very not Jewish looking,” which they used to create a continuum of perceived ethnic typicality. By selecting pictures from fraternities either associated with Judaism, or not, the authors knew the ethnic identity of the individuals pictured. Findings demonstrated that despite the pictures’ levels of ethnic typicality, high prejudice perceivers categorized more pictures as “Jewish” than “not Jewish.” These findings replicated Allport and

Kramer's (1946) original work and extended its generalizability to instances when ethnic identity is not easily discernible based upon visual inspection.

In addition to Lindzey and Rogolsky's (1950) work, Dorfman, Keeve, and Saslow (1971), Elliott and Wittenberg (1955), Himmelfarb (1966), and Quarty, Keats, and Harkins (1975) conducted follow-up research studies utilizing Allport and Kramer's (1946) initial paradigm of labeling Jewish ethnic identity. More recently, Blascovich, Wyer, Swart, and Kibler (1997) produced a similar study examining prejudice level and categorization of targets ranging in racial typicality from clearly Caucasian to clearly African American. Findings demonstrated that high prejudice perceivers categorized more targets as belonging to participants' own racial/ethnic out-groups rather than their in-groups. The findings from these studies strongly support the assertion that prejudice level predicts how people categorize targets based upon racial and ethnic identity. From these results, one can surmise that perceivers' levels of weight-based prejudice likely predict their fat thresholds.

More recent research inspired by Allport and other's (1954; Allport & Kramer, 1946) initial work on prejudice and categorization argues that one's level of group identification, or the importance that one places on his/her membership in a group, also predicts how he/she categorizes others. Drawing upon Social Identity Theory (Tajfel & Turner, 1986) and Self-Categorization Theory (Turner et al., 1987), Leyens and Yzerbyt (1992) proposed that the importance of one's social identities in how one views the self

predicts the categorization process for reasons directly related to the link between prejudice and categorization.

Social Identity Theory (Tajfel & Turner, 1986) and Self-Categorization Theory (Turner et al., 1987) emphasize the role of distinguishing the in-group from the out-group through the process of social categorization. Tajfel and Turner (1986) argued that the groups to which people belong represent integral parts of their identities. From the Social Identity Theory (Tajfel & Turner, 1987) perspective, people view their social groups as an extension of the self. Because of a fundamental desire to view the self positively, people possess motivation to see the groups to which they belong positively. Therefore, positively valuing one's social group acts as a mechanism to maintain positive self-esteem.

According to these traditions, the desire for positive self-regard motivates the process of social categorization and explains why people perceive vast similarities within groups and dissimilarities between groups (Tajfel, 1982). By magnifying the differences between the in-group and the out-group, the individual clearly differentiates people like the self from those unlike the self, which reduces the uncertainty associated with social perception (Turner, Brown, & Tajfel, 1979). Similarly, because categorization allows the individual to associate the same emotional content with all members of a given group (Allport, 1954), members of the in-group are labeled as good or positive and members of the out-group are viewed as bad or negative. From this perspective, feelings of prejudice naturally stem from strong in-group identification (Tajfel, 1982). Given the motivation to perceive the self as positive and the perception of differences between groups that occurs

as result of the identification process, seeing the out-group less positively than, and thus different from, the in-group, is viewed as an out-growth of the categorization process (Brewer, 1979).

Leyens and Yzerbyt (1992) argued that perceivers are motivated during perception to protect the integrity of their in-groups. Therefore, upon encountering a target, perceivers must be absolutely certain that the target possesses all of the characteristics needed to belong to the in-group before labeling him/her as an in-group member. Leyens and Yzerbyt (1992) argue that these high standards for inclusion in the in-group lead to Allport and others' (Allport & Kramer, 1946; Dorfman et al., 1971; Himmelfarb, 1966) findings in the realm of prejudice and perception. The tendency to behave cautiously when categorizing targets and to work to protect the in-group from contamination by accidentally labeling out-group members as in-group members is termed the "in-group over-exclusion effect."

Leyens and Yzerbyt (1992) first found empirical support for the in-group over-exclusion effect in a series of studies that compared the type of information that Dutch students of Flemish ethnicity utilized to categorize a series of targets as "Flemish" or "Waloon" (another Dutch ethnic group). In these studies, the researchers provided participants with information about the characteristics and traits of a series of targets. Participants received as much information as they felt they needed to make a categorization of each target. Leyens and Yzerbyt (1992) hypothesized that participants would require a large amount of positive information that confirmed membership as Flemish to make an in-group categorization and would need relatively little negative

information that disconfirmed membership as Flemish to make an out-group categorization. Findings fully supported this hypothesis, demonstrating that with relatively little disconfirming information participants easily categorized targets as out-group members, but those same participants possessed much higher standards for in-group categorization.

Although Leyens and Yzerbyt (1992) provided support for the in-group over-exclusion effect in this initial work, they used participants' self-reports of their group memberships as "Flemish" or "Walloon," as a categorical representation of in-group identification. Given that research demonstrates that people vary in the importance that they place upon their group identities (Crocker & Luhtanen, 1990; Sellers, Rowley, Chavous, Shelton, & Smith, 1997), Castano, Yzerbyt, Bourguignon, and Seron (2002) proposed that levels of group identity matter in predicting the in-group over-exclusion effect. Additionally, drawing upon research demonstrating that motivational factors play a particularly important role in perception when ambiguity is present (Balciotis & Dunning, 2006), Castano and colleagues (2002) argued that motivation to protect the in-group plays a particularly important role in perception when targets' group identities appear ambiguous. According to Castano and colleagues (2002), under conditions of ambiguity, the in-group over-exclusion effect guides perceptions for highly group identified individuals.

To test this hypothesis, Castano and colleagues (2002) focused specifically on ethnic identity based categorizations. The researchers utilized facial morphing software to

create a series of images depicting a continuum of southern and northern Italian ethnic typicality. One end of the continuum consisted of an image rated previously as unambiguously northern Italian, an image rated previously as unambiguously southern Italian anchored the opposite end of the continuum. The researchers then morphed the unambiguous photographs together to create five intermediate stimuli at the following morphing points: 20% northern Italian/80% southern Italian; 40% northern Italian/60% southern Italian; 50% northern Italian/50% southern Italian; 60% northern Italian/40% southern Italian; 80% northern Italian/20% southern Italian. The authors created seven continuums by pairing 14 unambiguous photographs for use in the study, resulting in a total of 49 images.

Upon participants' arrivals at the lab, Castano and colleagues (2002) measured participants' levels of group identification as northern Italian utilizing a self-report measure. Questions asked participants to rate their agreement with statements such as, "I identify with northern Italians" and "To be a northern Italian is not of particular significance to me." Castano and colleagues (2002) then presented participants with the categorization task. During the task, the researchers instructed participants to categorize the 49 facial images as northern Italian or southern Italian.

Castano and colleagues (2002) created two groups out of their participants, "low identifiers" and "high identifiers," through use of a median split. The researchers found differences in the categorization process based upon in-group identification level that mimicked previous research on prejudice and categorization (Allport & Kramer, 1946;

Blascovich, Wyer, Swart, & Kibler, 1997; Dorfman et al., 1971). Overall, high identifiers categorized more targets, regardless of their morphing stage, as out-group members. This finding suggests that in-group identification acts much in the same way as prejudice in the realm of perceptual bias.

To examine the ways in which participants categorized targets, Castano and colleagues (2002) also compared reaction time latencies during the categorization process. A significant interaction between identification level and morphing percentage emerged. Further probing revealed that the higher the percentage of in-group likeness (northern Italian) in the photograph, the longer it took high identified participants to make decisions about acceptance as an in-group member. This finding suggests caution on the behalf of the high identified participants when categorizing targets as member of the in-group. Further, the authors argued that the findings provide support for the proposition that the in-group over-exclusion effect operates in highly group identified perceivers. The findings for low-identified participants provide an interesting contrast. Low identified perceivers demonstrated slower categorization of ambiguous targets than unambiguous targets. The authors argued that this tendency reflected a desire to categorize targets accurately.

Research on the in-group over-exclusion effect (Leyens & Yzerbyt, 1992; Castano et al., 2002) suggests that one's level of group identification, or how central one's group identity is to one's sense of self, plays an important role in perception. Specifically, according to theorizing, a desire to protect the in-group from contamination motivates

perception and results in increased vigilance during the categorization process in effort to avoid inadvertently including out-group members in the in-group. Further, as argued by Castano and colleagues (2002), group identification plays a particularly important role in the in-group over-exclusion effect when targets' identities appear ambiguous in some manner. Importantly, from this perspective, identification with a group, not prejudice, represents the most direct predictor of how people categorize others based upon group membership.

Past research provides two potential individual difference factors of interest, prejudice level and level of identification (termed identity centrality in this dissertation) that may predict the process of categorizing targets based upon body weight. Given the consistent link between prejudice and perception in past research and the conceptual link between prejudice and group identification (Leyens, & Yzerbyt, 1992), in this dissertation I explored both factors as predictors of the fat threshold.

In addition to identifying the potential role that identity centrality plays in categorization, the work on the in-group over-exclusion provides possible explanations for why prejudice level and group identification might relate to the fat threshold. Specifically, research studying the in-group over-exclusion effect proposed that motivational factors influence this effect. This point plays a central role in the current dissertation and I return to this point later on. First, I present findings from a study conducted at the University of Vermont that provide insight into how past research on

prejudice and categorization directly applies to judgments about the body weights of others.

Body weight-based categorization

Inspired by research on prejudice and perception, in the Fall of 2008 we conducted a study at the University of Vermont applying Allport and Kramer's (1946) work to the attribute of interest for this dissertation, body weight (Johnson & Pinel, 2008). Given that no previous research connected prejudice and the fat threshold, we wondered whether participants' negative attitudes toward fat people might predict whom they labeled as "fat."

We recruited one hundred and forty-three undergraduate students through psychology courses for a study examining "body size in person perception." At the start of the study, the Anti-fat Attitudes Questionnaire ($M=2.169$, $SD=.56$; Crandall, 1994) measured participants' body weight-based prejudice. This measure asked participants to rate their agreement on a 7-point likert scale to questions such as, "I really don't like fat people much," and "Fat people have only themselves to blame for their weight." Subsequently, participants engaged in two categorization tasks. First, we presented participants with Stunkard and colleagues' (1983) figure rating scale and asked them to indicate the lightest figure on the scale which they perceived as "fat." In the second task that did not directly assess the fat threshold but did focus on judgments of the body weights of others, participants reported the body weight of a woman whom they would label "heavyweight" if she were 5'6" tall and 18 years of age.

Findings demonstrated a significant negative correlation between body weight-based prejudice and the outcomes of each categorization task. Specifically, as Anti-fat Attitudes increased, participants rated a lighter figure on the rating scale as fat, $r=-.255$, $p<.002$. To quantify this difference, a simple regression line was computed and points were taken 1 standard deviation above and below the mean to represent high and low prejudice perceivers. High prejudice perceivers indicated that a figure at the 8.036 point, on the 9 point scale, represented a “fat” figure. In contrast, low prejudice perceivers indicated that a figure at the 8.609 point, on the 9 point scale, represented a “fat” figure.

Similarly, weight-based prejudice correlated significantly with the outcome of the body weight of a heavyweight woman, $r=-.350$, $p<.001$. As with task one, I computed a regression line and I entered points into the equation to quantify 1 standard deviation above and below the prejudice mean. Results demonstrated that fat thresholds of high prejudice perceivers occurred at 160.79 lbs and at 171.516 lbs for low prejudice perceivers. Importantly, neither group reported a weight that corresponded with a BMI in the obese range, supporting the assertion that from a perceptual standpoint the term “heavyweight” does not correspond directly with medical obesity.

The findings from this preliminary study suggest that the seminal work presented by Allport and others (Allport & Kramer, 1946; Himmelfarb, 1966; Lindzey & Rogolsky, 1950) generalizes to body weight-based categorization. Although this study provides a first step in understanding the factors that may predict the categorization of targets based upon body weight and provides support for the application of past research to the domain

of body weight-based categorization, it also leaves a number of lingering questions unanswered. In the next section, I present these lingering questions and explain how the current dissertation works to address them.

Lingering questions

Despite the large body of previous research examining the role of perceivers' prejudice levels and group identifications in predicting categorization of people in their environments, a number of questions remained unanswered from previous research and limit the understanding of how these factors may apply to body weight-based categorization. In this dissertation, I expand upon this past research to test the role played by prejudice level, group identification, and motivational factors in the categorization of targets based upon body weight.

Focusing first on what factors predict the categorization process, a primary goal of this dissertation centers on expanding upon past research by examining the impact of prejudice level and body weight centrality simultaneously on the process of categorization. Although the in-group over-exclusion effect (Leyens & Yzerbyt, 1992) proposes that the reason why prejudice predicts categorization stems from its conceptual link to group identification, I am not aware of any previous research directly testing this assumption. For this reason, in this dissertation, I examined prejudice level and body weight centrality as predictors of the fat threshold.

Given the role of group identification in this dissertation, it is also important to address whether the construct holds validity when applied to body weight. Although clear

definitions exist of in-group identification for racial identity and ethnic identity, the concept of body weight centrality seems less intuitive. Literature examining White identity sheds light upon this construct. Although historically social psychologists focused on minority group identification, because of its protective nature for highly stigmatized individuals, Knowles and Peng (2005) suggested that the assumption that majority identity acts as a default construct that carries no implications for the individuals is false. According to the authors, identifying as a majority group member is a meaningful construct upon which people vary. Knowles and Peng (2005) argue that possessing a high level of White majority identity leads to two outcomes of particular interest to the current studies, active attempts to maintain clear in-group/out-group boundaries and exclusion of ambiguous targets from the in-group.

Consistent with this idea, I propose that just as Whites vary with regard to their level of identification with the group “White people,” people who identify as not fat vary in the extent to which they identify as “not fat.” Given the emphasis in the United States on weight loss and the negative stigma attached to being “fat,” identifying as “not fat” may play a crucial role in an individual’s identity. Further, research suggests that people vary in the extent to which they “fear fat” or gaining weight (Goldfarb, Dykens, & Gerrard, 1985), suggesting that at least for some individuals being “not fat” is an important construct. This may be particularly likely for a college aged population such as the one used in the current studies because research suggests that body image concerns reach their peak during this developmental period (Cash & Green, 1986).

Based upon an examination of past research on majority group identification and body weight's roles in views of the self, it seems likely that people vary in the extent to which they place importance on their body weights. For this reason, I argue that the concept of body weight centrality represents a meaningful individual difference factor that may influence categorization of targets based upon body weight. However, one important question about the role that body weight plays in people's identities remains unanswered by past research. Specifically, although research shows that people vary in the extent to which they possess body image concerns (Goldfarb et al., 1985) and that majority identities do play important roles in people's lives (Knowles & Peng, 2005), no research directly addresses the question of whether people see themselves as belonging to a group of "not fat" people. For this reason, it seems likely that body weight could represent a group identity or a personal identity for some people (Brewer, 1991; 1993; 2003). Given the lack of previous research addressing this distinction, I examined body weight as both a personal and group identity in this dissertation.

A final question lingering from previous research surrounds the factors that motivate categorization of others based upon body weight. Although the in-group over-exclusion effect proposes that perceivers are motivated to protect the in-group during the categorization process, no previous study directly tested this assumption. Further, on the most basic level, previous research also did not directly test whether the process of categorizing others based upon group membership represents a threat to one's identity, whether it be personal or group. Given the importance of understanding how and if

motivational factors influence categorization based upon body weight, I also examined these questions in this dissertation.

To examine whether prejudice level, group identification, and motivational factors predict the fat threshold, I conducted two studies. First, in study one I directly tested the proposition that perceivers work to protect their group identities during the categorization process. I did so by experimentally manipulating the threat associated with categorizing targets based upon body weight. Additionally, in study one I also directly tested the role of participants' anti-fat attitudes and body weight centralities in predicting their fat thresholds. In study two, to provide a direct test of the motivational underpinnings of weight-based categorization, I experimentally manipulated motivation to protect the in-group from contamination with "fat" people by increasing or decreasing participants' concerns about stigma spill-over.

Study One

As discussed previously, in addition to understanding the factors that predict the process of labeling others as fat, understanding the mechanism explaining the link between those factors and perceptions represents a central goal of this dissertation. With this goal in mind, I drew upon the in-group over-exclusion effect for insight into possible motivational factors that influence perception of the body weights of others. Strongly rooted in Social Identity Theory (Tajfel, 1982; Tajfel & Turner, 1986) and Self Categorization Theory (Turner et al., 1979), the in-group over-exclusion effect argues that categorizing others based upon group membership represents a self-threat that people

work to defend against during the labeling process. Despite the strong theoretical nature of these connections, no previous research directly tested these assumptions. Expanding upon the limitations of research on the in-group over-exclusion effect, in study one I directly tested whether the process of categorizing others based upon body weight represents a self-threat to perceivers by drawing upon Steele's (1988) Self-Affirmation Theory.

The main tenet of Steele's (1988) Self-Affirmation Theory argues that protecting self integrity serves as the primary goal of the self-system. According to Steele (1988), all humans possess a desire to see the self as moral and adaptively integral. Threats to one's integrity, such as feelings of cognitive dissonance or behaving in culturally inappropriate ways, result in lowered feelings of self-worth and defensive reactions that help restore the self and its moral fiber (Steele, 1988). From this perspective, inadvertently categorizing a "fat" person as "not fat," and therefore including him/her as a member of the in-group, threatens one's identity.

Within the Self-Affirmation framework, integrity to the self can be restored following a self-threat by affirming self-integrity. As Steele (1988) argues, the goal of the self-system is to maintain balance of integrity. For this reason, affirming the self prior to encountering a self-threat actually buffers the self from subsequent self-threats (see Sherman, Nelson, & Steele for review). Research demonstrates that pre-emptive self-affirmations work to increase openness to otherwise threatening information by increasing "positive other directed feelings" (Crocker, Niiya, & Mischkowski, 2008).

Specifically, affirming the self prior to receiving a self-threat actually increases feelings of love and affection toward the individual who delivers the self-threat (Crocker et al., 2008).

Although past research did not examine whether categorizing ambiguous out-group members represents a self-threat, a handful of studies provided preliminary support that suggested that categorizing others acts as a self-threat for highly group identified people. Crocker and Luhtanen (1992) demonstrated that individuals with high collective self-esteem with respect to their social group identities engaged in derogation of out-group members after receiving a threat to group identity, whereas individuals low in collective self-esteem demonstrated no such derogation. In this study, participants received either positive or negative feedback regarding their group's social and intellectual abilities. Positive feedback participants learned that expert raters viewed their social group as "superior in social and intellectual abilities," "mature," and able to "respond well to personal and cognitive challenges." Participants in the negative feedback condition read that their social group, "lacked social sensitivity, was intellectually immature, and had difficulty processing and responding to social and cognitive information" (Crocker & Luhtanen, 1990, pg. 62). Following this feedback, participants rated themselves, their in-group, and their out-group on a series of descriptors related to social and intellectual competence, such as motivated, trustworthy, and considerate.

Findings demonstrated that regardless of feedback condition, individuals with high collective self-esteem demonstrated group enhancing behaviors, whereas those participants in the low collective self-esteem group did not show this tendency. Crocker and Luhtanen (1990) suggest that people who value their social identities work to compensate for negative feedback by derogating out-group members. These findings suggest that negative group related information may be threatening for individuals who place importance on their social identities.

In the self-affirmation realm, Derks, van Laars, and Ellmers (2009) demonstrated that threats to one's social group's integrity resulted in group-enhancing behaviors. Here the authors focused on the differential functions of "group affirmation" and "personal affirmation" behaviors. Derks and colleagues (2009) argued that although personal affirmations drive one to feel good about oneself regardless of how one feels about one's social groups, group affirmations possess particular meaning for individuals who place importance on their group memberships. For highly group identified people, affirming the group's integrity results in positive feelings specific to group identity; for low group identified people, group affirmations possess little meaning. Further, affirming one's group as integral resulted in more acceptance of group related threats for individuals who demonstrated high levels of group identity only.

