Spring 2016

The Effect of Controllability Beliefs on Attitudes about Weight and Socioeconomic Status

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Senior Project Submitted to

The Division of Social Studies

of Bard College

by

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Annandale-on-Hudson, New York

May 2016

Acknowledgements

First and foremost, I would like to thank my wonderful advisers, Professors Kristin Lane and Allison McKim. Without them, none of this would have been possible. They helped me to navigate the difficulties of a joint major with unwavering support. Their guidance and understanding made this project a true collaborative effort, as I firmly believe that these studies would not have been complete without drawing from both sociology and psychology. I would also like to thank the third member of my board, Professor Amy Winecoff, for her insightful suggestions.

Thank you to the members of the Bard Social Psychology Lab, who gave me great advice at every stage of the project, and let me come in with tough questions, even when I was no longer technically a member of the lab. Thank you to the Yale Automaticity in Cognition, Motivation, and Evaluation (ACME) Lab, for allowing me to pursue my own research interests and giving me a head start on developing my studies.

Thank you to all the people, both friends and faculty, who made my time at Bard a memorable experience. I have learned and grown more as a person in these past four years than I thought possible, and I owe it all to the fantastic and unique people who make up this wonderful school.

Additionally, I would like to thank my family: my parents, Kim and Peter, and my brothers, Treat and Drew. Thank you all for always taking the time to ask me how my project was going, and for listening to me sort through conceptual issues with an open mind and words of reassurance. This project is dedicated to them, and I am endlessly grateful for their unconditional love and encouragement.

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Abstract

Many studies have shown that weight and socioeconomic status are related, such that people of low socioeconomic status are much more likely to be obese than people of high socioeconomic status (Drewnowski, 2009; Ljungvall & Zimmerman, 2012; Pudrovska, Reither, Logan, & Sherman-Wilkins, 2014; J Sobal & Stunkard, 1989; Jeffery Sobal, 1991). Additionally, people are biased against both the poor (John-Henderson, Jacobs, Mendoza-Denton, & Francis, 2013; Williams, 2009) and the obese (Puhl, Andreyeva, & Brownell, 2008). Through two empirical studies, I investigated the relationship between people's attitudes about weight and people's attitudes about socioeconomic status. In study 1, which was conducted with an online sample, participants were asked to estimate the socioeconomic status of people of different weights, races, and genders. Results showed that participants rated fat targets as significantly less educated and significantly less wealthy than thin targets. Study 2, conducted with an undergraduate sample at Bard College, examined whether general beliefs about controllability affected attitudes about weight and socioeconomic status. Participants were randomly assigned to one of three conditions (controllable, uncontrollable, or neutral), in which they read a passage that primed them into thinking about controllability. Participants then completed a series of implicit and explicit measures about their attitudes and beliefs about weight and socioeconomic status. There was a nonsignificant trend that, in the controllable condition, implicit attitudes about weight and socioeconomic status were more highly correlated than in the uncontrollable and neutral conditions.

Introduction

The United States has the fourth-highest level of income inequality in the world ("OECD Income Distribution Database (IDD): Gini, poverty, income, methods and concepts," 2012). The United States also has the highest measured obesity rate in the world ("Obesity update," 2014). Though these data are shocking, they make sense within a global context; in developed countries, obesity is correlated with income inequality (Pickett, Kelly, Brunner, Lobstein, & Wilkinson, 2005). Thus, there is a large overlap between the poor and the obese, in that people of low socioeconomic status are much more likely to be obese than people of high socioeconomic status (Drewnowski, 2009). Prior research has shown that people dislike, and are often prejudiced towards, both the poor and the obese (Lott, 2012; Vartanian, 2010). As weight and socioeconomic status are related, is possible that bias towards the poor and bias towards the obese are also related in some way. Despite the known connection between obesity and poverty, no studies, to my knowledge, have been conducted to investigate how the general public perceives this connection, or whether bias against both the poor and the obese stems from a singular belief.

So, the aim of this project is twofold. First, to examine whether or not people make assumptions of a person's socioeconomic status based on their weight; and second, assuming that attitudes about weight and socioeconomic status are related, ascertaining what common belief drives these attitudes.

Literature Review

In the past few decades, there has been growing concern about the "obesity epidemic." Since the 1970s, the number of obese adults in the United States has grown by more than fifty percent (Chou & Grossman, 2002). This could be due to a large number of factors, including

more sedentary lifestyles, the growth of fast-food restaurants, which provide energy-dense but nutrient-poor foods at a low price, and food deserts in inner cities (Chou & Grossman, 2002; Drewnowski, 2009). According to one study, the average BMI in the United States has increased from 24.90 in women and 25.14 in men in the years 1959-1962 to 28.74 in women and 28.53 in men in the years 2007-2008. (Ljungvall & Zimmerman, 2012). A BMI between 18.5 and 24.99 is considered healthy, and a BMI between 25 and 29.99 is considered overweight; so, the average American now falls within the overweight range (Ljungvall & Zimmerman, 2012), These increases differ among racial and ethnic groups, with the BMI increase among Black Americans being three times as large as the increase among non-Hispanic White Americans (Ljungvall & Zimmerman, 2012). Despite the increase in the number of obese people, and consequently the exposure people have to obese people, weight discrimination has not decreased-- in fact, it has increased (Carr & Friedman, 2005).

People of low socioeconomic status are much more likely to be obese than people of higher socioeconomic status (Drewnowski, 2009; Ljungvall & Zimmerman, 2012; Pudrovska, Reither, Logan, & Sherman-Wilkins, 2014; Sobal & Stunkard, 1989; Sobal, 1991). This is likely due to the fact that people below the poverty line have less flexible work hours, which leaves them less time to exercise or cook healthy meals. Additionally, gym memberships are expensive, and living in an inner-city environment is not conducive to exercising outdoors. As stated previously, the most inexpensive foods are rich in fats and sugars, but low in other nutrients (Drewnowski, 2009). These fast foods keep a person full for longer, and they do not take much time to prepare or purchase-- important factors to a person on a limited budget of time and money.

Poverty and obesity are clearly related, and it is intuitive to think that poverty causes obesity; however, some recent studies have shown that obesity may perpetuate poverty, as well. Among women on welfare, White women who are morbidly obese are significantly less successful in returning to work-- and, when and if they do find work, they receive significantly lower wages than those who are not obese (Cawley & Danziger, 2005). This wage disparity holds for White women not on welfare, also (Cawley, 2004). It seems that the stigma of obesity works in tandem with the stigma of poverty.

Goffman's Stigma Applied to Obesity

In order to conceptualize stigma, I turn to Erving Goffman's influential work, *Stigma: Notes on the Management of Spoiled Identity,* which explores the different ways in which people are stigmatized and how this treatment affects stigmatized people (Goffman, 1963). He defines the term "stigma" as "an attribute that is deeply discrediting"—it is "a special kind of relationship between attribute and stereotype" (Goffman, 1963, pp. 3-4). Goffman asserts that there are three types of social stigma: Abominations of the body, blemishes of individual character, and tribal stigma of race, nation, and religion (Goffman, 1963). Stigma is a visible or invisible attribute that marks a person, which often elicits prejudice from other, nonstigmatized people. These preconceived notions, or prejudices, can lead to discrimination, or distancing and denigrating responses to a stigmatized person or group (Lott, 2002).

Though this book was written well before the spike in obesity rates in the past few decades, as well as before obesity was thoroughly studied academically, Goffman specifically addresses issues of stigma that obese people face. He further characterizes types of stigma as either "discredited"—when one can see the person's stigmatizing characteristic, or "discreditable"—when one's stigmatizing characteristic is not immediately recognizable

(Goffman, 1963, p. 16). Obesity, being a very visible condition of the body, is a discredited stigma, not unlike many other "abominations of the body." Poverty is not an immediately visible stigma, so it is a "discreditable" stigma. Obese people do not have the same access to their ingroup of other obese people for social support, because they often believe that their situation is temporary—they plan to shed the weight, and consequently, the stigma (Goffman, 1963, p. 113). In fact, studies have shown that obese people, on average, have no explicit in-group bias, unlike most other marginalized groups (Crandall, 1994).