Consistent with the work of Derks and colleagues (2009), Prewitt-Freilino and Bosson (2008) argued that affirming the self on domains related to group identity buffers subsequent group identity related categorization threats. Specifically, the authors

demonstrated that for heterosexual males, writing about a male stereotypic activity considered to be an “important part of the self” prior to experiencing a threat to their categorization as heterosexual males reduced feelings of self-consciousness. The participants that the researchers asked to write about a personal value not related to their masculine identities prior to receiving the same threat showed no such buffering.

Taken together, the findings presented above suggest that threats to one’s social identity may be buffered by affirming one’s group identity prior to encountering the threat. Building upon the in-group over-exclusion effect, study one frames the categorization of others based upon body weight as a self-threat. Consistent with this idea, I examined whether affirming an aspect of the self prior to engaging in body weight-based categorization influenced the fat threshold. If, as the in-group over-exclusion effect posits, a desire to avoid contamination of the in-group with out-group members motivates body weight-based categorization, reducing the threat through affirmation should result in more cautious labeling of targets as “fat.” Additionally, based upon research examining personal versus group identities, I examined multiple types of affirmations, including a personal affirmation unrelated to body weight, a personal affirmation related to body weight, and a group affirmation related to body weight.

Study overview

Study one examines whether the in-group over-exclusion effect operates during the categorization of others based upon body weight and tests whether categorization based upon body weight acts as a group identity related threat. To establish baseline

levels of the constructs of interest, I measured all participants' body weight centrality and prejudice levels through an online pre-test. I then invited participants into the lab for two ostensibly unrelated studies, one on personal values and one on perceptions of others. The first ostensible study consisted of a values affirmation exercise drawn from the work of Crocker and colleagues (2008) and Prewitt-Freilino and Bosson (2008). During this portion of the study, I randomly assigned participants to one of four conditions: a condition in which participants affirmed a part of their personal identities unrelated to body weight, a condition in which participants affirmed a part of their personal identities related to body weight, a condition in which participants affirmed their body weight group identity, and a baseline control condition. Following the affirmation study, participants were asked to complete a body weight categorization task as part of the ostensible second study. Building upon past work on self-affirmation and the in-group over-exclusion effect, I propose that the categorization task represents an identity related threat.

Hypotheses and Predictions

Building upon past research, I predicted that participants' body weight centralities and their prejudice levels would predict their fat thresholds. Further, extending upon past work, I examined which of these factors represented a stronger predictor of participants' fat thresholds by considering them simultaneously. Given that past research did not take this perspective, I held no specific prediction about which factor would surface as the strongest predictor.

Additionally, to provide an empirical test of the assumption that motivational factors influence the process of categorizing targets based upon body weight, I utilized a manipulation designed to impact whether body weight-based categorization represented a self-threat. I predicted affirmation condition would moderate the effect of prejudice and body weight centrality on the fat threshold. Specifically, for people who placed high levels of importance on their body weights and possessed high levels of prejudice toward fat people, I predicted that affirming an aspect of their body weights would result in increased fat thresholds as compared to those who did not affirm an aspect of their body weight prior to categorization. Further, I predicted this effect would not be present for those people who placed low levels of importance on their body weights or possessed low levels of prejudice toward fat people.

Method

Participants

One-hundred seventy undergraduates participated in this study. An *a priori* power analysis conducted with *G-Power 3.1.10* (Faul, 2008) revealed that 160 participants were needed to obtain moderate power for the primary analyses. Participants' ages ranged from 18-37 years old ($M=19.05$, $SD=2.50$). All participants identified their ethnic background as "not Hispanic" and the majority of participants, 94.6% ($N=159$) identified as White/Caucasian. Additionally, five participants (2.9%) identified as multiracial, 1 participant (.6%) identified as Black/African American, 1 participant (.6%) identified as American Indian or Alaskan Native, 1 participant (.6%) identified as Asian, and 1 participant (.6%) identified as Native Hawaiian or Other Pacific Islander. Given my

interest in intergroup perception, I recruited only people who self-identified as “not fat” on the screening survey for the laboratory study. The BMI scores of participants computed from self-reported height and weight ranged from 17.16-28.69 ($M=22.17$, $SD=2.34$). Only people who self-identified their gender as “female” were recruited for this study.

I limited the gender of the sample to women because of the lack of information available on the role of body weight in male identity. Research on body image primarily emphasizes thin ideal values with respect to the female body (Cash & Green, 1986; Hebl & Heatherton, 1998; Jambekar, Quinn, & Crocker, 2001). Little available research focuses on the role of body weight in men’s self-perceptions. The available research suggests that some men do place importance on their body weights but that on implicit measures of identification men tend to self-identify as lightweight despite their actual body weight status (Grover, Keel, & Mitchell, 2003; Rand & Wright, 2000). Further, findings from body weight prejudice studies suggest that gender differences do not exist in the levels of prejudice that people hold toward heavyweight targets (Crandall, 1994; Lewiset al.,, 1997). For these reasons, I recruited only women for this study. After I established that people fit the criteria of self-identification as not fat and female, I invited via email and web postings eligible people to participate in the laboratory portion of the study.

Procedures

Preliminary online survey. A preliminary online study established participants' levels of body weight centrality, body weight-based prejudice, and their self-reported categorizations of body weight. This pre-test occurred either as an ostensible online study examining "self identity and attitudes" or as part of a mass pre-testing administered to students in Introductory Psychology. In both instances, participants completed the same study.

Weight Centrality. As part of the online pre-testing, I assessed participants' levels of body weight centrality. This measure consisted of items taken from the identity subscale of the Collective Self-esteem Scale (Luhtanen & Crocker, 1992), the centrality subscale of the Multidimensional Inventory of Black Identity (Sellers et al., 1997), and three items from Doosje, Ellemers, and Russell's (1995) group identity measure. All items came from measures commonly used by researchers to measure one's level of identification with a group (see Appendix A).

The identity subscale of the Collective Identity Self-esteem Scale (Luhtanen & Crocker, 1992) is a four item measure that assesses the importance of a social identity to a person's self-concept. I created a body weight version of these items for the purpose of the current study. Participants rated their agreement on a 7-point scale, where 1 is strongly disagree and 7 is strongly agree to statements including, "Overall, my body weight has very little to do with how I feel about myself" and "In general, my body weight is an important part of my self-image." Past research demonstrates that various

versions of the identity subscale show reasonable internal consistency (Cronbach's alpha between .75-.80) and construct validity (Luhtanen & Crocker, 1992).

Participants also completed items from the centrality subscale of the Multidimensional Inventory of Black Identity (Sellers et al., 1997) adapted to assess body weight centrality. I created the adaptation of these items based upon Settles's (2009) work that modified the centrality subscale for the purpose of assessing "woman" and "scientist" identity centrality. Participants indicated their agreement on a 7-point scale (where 1 indicates "strongly disagree" and 7 indicates "strongly agree") with 5 statements. Items on this scale include: "My body weight is unimportant to my sense of what kind of person I am (reverse scored)."

Finally, participants completed three items adapted from Doosje, Ellemers, and Russell's (1995) measure of group identification. I included these items to capture participants' levels of identification with their body weight group. Participants indicated their agreement on a 7-point scale (where 1 indicates "strongly disagree" and 7 indicates "strongly agree") with the statements such as, "I see myself as a member of my body weight group."

Body weight-based prejudice. During the online pre-test, I also assessed participants' levels of weight-based prejudice. I measured prejudice with the Anti-fat Attitudes Questionnaire (AFA; Crandall, 1994) (Appendix B).

The Anti-fat Attitudes Questionnaire is a 13-item scale with high internal consistency ($\alpha=.95$, Crandall, 1994). Crandall (1994) argued that unlike other measures

of prejudice, such as Modern Racism (McConahay, 1986), the Anti-fat Attitudes Questionnaire is not as susceptible to social desirability concerns because body weight-based prejudice remains socially acceptable in the United States. Participants rated their agreement with the items such as, “I really don’t like fat people much,” on a 7 point scale, where 1 is strongly disagree and 7 is strongly agree. This measure is widely used in weight-bias research and was utilized in our previous research predicting the fat threshold (Johnson & Pinel, 2008).

Self-reported body weight categorization. I included a measure of self perceived body weight categorization to gather information about whether participants perceived themselves as “fat” or “not fat.” Specifically, participants answered the following item during the demographic portion of the study, “Please choose the option that best describes your body weight: fat or not fat.” Participants also self reported their heights and weights, from which I computed Body Mass Index scores that I used as covariates in data analysis.

Laboratory portion

I invited eligible females who identified as not fat on the pre-test and completed the pre-test measure of body weight centrality to participate in the 30 minute laboratory portion of the study. To avoid alerting participants to the aims of the study, I advertised the lab portion as one 30 minute session during which participants engaged in two unrelated studies, one on personal values and one on person perception. I randomly assigned participants to one of four self-affirmation conditions: a personal affirmation condition, a personal body weight affirmation condition, a group identity body weight

affirmation condition, or a baseline (no values) control. Each person participated in the study separately.

Upon arriving at the lab, a research assistant greeted participants and asked them take a seat at a desk with a computer. Four people served as research assistants in this study, one male and three females. During data analysis, no differences in findings emerged as a function of research assistant and therefore I will not discuss possible differences further. The research assistant guided participants through the consent process for the two ostensible studies. Consistent with methodology used in past self-affirmation studies (see Crocker et al., 2008), the research assistant presented participants with two separate consent forms, one for each study. The research assistant asked participants to read each consent form, allowed them to ask any relevant questions, and asked them to sign both forms if they agreed to participate. Upon reading the consent forms, all participants signed the forms and agreed to participation.

The research assistant then informed participants that they would first engage in the study on personal values. He/she explained that the research team was interested in how people think about and rank the importance of a variety of values. The research assistant then handed participants a paper-and-pencil questionnaire packet and explained that they would be given 15 minutes to complete the enclosed materials. At this point, the research assistant left the room and waited out in the hall for 15 minutes as participants completed the self-affirmation manipulation.

Affirmation manipulation. The affirmation manipulation appeared as the first task presented in the packet and asked participants to rank a series of personal values/activities in order of their personal importance or importance to people of their body weight group (Crocker et al., 2008; Sherman et al., 2000).

In the self-affirmation condition, participants ranked a series of values in order of their personal importance. The values, drawn from past research (Crocker et al., 2008; Prewitt-Freilino & Bosson, 2008), included: business/economics, artistic skills, music ability, creativity, social life-relationships with friends and family, science-pursuit of knowledge, religion-morality, government-politics. Consistent with Prewitt-Freilino and Bosson's (2008) work, values in the self-affirmation conditions were chosen with the intent of avoiding topics relevant to body weight to ensure that participants' focused on aspects of the self not related to weight identity.

Inspired by procedures utilized by Prewitt-Freilino and Bosson (2008), I asked participants in the personal body weight affirmation condition to rate the importance of a series of values/activities chosen specifically because of their relevance to body weight: athletics, physical exercise, fashion/shopping, physical health, dietary choices, hard-work, self-control, and beauty. After participants ranked the values/activities, I asked participants in the personal affirmation and personal weight affirmation conditions to "write for a few minutes" about their highest ranked value/activity and why it was personally important to them.

Drawing upon methodology used by Glasford and colleagues (2009), participants assigned to group identity body weight affirmation condition read the same set of values presented to participants in the personal body weight affirmation condition but ranked them in order of importance to people of their body weight group. Participants in this condition were instructed to “write for a few minutes” about the highest ranked value/activity and why it is important to them personally.

Individuals assigned to the baseline control condition engaged in a writing task, adapted from Prewitt-Freilino and Bosson (2002), designed to be self-neutral. Specifically, participants wrote for a few minutes about how to walk to the campus student union, the Davis Center, from the psychology building without using any proper names or landmarks.

As a manipulation check, after completing the writing portion of the activity, I asked all participants to rate the activity/value in terms of its importance to their self-concepts on a scale of 1 (not at all important to my self-concept) to 9 (very important to my self-concept). At the end of the personal values study packet, participants informed the research assistant that they finished the first study. All participants finished this portion of the study within the allotted 15 minutes.

Body weight categorization task. The research assistant then explained to participants that the second study on perceptions of others would take place on the computer. He/she reminded participants that the second study examined how people perceive others on the basis of social group memberships. He/she then directed students

to the computer and left the room while participants completed the categorization exercise.

Prior to beginning the exercise, a written summary of the study goals appeared on the computer screen. This summary ensured that participants remembered the goal of the task and also served to bolster the cover story. After reading the summary, participants advanced to the categorization task. Upon beginning the task, the program presented participants with the Photographic Figure Rating Scale (PFRS; Appendix D) (Swami, Salem, Furnham, & Tovee, 2008). Swami and colleagues (2008) developed this scale as an ecologically valid alternative to traditional body image scales, such as Sorensen and colleagues' (1984) figure rating scale. The authors argue that this scale represents a marked improvement upon traditional line drawing and silhouettes figure scales because it utilizes photographs of real women arranged in a continuous fashion to create a measure of body image ranging from medically emaciated (BMI<15) to medically obese (BMI>30). A major limitation of previous measures is their inability to accurately represent the morphological changes in the body as an individual gains weight. Swami and colleagues (2008) argue that the PFRS more accurately depicts natural change along the body weight continuum.

The ten photographs on this scale were chosen by the authors based upon data about the actual BMI scores of the women and the BMI scores that perceivers attached to the images. The scale includes two figures from each of the medically defined BMI categories (emaciated, underweight, normal, overweight, and obese). The actual BMIs of

the figures in the scale are as follows: 12.51, 14.72, 16.65, 18.45, 20.33, 23.09, 26.94, 29.26, 35.92, and 41.23. All images depict women standing in the same position and wearing identical clothing. Additionally, all of the women's faces are obscured so as to not confound physical attractiveness with body weight. Previous research suggests that the PFRS is a reliable and valid measure of body weight. Participants consistently report perceiving the images as a continuum, with 96.7% of participants able to replicate the correct ordering of the images. The PFRS shows construct validity and high test-retest reliability (Swami et al., 2008).

Upon encountering the PFRS, participants indicated the lightest figure on the scale that they perceived as "fat." To quantify the physical body weight that participants associated with the chosen figures, the program then asked participants to, "Imagine a woman who is the same height as yourself and has the body image of the figure that you choose as 'fat.' How much do you think this woman weighs (in lbs)?" As an exploratory measure, participants also reported the heaviest figure on the scale that they perceive as "not fat," the figure associated with their own body image, and whether they perceived any figures as neither "fat" nor "not fat" (Appendix D).⁵

Additional perception measures. Following the categorization task, participants completed a stereotype endorsement task. I predicted that if the affirmation task did not influence categorization as hypothesized, it might have influenced other aspects of perception, including general beliefs about "fat people." For this task, participants completed Puhl and colleagues' (2008) Obese Persons Trait Scale, which I adapted for

use in this study by changing the terminology to “fat people” (See Appendix E). This scale presents participants with twenty terms relevant to stereotypes about heavyweight people, ten of which are positive and ten of which are negative. I asked participants to indicate the percentage of “fat” people who possess the stereotypes. Past research demonstrates high acceptable internal consistency of items on this scale (positive traits: $\alpha=.83$ and negative traits: $\alpha=.73$). In addition to the stereotype measure, I assessed participants’ post-manipulation prejudice levels with the Anti-fat Attitudes Questionnaire (Crandall, 1994).

Participants then filled out a series of demographic questions (Appendix F), answered a series of questions to generate an identifier allowing their pre-test data to be anonymously linked to the lab data, and completed a funneled debriefing in written form and verbal form. During the suspicion probing, participants reported no adverse reactions or negative impressions of the study. The research assistant fully debriefed all participants, provided information about course credit or extra credit, thanked them for participating, and dismissed them.

Results

Creation of composites

Prior to cleaning and screening the data, I created composites for each of the measures utilized in this study. For each measure, I reverse scored applicable items and assessed internal consistency of the measures through reliability analyses conducted prior to computing the composites. All measures demonstrated acceptable internal consistency

(all Cronbach's alphas >0.80). To create the composites, I calculated each participant's score on each measure.

Weight centrality measure. Given that I created the body weight centrality measure for the purpose of this study from items taken from other measures of collective self-esteem and group identity (Crocker & Luhtanen, 1990; Doosje et al., 1995; Sellers et al., 1997). I paid special attention to ensuring that this measure represented a valid and meaningful assessment of body weight centrality. First, I examined the reliability of the measure through an analysis of internal consistency. The Cronbach's alpha for the body weight centrality score was 0.81, consistent with reliability scores reported in previous studies using collective identity measures (Crocker & Luhtanen, 1990).

To further understand the structure of the measure, I conducted a factor analysis on the items from the weight centrality scale. First, utilizing the entire sample of female undergraduates who filled out the body weight centrality scale as part of the online pre-testing ($N=590$), I conducted a Maximum Likelihood factor analysis with a promax oblique rotation. As suggested by Costello and Osborne (2005), I choose to conduct a Maximum Likelihood factor analysis because of adequate sample size and the normal distribution of the data. Further, I selected the oblique promax rotation to allow for the possibility that any factors within the measure might correlate with each other (Costello & Osborne, 2005). Examination of the scree plot revealed a two factor structure; all items loaded higher than .32 on their respective factors (Tabachnick & Fidell, 2001). This structure suggested one factor with four items and one factor with 8 items. Interestingly,

these factors do not correspond to the original scales from which I drew the body weight centrality items.

The composite factors moderately correlate with each other ($r=.32$). The first composite includes items such as, “Overall, my body weight has very little to do with how I feel about myself” and “My body weight is unimportant to my sense of what kind of person I am (reverse scored).” Given that these items all reference how body weight influences judgments of self-worth and self identity in interpersonal relationships, I refer to this factor as the **personal body weight identification** measure throughout the analyses. The second composite includes items such as, “The body weight group I belong to is an important reflection of who I am.” and, “I see myself as a member of my body weight group.” Due to the focus of body weight as a group identity, I refer to this composite as the **group body weight identification** (see Appendix A).

Data Cleaning and Missing Data

Prior to conducting the main data analysis, I screened the data for outliers at the composite level. I removed responses that fell beyond 3.29 standard deviations above or below the mean (Tabachnick & Fidell, 2001). Based upon this technique, six participants provided one outlier and two additional participants provided two outliers. These outliers were interspersed throughout the dataset; no noticeable pattern emerged for these responses. Exploratory analyses suggest that these participants did not differ from the other participants in the study on any of the outcomes of interest. The composites were

then examined for violations of assumption of normality through histograms. None of the composites of interest from this study emerged as non-normally distributed.

Following removal of outliers, I addressed the missing data. Seventeen participants in this study provided at least one missing data point (including the eight that surfaced as outliers). The majority of these participants ($n=10$) provided only one missing data point. Further, the missing data did not appear to be systematic as a function of the observed data. One participant served as an exception to this observation. This participant failed to complete the last half of the online pre-testing study, which led to missing data on the composites computed from that portion of the study. Aside from this participant, the missing data points appeared randomly throughout the data set.

To address the missing data from this study, prior to conducting data analysis I employed multiple imputation utilizing **Amelia II** (Honaker & King, 2010) an add-on statistical package to the software **R** (R Development Core Team, 2010). The technique of multiple imputation addresses missing data by generating a series of datasets in which the missing data points are replaced with estimates. This process results in a set of “completed” datasets that are then combined during the analysis process. Unlike single imputation processes, multiple imputation allows for a less biased estimation of missing data by aggregating across multiple independent estimates of each missing data point. To estimate the missing data points, **Amelia II** utilizes a bootstrapping Expectation Maximization based (EMB) algorithm. Research suggests that estimates from the EMB algorithm provide unbiased estimates similar to other algorithms employed for multiple

imputation strategies (Honaker & King, 2010). Multiple imputation represents a less biased approach to addressing missing data than some of the more traditional missing data techniques, such as mean substitution or estimates based upon linear regression (Graham, 2009).