Another type of stigma that Goffman briefly addresses is what he terms "courtesy stigma." This term refers to those who show how far an unstigmatized person "could go in treating the stigmatized person as if he didn't have a stigma" (Goffman, 1963, pp. 30-1). A person with a courtesy stigma can make "both the stigmatized and the normal uncomfortable" (Goffman, 1963, p. 31). This idea was supported experimentally in a study on hiring practices, which found that a job applicant sitting next to an obese person was less likely to be "hired" by participants, even if the applicant had no relationship with the obese person-- just being in close proximity to an obese person leads to job discrimination (Hebl & Mannix, 2003).

The Stigma of Poverty

Just like obesity, poverty is stigmatizing; people are biased against those of low socioeconomic status (John-Henderson, Jacobs, Mendoza-Denton, & Francis, 2013; Williams, 2009). Classism, defined as "everyday practices, attitudes, assumptions, behavior, and institutional rules" can be divided into two distinct types: institutional classism, which is "the maintenance and reinforcement of low status by social institutions that present barriers to increase the difficulty of accessing resources;" and interpersonal classism, which is identified by prejudice, stereotypes, and discrimination (Lott, 2012, p. 654). Since poverty can be both

conceptualized as both a group stigma and an individual one, it does not fit neatly into any of Goffman's three types of stigma. When framed as an individual, controllable issue, it resembles a "blemish of individual character" (Goffman, 1963; Waxman, 1983). With the growing racialized codification of welfare, poverty stigma can also be seen as a "tribal stigma of race" (Gilens, 2000; Goffman, 1963; Waxman, 1983).

Though being poor is a stigmatized condition, it is important to note the continual—and sometimes legal— differentiation between the deserving and the undeserving poor. Like obesity, perceptions of poverty change when a poor person is seen as a victim of uncontrollable structural factors (and consequently deserving of government help) or as poor due to controllable individual flaws (and undeserving of government help). The distinction between deserving and undeserving poor is not new—the first clear distinction between the two groups (then called vagrants and impotent poor) was written in 1572, in an Elizabethan statute (Waxman, 1983). Though the categories of deserving and underserving poor pre-date the United States, the ongoing preoccupation with narrowly defining who is deserving of government help is a very American phenomenon. Most developed countries devote a much higher proportion of government funds to social welfare; according to the Organization for Economic Cooperation and Development, the United States "ranks twelfth out of thirteen industrial nations in the percentage of GNP devoted to government social expenditures" (Gilens, 2000, p. 15). Many Americans hate welfare because they view it as a program that "rewards the undeserving poor" (Gilens, 2000, p. 3). Theorists attribute this distaste for welfare spending—specifically, state-run General Assistance (GA) programs and the federal/state program called Temporary Assistance for Needy Families (TANF)—to Americans' strong sense of individualism, and the perception that the welfare state is a European invention at odds with Americans' belief in small

government (Gilens, 2000; Lott, 2002). In the United States, poverty is often seen as controllable, in that many believe that the poor are poor due to personal failings, rather than institutional ones (Bernheim, Ray, & Yeltekin, 2013; Kraus & Keltner, 2013; Zucker & Weiner, 1993).

People of low socioeconomic status—especially those deemed undeserving of government assistance—are a stigmatized group who are actively discriminated against in many facets of everyday life. In fact, the same behaviors can be read differently depending on a person's perceived socioeconomic status. In a notable study by Darley and Gross (1983), participants were shown the same video of a 4th grade girl's performance on a test; some participants were led to believe the girl was of low socioeconomic status, and some were led to believe she was of high socioeconomic status. Participants who believed the girl was poor rated her academic abilities as below grade-level, while those who believed the girl was middle-class rated her abilities as at grade-level. In other words, participants' pre-conceived notions about social class led them to believe that the "poor" student was less intelligent than the "middle-class" student. This parallels the common stereotype that obese people are less intelligent than non-obese people—most scales that measure attitudes towards obese people include questions like "although some overweight people must be intelligent, generally I think they tend not to be" (Crandall, 1994). These assumptions about a person's intelligence based on socioeconomic or physical characteristics have real-world implications. One study, with a sample of over 1000 students drawn from five regions across the United States, found that obese students receive significantly lower grades than non-obese students in middle school, community college, and university, even after controlling for variables like personality and socioeconomic status, but

show no significant difference in intelligence or achievement test scores (MacCann & Roberts, 2013).

Consequences of Weight and Class Stigma

As shown above, weight and class stigma have very real consequences. In fact, many studies have investigated the relationship between being stigmatized and deterioration in both physical and mental health. Perceived weight discrimination is associated with lower levels of self-acceptance and lower psychological well-being overall. (Carr & Friedman, 2005). Stigma leads to social isolation and poor health, and the stigma-health relationship is "significantly attenuated after adjustment for social isolation" (Schafer & Ferraro, 2011; Hatzenbuehler, Phelan, & Link, 2013, p. 815). People also see themselves as heavier when they face weight-based discrimination, and this perception can lead to increased shame, and, consequently, marginalization (Schafer & Ferraro, 2011). Both weight- and race- based bullying in childhood are associated with increased blood pressure and body mass index, as well as decreased self-rated health in general (Rosenthal et al., 2013). The lower levels of overall self-rated health are explained by more negative emotional systems due to bullying (Rosenthal et al., 2013). Beliefs about controllability of one's own weight also affect how a person perceives negative evaluations. In one study, overweight women either read a passage about how weight is controllable or how it is not controllable. They then wrote an essay and received negative feedback from a male evaluator, whom they believed either could or could not see them writing the essay. Participants in the weight-uncontrollable and visible condition made more attributions to the evaluator's prejudice for the negative feedback than did participants in the other conditions; so, obesity stigma is "related to the belief that being heavy is one's own fault"

(Blaine & Williams, 2004, p. 83). This suggests that giving overweight people information about the uncontrollable nature of weight has a self-protective effect.

The relationship between stigma and health behaviors has even been studied causally; exposure to weight-stigmatizing news and media causes overweight (but not normal weight) women to consume more calories (Major, Hunger, Bunyan, & Miller, 2014). These findings suggest that the social pressure and shame of stigma leads to poor health—and a decrease in self-control. People who self-report a low subjective social status have higher levels of cytokine interleukin-6 (IL-6), a pro-inflammatory that has negative health effects at high levels (John-Henderson et al., 2013). This relationship is significantly moderated by implicit social class bias, such that participants who rated themselves as low on a scale of subjective social status and had a strong implicit association between "low class" and "bad" had greater levels of IL-6 (John-Henderson et al., 2013). This indicates that a person's health is not only related to their socioeconomic status, but their perception of their status, as well.

Historical Conceptions of Fatness and Thinness

In order to understand why the poor and the obese are stigmatized, it is crucial to recognize the historical basis of obesity, and how it became associated with poverty. Though the poor have been stigmatized for centuries, fatness has not always had the negative connotation that it has in contemporary society. The association between "fat" and "bad" can exist "only in a culture of overabundance" (Bordo, 1993, p. 192). In the late Victorian era, as Western society industrialized and more people had access to enough food, "those who could afford to eat well began systematically to deny themselves food in pursuit of an aesthetic ideal" for the first time (Bordo, 1993, p. 192). Fatness was no longer a sign of competence and wealth, but of ostentation and lack of will. Historically, this shift has to do with the change in what constituted social

power. In the industrialized West, social power became less about the accumulation of as much material wealth as possible, and more "connected to the ability to control and manage the labor and resources of others" (Bordo, 1993, p. 192). This association of power with ability to rigidly manage others turned inward on the self, which led to the notion of fatness as incompetence or laziness.

As fatness became associated with lack of will, it also became associated with poverty. Bordo asserts that "when associations of fat and lower-class status exist, they are usually mediated by moral qualities—fat being perceived as indicative of laziness, lack of discipline, unwillingness to conform, and absence of all those 'managerial' abilities that, according to the dominant ideology, confer upward mobility" (1993, p. 195). From the late Victorian era to the present, thinness was the physical manifestation of self-control and the denial of excess. This preoccupation with thinness works as a form of social control—we make our own bodies "docile" by self-monitoring and self-disciplining, and those who do not conform are "idle or useless" (Foucault, 1979, p. 152). In industrial society, the body is not just biological— from a Marxist perspective, it is "an arena shaped by the social and economic organization of human life" (Bordo, 1993, p. 33).