Multiple imputation procedures utilize all relevant information included in the imputation model to estimate the missing values. One limitation of this type of procedure is that a relatively large number of observations are needed in relation to the variables in the imputation model in order to provide non-biased estimates and for the imputation algorithm to run. To reduce the number of items included in the multiple imputation model, I included participants' responses at the composite level rather than the item level (Graham, 2009). Further, given the demographic homogeneity of the sample in this study, I excluded all demographic data except participants' BMI scores from the imputation model. Additionally, prior to running the imputation, I computed all of the interactions relevant to this study.

Lastly, prior to imputing the datasets, I took one final step. One assumption of the EMB algorithm used by **Amelia II** is that the variables included in the imputation model should not be highly correlated. High levels of collinearity often result in biased estimates. Given the use of pre-test baseline measures in this study, I addressed this issue of multicollinearity by including a factor called a *ridge prior* in the imputation model. Adding a ridge prior to an imputation model is conceptually similar to adding a constant. This constant introduces stability into the model and helps to provide unbiased estimates

of missing data despite high correlation between some items (Honaker et al., 2010). Consistent with the recommendations of Honaker, King, and Blackwell (2010), I included a ridge prior of 1 in the imputation model.

For this study, five multiply imputed datasets resulted from the imputation process (Honaker et al., 2010). Examination of the imputation diagnostics available in **Amelia II** suggest a good fit for imputations in each of these datasets. I then used the program **Zelig** (Imai, King, & Lau, 2009), also an add-on package to the program **R**, to test the hypotheses for this study. Within **Zelig** the analyses were conducted using the least squares regression model for each imputed data set and the results were combined. Here I present only the combined findings.

Additionally, prior to conducting data analysis, I took one final step to ensure the validity of the body weight centrality measures. Utilizing one of the multiply imputed data sets, I conducted a factor analysis on the body weight centrality items. For this analysis, I employed the same model and rotation that I utilized for the pre-test sample but specified a two factor solution. The same items loaded on each factor as with the larger pre-test sample. Based upon these findings, I felt confident that the factor structure identified from the entire pre-test sample held true for the final laboratory study sample.

Overview of Analysis Strategy

I tested all hypotheses for this study with hierarchical multiple regression. Consistent with recommendations from Aiken and West (1991), I employed a dummy coding scheme for the categorical variable of affirmation condition. This coding scheme

resulted in three condition variables, where the baseline control condition was always coded as 0 and the comparison affirmation condition always coded as 1. In analyses with interactions, I centered all predictor variables prior to computing the interactions of interest.

Additionally, to control for the impact of participants' own body images (i.e., how heavy they perceived themselves to be), in each analysis I entered participants' self-reported body images as a covariate. Recall that participants reported their own body images in two ways: by selecting a figure on the figure rating scale and by providing their own body weight and height (from which I computed a BMI score). Thus, in each analysis, I entered the measure of body image that corresponded to the fat threshold outcome of interest. For example, when looking at factors that predicted the figures on the PFRS that participants labeled as "fat," I entered the figure on the PFRS that participants chose to represent their own body images as the covariate.

What predicts the threshold?

Identifying factors specific to the perceiver that predict the fat threshold served as the primary goal of this dissertation. Recall that from past research I identified two factors, prejudice and body weight centrality, that looked promising for predicting the fat threshold (Allport, 1954; Allport & Kramer, 1946; Balcetis & Dunning, 2006; Castano et al., 2002; Leyens & Yzerbyt, 1992). Additionally, although past research identified these factors as promising, no research directly examined these factors together as predictors of perception. To examine the predictive validity of these factors together in the first

analysis that I conducted I examined participants' levels of anti-fat attitudes, personal body weight identifications, and group body weight identifications as predictors of their fat thresholds simultaneously. To do this, I performed a hierarchical multiple regression analysis examining both fat threshold outcomes: the first figure on the PFRS that participants labeled as fat and the BMI computed from the weight that participants estimated for the fat figure and their own self-reported heights. In the first step of each analysis I entered the personal body image measure corresponding to the fat threshold outcome. In the second step I entered the three predictors: anti-fat attitudes, personal body weight identification, and group body weight identification. Given my interest in the prediction of the fat threshold from prejudice and body weight centrality, here I report only the last step of the regression. Results for this analysis appear in **Table 2**.⁶

An examination of Table 2 reveals that the analysis examining the outcome of the fat figure on the PFRS presented the most clear cut findings and for that reason I focus on these findings first. Specifically, when I entered anti-fat attitudes, personal body weight identification, and group body weight identification simultaneously into the regression analysis, personal body weight identification ($b=-.28, \beta=-.26, p<.001$) and anti-fat attitudes ($b=-.50, \beta=-.26, p<.001$) emerged as unique predictors of the fat threshold. Specifically, as participants' levels of personal body weight identification increased, the figure on the PFRS that they labeled as fat decreased. Similarly, as participants' prejudice levels increased, the figure that they chose to represent the first fat figure decreased. Importantly, participants' group body weight identification levels did not significantly predict their fat thresholds ($b=.06, \beta=.05, ns$). Also of note, participants'

own body figures surfaced as a significant predictor of the fat threshold ($b=.22$, $\beta=.22$, $p<.01$).

As can be seen in Table 2, none of the factors emerged as significant predictors of the outcome of the BMI of the fat figure. However, a trend emerged for anti-fat attitudes such that as participants' anti-fat attitudes increased, the BMI of the figure that they chose as the first fat figure decreased ($b=-.97$, $\beta=-.15$, $p=.08$). As with the fat figure outcome, participants' own BMI predicted the fat figure BMI estimate ($b=.77$, $\beta=.43$, $p<.0001$).

Overall, findings from these analyses suggest that the more importance that people placed upon their personal body weights and the higher levels of prejudice that they held toward fat people as a group, the lower the point on the body weight spectrum that they labeled as fat. These findings both support and expand upon past research. The findings with respect to prejudice level replicate our previous work examining prejudice and its prediction of the fat threshold (Johnson & Pinel, 2008). Importantly, this finding extends upon our past research by using new operationalizations of the fat threshold and by demonstrating that prejudice predicts the fat threshold even when one accounts for the importance that one places upon one's membership to a group of not fat people and the importance that one places upon one's own body weight.

The threat of body weight-based categorization

Armed with the knowledge gained from the first analysis, specifically that participants' levels of personal body weight identification and anti-fat attitudes predicted

their fat thresholds, I then examined whether motivational factors moderated these effects. Based upon the knowledge gained from past research (Castano et al., 2002; Leyens & Yzerbyt, 1992), I hypothesized that categorizing others based upon body weight represents a self-threat that perceivers work to defend against during the categorization process. For this reason, I predicted that affirming one's body weight prior to engaging in the categorization task would reduce defensiveness and therefore raise the fat thresholds for people who placed a high amount of importance upon their body weight in their identities and for those people who possess a high level of prejudice toward fat people.

To test this prediction, for each of the fat threshold outcomes I conducted an analysis examining whether affirmation condition moderated the impact of the each of the factors identified in the previous analysis as unique predictors of the outcome while controlling for the other factors. For the outcome of the PFRS fat figure, given the slightly higher standardized beta coefficient for personal body weight identification than for anti-fat attitudes, I conducted the first analysis employing personal body weight identification as the factor of interest. In this analyses, I entered participants' own body figures, their anti-fat attitudes scores, and group body weight identification scores as covariates, the dummy coded affirmation condition variables and participants' personal body weight group identification scores as main effects, and the interaction between each affirmation condition variables and participants' personal body weight group identification scores as interaction terms. I then conducted a parallel analysis examining personal body weight identification and group body weight identification as a covariates

and anti-fat attitudes as a predictor of the PFRS fat figure outcome. I report the results from analyses in Table 3.

In addition to the analyses examining the PFRS fat figure outcome, I also conducted an analysis examining whether affirmation condition moderated the effect of anti-fat attitudes on the outcome of the BMI of the fat figure. Here I entered participants' own body figures, their personal body weight identification scores, and group body weight identification scores as covariates, the dummy coded affirmation condition variables and participants' anti-fat attitudes scores as main effects, and finally I entered the interaction terms for the interactions between each affirmation condition variable and participants' anti-fat attitudes scores. The results for these analyses are also reported in **Table 3**.

Overall, similar themes emerged from each of the three analyses. Focusing first on the PFRS fat figure outcome, one sees similar effects emerge for the analyses using personal body weight identification and anti-fat attitudes as the main predictors of interest. Starting with the analysis utilizing personal body weight identification as the predictor of interest, in addition to the effects of participants' anti-fat attitudes ($b=-.42$, $\beta=-.22$, $p<.01$) and levels of personal body weight identification ($b=-.39$, $\beta=-.25$, $p<.01$) on their fat thresholds, a trend emerged for the main effect of body weight group affirmation condition and control group comparison ($b=-.43$, $\beta=-.16$, $p=.06$). Specifically, as compared to the baseline control group ($M=8.27$, $SE=.17$), those in the group affirmation condition showed marginally lower fat thresholds ($M=7.82$, $SE=.16$). No

other main effects of affirmation emerged. Specifically, those participants in the personal affirmation condition ($M=8.54$, $SE=.17$) and the personal body weight affirmation condition ($M=8.20$, $SE=.17$) did not demonstrate fat thresholds that were significantly different from the fat threshold of the control group (see **Figure 1**).

To further understand the impact of the affirmation manipulation on the fat threshold, I conducted analyses comparing each of the conditions to the body weight group affirmation condition. Findings revealed that as compared to the personal body weight affirmation group, participants the group body weight affirmation condition demonstrated significantly lower fat thresholds ($b=.72$, $\beta=.25$, $p<.01$). Additionally, although not reaching trend level significance ($b=.37$, $\beta=.13$, $p=.12$), participants in the personal body weight affirmation condition expressed slightly higher fat thresholds than those in the group body weight affirmation condition.

Turning to the parallel analysis examining anti-fat attitudes as the predictor of interest for the PFRS fat figure outcome, an examination of Table 3 reveals findings similar to those reviewed above. Specifically, both participants' anti-fat attitudes ($b=-.47$, $\beta=-.21$, $p=.01$) and personal body weight identification ($b=-.27$, $\beta=-.24$, $p<.001$) emerged as significant predictors of the fat threshold. Additionally, main effects of affirmation condition mirrored those above. No significant interactions emerged in this analysis.

Turing to what we see for the analysis on the estimated BMI of the fat figure, we see that the observed trend of anti-fat attitudes on the fat threshold did not remain significant when I entered affirmation condition and the interactions into the model.

However, analyses once again showed a trend of affirmation condition such that, as compared to the baseline control group ($M=27.81$, $SE=.56$), participants in the body weight group affirmation condition showed marginally lower fat thresholds ($b=-1.34$, $\beta=-.14$, $p<.1$; $M=26.81$, $SE=.57$).

In summary, findings from the analyses examining whether affirmation condition moderated the impact of personal body weight identification and anti-fat attitudes on the fat threshold revealed that affirmation condition did not moderate the effect of either factor on the fat threshold. Additionally, main effects of affirmation condition emerged and demonstrated that participants in the body weight group affirmation condition showed the lowest fat thresholds and those in the personal affirmation condition showed the highest fat thresholds overall.

Additional perception measures

Recall that in addition to the fat threshold outcome, I also included post-manipulation measures of anti-fat attitudes and stereotypes about fat people. Utilizing these outcomes, I conducted a series of analyses employing the same general analysis approach that I employed for the fat threshold analyses.

First, I examined whether anti-fat attitudes, personal body weight identification, or group body weight identification predicted the measures of stereotypes about fat people and the post-test measure of anti-fat attitudes. None of the factors emerged as significant predictors of either of the stereotype outcomes, and for that reason I will not discuss these outcomes further. However, the analysis examining the post-test levels of

anti-fat attitudes revealed that participants' pre-test levels of anti-fat attitudes ($b=1.01$, $\beta=.66$, $p<.0001$) and group body weight identification ($b=.11$, $\beta=.11$, $p<.05$) predicted post-test measure of anti-fat attitudes.

Given that one would expect pre-test levels of anti-fat attitudes to be highly related to post-test levels of anti-fat attitudes, in interpreting the results I focused primarily on the prediction of the anti-fat attitudes from body weight group identification. To determine whether this effect might be moderated by affirmation condition, I employed an analysis strategy identical to the one that I utilized for the fat threshold outcomes. Specifically, I entered participants' pre-test anti-fat attitudes and personal body weight identification levels as covariates, group body weight identification levels and dummy coded affirmation condition variables as main effects, and finally I entered the interaction terms representing the interaction of group body weight identification and affirmation conditions. Results for this analysis are presented in **Table 4**.

As expected, participants' pre-test anti-fat attitudes and body weight group identification scores emerged as significant predictors of post-test anti-fat attitudes. Additionally, a significant interaction between group body weight identification and the comparison of control and personal affirmation conditions emerged ($b=-.30$, $\beta=.11$, $p<.05$). Further, a marginal interaction between group body weight identification and the comparison of the control and body weight group conditions emerged ($b=-.23$, $\beta=-.10$, $p=.10$).

To further understand these interactions, I probed each interaction utilizing the pick-a-point approach (Aiken & West, 1991; Cohen, Cohen, Aiken, & West, 2003). In the pick-a-point approach, analyses are conducted to examine the conditional effects of a moderator on a predictor at multiple levels of the moderating variable. This approach allows one to see at what levels of the moderator the predictor variable has an effect on the outcome. To probe these interactions, I examined the impact of group body weight identification on the fat threshold at values of weight centrality at one standard deviation below the mean, at the mean, and one standard deviation above the mean. For the purpose of this study I utilized Hayes and Matthes's (2009) MODPROBE macro for SPSS to probe the interaction in one of the multiply imputed data sets.

Similar effects emerged for both interactions. Specifically, the effect of affirmation condition on anti-fat attitudes occurred at low levels of group body weight identification (baseline control to personal affirmation: $b=.30, p=.09$; baseline control to body weight group affirmation: $b=.32, p=.08$) but not at mean or high levels of group body weight identification. In other words, differences emerged in post-manipulation anti-fat attitude as a function of condition only for those people who placed low level of importance on belonging to a group of "not fat" people. No such difference emerged for people with mean or higher levels of group body weight identification. A visual depiction of each of these interactions can be found in **Figure 2**. An examination of the interactions shows that for people with low levels of group body weight identification, participants in the personal affirmation condition and body weight group affirmation condition expressed higher levels of prejudice than participants in the control condition.

Discussion

Identifying whether factors specific to the perceiver influence categorization of targets as “fat” served as the primary purpose of this dissertation. To investigate this question, I drew upon past research examining prejudice level and group identification as factors predicting the labeling of targets as in-group or out-group members to identify anti-fat attitudes and body weight centrality as possible predictors of the fat threshold. Further, in study one, I sought to investigate the mechanism explaining the links seen in past research between these factors and perception by examining the assertion proposed by the in-group over-exclusion effect that perceivers view categorizing others based upon body weight as a self-threat. To investigate this second point, I employed an affirmation manipulation inspired by Self-Affirmation Theory (Steele, 1988). I proposed that if categorizing others based upon body weight represents a self-threat, affirming a valued aspect of the self related to body weight prior to encountering that self-threat would buffer the threat and therefore result in decreased defensiveness during categorization. Given that no previous research addressed whether body weight represents a personal or group identity for perceivers, I included affirmation manipulations addressing body weight as both a personal identity and as a group identity.

Findings from this study supported and expanded upon previous research by demonstrating that both participants’ levels of anti-fat attitudes and their levels of personal body weight identification predicted their fat thresholds. These findings emerged most prominently for the outcome of the figure on the PRFS that participants labeled as the first fat figure on the scale. Surprisingly, participants’ levels of

identification with the group of “not fat” people did not emerge as a predictor of their fat thresholds above and beyond prejudice or personal identification. Given the thrust in previous research on the in-group over-exclusion effect on group identification and its importance in predicting racial categorization, this finding seems particularly surprising.

Although many possible explanations surface for why group body weight identification did not predict the fat threshold, I focus on two here. First, given the magnitude of the correlations between anti-fat attitudes, personal body weight identification, and group body weight identification, when all of the factors are entered into the regression model any predictive validity of group body weight identification on the fat threshold may be accounted for by the other constructs. This assertion is supported by the knowledge that when I examined group body weight identification as the only predictor of the PRFS fat figure outcome other than participants’ own body image, group body weight identification approached trend level significance in its prediction of the fat threshold ($b=-.15$, $\beta=-.12$, $p=.11$). However, this finding also demonstrates that group body weight identification represents a much weaker and non-unique predictor of the fat threshold than either personal body weight identification or anti-fat attitudes.

Second, given the nature of the prediction of the fat threshold from participants’ levels of identification with the group of not fat people, I believe that these findings suggest that body weight may in fact represent a personal identity for many perceivers. This assertion is supported by the notion that the importance that participants placed upon their body weights in how they viewed themselves influenced their fat thresholds even

when I accounted for participants' anti-fat attitudes. In other words, if participants viewed their body weights as central to their sense of self, they labeled an objectively lighter figure as "fat" than those who did not. Additionally, participants' anti-fat attitudes and their levels of personal body weight identification correlated at moderate levels, suggesting that participants' negative attitudes toward fat people may be partially motivated by a desire to derogate people dissimilar to the self rather than being motivated by a desire to derogate out-group members. Although, these findings do not conclusively discount the validity of the level of importance that one places upon belonging to a group of not fat people as a construct, they seem to suggest that at least for the purpose of examining the fat threshold this construct provides little insight.

One additional question of interest that emerged from these results stemmed from the incongruent results seen for the PFRS fat figure outcome and the BMI estimate outcome. Given that the outcome of BMI of the fat figure and the fat figure itself represent only moderately correlated constructs, these outcomes may not represent as related constructs as I intended upon embarking upon this project. It may be that asking participants to estimate the weight of a figure, even when they start with their own body weight as a reference point, may be a task too difficult to accurately capture a continuum of body weight. For that reason, I feel that it is likely that the PRFS figure rating outcome represents a more valid operationalization of the fat threshold.

I now turn to the question of whether motivational factors account for differences in the fat threshold seen as a function of anti-fat attitudes and personal body weight

identification. Inspired by research on the in-group over-exclusion effect (Castano et al., 2002; Leyens & Yzerbyt, 1992), I examined whether the process of categorizing targets represented a self-threat for perceivers, particularly for those who held high levels of anti-fat attitudes and personal body weight identification. I predicted that if this process did represent a self threat, buffering one from that threat would result in reduced defensiveness and higher thresholds for those participants for whom the process represented a self-threat.

Contrary to this prediction, affirmation condition did not moderate the effect of either anti-fat attitudes or personal body weight identification on the fat threshold. However, affirmation condition itself did influence participants' fat thresholds. Specifically, across both measures of the fat threshold, participants in the body weight group affirmation condition demonstrated lower fat thresholds than those in the baseline control group. If one follows the logic laid out a priori for the expected impact of the affirmation condition on the fat threshold, this finding seems particularly surprising because it uniformly revealed the opposite effect than what I expected. I suggest two possible explanations for this finding, one that focuses on an alternative motivationally based explanation and one that focuses on the operationalization of the affirmation manipulation.