The Body as a Moral Object

Fatness is not only associated with a lack of will, but with a lack of morals, as well. As stated earlier, Bordo (1993) discusses that the association between fatness and low socioeconomic status is mediated by judgments about morality. In the United States, Christianity often guides this moral discourse, with Christian terms and tenets assigned to the body. People have associations between sinfulness, physical inactivity (sloth), overeating (gluttony) (Hoverd & Sibley, 2007). Standard negative terms for describing the fat body (like terrible, awful, and

unpleasant) are fundamentally different than moral terms for defining the fat body (like sinful, immoral, and wicked). Though the associations between these two types of words are related, Hoverd and Sibley (2007) still found a significant association between sin and the fat body when controlling for positive and negative words not related to religion. Their results also did not differ by religiosity of the participants. Additionally, many American women associate thinness with Christian salvation, due to the history of fasting as a religious rite that purifies the soul, regardless of their individual religious beliefs (Lelwica, 1999).

Even among the non-religious, belief in the Protestant work ethic interacts with self-perceived weight status. The Protestant work ethic stems from early American individualism, and is still a core American value. It focuses on the Protestant belief that hard work and self-control leads to success, and lack of success is due to moral failings like self-indulgence (Quinn & Crocker, 1999). Belief in the Protestant work ethic is associated with higher levels of conservatism and authoritarian personality traits, as well as more negative and individual attributions for unemployment (Furnham, 1982). Differences in beliefs in the Protestant work ethic interact with self-perceived weight status, such that for overweight women, those with higher beliefs in the Protestant work ethic had lower psychological well-being, while normal weight women with higher beliefs in the Protestant work ethic had higher psychological well-being (Quinn & Crocker, 1999). Psychological well-being based on self-perceived weight status can also be experimentally manipulated, with priming for Protestant work ethic leading to lower psychological well-being in overweight participants, and priming for a more inclusive ideology leading to higher psychological well-being in overweight participants (Quinn & Crocker, 1999).

Aside from religious connotations, the characterization of the obesity epidemic can be considered a "moral panic" (Saguy et al., 2005). Though discourse about obesity often focuses

on health, it does not center around a fear of contagion from a rapidly-spreading infectious

disease, so it ought not to be considered a health scare in the traditional sense (Saguy et al.,

2005). Instead, obesity should be theorized as a moral panic, because "while the primary concern

in a health scare is physical integrity, the principle concern in moral panic – an alarmist response

to marginalized or stigmatized groups because they threaten common values – is moral integrity"

(Saguy et al., 2005, p. 4). The moral component of the obesity epidemic can clearly be seen in

media reports about obesity—the increase in media reporting is greater than the increase in

obesity rates, and much less attention is paid in the media to cigarette use, another health issue

that is perceived as controllable, and kills many more people annually than obesity-related health

issues (Saguy et al., 2005).

The "moral panic" of obesity is essentially a panic about lack of control, both on a

personal and societal level. When the United States government declared a "war" on obesity in

December of 2001, Health and Human Services Secretary Tommy G. Thompson stated, in a

press conference, that "all Americans—as their patriotic duty—[should] lose 10 pounds"

(Herndon, 2005, p. 128). Framing weight-loss as a service to one's country characterizes those

who are not physically fit as unfit to be an American. Thompson's statement, made at a time of

political unrest, parallels the rhetoric around food rationing in World War I, which also focused

on control and morality (Herndon, 2005). As food was in short supply, those who visually

embodied excess were assumed to be consuming more than their fair share of rationed foods.

Gluttony became treasonous, with a member of the Scientific Food Commission announcing in

1918 that "there are probably a good many million people in the United States whose most

patriotic act would be to get thin… and to stay thin" (Herndon, 2005, p. 131). Essentially, the

moral body is one that is controlled and devoid of excess. Fighting fat, either on the macro-level

(e.g. the government declaring a "war on obesity") or on the micro-level (e.g. dieting or exercising in an effort to lose weight) is seen as morally righteous. So, those who cannot—or will not, in the eyes of the general public, who see obesity as largely controllable—lose weight are seen as immoral and as shirking their civic duty. Though we do not currently ration our food during times of war, the obese body is still seen as both unpatriotic and a burden, due to the belief that the obese are unproductive and cost the taxpayer money because of workplace inefficiency and higher healthcare costs (Herndon, 2005). This mirrors the prevailing notion of the undeserving poor being unproductive at a direct cost to the moral, patriotic, (and thin) working American taxpayer. So, both the obese body and the impoverished body are seen as unproductive, which suggests that class may be embodied through weight.

The Body as a Classed Object

Though the body has traditionally been conceptualized through the lens of gender (see West & Zimmerman, 1987 for a classic and thorough discussion of gender as everyday interaction), and to a lesser extent, race, class is also read through the body. However, there is a lack of literature investigating how others perceive the embodiment of social class. Differences in the body are given meaning by society, and these differences are not value-neutral. According to sociologist Katherine Mason, bodies and social inequality are co-constitutive: "while bodily differences are subject to cultural interpretation… societal beliefs about between-group differences (and within-group similarities) actively create or exaggerate bodily difference" (Mason, 2013, p. 689). Thus, body differences (like weight) are read in a classed way. Often, these differences are transformed into inequalities through the justification of self-control—larger bodies are seen as out of control, immoral, and, presumably, of lower class (Mason, 2013).

As there is very little literature discussing how class is read through body weight, I will examine another facet of personal presentation that is viewed in a classed way: Style of dress. In face-to-face interactions, social class is regularly revealed through clothing. For example, work uniforms serve as an embodiment of social inequality (Casanova, 2013). Of course, white-collar workers adhere to a dress code, but they have the freedom to choose what they would like to wear within that dress code. Work uniforms are different enough from everyday dress that they immediately signify a service role, which establishes the uniform-wearer's class status (West & Fenstermaker, 1995). Even outside of the workplace, clothing choice acts as a symbol of social class. Clothing that is particularly symbolic of a certain social class, like a suit (upper class) or sweatpants (lower class) not only affects the behavior of the person wearing the sartorial symbol, but the people they interact with, as well (Kraus & Mendes, 2014). In one study, a participant was dressed in either a business suit or a pair of sweatpants before engaging in a negotiation task with another participant, who was unaware of the clothing manipulation. Wearing a business suit induced dominance in the person wearing the suit, both in terms of negotiation outcomes and testosterone levels, which suggests that change in one's appearance affects perceptions of one's own social power (Kraus, Piff, & Keltner, 2009). More importantly, plainclothes participants who were paired with a participant in a business suit showed increased vigilance, reduced perceptions of social power, increased vagal withdrawal, and sympathetic nervous system activation, compared to participants who were paired with a participant in sweatpants (Kraus et al., 2009). So, we perceive social class and power in others through their appearance, and these perceptions trigger biological responses. Since there is a clear empirical link between weight and social class, it is entirely possible that we perceive weight as a signifier of class status, just as we do clothing.

Obesity, Socioeconomic Status, and Perceptions of Control

Many of these reasons for bias against the obese have one thing in common: perceived control. These beliefs about control are often turned inward, towards the self. Generally, people of high socioeconomic status self-report greater levels of control over their lives than people of low socioeconomic status (Murray, Rodgers, & Fraser, 2012). These higher beliefs in self-control and self-efficacy, combined with fewer personal constraints, are related to stronger intentions to exercise; higher income and education are positively correlated with both intention to exercise and actual exercise behavior (Murray et al., 2012). Just as high socioeconomic status is related to a high sense of control, low income and less education is related to a lower sense of control (Lachman & Weaver, 1998). Among people of all socioeconomic groups, higher perceived mastery (defined as one's sense of effectiveness or efficacy in carrying out goals) and fewer perceived constraints (defined as the extent to which one believes that there are external and uncontrollable factors or obstacles that interfere with reaching goals) are related to greater life satisfaction, lower depressive symptoms, and better physical health (Lachman & Weaver, 1998). So, people with low income who have a higher sense of control fare better than those with a lower sense of control; additionally, individual differences in control beliefs have greater effects in low income groups than in high income groups (Lachman & Weaver, 1998). Across all socioeconomic status groups, individual differences in perceived control partially account for differences in self-rated health; since people of low socioeconomic status generally have lower perceived control beliefs, this suggests that perception of control over life events may underlie socioeconomic differences in health (Bailis, Segall, Mahon, Chipperfield, & Dunn, 2001). These class differences in perceived control may reflect actual differences in control—people of high socioeconomic status often have more flexibility and stability in their work, and are less affected