One explanation for this finding comes from the possibility that affirming one's body weight may have reduced defensiveness to the categorization process in a way not discussed previously. Specifically, this explanation stems from the desire to distance oneself from the fat threshold itself. Given that participants' own body images served as a

predictor of the fat threshold throughout all of the analyses, it seems that a desire to see the self as “not fat” motivated participants’ fat thresholds. From this perspective, for the sake of maintaining a positive view, it may be beneficial to the self to label an objectively heavier person as fat because, as a result, one’s own body image is farther away from the fat threshold. Here, affirming one’s body weight might result in a lower fat threshold because seeing the fat threshold as closer to one’s own body image represents less of a threat. In other words, participants may have felt comfortable with their own body weights after affirming them and therefore cared less about social comparison related processes.

To address this interpretation, I examined an exploratory measure of the “not fat” threshold. For this outcome, participants identified the heaviest figure on the scale that they viewed as “not fat.” If participants who affirmed their body weight group were indeed more comfortable with their own body images being close to the fat threshold than those in the control condition, I would expect that participants in the body weight group affirmation condition might also bump up the boundary of “not fat” in a similar fashion to the fat threshold to place themselves squarely in the group of “not fat” people. An analysis examining the effect of affirmation condition on the “not fat” threshold does not support this proposition. In short, no significant effects of condition emerged on the “not fat” threshold.

Given the lack of support found for the first possible explanation, I turn now to what I believe is the most likely explanation for the effects found with respect to affirmation condition. This second explanation focuses on the operationalization of the

affirmation manipulation. Recall that I asked participants in both of the body weight affirmation conditions to write about a value relevant to body weight that they personally valued or that people of similar body weights valued. I propose that for participants in these conditions the manipulation unintentionally reminded them of their identities as “not fat.” For that reason, the manipulation may have primed these participants with thoughts of how important their body weights were to their self-concepts and therefore made them aware of their own body weights during the subsequent categorization task in a way that participants in the personal affirmation condition and control conditions were not. In other words, the manipulation might have acted as a sign that said to these participants, “Remember that your body weight is important to you!” These participants may have then been motivated to label targets that they may have otherwise seen as falling somewhere between “fat” and “not fat” as “fat” to avoid seeing them as similar to the self. This interpretation is supported by the notion that the “not fat” threshold did not vary based upon condition and therefore the width between “not fat” and “fat” was reduced for those in the body weight affirmation conditions.

Building upon this idea that the body weight affirmation manipulations may have inadvertently made body weight salient and therefore washed out the expected self-affirmation related threat, I believe the observed difference between the personal affirmation condition and the body weight group affirmation condition provides some insight into the role of motivational processes in the fat threshold. Although the difference between the personal affirmation condition and control condition did not reach significance, participants in the personal affirmation group consistently expressed the

highest fat thresholds throughout all of the analyses conducted. Given the consistency of this finding and the significant difference that emerged in the fat threshold between the body weight group affirmation condition and the personal affirmation condition, I argue that participants in the personal affirmation condition may have experienced some benefit from the personal affirmation condition that resulted in their higher fat thresholds. If one considers Prewitt-Frelino and Bosson's (2008) work demonstrating that self-affirmations most effectively buffer self-threats when they occur on the domain of the self that received the threat, it seems possible that participants in the personal affirmation demonstrated partial buffering the self-threat related to body weight categorization. For this reason, I believe that employing an affirmation manipulation related to body weight but not explicitly activating body weight represents a promising future direction for this research.

A final finding of interest emerged from the analyses looking at post-manipulation anti-fat attitudes as an outcome. Recall that in these analyses, interactions of interest emerged between body weight group identification and the comparisons between baseline control and personal affirmation and body weight group affirmation. Probing of the interaction revealed that at low levels of body weight group affirmation an effect of condition emerged such that as compared to control, those participants in the personal affirmation and body weight group affirmation conditions expressed higher levels of prejudice toward fat people. Further examination of these interactions suggests that affirming a personal value or a value important to "not fat" people as a group seemed to eliminate a main effect of body weight group identification that emerged in the control

condition. Specifically, in the control condition, participants' levels of body weight group identification predicted higher levels of anti-fat attitudes; no such effect existed in personal affirmation or body weight group affirmation conditions. These findings suggest that the affirmation manipulation may have over-powered the effects of the individual difference factor of group identification on attitudes toward fat people.

The findings for study one helped to provide clarity to the questions lingering from past research in three ways. First, results from study one revealed that both anti-fat attitudes and personal body weight identification significantly predicted the fat threshold. Second, these findings provide preliminary support for the assertion that body weight may represent a personal identity for people and that this personal level of identification influences perception of others based upon body weight. Finally, although the manipulation of affirmation condition seemed to produce the unintended effect of reminding those in the body weight relevant conditions of the importance that they place upon their body weight, the findings with respect to the personal affirmation provided promising preliminary evidence suggesting that categorizing others based upon body weight may represent a self-threat.

Building upon the findings seen in study one, in study two I sought to further investigate the central questions of interest of this dissertation. Specifically, I examined additional motivational factors underlying the process of categorization by investigating whether desire to avoid contamination with fat targets motivates the labeling process.

Study 2

Study overview

Study two builds upon study one by further examining whether motivational factors influence the process of categorizing others based upon body weight. Specifically, in study two I tested the mechanism proposed by Leyens and Yzerbyt (1992) underlying how perceivers categorize potential out-group members. In this study, I experimentally manipulated participants' motivation to avoid contamination of the in-group with out-group members. Inspired by Hebl and Mannix's (2003) work on courtesy stigma, I presented participants with information about the impressions that perceivers typically make of fat and not fat people seen near each other. Previously, Hebl and Mannix's (2003) demonstrated that the stigma faced by heavyweight people often "spills-over" or influences the perceptions that people hold of other people that appear to be affiliated with heavyweight targets. In their work, the authors argued that the stigma faced by heavyweight people is so severe that simply appearing near a heavyweight target results in negative evaluations for a lightweight target. Further, not only are these lightweight targets viewed negatively, perceivers also rate them as being similar to heavyweight people in a variety of stereotyped domains (Hebl & Mannix, 2003).

I suggest that the research by Hebl and Mannix (2003) demonstrates quite literally the contamination fears that Leyens and Yzerbyt (1992) argued play a central role in the process of categorizing targets based upon group membership. Recall that according to the in-group over-exclusion effect, accidentally including an out-group member in the in-group represents a threat that perceivers work to avoid and remain vigilant against during the categorization process. Here, I experimentally manipulated

this motivation by presenting participants with ostensible research findings that demonstrated the consequences of categorization.

Specifically, some participants read a summary inspired by Hebl and Mannix's (2003) original findings that discussed the negative evaluations of not fat people that result from perceived affiliation with fat people. This represented the "high motivation condition" or the condition where those who placed a large amount of importance on their body weight should have been motivated to be vigilant about body weight-based categorization. Other participants read a similar set of findings but learned that people typically see fat and not fat people seen near each other as highly dissimilar. Here, I hypothesized that concerns about avoiding in-group contamination would be alleviated for perceivers; I termed this condition the low motivation condition. In the low motivation condition, I predicted that factors specific to the perceiver, specifically anti-fat attitudes and body weight centrality, would not influence participants' fat thresholds because motivation to avoid in-group contamination would be reduced.⁷

In addition to directly testing the motivational factors underlying the process of categorizing others based upon body weight, in study two I sought to further examine the role of personal factors in predicting the fat threshold. For this reason, as with study one, I examined participants' anti-fat attitudes, their personal body weight identifications, and their group body weight identifications as predictors of their fat thresholds. Given that no baseline control condition existed in this study, I focused only on whether the effect of any of these factors on the threshold would be moderated by motivation condition.

Hypotheses and Predictions

Building upon the theoretical framework of the in-group over-exclusion effect, I tested whether motivation to protect the in-group from contamination with out-group members influences the categorization process. Specifically, I examined whether decreasing participants' motivations to protect the in-group from contamination would reduce or eliminate any differences based upon body weight centrality or prejudice in the fat threshold. Specifically, I predicted that in the high motivation to avoid in-group contamination condition, participants' body weight centralities and prejudice levels would predict their fat thresholds such that those high in body weight centrality and high prejudice levels would express lower fat thresholds than those low in body weight centrality and low prejudice levels. Further, in the condition where the manipulation reduced motivational factors (low motivation condition), I predicted that body weight centrality and prejudice levels would not predict participants' fat thresholds.

Method

Participants

Eighty-six undergraduate students participated in this study. Participants' ages ranged from 18-43 years old ($M=20.45$, $SD=3.49$). All participants identified their ethnic backgrounds as "not Hispanic" and the majority of participants, (96.4%; $n=83$) identified as White/Caucasian. Additionally, one participant (1.2%) identified as multiracial, 3 (3.5%) participants identified as Black/African American, and 1 participant (1.2%) identified as American Indian or Alaskan Native. Also consistent with study one, I recruited only people who self-identified as "female" for this study. Unlike study one, I did not use body weight as a recruitment criterion for this study. The primary reason for

doing this was to avoid stigmatizing people who self-identified as fat by excluding them from the study. However, because of my explicit interest in intergroup perception, here I report only the data from those people who self-identified as not fat. I removed fourteen people from the data for identifying as “fat.” The BMIs computed from self-reported heights and weights of the final sample ranged from 16.83-27.43 ($M=21.62$, $SD=1.90$).

Procedures

Participation in this study took place online in one 30 minute session administered through the program SurveyMonkey.com. Recruitment took place through research fliers posted in classes and on course websites. Those interested in participating emailed me for a link to the study. I directed people to an information sheet to learn more about the study and their rights for participation. After reading the information sheet, instructions directed those people who agreed to participate to begin the study.

Upon beginning the study, all participants completed a series of individual difference measures. First, participants completed the body weight centrality scale identical to the measure employed in study one. Immediately following the body weight centrality measure, participants completed the Anti-fat Attitudes Questionnaire (Crandal, 1994). Participants then completed a series of additional individual difference measures designed to act as filler measures. These measures included: the Stigma Consciousness Questionnaire for body weight (adapted from Pinel, 1999), the Need to Belong Scale (Leary et al., 2005), the Existential Isolation Questionnaire (Pinel, Johnson, Long, & Murdoch, 2011), the Social Desirability Scale (Marlowe & Crowne, 1968), the

Egalitarianism/Humanitarianism Scale (Katz & Hass, 1988), the Self-liking and Self-competence Scale (Tafarodi & Swann, 1995), the Positive and Negative Affect Scale (Watson, Clark, & Tellegen, 1988), and finally a measure of perceived entitativity of fat people, African Americans, feminists, psychologists, men, and women (adapted from Rydell & McConnell, 2005). Upon completion of these measures, participants then encountered the motivation manipulation.

Motivation to protect in-group from contamination manipulation. People learned that they would be presented with a summary of findings from an ostensible research study. Their task was to read the summary and respond to a series of reading comprehension questions. This task served as the manipulation of motivation to protect the in-group from contamination with out-group members. The directions for this task explained that the participants' role in this study was to contribute to the validation of the materials which were to be used in an upcoming study, therefore the directions stressed the importance of careful reading during the task.

Participants then read one of the two research summaries created for the purpose of this study (See Appendix G). In both conditions, the program presented participants with an ostensible research summary based upon Hebl and Mannix's (2003) work and a picture of a heavyweight woman and lightweight women standing near each other.

I designed the research summary for the high motivation condition to increase participants' motivations to avoid in-group contamination by presenting ostensible findings that suggest that people view fat people and not fat people seen near each other

as highly similar on a variety of domains. In this manipulation, I sought to heighten participants' desires to maintain clear group boundaries between "fat" and "not fat" people by leading participants to believe that associating with a target perceived as "fat" leads to perceptions of similarity. Conversely, the research summary for the contrast condition informed readers that people in research studies typically rate a not fat and fat target seen near each other as highly dissimilar. This condition served as a contrast low motivation comparison.

Following the research summary, I asked participants to complete a series of questions assessing their comprehension of the research summary statement (Appendix F). These questions served the dual purpose of aiding in the cover story and acting as a manipulation check to ensure that participants read the statements carefully and remembered the information presented. To ensure validity of the stimulus material and the reading comprehension questions, I piloted the motivation manipulation materials prior to beginning data collection for the primary study.

Piloting the manipulation. In the pilot study I primarily examined the characteristics that participants perceived as salient when encountering the visual stimulus material used for the motivation manipulation for this study. Additionally, this study provided an opportunity to test the validity of the written reading comprehension "test" that followed the stimulus material.

Participants. I recruited a sample of twenty-nine participants from a graduate student listserv at the University of Vermont to participate in a short, 10-15 minute online

study on person perception. In exchange for participation, I offered people a coupon for a small ice cream cone from Ben & Jerry's Scoop Shops in Burlington, Vermont.

Procedures and Materials. People interested in participating in the pilot study received instructions to access a website for more information. On this website, participants reviewed a page that included information about the study goals, privacy information, information about compensation, and their rights as participants. Those people who agreed to participate advanced to the next page to begin the study. I first asked participants to view the picture that I used in the assimilation and contrast conditions (see Appendix G). I created this image for the purpose of the study and it is composed of two women with similar haircuts, stances, and apparel. To avoid judgments about facial attractiveness, I obscured the faces of the women. In designing the picture, I chose pictures of women with the goal of making body weight the largest salient difference between the women. After participants viewed the picture, I asked participants to list the characteristics that stood out the most about each woman in the picture, to list the most prominent similarities between the women, and the most prominent dissimilarities. Further, participants reported whether they felt each woman was “fat” or “not fat.”

Following this exercise, I asked participants to read the research summaries that I included as part of the manipulation in this study (see Appendix F). After each summary, participants read the reading comprehension questions and provided their answers.

Pilot results. Participants' responses to the questions regarding the stimulus picture revealed a strong theme of salience of body weight. All but two of the participants

indicated that the heavyweight women's most salient characteristic was her body size. Similarly, all but two participants indicated that the most prominent difference between these women was their body sizes. Additionally, all participants, with the exception of one, labeled the lightweight woman as "not fat" and the heavyweight woman as "fat."

Finally, turning to the findings for the reading assessment questions, virtually all of the participants in this study responded correctly to all of the reading comprehension questions. Of the errors that existed, no systematic pattern appeared to suggest a need to revise the questions.

Overall, findings from the pilot study provided confidence in the motivation manipulation. After examining the data, I concluded that the stimulus material adequately captured the intended constructs and therefore I utilized the same stimulus material for the manipulation in the primary study. Based upon this pre-testing information, participants received one of the two reading summaries as part of the motivation manipulation.

Body weight categorization task. Following the reading comprehension task, the survey then presented participants with the body weight categorization task. As with study one, I measured participants' fat thresholds with the Photographic Figure Rating Scale (Swami et al., 2008) and BMI scores computed from the weights they associated with the figure and their own self-reported heights. Following the categorization task, participants also completed the exploratory perception measures utilized in study one, Stereotypes about Fat People (Puhl, Moss-Racusin, Schwartz, & Brownell, 2008) and

Anti-fat Attitudes Questionnaire (Crandall, 1994). At the end of the study, participants completed a series of demographic questions and received a written debriefing.

Results

Composites, Data Cleaning, and Missing Data

I used the same procedures that I utilized for study one for computing composites, cleaning the data, and addressing missing data in this study. As with study one, prior to cleaning the data, I computed composites and examined the internal consistency of all of the measures. All measures performed as expected and represented reliable measures (all Cronbach's alphas $> .80$).

To clean the data, I removed responses at the composite level that fell beyond 3.29 standard deviations above and below the mean. Based upon this technique, only one response surfaced as an outlier. I then examined composites for violations of assumption of normality through histograms. None of the composites emerged as non-normally distributed.

Following removal of the outliers, I addressed the missing data. Twenty-three participants in this study provided at least one missing data point. The majority of these participants ($n=12$) provided only one missing data point. Further, the missing data did not appear to be systematic as a function of the observed or known unobserved data. Three participants stand out as an exception to this rule and failed to complete multiple questionnaires at the end of the study. However, all of these participants completed the manipulation and reading comprehension questions. Given that research suggests that

multiple imputation processes are relatively successful at handling this type of missing data in an unbiased fashion (Graham, 2009), these participants remained in the data set.

As with study one, to address the missing data prior to conducting data analysis, I employed multiple imputation utilizing **Amelia II** (Honaker & King, 2010) with the same parameters, settings, and imputation model as used for study one. Additionally, to verify the factor structure utilized in study one for the body weight centrality measure, I performed factor analysis identical to the analysis that I ran for study one. Results from this analysis confirmed the structure utilized previously and therefore I created two composites, the group body weight identification composite and the personal body weight identification composite.

Overview of Analysis Strategy

To test the hypotheses for this study, I employed a similar analysis strategy as the approach utilized in study one. As with study one, I tested all hypotheses for this study with linear regression in **Zelig** (Imai et al., 2008). When relevant to the analysis, I represented the motivation condition variable with a dummy coded variable where I coded the high motivation condition as 0 and the low motivation condition as 1. When interactions were relevant to the analysis, I centered all predictor variables prior to computing the interactions of interest.

In this study, I operationalized the fat threshold with the same variables that I used in study one. Consistent with the findings from study one, participants' self-reported body images served as a significant covariate in each of the analyses examining the fat

threshold. In every instance, as participants' own body image became heavier, the figure that they chose to represent the fat threshold became heavier as well. Given the consistency of this finding, I will not discuss it in detail for each analysis presented.

Motivation to protect from contamination

Consistent with central goal of this study, I conducted a series of analyses to examine whether motivation to protect the in-group from contamination predicted the fat threshold for those people who placed a high level of importance on their personal or group identities as “not fat” or for those people with high levels of prejudice toward fat people as a group but not for people with low levels of body weight centrality or low levels of prejudice. Consistent with the approach taken for study one, I examined each of the factors— personal body weight identification, group body weight identification, and prejudice—as primary predictors of each fat threshold outcome while controlling for the other two factors. In each analysis, I entered participants' personal body images and the two factors not serving as the primary focus as covariates. I then entered the primary factor of interest and motivation condition as main effects. Finally, I entered the interaction between motivation condition and the primary factor of interest. Given my interest in the moderating effects, here I focus only on the last step of the regression analyses. The results for the PRFS fat figure outcome are presented in **Table 6** and the results for the BMI estimate are presented in **Table 7**.

As can be seen from the tables, only one significant finding of interest surfaced across all of the analyses. Specifically, in the analysis looking at anti-fat attitudes as the

primary predictor of the BMI estimate, a marginal interaction emerged between motivation condition and anti-fat attitudes ($b=.17$, $\beta=.20$, $p<.1$). Additionally, no significant effects beyond the effects of participants' own body images and anti-fat attitudes emerged in any of the other analyses conducted.

To further understand this marginal interaction, I probed the interaction utilizing the pick-a-point approach via the MODPROBE (Hayes & Matthes, 2009) macro for SPSS using one of the multiply imputed data sets. Results revealed that the effect of affirmation condition surfaced at low levels of anti-fat attitudes ($b=-2.21$, $p<.05$) but not at mean or high levels of anti-fat attitudes. A visualization of this interaction can be found in Figure 3. As the figure reveals, at low levels of anti-fat attitudes, participants in the high motivation condition expressed higher fat thresholds than those in the low motivation condition. No such effect existed for those with mean level or high levels of anti-fat attitudes.

Additional perception measures

In this study I also included two exploratory measures of perception to determine whether the motivation manipulation would impact participants' attitudes and beliefs about fat people in general. Specifically, I examined the impact of the anti-fat attitudes, personal body weight identification, and group body weight identification on participants' post-test anti-fat attitudes and their stereotypes about fat people. Consistent with the findings from study one, none of the factors predicted participants' stereotypes about fat people (all $ps>.1$). However, consistent with the findings of study one, the

analyses employing participants' body weight group identifications as the primary predictor of interest did provide promising findings (see **Table 8**).

As can be seen from the table, although the interaction term did not emerge as significant ($b=-.01$, $\beta=-.00$, ns), a main effect of motivation condition did emerge ($b=.12$, $\beta=.10$ $p<.05$) revealing that as compared to those in the high motivation condition ($M=2.60$, $SE=.04$), participants in the low motivation condition ($M=2.72$, $SE=.04$), expressed higher levels of prejudice toward fat people. In other words, when participants learned that a fat person seen near a not fat person is often perceived as being very similar to the not fat person, participants expressed lower levels of prejudice toward fat people as a group than when they learned that a fat person seen near a not fat person is typically viewed as being highly dissimilar to the not fat person.

Discussion

I embarked on study two with the goal directly testing whether motivation to avoid contamination of the in-group with out-group members influences the categorization of others based upon body weight. In service of this goal, I sought to expand upon the findings of study one by examining whether participants' levels of anti-fat attitudes, levels of group body weight identification, and levels of personal identification predicted their fat thresholds. Further, because past research did not directly test the mechanism of in-group protection proposed by Leyens and Yzerbyt (1992), I directly tested that mechanism by employing a motivation manipulation. I hoped that directly manipulating this motivational factor might shed light upon the mechanism

underlying the link between factors specific to the perceiver, such as body weight centrality and prejudice, and the fat threshold.

Overall, the findings from study two did not support the hypothesis that the desire to avoid in-group contamination motivated the process of categorizing targets as “fat” and “not fat.” The only effect of condition that emerged from the analyses surfaced when examining prejudice level as an outcome. Contrary to predictions, findings suggest that the motivation manipulation had the unintended effect of decreasing prejudice for those in the high motivation condition and increasing prejudice in the low motivation condition. It seems that, participants may have viewed the summary from previous research as a norm model for how people feel about fat people. In other words, it is possible that information presented from a credible source such as a research study influenced participants’ attitudes toward fat people. Interestingly, this finding parallels research conducted by Puhl and colleagues (2005) that suggests that providing people with information that many people view obese targets positively results in increased in positive evaluations of obese targets. Here, it seems that indicating that research demonstrates that perceivers view a fat and not fat target seen near each other as similar reduces negative attitudes toward fat people as a group.

In addition to the observed effect of motivation condition on anti-fat attitudes, a marginal interaction surfaced between motivation condition and anti-fat attitudes for the outcome of BMI of the fat figure. This interaction revealed an effect of affirmation condition only for those with low levels of prejudice. Specifically, for low prejudice

perceivers, people in the high motivation condition expressed significantly higher fat thresholds than those in the low motivation condition. Similar to the previously discussed main effect, this finding does not support hypotheses outlined prior to the study. Instead, it seems for low prejudice perceivers, learning that people typically view not fat and fat people seen near each other as similar resulted in increased fat thresholds as compared to people who learn that perceivers view not fat and fat people seen near each other as dissimilar.

Although there are likely multiple explanations for this finding, I argue that a process may be at work similar to the explanation that I discussed for the observed main effect of motivation condition on prejudice. Specifically, I believe that the motivation manipulations served as norm models for participants. Recall that in the manipulation the women in the photograph were not explicitly labeled as “fat” or “not fat.” For that reason, learning that people typically view the women in the stimulus photo as similar might have lead participants to deduce that, in general, people do not view the heavyweight woman in the picture as “fat.” For that reason, participants in the high motivation may have picked a heavier figure on the figure rating scale as “fat” to reflect what they perceive as cultural norms. It seems likely that this effect may have occurred only for low prejudice perceivers because they hold less severe, and potentially more flexible, attitudes toward fat people.

Despite these unique and intriguing findings, it appears that the motivation manipulation did not produce the intended effects. Multiple possible explanations of note

surface for why analyses did not reveal the expected findings. First, the assumption that motivation to protect the in-group from contamination during categorization may not apply to body weight. Given the findings from study one that suggested body weight represents a personal identity rather than a group identity for some perceivers, it is possible that threats to contaminating the identity of a target other than the self may not motivate perception. Future research could directly test whether contamination to self-identity motivates perception by making the manipulation used here seem more personally relevant. For example, one might lead participants to believe that a picture would be taken of them near a fat person and used in future research. Or, participants might be told that they would be paired up with a fat person in a game involving other participants. By making the manipulation relevant to judgments about the self, one could better understand whether threats to self-contamination motivate the categorization process.

A second possibility for the lack of expected effects from the motivation manipulation could be that the manipulation itself may not have tapped into the intended construct or possessed the strength needed to influence perception. Additionally, due to an unanticipated error during data collection, no control condition was present in this study. Given that no effects of condition emerged on the fat threshold, a control comparison may have been helpful for determining the nature of the null findings. Finally, given that no previous research examined directly the motivation assumption underlying the in-group over-exclusion effect, the possibility remains open that motivation to protect the in-group from contamination may not be the best or most

appropriate mechanism to explain the observed differences in perception based upon personal body weight identification and prejudice.

General Discussion

Social categories serve as powerful tools used by perceivers to make sense of their social environments. Like other social categories, judgments about whether a person is “fat” aid perceivers by allowing stereotypes and attitudes related to fat people to be activated during social interaction (Gilbert & Hixon, 1991; Gilbert et al, 1988; Taylor, 1981; Taylor et al., 1978). As demonstrated by the experience of writer Maura Kelly (2010) and her encounter with the main characters of the television show *Mike and Molly* (Garcea, 2010), judgments of the appropriate label for a target based upon body weight lie within the discretion of the perceiver. Because there are no clear societal standards for what type of body size constitutes any given body weight-based social category, perceivers must make judgments about which labels to apply to targets based upon body weight.

Given the pervasiveness of stigma faced by heavyweight people in the United States (Puhl & Brownell, 2001; Puhl & Heuer, 2009), the current dissertation sought to add clarity to the question of whom do perceivers view as “fat”? Drawing upon the experiences of Maura Kelly and others, I argue that characteristics of the person judging a target influence whom she/he labels as “fat.” Inspired by research on group identity and its contribution in judgments of others (Allport, 1954; Allport & Kramer, 1946; Castano et al., 2002; Leyens & Yzerbyt, 1992), in two studies I examined the role that

perceivers' prejudice levels and body weight centralities play in labeling others as "fat." Further, in these studies, I also examined whether the process of categorizing others based upon body weight represents a self-threat to perceivers and whether motivation to protect the in-group from contamination motivates the categorization process.

In study one, I tested the proposition that categorizing people as "fat" represents an identity related threat that people defend against through the process of categorization. Drawing upon Steele's (1988) Self-Affirmation Theory, I proposed that if categorizing targets as "fat" represents a threat to one's identity, then affirming an aspect of one's body weight as integral prior to engaging in a body weight categorization task would buffer those who placed a high level of importance on their body weights from this threat. Additionally, given the ambiguity in past research about whether body weight represents a group identity, I examined both group level and personal level affirmations.

In study two, I examined the assertion that motivation to protect the in-group from contamination motivates categorization based upon body weight. In this study, I employed a manipulation designed to increase or decrease participants' motivations to avoid in-group contamination. To do this, I drew upon Hebl and Mannix's (2003) work on courtesy stigma. In this study, participants learned that previous research showed either that participants viewed a fat person and not fat person seen in near proximity as highly similar or that participants perceived a fat person and not fat person seen near each other as highly dissimilar. Following the manipulation, I assessed participants' fat thresholds.

Findings from both studies provide insight into the role that prejudice and body weight centrality play in predicting perceivers' fat thresholds. Additionally, each study also sheds light upon the motivational influences underlying the categorization of targets as "fat." To provide context for these findings, I now focus on the main themes that surfaced from the findings.

What predicts the fat threshold?

My primary goal when embarking upon this dissertation was to identify factors relevant to the perceiver that predict whom she/he labels as "fat." Findings from both study one and two provide insight into this question. First, participants' own body images served as a strong predictor of participants' fat thresholds in both study one and study two. Additionally, this finding surfaced for both operationalizations of the fat threshold in study one and study two. Although not discussed as part of the theorizing behind this dissertation, I believe that this finding represents an important point for understanding the labeling of others as "fat" and "not fat."

Throughout this dissertation, I argue that body weight categorization holds no clear right or wrong answers. It seems that for participants in the studies presented in this dissertation, how they viewed themselves served as a consistent predictive factor of whom they labeled as "fat." Importantly, the heavier they perceived themselves to be, the heavier the figure they labeled as "fat." Although not directly tested in this dissertation, I argue that given the pervasive nature of weight-based prejudice and discrimination in the United States, people possess a strong motivation to view themselves as "not fat." For that reason, I believe that when making decisions about body weight, one's own personal

body image serves as a strong guiding force. It seems that, as with many other types of social comparisons, the self acts as a strong starting point for judgments about whom one labels as “fat.” Future research is needed to clearly understand the role of self-perceptions in judgments of the body weights of others, but the findings presented here provide evidence suggesting that social comparison processes seem to be at work during body weight categorization.

Moving beyond the intriguing findings with respect to one’s personal body image in predicting the fat threshold, I now turn to findings relevant to the main hypotheses in this dissertation. As mentioned previously, in both study one and study two, I examined participants’ prejudice levels and both body weight centrality factors, personal body weight identification and group body weight identification, as predictors of their fat thresholds. Although support surfaced for both personal body weight identification and prejudice as predictors of the fat threshold, prejudice surfaced as the most consistent predictor of participants’ fat thresholds in both studies. Given the consistency of this finding, here I focus first on the important implications and possible meanings of the connection between perceivers’ prejudice and their fat thresholds.

One of the primary reasons that I initially became interested in predicting the fat threshold stems from the desire to understand and predict how perceivers and targets navigate social interactions in which body weight-based stigmatization may be present. Given the inherent ambiguity in body weight-based categorization, I felt that identifying factors specific to the perceiver that predict the labeling of a person as “fat” could provide insight into understanding when targets might experience weight-based prejudice

and discrimination. The findings linking prejudice to the fat threshold play a very important role in allowing one to predict conditions under which body weight-based stigma may play a role in social interaction because they suggest that if one desires to know whether a target might be labeled as fat by a perceiver, uncovering information about the perceiver's prejudice level could likely provide insight into this question. These findings suggest that for any person who might possibly be labeled as fat, the type of person whom he/she interacts with will largely influence the nature of his/her social interaction with that perceiver. Given the negative stereotypes and beliefs about fat people (Klaczynski, Goold, & Mudry, 2004; Wang, Brownell, & Wadden, 2004), the perceivers' own characteristics quite literally dictate what type of expectations she/he may have when entering an encounter with a target. Further, unless the target holds some clue to the level of prejudice that a perceiver might possess, she/he may be unaware of the need to engage in compensation strategies that may allow her/him to overcome the perceiver's pre-existing expectations.

Another important implication of the link between perceivers' prejudice levels and their fat thresholds surfaces when one considers how prejudice might persist over time. If a person possesses a high level of prejudice, according to these findings, he/she actually perceives more fat people in the world than those with low levels of prejudice. Consequently, if there are more fat targets in the environment, more opportunities exist for one to seek out or encounter people and situations that confirm negative beliefs about fat people. For example, a high prejudice perceiver might encounter more stereotype confirming situations, such as meeting a lazy, unmotivated, fat person, than a low

prejudice perceiver because his/her definition of “fat” fits more people. From this perspective, it seems that differences in perception could fuel prejudice and allow it to persist over time.

The link between prejudice and the fat threshold also holds implications for understanding how prejudice develops. Most theories of prejudice development focus on the link between stereotyping and prejudice or discrimination and prejudice (Eagly, 1998; Fiske, 1998). From these perspectives, either endorsing negative beliefs about a group of people or engaging in negative behaviors toward a group of people lead perceivers to adopt negative attitudes toward that group. From these perspectives stereotypes and/or discrimination serve as necessary precursors for the development of prejudice.

Based upon the findings of this dissertation, I argue that a potential third explanation exists for how prejudice develops. Because I examined the link between prejudice and the fat threshold at one time point, specifically in early adulthood, the possibility remains open that differences in the fat threshold from an early age might contribute to the development of prejudice. If children actually label the same targets differently, those who possess low fat thresholds may be more likely than those with high fat thresholds to develop high levels of prejudice toward fat people. Specifically, children with low thresholds would be presented in more opportunities to interact with people who they label as “fat” and therefore may be more likely to encounter “fat” targets that they view negatively than those with high fat thresholds. Multiple possible explanations surface for why children might label targets differently, including socialization factors, such as parental and cultural beliefs about weight, or more stable differences, such as

weight schematicity or the extent to which a child uses weight to make sense of the world. Understanding the origin of this difference in labeling represents an important step in understanding the link between prejudice and labeling.

Although prejudice represented the most consistent predictor of the fat threshold, participants' levels of personal body weight identification, or the extent to which they endorsed statements that indicated that their body weights influenced their feelings of self-worth, strongly predicted participants' fat thresholds in study one. Although this finding did not emerge across both studies, I believe that it provides preliminary evidence suggesting that perceivers' personal body weight identifications influence their fat thresholds. Interestingly, past research on factors that predict perception of ambiguous targets did not focus on the role that one's level of personal identification with an identity plays in the labeling process. For example, the in-group over-exclusion effect focuses on one's level of identification with a group identity and defense of group memberships in the categorization process. The findings from this study suggest that in the case of body weight, personal identification with "not fat" seems to matter. Further, and importantly, identification with a group of "not fat" people does not predict the labeling process.

These findings help to provide insight into the lingering question of whether body weight represents a meaningful group identity for "not fat" people. Given that perceivers did not behave in ways expected based upon past research on group identification and perception (Castano et al., 2002), it seems likely that either the "not fat" group identity does not operate in ways similar to other group identities or that people do not see "fat" people as an out-group. Based upon the sheer pervasiveness of prejudice directed toward

fat people (Crandall, 1991, 1994; Crandall & Biernat, 1990; Crandall & Martinez, 1996; Crandall, Nierman, & Hebl, 2009; R. Puhl & Brownell, 2003; Puhl & Brownell, 2001; Puhl & Heuer, 2009), I favor the interpretation the group identity of “not fat” may not operate in the same manner as other group identities, perhaps because as a group identity it may not play a large role in people’s self-perceptions. Although the findings with respect to personal and group body weight identification and the fat threshold provide a glimpse into a possible answer to the question, “Do people see themselves as belonging to a group of ‘not fat’ people?” only future research will provide a direct answer to this question.

Motivation behind the fat threshold

In addition to identifying the factors specific to the perceiver that predict the fat threshold, identifying mechanisms that explain the links between prejudice and body weight centrality and the fat threshold also served as a primary goal of this dissertation. Although the findings from both study one and study two did not directly support the motivationally based hypotheses, I argue that the results do provide insight into a possible mechanism explaining the link between prejudice, personal body weight identification, and group body weight identification and the fat threshold. To provide context for what mechanism might explain the link between the factors of interest in this dissertation and the fat threshold, I return to the results from this dissertation that speak to a motivation-based explanation.

Recall that in study one participants in the body weight group affirmation condition showed the lowest overall fat thresholds. Further, participants in the personal

affirmation condition showed slightly higher fat thresholds than those in the other conditions and significantly higher fat thresholds than those in the body weight group affirmation condition. Additionally, significant interactions between affirmation condition and body weight group identification emerged for the outcome of post-manipulation anti-fat attitudes. Probing of these interactions revealed that the affirmation manipulation seemed to wipe out the main effect of group body weight identification on anti-fat attitudes. These findings demonstrate that the affirmation manipulation influenced participants' perceptions of fat people.

The primary question left unanswered by this set of findings is what mechanism explains the observed effects. Given that self-affirmation influenced the fat threshold, I believe that the effects provide support for the hypothesis that categorizing others based upon body weight represents a self-threat. However, although not discussed previously, a self-threat could serve as the motivating factor behind perception for a variety of different reasons. Consistent with the in-group over-exclusion effect (Leyens & Yzerbyt, 1992), one could argue that categorizing others based upon body weight represents a self-threat because it threatens one's identification with the group of "not fat" people. However, given the themes that emerged throughout this dissertation pointing to body weight as a personal identity, I believe that it is more likely that categorizing others based upon body weight represents a threat to one's personal identity. Further, I posit that body weight based categorization represents a self-threat because making judgments about the body weights of others directly implicates one's perceptions of one's own body weight.

As discussed previously, personal body image represented a meaningful predictor of the fat threshold in both studies. Additionally, personal body weight identification served as a unique and meaningful predictor of the fat threshold in study one. Given the importance placed upon body weight in our society, particularly in the context of women's lives (Campos, 2004; Jacobs Brumberg, 1997; Klaczynski et al., 2004), being labeled as "fat" holds potentially damaging and negative consequences for people. For this reason, it seems likely that when perceivers go about categorizing others as fat, they may engage in a process that could threaten their personal identities. This threat would be particularly salient if perceivers viewed themselves as being similar to that target. From this perspective, judgments about others' body weights could inherently be judgments about the self. For this reason, I believe that the findings from this dissertation suggest that a desire to view the self as "not fat" may be motivating the links between prejudice and personal body weight identification and the fat threshold.

An additional and related point that addresses the motivational factors underlying the link between prejudice and body weight centrality and the fat threshold stems from the lack of moderating effects seen in this dissertation. Recall that I predicted that the impact of the manipulations in both study one and study two on the fat threshold would depend upon the participants' levels of prejudice and their body weight centrality scores. Findings did not support these predictions. Two possible interpretations surface for these results. First, the results may suggest that motivational factors do not explain the mechanism underlying the link between the factors and the fat threshold. However, rather than suggesting that motivational factors do not influence the fat threshold, I believe that

another possible explanation stems from the fact that the participants in these studies were women who identified as “not fat.” Given the importance placed on thin-ideal values for women in the United States (Klaczynski et al., 2004), it seems likely that body weight may play an important role in how all of the participants in these studies viewed themselves. Based upon cultural values, one could argue that despite the variability observed on the body weight centrality measures, all of the participants likely placed high importance on their body weights. It seems likely that the use of women who identified as “not fat” in these studies may have resulted in a sample where the manipulations held similar meaning for all participants.

I would be remiss not to acknowledge a final possible explanation for the lack of expected findings. Throughout this dissertation I posited that the mechanism underlying the link between factors specific to the perceiver and the fat threshold possesses motivational origins. However, I must acknowledge the possible interpretation that the mechanism may be purely cognitive in origin. In other words, the link between prejudice and personal body weight identification and the fat threshold might serve a purely cognitive function for perceivers. For example, one might argue that the fat threshold acts as a cognitive tool for making sense of the world. From this perspective, categorizing others as “fat” and “not fat” serves only the purpose of allowing people to organize and categorize their environments. However, even this interpretation possesses hints of motivationally based explanations as the links between prejudice and personal body weight identification and the fat threshold is difficult to explain without drawing upon motivational theorizing. For this reason, although the fat threshold surely holds important

cognitive meaning for perceivers, I believe that the importance of that meaning likely stems from motivational processes.

In summary, although the findings of this dissertation did not support the hypotheses with respect to motivational factors, the results do provide insight into potential mechanisms explaining differences observed in the fat threshold based upon individual characteristics. Specifically, the findings seem to suggest that a desire to avoid seeing the self as “not fat” may motivate perception and categorization based upon body weight. Given the lack of direct findings supporting this interpretation, further research explicating this possible mechanism serves as a primary goal for this line of work. As mentioned previously, I believe that research that focuses on making the implications of the categorizing process relevant to judgments about the self represents a promising avenue for future research. Manipulating how personally relevant perceivers view the categorization threat may provide meaningful insight into the process underlying this link.

Limitations

As with any research study, the findings of this dissertation possess limitations. First, the focus of this dissertation centered only on the judgments that women make of female targets. Although there is not research that suggests that these findings might differ by gender of the perceiver, no research conclusively suggests that the findings should not be subject to gender differences. For this reason, in future research I plan to examine gender of perceivers as a potential factor of interest. Additionally, I purposefully limited the gender of the target in this dissertation to female. Given the differential

expectations in the United States for the body weight of men and women, I am hesitant to conclude that the judgments of men would operate in a directly parallel way as they do for women. It may be the case that judgments about the weight statuses of men may be less ambiguous to perceivers and therefore less subject to motivational factors. For this reason, extending this paradigm to the gender of the target also serves as a goal of future research.