by unexpected financial burdens, such as a car breakdown or a medical emergency. Additionally, some research has shown that poverty is self-perpetuating in that it is cognitively taxing enough to undermine the ability to exercise self-control (Bernheim et al., 2013).

Perceptions of control affect attitudes towards others, as well. Obesity is generally perceived as highly controllable (Crandall, 1994; Vartanian, 2010). People actually attribute more controllability to obese than to non-obese people—they assume that obese people are accountable for their weight, while thin people are not (Popan, Kenworthy, Barden, & Griffiths, 2010). The public perception of obesity as controllable is at odds with scientific findings about genetic factors of obesity, as well as the very low success rate in losing large amounts of weight and keeping the weight off (Gaesser, 1996). Even when people are made aware of the difficulty and improbability of losing a large proportion of body fat, their attitudes toward obese people are still highly influenced by the amount of effort a person exerts in trying to lose weight (Black, Sokol, & Vartanian, 2014). Numerous studies have shown that when obesity is seen as controllable, people show a stronger bias against the obese (Black et al., 2014; Blaine, DiBlasi, & Connor, 2002; Blaine & Williams, 2004; Carels & Musher-Eizenman, 2010; Ross, Shivy, & Mazzeo, 2009; Vartanian, 2010). This has been shown many times through correlational studies. High beliefs about the controllability of obesity were the strongest predictor of negative attitudes toward the obese in a sample of Swedish adults; these beliefs were also positively correlated with negative stereotyping in a sample of Australian children (Hansson & Rasmussen, 2014; Tiggemann & Anesbury, 2000). This holds true in American samples, as well—adolescents who reported high controllability beliefs about obesity held more negative attitudes about obese people, and endorsed the stereotypes that obese people are "lazy, bad, or not smart" (Rukavina & Li, 2011, p. 11). The relationship between controllability beliefs and attitudes toward obese

people has been manipulated experimentally, as well. In one study, participants read a series of

vignettes about obese people—some of the scenarios described an obese person with "high

responsibility" for their own weight (in other words, their weight was controllable), some

scenarios described an obese person with "low responsibility" for their weight (in other words,

their weight was uncontrollable), and some scenarios were ambiguous. Participants rated

characters in the "high responsibility" vignettes lower in positive attribute rating scales and

higher in negative attribute rating scales (Ross et al., 2009). In another study, adolescent girls

saw photographs of and read personal statements from both a normal weight girl and an obese

girl, and were asked to give their impressions of the girls. The obese girl either had a thyroid

condition (so her weight was perceived as uncontrollable) or no thyroid condition (so her weight

was perceived as controllable). Participants rated the obese girl without a thyroid condition as

less self-disciplined and more self-indulgent than the obese girl with a thyroid condition—they

also, on the whole, reported liking and finding more attractive the obese girl with the thyroid

condition better than the obese girl without the thyroid condition (DeJong, 1980). So, if obesity

is framed as uncontrollable (due to a medical problem like a thyroid condition, for instance),

people's bias against the obese is reduced (DeJong, 1980); however, if the controllability of a

certain person's obesity is unknown or ambiguous, people generally assume that the person is

responsible for their own weight (Ross et al., 2009). In real-world situations, one generally does

not know the "cause" of a person's weight, which means that people most likely ascribe an obese

person's weight to laziness or lack of self-control. This correlation between bias and

controllability is not domain-specific-- generally, bias is stronger when a stigma is seen as

controllable (Goffman, 1963; Hegarty & Golden, 2008; Rush, 1998; Weiner, Perry, &

Magnusson, 1988). Perceiving a stigmatized condition to be controllable or uncontrollable

activates different neural responses, as well, with participants reading about a controllable

stigmatized condition showing heightened activation in the "dorsal and slightly more ventral

[medial prefrontal cortex], the anterior cingulate cortex and the orbitofrontal cortex," while

participants reading about an uncontrollable stigmatized conditions had "greater activation

against more widespread areas of the brain, including the left insula and the bilateral parietal

cortex" (Krendl, Moran, & Ambady, 2013, p. 607).