Beyond the issue of gender, the applicability of this dissertation is also limited due to its sample. As mentioned previously, college age women represent a unique population for whom body weight represents a particularly salient construct. For that reason, the effects observed in this study may differ for groups of people with different age ranges. Additionally, I recruited only people who identified as not fat for the studies presented in this dissertation. Given that research shows that prejudice level tends not to differ as a function of a person's body weight identification, in other words, fat and not fat people express high levels of prejudice toward fat people as a group, one might predict that the fat thresholds of people who identify as "fat" might also vary as a function of their prejudice levels. Examining the fat thresholds of those who self-identify as "fat" could provide meaningful insight into understanding their experiences and self-views. For example, earlier I proposed that perceivers' desires to maintain positive self-views may partially motivate their perceptions of the fat threshold. Given research that demonstrates that those who self-identify as overweight tend to show lower levels of self-esteem than those who do not self-identify as overweight (Miller & Downey, 1999), it

may be that for fat people, the comparison of their own body images and their fat thresholds partially accounts for the observed lower levels of self-esteem.

In addition to limitations surrounding the samples used for the studies in this dissertation, this research possesses limitations due to external generalizability. Although controlled experiments provide the benefit of isolating specific factors of interest while controlling for differences that might cloud interpretation of the finding, the process of labeling others happens within a broader environmental and social construct. For example, in these studies we removed a powerful factor that likely influences whether label targets as belonging to the highly stigmatized group of “fat” people, facial attractiveness. For that reason, future research must examine judgments about the body weights of others when other factors, such as facial attractiveness, clothing, personality, relationship to the target, and social context, are included.

Why does the threshold matter?

The primary goal of this dissertation centered on examining whether factors specific to the perceiver might influence the process of categorizing targets based upon body weight. Consistently, findings for both of the studies suggest that yes, factors of the perceiver, specifically prejudice level and the importance that one places on his/her body weight, do influence who he/she labels as fat. The question then is why does the fat threshold matter?

As I argue throughout this dissertation, knowing whom perceivers label as “fat” holds meaningful and complex implications for social interactions. Not only does this labeling process influence the perceiver and how she navigates her social world, it also

impacts the target. We must not forget that social categories not only impact how we think about others in our environment, they also influence how we think about ourselves. For an identity such as body weight that possesses no clear definitions for when and how it applies to us and others, knowing to whom and when we are perceived as “fat” likely holds powerful implications for how we think, feel, and act.

The importance of this point might best be exemplified by the experience of a woman named Gayle when she described to Rice (2007) her experience of learning that others viewed her as “fat,” “In Grade 4, Thomas Lum, yelled out at me, ‘Fat.’ I tried to run after him and catch him, but I'm not built to run. I thought, ‘My God, I am fat.’ That was the first time I can remember it really impacting on me.” For Gayle and many others, the impact of other people’s perceptions truly influenced how she thought and felt about herself. For this reason, understanding what factors of the perceiver impact whom is labeled as “fat” represents is not only important for stigma researchers but also for the very people to whom this label might be applied.

References

- Allison, D. B., Basile, V. C., & Yaker, H. E. (1991). The measurement of attitudes toward and beliefs about obese persons. *International Journal of Eating Disorders, 10*, 599-607.
- Allport, G. W. (1954). *The Nature of Prejudice*. New York: Perseus Publishing.
- Allport, G. W., & Kramer, B., M. (1946). Some roots of prejudice. *The Journal of Psychology, 22*, 9-39.
- Andreyeva, T., Puhl, R. M., & Brownell, K. D. (2008). Changes in perceived weight discrimination among Americans, 1995-1996 through 2004-2006. *Obesity, 16*(5), 1129-1134.
- Balcetis, E., & Dunning, D. (2006). See what you want to see: Motivational influences on visual perception. *Journal of Personality and Social Psychology, 91*(4), 612-625.
- Blair, I. V., Judd, C. M., & Fallman, J. L. (2004). The Automaticity of race and afrocentric facial features in social judgements. *Journal of Personality and Social Psychology, 87*(6), 763-778.
- Blascovich, J., Wyer, N. A., Swart, L. A., & Kibler, J. L. (1997). Racism and Racial Categorization. *Journal of Personality and Social Psychology, 72*(6), 1364-1372.
- Bruner, J. (1957). On perceptual readiness. *Psychological Review, 64*(2), 123-152.
- Campos, P. (2004). *The obesity myth*. New York: Gotham Books.
- Carpenter, K. M., Hasin, D. S., Allison, D. B., & Faith, M. S. (2000). Relationships between obesity and DSM-IV Major Depressive Disorder, suicide ideation, and

- suicide attempts: Results from a general population study. *American Journal of Public Health, 90*(2), 251-257.
- Carr, D., & Friedman, M. A. (2005). Is Obesity Stigmatizing? Body weight, perceived discrimination, and psychological well-being in the United States. *Journal of Health and Social Behavior, 46*(3), 244-259.
- Cash, T. F., & Green, G. K. (1986). Body weight and body image among college women: Perception, cognition, and affect. *Journal of Personality Assessment, 50*(2), 290-301.
- Castano, E., Yzerbyt, V. Y., Bourguignon, D., & Seron, E. (2002). Who may enter? The impact of in-group identifications on in-group/out-group categorization. *Journal of Experimental Social Psychology, 38*, 315-322.
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research & Evaluation, 10*(5), 1-9.
- Crandall, C. S. (1991). Do heavy-weight students have more difficulty paying for college? *Personality and Social Psychology Bulletin, 17*(6), 606-611.
- Crandall, C. S. (1994). Prejudice against fat people: Ideology and self-interest. *Journal of Personality and Social Psychology, 66*(5), 882-894.
- Crandall, C. S., & Biernat, M. (1990). The Ideology of Anti-Fat Attitudes. *Journal of Applied Social Psychology, 20*(3), 227-243.
- Crandall, C. S., & Martinez, R. (1996). Culture, ideology, and antifat attitudes. *Personality and Social Psychology Bulletin, 22*(11), 1165-1176.

- Crandall, C. S., Nierman, A., & Hebl, M. R. (2009). Anti-fat Prejudice. In T. Nelson (Ed.), *Handbook of prejudice, stereotyping, and discrimination* (pp. 469-487). New York: Psychology Press.
- Crocker, J., & Luhtanen, R. (1990). Collective self-esteem and ingroup bias. *Journal of Personality and Social Psychology, 58*(1), 60-67.
- Crocker, J., Niiya, Y., & Mischkowski, D. (2008). Why does writing about important values reduce defensiveness? Self-affirmation and the role of positive other-directed feelings. *Psychological Science, 19*(7), 740-747.
- Crosnoe, R. (2007). Gender, obesity, and education. *Sociology of Education, 80*(3), 241-260.
- Derks, B., van Laar, C., & Ellemers, N. (2009). Working for the self or working for the group: How self-versus group affirmation affects collective behavior in low-status groups. *Journal of Personality and Social Psychology, 96*, 193-202.
- Dorfman, D. D., Keeve, S., & Saslow, C. (1971). Ethnic identification: A signal dedection analysis. *Journal of Personality and Social Psychology, 18*(3), 373-379.
- Elliott, D. N., & Wittenberg, B. H. (1955). Accuracy of identification of Jewish and non-Jewish photographs. *The Journal of Abnormal and Social Psychology, 51*(2), 339-341.
- Fiske, S. T., & Neuberg, S. L. (1990). A continuum of impression formation, from category-based to individuation processes: Influences of information and motivation on attention and interpretations. In M. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 23, pp. 1-74). San Diego: Academic Press.

- Garcea, M. (Producer). *Mike & Molly* [Television broadcast]. Hollywood: CBS Entertainment.
- Gilbert, D. T., & Hixon, J. G. (1991). The trouble of thinking: Activation and application of stereotypic beliefs. *Journal of Personality and Social Psychology*, *60*(4), 509-517.
- Gilbert, D. T., Pelham, B. W., & Krull, D. S. (1988). On cognitive busyness: When person perceivers meet persons perceived. *Journal of Personality and Social Psychology*, *54*(5), 733-740.
- Goffman, E. (1963). *Stigma: Notes on the management of a spoiled identity*. New York: Prentice-Hall.
- Goldblatt, P., Moore, M., & Stunkard, A. (1965). Social factors in obesity. *Journal of the American Medical Association*, *192*, 97-102.
- Goldfarb, L. A., Dykens, E. M., & Gerrard, M. (1985). The Goldfarb Fear of Fat Scale. *Journal of Personality Assessment*, *49*(3), 329-332.
- Grover, V., Keel, P., & Mitchell, J. (2003). Gender Differences in Implicit Weight Identity. *International Journal of Eating Disorders*, *34*, 125-135.
- Hamilton, D. L., & Troiler, T. K. (1986). Stereotypes and stereotyping: An overview of the cognitive approach. In J. F. Dovidio & S. L. Gaertner (Eds.), *Prejudice, Discrimination, and Racism* (pp. 127-164). Orlando, FL: Academic Press.
- Hayes, A. F., & Matthes, J. (2009). Computational procedures for probing interactions in OLS and logistic regression: SPSS and SAS implementations. *Behavior Research Methods*, *41*, 924-936.

- Hebl, M. R., & Heatherton, T. F. (1998). The stigma of obesity in women: the difference is black and white. *Personality and Social Psychology Bulletin*, 24(4), 417-426.
- Hedley, A. A., Ogden, C. L., Johnson, C. L., Carroll, M. D., Curtin, L. R., & Flegal, K. M. (2004). Prevalence of overweight and obesity among U.S. children, adolescent and adults, 1999-2002. *Journal of American Medical Association*, 291(23), 2847-2850.
- Himmelfarb, S. (1966). Studies in the perception of ethnic group members: Accuracy, response bias, and Anti-semitism. *Journal of Personality and Social Psychology*, 4(4), 347-355.
- Honaker, J., King, G., & Blackwell, M. (2010). Amelia II: A program for Missing Data. <http://gking.harvard.edu/amelia>.
- Graham, J. W. (2009). Missing data analysis: Making it work in the real world. *Annual Review of Psychology*, 60, 549-576.
- Imai, K., King, G., & Lau, O. (2009). Toward a common framework for statistical analysis and development. *Journal of Computational and Graphical Statistics*, 17(4), 892-913.
- Jacobs Brumberg, J. (1997). *The body project*. New York: Vintage Books.
- Jambekar, S., Quinn, D. M., & Crocker, J. (2001). The effect of weight and achievement messages on the self-esteem of women. *Psychology of Women Quarterly*, 25, 48-56.
- Johnson, L. C., & Pinel, E. C. (2008). Anti-fat prejudice and perceptions of body weight. Unpublished Raw Data. University of Vermont.

- Katz, I. & Hass, G. R. (1988). Racial ambivalence and American value conflict: correlational and priming studies of dual cognitive structures. *Journal of Personality and Social Psychology*, 55(6), 893-905.
- Kelly, M. (October 29, 2010). Should 'Fatties' get a room (even on TV?). *Marie Claire Online*. Retrived from <http://www.marieclaire.com/sex-love/dating-blog/overweight-couples-on-television>
- Klaczynski, P. A., Goold, K. W., & Mudry, J. J. (2004). Culture, obesity stereotypes, self-esteem, and the "Thin Ideal": A social identity perspective. *Journal of Youth and Adolescence*, 33(4), 307-317.
- Knowles, E. D., & Peng, K. (2005). White selves: Conceptualizing and measuring a dominant-group identity. *Journal of Personality and Social Psychology*, 89(2), 223-241.
- Latner, J. D., Stunkard, A. J., & Wilson, T. G. (2005). Stigmatized Students: Age, sex, and ethnicity effects in the stigmatization of obesity. *Obesity Research*, 13(7), 1226-1231.
- Leary, M. R., Kelly, K. M., Cottrell, C. A., & Schreindorfer, L. S. (2005). *Individual differences in the need to belong: Mapping the nomological network*. Manuscript, Wake Forest University.
- Lewis, R. J., Cash, T. F., Jacobi, L., & Bubb-Lewis, C. (1997). Prejudice toward fat people: The development and validation of the antifat attitudes test. *Obesity Research*, 5(4), 297-307.

- Leyens, J.-P., & Yzerbyt, V. Y. (1992). The ingroup overexclusion effect: Impact of valence and confirmation on stereotypical information search. *European Journal of Social Psychology, 22*, 549-569.
- Lindzey, G., & Rogolsky, S. (1950). Prejudice and identification of minority group membership. *Journal of Abnormal and Social Psychology, 62*, 690-692.
- Livingston, R. W., & Brewer, M. B. (2002). What are we really priming? Cue-based versus category-based processing of facial stimuli. *Journal of Personality and Social Psychology, 82*(1), 5-18.
- Luhtanen, R., & Crocker, J. (1992). A collective self-esteem scale: Self-evaluation of one's social identity. *Personality and Social Psychology Bulletin, 18*(3), 302-318.
- Macrae, C. N., & Bodenhausen, G. V. (2001). Social cognition: Categorical person perception. [Theoretical]. *British Journal of Psychology, 92*, 239-255.
- Crowne, D. P., Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*, 349-354
- McConahay, J. B. (1986). Modern racism, ambivalence, and the Modern Racism Scale. In J. F. Dovidio & S. L. Gaertner (Eds.), *Prejudice, Discrimination, and Racism* (pp. 91-125). Orlando, FL: Academic Press.
- Miller, C., Rothblum, E., Felicio, D., & Brand, P. (1995). Compensating for stigma: Obese and nonobese women's reactions to being visible. *Personality and Social Psychology Bulletin, 21*(10), 1093-1106.
- Miller, C. T., & Downey, K. T. (1999). A meta-analysis of heavyweight and self-esteem. *Personality and Social Psychology Review, 3*(1), 68-84.

- Paskiewicz, L. S., Peters, M., & Gianopoulos, J. G. (2002). Obesity: Implications for well-woman gynecologic care. *Clinical Excellence for Nurse Practitioners*, 6(1), 21-34.
- Perez-Lopez, M. S., Lewis, R. J., & Cash, T. F. (2001). The relationship of antifat attitudes to other prejudicial and gender-related attitudes. *Journal of Applied Social Psychology*, 31(4), 683-697.
- Pinel, E. C. (1999). Stigma consciousness: The psychological legacy of social stereotypes. *Journal of Personality and Social Psychology*, 76, 114-128.
- Pinel, E.C., Johnson, L.C., Long, A.E., & Murdoch, E.Q. (2011). *Existential isolation: a prisoner of one's own mind*. Manuscript in preparation.
- Prewitt-Freilino, J. L., & Bosson, J. K. (2008). Defending the self against identity misclassification. *Self and Identity*, 7, 168-183.
- Puhl, R. M., & Brownell, K. D. (2001). Bias, discrimination and obesity. *Obesity Research*, 9(12), 788-804.
- Puhl, R.M., & Brodwnell, K. D. (2003). Psychosocial origins of obesity stigma: toward changing a powerful and pervasive bias. *Obesity Reviews*, 4, 213-227.
- Puhl, R. M., & Heuer, C. A. (2009). The stigma of obesity: a reivew and update. *Obesity*, 17(5), 941-964.
- Puhl, R. M., Moss-Racusin, C. A., Schwartz, M. B., & Brownell, K. D. (2008). Weight stigmatization and bias reduction: Perspectives of overweight and obese adults. *Health Education Research*, 23(2), 347-358.

- Quilty, M. B., Keats, J. A., & Harkins, S. G. (1975). Prejudice and criteria for identification of ethnic photographs. *Journal of Personality and Social Psychology, 32*(3), 449-454.
- Quinn, K. A., & Macrae, C. N. (2005). Categorizing others: The dynamics of person construal. *Journal of Personality and Social Psychology, 88*(3), 467-479.
- R Development Core Team (2010). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL <http://www.R-project.org/>.
- Rand, C. S. W., & Wright, B. A. (2000). Thinner females and heavier males: Who says? A comparison of female to male ideal body sizes across a wide age span. *International Journal of Eating Disorders, 29*(1), 45-50.
- Rice, C. (2007). Becoming "the fat girl": Acquisition of an unfit identity. *Women's Studies International Forum, 30*, 158-174.
- Robinson, B. E., Bacon, J. G., & O'Reilly, J. (1993). Fat phobia: Measuring, understanding, and changing anti-fat attitudes. *International Journal of Eating Disorders, 14*(4), 467-480.
- Rosch, E. (1978). Principles of categorization. In E. Rosch & B. B. Lloyd (Eds.), *Cognition and Categorization* (pp. 28-50). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Rosenberger, P. H., Henderson, K. E., & Grilo, C. M. (2006). Psychiatric disorder comorbidity and association with eating disorders in bariatric surgery patients: A

- cross-sectional study using structured interview-based diagnosis. *Journal of Clinical Psychiatry*, 67(7), 1080-1085.
- Rydell, R.J., & McConnell, A.R. (2006). Understanding implicit and explicit attitude change: A systems of reasoning analysis. *Journal of Personality and Social Psychology*, 91, 995-1008.
- Schwartz, M. B., O'Neal Chambliss, H., Brownell, K. D., Blair, S. N., & Billington, C. (2003). Weight bias among health professionals specializing in obesity. *Obesity Research*, 11(9), 1033-1039.
- Schwartz, M. B., & Puhl, R. M. (2003). Childhood obesity: a societal problem to solve. *Obesity Reviews*, 4, 57-71.
- Schwartz, M. B., Vartanian, L. R., Nosek, B. A., & Brownell, K. D. (2006). The Influence of One's Own Body Weight on Implicit and Explicit Anti-fat Bias. *Obesity*, 14(3), 440-447.
- Sellers, R. M., Rowley, S. A. J., Chavous, T. M., Shelton, J. N., & Smith, M. A. (1997). Multidimensional inventory of black identity: A preliminary investigation of reliability and construct validity. *Journal of Personality and Social Psychology*, 73(4), 805-815.
- Sherman, D.A.K., Nelson, L.D., Steele, C.M. (2000). Do messages about health risks threaten the self? *Personality and Social Psychology Bulletin*, 26, 1046-1058.
- Solovay, S., Wann, M., & Rothblum, E. (2010). *The Fat Studies Reader*. NY, NY: NYU Press.

- Stunkard, A. J., Sorenson, T., & Schulsinger, M. (1983). *Use of the Danish Adoption Register for the Study of Obesity and Thinness*. New York: Raven Press.
- Staffieri, R. (1967). A study of social stereotype of body image in children. *Journal of Personality and Social Psychology*, 7(1), 101-104.
- Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 21, pp. 261-301). New York: Academic Press.
- Swami, V., Salem, N., Furnham, A., & Tovee, J. M. (2008). Initial examination of the validity and reliability of the female photographic figure rating scale for body image assessment. *Personality and Individual Differences*, 44, 1752-1761.
- Tabacknick, B. G., & Fidell, L. S. (2001). *Using Multivariate Statistics*. (4th ed.). MA: Allyn & Bacon.
- Tafarodi, R.W., & Swann, W.B. Jr. (1995). Self-liking and self-competence as dimensions of global self-esteem: Initial validation of a measure. *Journal of Personality Assessment*, 65, 322-342.
- Tajfel, H. (1982). Social psychology of intergroup relations. *Annual Review of Psychology*, 33, 1-39.
- Tajfel, H., & Turner, J. C. (1986). An integrative theory of intergroup conflict. In S. Worchel & L. W. Austin (Eds.), *Psychology of Intergroup Relations* (pp. 2-24). Chicago: Nelson-Hall.

- Taylor, S. E. (1981). A categorization approach to stereotyping. In D. L. Hamilton (Ed.), *Cognitive processes in stereotyping and intergroup behaviors* (pp. 83-144). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Taylor, S. E., Fiske, S. T., Etcoff, N. L., & Ruderman, A. J. (1978). Categorical and contextual bases of person memory and stereotyping. *Journal of Personality and Social Psychology, 36*(7), 778-793.
- Teachman, B. A., Gapinski, K. D., Brownell, K. D., Rawlins, M., & Jeyaram, S. (2003). Demonstrations of implicit anti-fat bias: The impact of providing causal information and evoking empathy. *Health Psychology, 22*(1), 68-78.
- Turner, J. C., Brown, R. J., & Tajfel, H. (1979). Social comparison and group interest in ingroup favouritism. *European Journal of Social Psychology, 9*, 187-204.
- Wadden, T. A., & Stunkard, A. J. (1985). Social and psychological consequences of obesity. *Annals of Internal Medicine, 103*(6), 1062-1067.
- Wang, S. S., Brownell, K. D., & Wadden, T. A. (2004). The influence of the stigma of obesity on overweight individuals. *International Journal of Obesity, 28*, 1333-1337.
- Watson, D., Clark, L.A., Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063-1070.
- Wing, R. R., & Jeffery, R. W. (1999). Benefits of recruiting participants with friends and increasing social support for weight loss and maintenance. *Journal of Consulting and Clinical Psychology, 67*(1), 132-138.

Tables

Table 1: Correlation matrix for study 1 variables

	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>
1. Condition 4 to 1	1										
2. Condition 4 to 2	-.33**	1									
3. Condition 4 to 3	-.33**	-.34**	1								
4. Personal Figure	.10	-.05	-.18*	1							
5. Personal BMI	.01	.03	-.04	.56**	1						
6. AFA Pre-test	-.20*	.01	.10	-.11	-.09	1					
7. AFA Post-test	-.17*	.06	.09	-.10	-.51	.75**	1				
8. BMI fat figure	.15	.04	-.19*	.09	.44**	-.20**	-.21**	1			
9. Fat Figure	.24**	-.02	-.18*	.24**	.12	-.40**	-.45**	.49**	1		
10. Personal Body Weight Centrality	-.17*	.10	.00	.01	.03	.44**	.43**	-.13	-.36**	1	
11. Group Body Weight Centrality	.02	.03	-.04	-.06	-.15	.33**	.38**	-.10	-.14	.32**	1

* $p < .05$, ** $p < .01$

Table 2: Study 1, predictors of the Fat Threshold

PFRS fat figure: $F(4, 165)=11.99, p<.001$								
	R^2	b	β	SE	t	p	M	SD
	.24							
Intercept		8.21	1.25	.08	99.43	.0000		
Personal Body Figure		.22	.22	.07	3.13	.01	8.22	1.21
Group Body Weight Identification		.06	.05	.09	.67	<i>ns</i>	3.00	.98
Personal Body Weight Identification		-.28	-.26	.09	-3.33	.001	4.38	1.11
Anti-fat Attitudes		-.50	-.26	.15	-3.23	.001	2.45	.63
BMI fat figure: $F(4, 165)=11.98, p<.001$								
	R^2	b	β	SE	t	p	M	SD
	.22							
Intercept		27.65	-2.58	.29	96.13	.000		
BMI		.76	.43	.13	6.07	.001	22.17	2.34
Group Body Weight Identification		.19	.04	.31	.60	<i>ns</i>	3.00	.98
Personal Body Weight Identification		-.30	-.08	.30	-.97	<i>ns</i>	4.38	1.11
Anti-fat Attitudes		-.97	-.15	.54	-1.78	.08	2.45	.63

Note: Means and Standard Deviations estimates from one of the multiply imputed datasets

Table 3: Study 1, affirmation condition by predictive factors

PFRS fat figure, personal body weight: $F(10, 159)=6.24, p<.0001$								
	R²	b	β	SE	t	p	M	SD
	.28							
Intercept		8.27	.00	.17	49.98	.0000		
PFRS personal figure		.23	.23	.07	3.22	.001	8.22	1.21
Anti-fat Attitudes		-.42	-.22	.16	-2.68	.01	2.45	.63
Group Body Weight Identification		.04	.03	.09	.42	ns	3.00	.98
Personal Body Weight Identification		-.29	-.25	.13	-3.17	.01	4.38	1.11
Condition 4 to 1: control to personal affirmation		.28	.10	.25	1.15	ns	.24	.43
Condition 4 to 2: control to personal weight affirmation		-.07	-.02	.24	-.29	ns	.25	.44
Condition 4 to 3: control to group weight affirmation		-.44	-.16	.23	-1.85	.06	.25	.44
Personal BWI * Condition 4 to 1		.05	.02	.21	.23	ns	-.08	.50
Personal BWI * Condition 4 to 2		.07	.03	.20	.36	ns	.05	.53
Personal BWI * Condition 4 to 3		-.05	-.02	.21	-.24	ns	.00	.50
PFRS fat figure, anti-fat attitudes: $F(10, 159)=6.24, p<.0001$								
	R²	b	β	SE	t	p	M	SD
	.28							
Intercept		8.27	.01	.17	49.94	.0000		
PFRS personal figure		.22	.23	.07	3.17	.01	8.22	1.21
Anti-fat Attitudes		-.47	-.21	.08	-2.65	.01	2.45	.63
Personal Body Weight Identification		-.27	-.24	.09	-3.16	.001	3.00	.98
Group Body Weight Identification		.03	.02	.09	.29	ns	4.38	1.11
Condition 4 to 1: control to personal affirmation		.30	.11	.25	1.21	ns	.24	.43
Condition 4 to 2: control to personal weight affirmation		-.06	-.02	.23	-.25	ns	.25	.44
Condition 4 to 3: control to group weight affirmation		-.43	-.15	.24	-1.81	.1	.25	.44
AFA * Condition 4 to 1		.19	.04	.39	.47	ns	-.05	.30
AFA * Condition 4 to 2		.04	.01	.40	.09	ns	.00	.28
AFA * Condition 4 to 3		.01	.00	.36	.02	ns	.03	.35

BMI estimate: $F(10, 159)=5.82, p<.0001$

	R^2	b	β	SE	t	p	M	SD
	.27							
Intercept		27.81	.01	.56	49.72	.0000		
BMI		.74	.42	.12	5.96	.0000	22.18	2.34
Anti-fat Attitudes		-1.49	-.12	.93	-1.45	<i>ns</i>	2.45	.63
Personal Body Weight Identification		-.23	-.06	.31	-.75	<i>ns</i>	3.00	.98
Group Body Weight Identification		.04	.01	.32	.12	<i>ns</i>	4.38	1.11
Condition 4 to 1: control to personal affirmation		.90	.09	.83	1.08	<i>ns</i>	.24	.43
Condition 4 to 2: control to personal weight affirmation		-.02	-.00	.81	-.02	<i>ns</i>	.25	.44
Condition 4 to 3: control to group weight affirmation		-1.34	-.14	.81	-1.66	.1	.25	.44
AFA * Condition 4 to 1		1.42	.09	1.45	.98	<i>ns</i>	-.05	.30
AFA * Condition 4 to 2		-.11	-.01	1.37	-.08	<i>ns</i>	.00	.28
AFA * Condition 4 to 3		1.43	.10	1.25	1.14	<i>ns</i>	.03	.35

Note: Means and Standard Deviations estimates from one of the multiply imputed datasets

Table 4: Study 1, body weight group identification by affirmation condition interaction for Anti-fat Attitudes post-test outcome

AFA: $F(9, 160)=29.61, p<.001$								
	R^2	b	β	SE	t	p	M	SD
	.62							
Intercept		3.40	.00	.09	36.96	.0000		
Anti-fat Attitudes		1.05	.69	.09	12.01	.0000	2.45	.63
Group Body Weight Identification		.21	.11	.10	1.99	.05	3.00	.98
Personal Body Weight Identification		.07	.08	.05	1.44	<i>ns</i>	4.38	1.11
Condition 4 to 1: control to personal affirmation		.02	.01	.13	.17	<i>ns</i>	.24	.43
Condition 4 to 2: control to personal weight affirmation		.13	.06	.13	1.00	<i>ns</i>	.25	.44
Condition 4 to 3: control to group weight affirmation		.09	.04	.13	.722	<i>ns</i>	.25	.44
BWG * Condition 4 to 1		-.31	-.14	.14	-2.16	.05	.01	.49
BWG* Condition 4 to 2		.13	.06	.14	.97	<i>ns</i>	.01	.52
BWG* Condition 4 to 3		-.23	-.10	.14	-1.62	.1	-.01	.30

Note: Means and Standard Deviations estimates from one of the multiply imputed datasets

Table 5: Correlation matrix for study 2 variables

	1	2	3	4	5	6	7	8	9
1. Condition 1 to 2	1								
2. Personal Figure	-.11	1							
3. Personal BMI	-.00	.71**	1						
4. AFA Pre-test	.05	-.11	-.14	1					
5. AFA Post-test	.16	-.02	-.06	.92**	1				
6. BMI fat figure	-.07	.30**	.42**	-.18	-.17	1			
7. Fat Figure	-.13	.33**	.23*	-.32**	-.32**	.49	1		
8. Personal Body Weight Centrality	.03	.14	-.09	.37**	.38**	.04	-.06	1	
9. Group Body Weight Centrality	.22*	-.22*	-.16	.42**	.48**	-.02	-.22*	.47**	1

* p<.05, ** p<.01

Table 6: Study 2, PFRS outcome for each factor of interest

Body weight group identification: $F(6, 79)=4.67, p<.001$								
	R²	b	β	SE	t	p	M	SD
	.26							
Intercept		7.51	.00	.20	36.97	.000		
Personal Body Figure		.33	.06	.14	2.30	.05	4.07	1.01
AFA Pre-test		-.97	-.46	.23	-4.12	.00	2.71	.68
Personal Body Weight Identification		.08	.06	.15	.51	ns	4.69	1.09
Group Body Weight Identification		.30	.25	.19	1.52	ns	3.16	1.17
Motivation condition		-.35	-.13	.28	-1.26	ns	.51	.50
BW Group ID * condition		-.23	-.13	.25	-.89	ns	.13	.79
Body weight personal identification: $F(6, 79)=4.50, p<.001$								
	R²	b	β	SE	t	p	M	SD
	.25							
Intercept		7.49	.00	.20	37.00	.0000		
Personal Body Figure		.32	.23	.15	2.21	.05	4.07	1.01
AFA Pre-test		-.92	-.44	.23	-4.00	.001	2.71	.68
Personal Body Weight Identification		.08	.06	.21	.41	ns	4.69	1.09
Group Body Weight Identification		.20	.17	.15	1.30	ns	3.16	1.17
Motivation Condition		-.37	-.13	.28	-1.28	ns	.51	.50
PW ID * condition		-.07	-.40	.26	-26	ns	.01	.82
AFA: $F(6, 79)=4.48, p<.001$								
	R²	b	β	SE	t	p	M	SD
	.25							
Intercept		7.49	.00	.20	37.04	.0000		
Personal Body Figure		.33	.13	.15	2.24	.05	4.07	1.01
AFA Pre-test		-.91	-.45	.28	-3.26	.01	2.71	.68
Personal Body Weight Identification		.05	.04	.16	.34	ns	4.69	1.09
Group Body Weight Identification		.19	.16	.15	1.26	ns	3.16	1.17
Motivation Condition		-.36	-.13	.28	-1.27	ns	.51	.50
AFA * condition		-.07	-.02	.45	-15	ns	.02	.41

Note: Means and Standard Deviations estimates from one of the multiply imputed datasets

Table 7: Study 2, BMI estimate outcome for each factor of interest

Body weight group identification: $F(6, 79)=3.89, p<.001$								
	R²	b	β	SE	t	p	M	SD
	.23							
Intercept		27.25	.00	.42	65.46	.0000		
BMI		.62	.42	.15	3.98	.000	21.53	1.94
AFA Pre-test		-.69	-.16	.48	-1.44	ns	2.71	.68
Personal Body Weight Identification		.10	.04	.31	.31	ns	4.69	1.09
Group Body Weight Identification		.05	.02	.40	.12	ns	3.16	1.17
Motivation condition		-.47	-.08	.59	-.81	ns	.51	.50
BW Group ID * condition		.36	.10	.54	.68	ns	.13	.79
Body weight personal identification: $F(6, 79)=3.79, p<.001$								
	R²	b	β	SE	t	p	M	SD
	.22							
Intercept		27.29	.00	.41	66.13	.0000		
BMI		.62	.42	.15	4.06	.000	21.53	1.94
AFA Pre-test		-.75	-.19	.48	-1.57	ns	2.71	.68
Personal Body Weight Identification		.07	.03	.41	.17	ns	4.69	1.09
Group Body Weight Identification		.20	.08	.31	.66	ns	3.16	1.17
Motivation Condition		-.46	-.08	.59	-.78	ns	.51	.50
PW ID * condition		.14	.04	.53	.26	ns	.01	.82
AFA: $F(6, 79)=4.55, p<.001$								
	R²	b	β	SE	t	p	M	SD
	.26							
Intercept		27.28	-.01	.40	67.42	.0000		
BMI		.56	.38	.15	3.66	.000	21.53	1.94
AFA Pre-test		-1.34	-.11	.56	-2.39	.05	2.71	.68
Personal Body Weight Identification		-.03	-.01	.31	-.09	ns	4.69	1.09
Group Body Weight Identification		.28	.11	.31	.91	ns	3.16	1.17
Motivation Condition		-.52	-.09	.57	-.90	ns	.51	.50
AFA * condition		1.74	.21	.92	1.89	.06	.02	.41

Note: Means and Standard Deviations estimates from one of the multiply imputed datasets

Table 8: Study 2, AFA outcome for factors of interest

Body weight group identification: $F(5, 80)=101.25, p<.00001$								
	R²	b	β	SE	t	p	M	SD
	.86							
Intercept		2.60	.00	.04	59.32	.0000		
AFA Pre-test		.88	.09	.06	18.42	.000	2.71	.68
Personal Body Weight Identification		.01	.02	.03	.32	ns	4.69	1.09
Group Body Weight Identification		.06	.10	.04	1.51	ns	3.16	1.17
Motivation condition		.12	.09	.06	2.06	.05	.51	.50
BW Group ID * condition		-.01	.00	.05	-.16	ns	.13	.79
Body weight personal identification: $F(5, 80)=101.46, p<.000$								
	R²	b	β	SE	t	p	M	SD
	.86							
Intercept		2.59	.00	.04	60.09	.0000		
AFA Pre-test		.88	.87	.05	18.59	.000	2.71	.68
Personal Body Weight Identification		-.00	-.00	.04	-.06	ns	4.69	1.09
Group Body Weight Identification		.05	.09	.04	1.77	.1	3.16	1.17
Motivation Condition		.12	.09	.06	2.07	.05	.51	.50
PW ID * condition		.02	.03	.05	.40	ns	.01	.82
AFA: $F(5, 80)=104.54, p<.001$								
	R²	b	β	SE	t	p	M	SD
	.87							
Intercept		2.59	.00	.04	60.83	.0000		
AFA Pre-test		.92	.85	.06	16.66	.000	2.71	.68
Personal Body Weight Identification		.02	.04	.03	.75	ns	4.69	1.09
Group Body Weight Identification		.05	.08	.03	1.58	ns	3.16	1.17
Motivation Condition		.13	.09	.06	2.16	.05	.51	.50
AFA * condition		-.14	-.07	.09	-1.50	ns	.02	.41

Figure Captions

Figure 1. Study one, effect of affirmation condition on PFRS outcome.

Figure 2. Study one, interaction of group body weight identification and affirmation condition for the outcome of Anti-fat Attitudes

Figure 3. Study two, interaction of Anti-fat attitudes by motivation condition for outcome of BMI estimate.

Figure 1

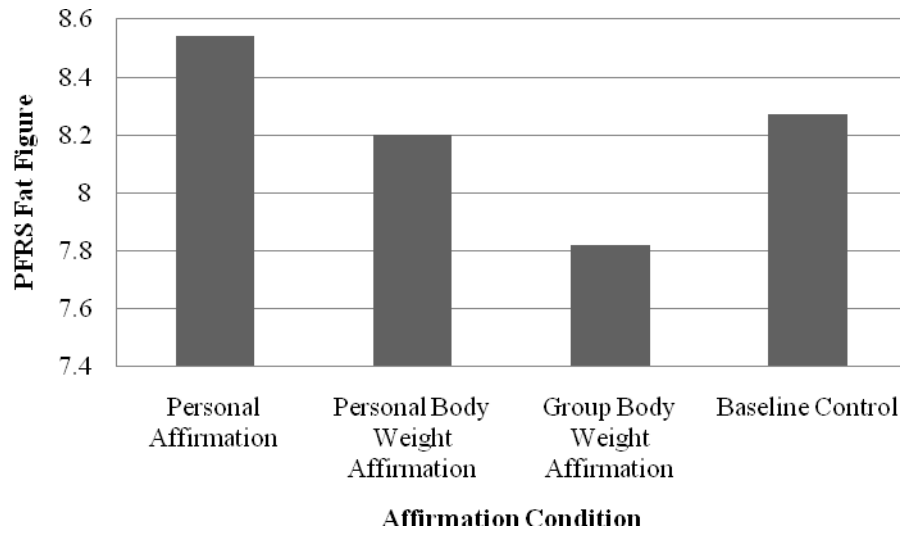


Figure 2

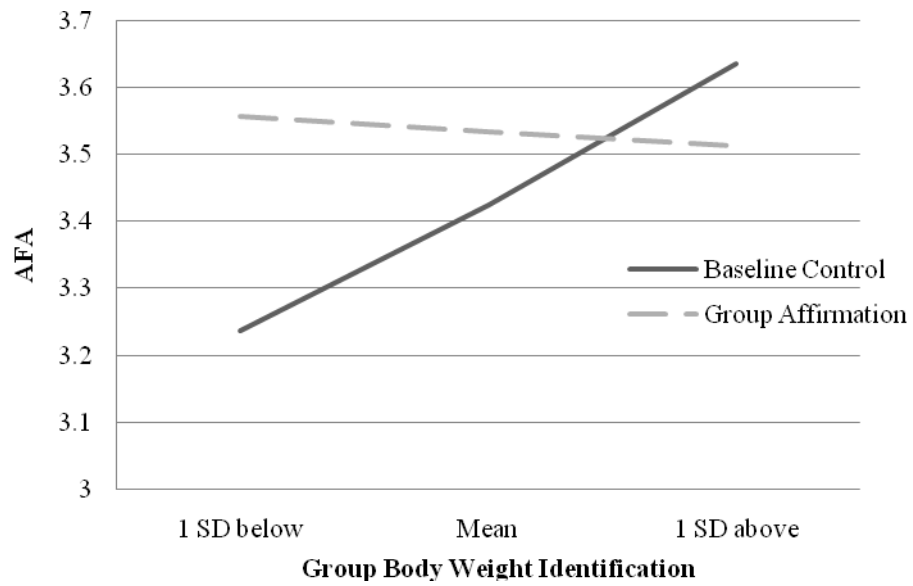
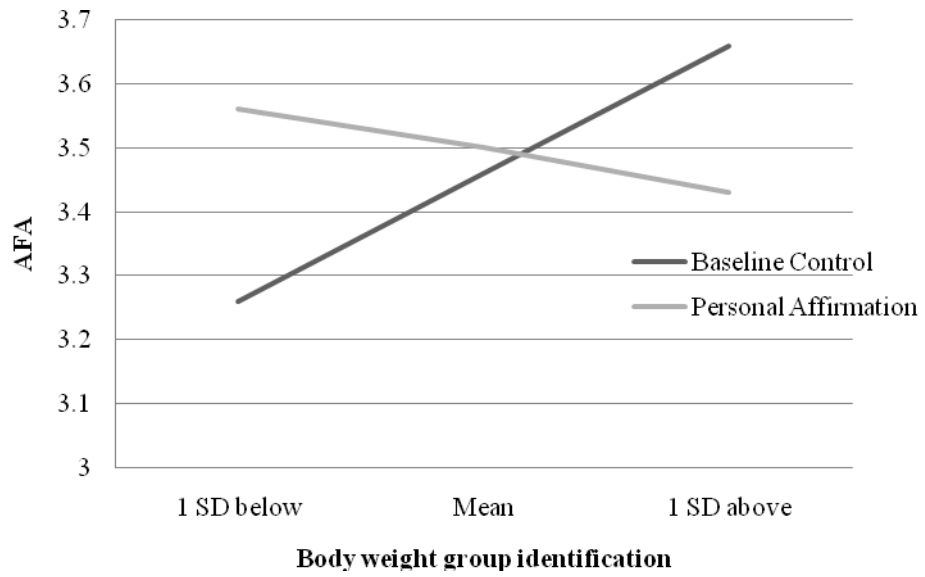
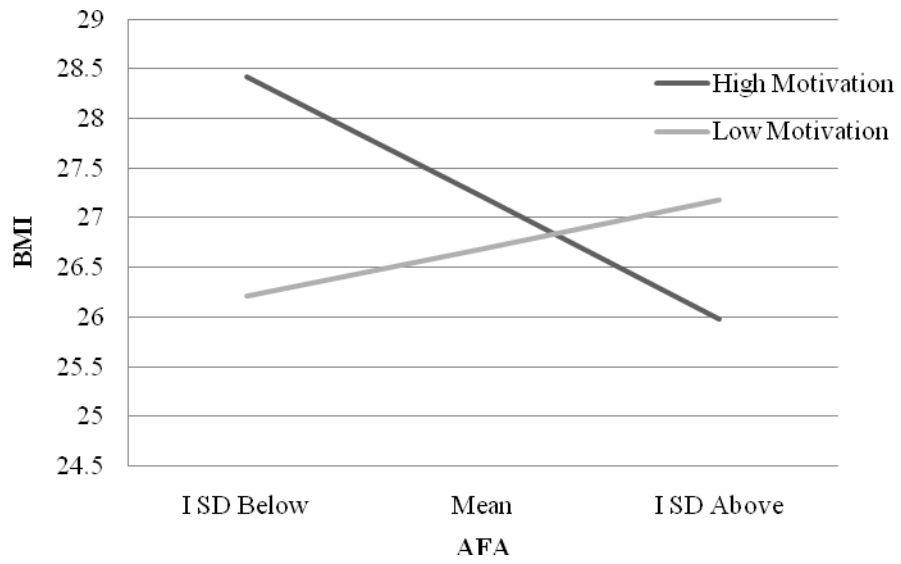


Figure 3



Footnotes

1. Sixty-seven percent of American adults fall into the medical Body Mass Index (BMI) based category of overweight, and 33% of adults fit into the more extreme category of obese (CDC, 2003; Hu, 2008).
2. Exceptions to this terminology rule indeed exist. For example, Goldfarb, a pioneer in the eating disorder literature, created the Goldfarb Fear of Fat Scale (Goldfarb et al., 1985).
3. Originally developed to replace a series of height and weight charts created by the *Metropolitan Life Insurance Company* in the early 1900s, professionals often characterize BMI as a more valid and reliable indicator of health based upon body weight than other methods of body weight classification. According to the BMI system, the healthiest weight for any individual is “normal weight” with deviations into the heavier categories (and the lighter categories of “underweight” and “emaciated”) demonstrating links to health problems such as cardiovascular disease and various types of cancer (Hu, 2008). Although public health officials and medical professionals widely endorse the belief that BMI is the best available weight-based indicator of health, a number of other professionals disagree with this assertion (Campos, 2003; Gaesser, 2003; Oliver, 2006). Large scale epidemiological studies indicate that physical fitness and activity may be more reliable indicators of health than body weight (Campos, 2003; Gaesser, 2003). A series of intriguing studies demonstrate that an underweight sedentary individual is at much higher risk for developing diseases typically associated with obesity

than an obese physically active counterpart (Barlow et al., 2005; Lee et al., 2001). As research continues in this area, it seems that the classic assertion that BMI acts as a health indicator may be flawed in many ways.

4. The body figure rating scale presents a series of nine figure drawings to assess body image and body image dissatisfaction. When administering this measure, a researcher or clinician asks to identify his/her ideal and current body images in the figures represented on the scale. The discrepancy between those two ratings represents his/her body image dissatisfaction. Despite the widespread use of this measure, researchers widely criticize the subjective nature of the figures in the scale. There are no objective definitions for the weight and height of the figure drawings, making characterizing the medical BMI labels associated with the figures impossible. Further, the available literature on the topic suggests that the figures in the array are not perceived as a continuum (Williamson et al., 2001).
5. Analyses revealed no effects on the exploratory outcomes of interest and therefore they will not be mentioned further.
6. To address the possibility that an effect of condition on the fat threshold might mask any main effects of the factors on the fat threshold, I conducted the same analyses presented for the entire sample looking only at those in the control condition. Results produced findings with overall patterns and trends consistent to those observed with the entire sample.
7. The initial study design included a baseline/non-social control condition. Due to an unexpected computer error, participants in the control condition were provided

with the wrong reading comprehension questions. Data from this condition had to be removed from the analyses.

Appendix A

Which of the following best describes your body weight (circle one): fat not fat

Adapted version of Collective Self-Esteem Identity subscale (Latenene & Crocker, 1992)

When answering the following questions, please think about your attitudes in general. Answer as accurately and honestly as possible. Use the scale provided.

1-----2-----3-----4-----5-----6-----7
strongly disagree
strongly agree

1. Overall, my body weight has very little to do with how I feel about myself. (R)
2. The body weight group I belong to is an important reflection of who I am.
3. My body weight is unimportant to my sense of what kind of person I am. (R)
4. In general, my body weight is an important part of my self-image.

Adapted version of the Multi-dimensional Inventory of Black Identity (Sellers et al., 1997) Centrality subscale:

When answering the following questions, please think about your attitudes in general. Answer as accurately and honestly as possible. Use the scale provided.

1-----2-----3-----4-----5-----6-----7
strongly disagree strongly agree

1. In general, my body weight is an important part of my self-image.
2. My destiny is tied to the destiny of other people of my body weight.
3. My body weight is unimportant to my sense of what kind of person I am (R).
4. I have a strong sense of belonging to my body weight group.
5. I have a strong attachment to other people of my body.
6. Being my body weight is not a major factor in my social relationships (R)

Adapted version of items from the group identity scale (Doosje, Ellemers, & Russell, 1995):

When answering the following questions, please think about your attitudes in general. Answer as accurately and honestly as possible. Use the scale provided.

1-----2-----3-----4-----5-----6-----7
strongly disagree strongly agree

1. I see myself as a member of my body weight group.
2. I identify with other people who have body weights similar to my own.
3. I feel strong ties to people who share my body weight.

Factor structure of Body Weight Centrality Scale

Personal Body weight

1. Overall, my body weight has very little to do with how I feel about myself.
2. My body weight is unimportant to my sense of what kind of person I am.
3. In general, my body weight is an important part of my self-image.
4. Being my body weight is not a major factor in my social relationships.
- 5.

Group Body weight

1. The body weight group I belong to is an important reflection of who I am.
2. My destiny is tied to the destiny of other people of my body weight.
3. I have a strong sense of belonging to my body weight group.
4. I have a strong attachment to other people of my body.
5. Being my body weight is an important reflection of who I am.
6. I see myself as a member of my body weight group.
7. I identify with other people who have body weights similar to my own.
8. I feel strong ties to people who share my body weight.

Appendix B

Anti-fat Attitudes Scale

When answering the following questions, please think about your attitudes in general. Answer as accurately and honestly as possible. Use the scale provided.

1-----2-----3-----4-----5-----6-----7
strongly disagree strongly agree

- _____ 1. I really don't like fat people much.
- _____ 2. I tend to think that people who are overweight are a little untrustworthy.
- _____ 3. Although some fat people are surely smart, I think they tend not to be quite as bright as normal weight people.
- _____ 4. I don't have many friends who are fat.
- _____ 5. I have a hard time taking fat people too seriously.
- _____ 6. Fat people make me feel somewhat uncomfortable.
- _____ 7. If I were an employer looking to hire, I might avoid hiring a fat person.
- _____ 8. I feel disgusted with myself when I gain weight.
- _____ 9. One of the worst things that could happen to me would be if I gained 25 pounds.
- _____ 10. I worry about becoming fat.
- _____ 11. People who weight too much could lose at least some part of their weight through a little exercise
- _____ 12. Some people are fat because they have no willpower.
- _____ 13. Fat people tend to be fat pretty much through their own fault.

Appendix C

Personal Affirmation Task

Directions: Below is a list of characteristics and values, some of which may be important to you and some of which may be unimportant. Please rank these values and qualities in order of their importance to you, from 1 to 8.

1 = most important item, 8 = least important item. Use each number only once.

My values and qualities:

_____business/economics

_____artistic skills

_____music ability

_____creativity

_____social life-relationships with friends and family

_____science-pursuit of knowledge

_____religion-morality

_____government-politics

Directions: On this page, please indicate what value you ranked # 1 in the previous exercise. Then, write a brief account (1-3 paragraphs) of why this value is important to you and a time when your 1st-ranked value played an important role in your life.

Number 1 value: _____

Personal Body Weight Affirmation Task

Directions: Below is a list of characteristics and values, some of which may be important to you and some of which may be unimportant. Please rank these values and qualities in order of their importance to you, from 1 to 8.

1 = most important item, 8 = least important item. Use each number only once.

My values and qualities:

_____athletics

_____physical exercise

_____fashion/shopping

_____physical health

_____dietary choices

_____hard-work

_____self-control

_____beauty

Directions: On this page, please indicate what value you ranked # 1 in the previous exercise. Then, write a brief account (1-3 paragraphs) of why this value is important to you and a time when your 1st-ranked value played an important role in your life.

Number 1 value: _____

Group Identity Body Weight Affirmation Task

Directions: Below is a list of characteristics and values, some of which may be important to people similar to you in body weight and some of which may be unimportant. Please rank these value and qualities in order of their importance to people of your body weight.

1 = most important item, 8 = least important item. Use each number only once.

My values and qualities:

_____athletics

_____physical exercise

_____fashion/shopping

_____physical health

_____dietary choices

_____hard-work

_____self-control

_____beauty

Directions: On this page, please indicate what value you ranked # 1 in the previous exercise. Then, write a brief account (1-3 paragraphs) of why this value is important to people of your body weight and a time when your 1st-ranked value played an important role in your life.

Number 1 value: _____

Baseline Control Affirmation Task

Directions: Please take a moment to think about the activity of walking from Dewey Hall to the Davis Center on the UVM campus. Then, write a brief set of directions (1-3 paragraphs) explaining how to complete this task. When writing the directions, please do not utilize proper names or landmarks on campus.

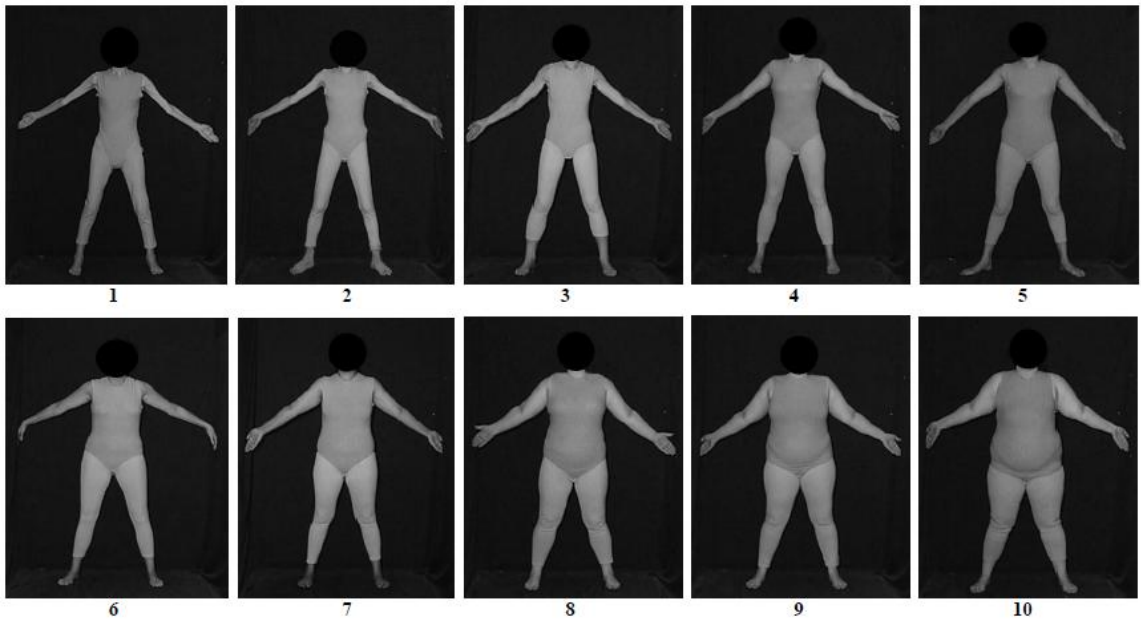
Manipulation Check: Thinking about the value/activity that you wrote about above, please rate how important this value/activity is to how you think about yourself (use the scale below).

1-----2-----3-----4-----5-----6-----7-----8-----9

Not at all important
To my self concept

extremely important
to my self concept

Appendix D



PFRS Body weight categorization task

1. Which is the first figure along the scale (1-10) that you consider fat?
 - a. Imagine a woman who is the same height as yourself and has the body image of the figure that you choose above. How much do you think this woman weighs (in lbs)?”
2. Which is the last figure along the scale (1-10) that you consider not fat?
 - a. Imagine a woman who is the same height as yourself and has the body image of the figure that you choose above. How much do you think this woman weighs (in lbs)?”
3. Are there any figures on this scale which you feel are neither “fat” nor “not fat”?
4. Which figure most closely matches your current body?

Appendix F

Demographic Questions

1. What is your age?
2. What is your gender? female male transgender female
transgender male other
3. Are you Hispanic? Yes No
4. What is your race/ethnicity? Black/African American White/Caucasian Asian
American Indian or Alaskan Native Native Hawaiian or Other Pacific
Islander Multiracial Other_____
5. Which of the following best describes your body weight: not fat fat
6. What is your height? feet inches
7. What is your weight? Lbs
8. What is your major?

Appendix G

Directions: On the next page you will find an article written for a study to be conducted at UVM in the upcoming months examining comprehension of scientific material. As part of the pre-testing for this study, we would like you to read the article and respond to a series of questions that follow. The questions will assess your comprehension and understanding of the material presented.

High Motivation/Assimilation Condition Stimulus:

The Near Association Effect

Nichelle T. Web & Tara M. Hannix

Tice University

A recent study conducted by Web and Hannix (2003) examined the impressions that people form about others based upon their associations with people in their environments. The authors predicted that perceivers of social situations view individuals in close proximity of each other as belonging to the same social group. To test this hypothesis, Web and Hannix (2003) recruited 89 undergraduate students to participate in a short laboratory based study. In this study, participants viewed a picture depicting two individuals seated near each other as they waited for an ostensible job interview (see Image 1). Following each image, participants provided their impressions of the individuals by rating each target on a series of descriptors, such as, intelligence, work ethic, and desire to achieve. Participants also reported whether they viewed the targets as belonging to the same or different social groups. Findings supported the researchers' hypotheses, showing that people seated near each other were viewed as highly similar. Participants also indicated that the individuals pictured were viewed as belonging to the same social group. Web and Hannix (2003) argued that the findings of this study highlight the importance social connection in the impressions that we form of others.

Image 1: Image provided to participants by Web and Hannix (2003)



Low Motivation/Contrast Condition Stimulus:

The Near Association Effect

Nichelle T. Web & Tara M. Hannix

Tice University

A recent study conducted by Web and Hannix (2003) examined the impressions that people form about others based upon their associations with people in their environments. The authors predicted that perceivers of social situations view individuals in close proximity of each other as belonging to different social groups. To test this hypothesis, Web and Hannix (2003) recruited 89 undergraduate students to participate in a short laboratory based study. In this study, participants viewed a picture depicting two individuals seated near each other as they waited for an ostensible job interview (see Image 1). Following each image, participants provided their impressions of the individuals by rating each target on a series of descriptors, such as, intelligence, work ethic, and desire to achieve. Participants also reported whether they viewed the targets as belonging to the same or different social groups. Findings supported the researchers' hypotheses, showing that people seated near each other were viewed as highly dissimilar. Participants also indicated that the individuals pictured were viewed as belonging to separate social groups. Web and Hannix (2003) argued that the findings of this study highlight the importance social comparison in the impressions that we form of others.

Image 1: Image provided to participants by Web and Hannix (2003)



Comprehension of Scientific Material for Assimilation and Contrast Conditions

Directions: Based upon the article that you just read, please answer the following questions to the best of your ability.

1. Which of the following best describes the purpose of the study?
 - a. To examine the impressions that people form of others based upon physical appearance.
 - b. To examine the judgments that people make of job applicants.
 - c. To examine the judgments that people make of romantic relationships.
 - d. To examine the impressions that people form of the social relationship of individuals seen near each other.

2. Which of the following best describes the hypothesis of the study?
 - a. People seated near each other will be viewed as belonging to the same group.
 - b. People seated near each other will be viewed as belonging to different groups.
 - c. People seated near each other will be viewed as being in romantic relationships.
 - d. People seated near each other will be viewed as equivalent in their job suitability.

3. Which of the following best describes what the researchers did to test their hypothesis?
 - a. The researchers showed participants pictures of job applicants and asked participants questions about their characteristics and social group membership.
 - b. The researchers asked participants to report on the romantic relationship of two other people.
 - c. The researchers interviewed participants about their impressions of social connection.
 - d. The researchers showed participants a video of two people and asked participants questions about their job applications.

4. Which of the following best describes the findings from the study?
 - a. Participants viewed the people as highly similar to each other and as belonging to the same social group.
 - b. Participants viewed the people as highly dissimilar to each other and as belonging to different social groups.
 - c. Participants viewed the people as good candidates for the job and as belonging to the same social group.

- d. Participants viewed the people as romantically involved and as belonging to different social groups.

Appendix E

Stereotype Endorsement Task: Adapted from Obese Persons Trait Survey (Puhl et al., 2008)

Directions: Below you will see a series of traits. Please estimate the percentage of **fat people** that you believe possess each trait listed. Write the percentage in the corresponding line.

_____ 1. lazy

_____ 2. undisciplined

_____ 3. gluttonous

_____ 4. self-indulgent

_____ 5. unclean

_____ 6. lack willpower

_____ 7. unattractive

_____ 8. unhealthy

_____ 9. insecure

_____ 10. sluggish

_____ 11. honest

_____ 12. generous

_____ 13. sociable

_____ 14. productive

_____ 15. organized

_____ 16. friendly

_____ 17. outgoing

_____ 18. intelligent

_____ 19. warm

_____ 20. humorous

Stereotype Endorsement Task: Adapted from Obese Persons Trait Survey (Puhl et al., 2008)

Directions: Below you will see a series of traits. Please estimate the percentage of **not fat people** that you believe possess each trait listed. Write the percentage in the corresponding line.

_____ 1. lazy

_____ 11. honest

_____ 2. undisciplined

_____ 12. generous

_____ 3. gluttonous

_____ 13. sociable

_____ 4. self-indulgent

_____ 14. productive

_____ 5. unclean

_____ 15. organized

_____ 6. lack willpower

_____ 16. friendly

_____ 7. unattractive

_____ 17. outgoing

_____ 8. unhealthy

_____ 18. intelligent

_____ 9. insecure

_____ 19. warm

_____ 10. sluggish

_____ 20. humorous