Though perceptions of controllability in obesity are relatively constant between obese

and non-obese people, in that both obese and non-obese people believe that obesity is

controllable, attributions for poverty differ between the poor and non-poor, and between other

groups, as well. Prior research has identified three main types of explanations for poverty:

structural, individual, or fatalistic (relating to luck that is out of control of both the individual and

the state) (Furnham, 1982). Most Americans place more emphasis on individual factors than on

structural or fatalistic factors, though this perception fluctuates with the economy. In times of

prosperity, even more Americans rate individual factors as most important, and in times of

economic downturn, Americans are more likely to consider structural explanations (Gilens,

2000).

Regardless of economic climate, people of low socioeconomic status—specifically,

welfare recipients— are more likely to subscribe to structural explanations for poverty than

people who are middle class. (Bullock, 1999). Conversely, people who are highly educated—a

mark of high socioeconomic status—are more likely to endorse structural explanations, as well

(Carvacho et al., 2013; Hunt, 1996). Non-poor people are also more likely to see poverty as a

permanent state, and welfare as less helpful in moving people out of poverty (Gilens, 2000). This

shows that the relationship between attributions for poverty and socioeconomic status is more complex than it seems on a surface level.

Attributions for poverty also differ by ethnicity. Black Americans and Latinos are more likely than White Americans (who generally only hold individual explanations for poverty) to view both structural and individual explanations for poverty as important; these racial and ethnic differences hold even when controlling for socioeconomic factors (Hunt, 1996). It is important to note that these two explanations, though disparate, are not mutually exclusive. This suggests that racial and ethnic minorities in the United States recognize the role that structural inequality plays in their lives, but also internalize the dominant ideology of poverty as an individual flaw. In fact, for Black Americans and Latinos, assuming personal responsibility for success does not preclude them from acknowledging structural societal barriers—their attributions of personal success may be bolstered by the awareness of structural forces that prevent upward mobility for other members of their group (Hunt, 1996).

Along with differences in socioeconomic status and ethnicity, differences in certain personality traits, as well as sociopolitical and ideological attitudes predict attitudes towards the poor and attributions for poverty. Many system-legitimating ideological attitudes predict negative attitudes towards the poor. People who score higher on the Social Dominance Orientation Scale (SDO), which measures a person's preference for hierarchy in a social system, are more prejudiced toward low-status groups (Carvacho et al., 2013). People who score higher on the Right Wing Authoritarianism Scale, which measures a person's tendency to adhere to societal authorities and norms, as well as a person's tendency to be hostile towards people who do not adhere, have more individual and negative attitudes toward poverty and the poor (Carvacho et al., 2013; Cozzarelli, Wilkinson, & Tagler, 1989; Duckitt & Bizumic, 2013). Like

the other scales discussed, higher Belief in a Just World is associated with negative attitudes and individual attributions for the poor (Cozzarelli et al., 1989). General political conservatism, which is related to the above-mentioned scales, is a very reliable predictor for believing that poverty is the fault of the poor individual (Zucker & Weiner, 1993). Conservatism also correlates positively with blame, anger, and beliefs about controllability, and correlates negatively with pity, intention to help, and perception of importance of structural explanations for poverty (Zucker & Weiner, 1993).

Often, these constructs are measured explicitly, with participants indicating how much they agree or disagree with a series of written statements. This gives participants time to think about their answers, and decide whether or not to reveal information about themselves that might not be politically correct, like racial biases. In order to learn more about people's attitudes, many researchers also use implicit measures, which measure less conscious attitudes or beliefs. Many tasks have been developed to study implicit attitudes, including the Implicit Association Test (IAT) (Greenwald, McGhee, & Schwartz, 1998). Implicit measures are automatic, and do not allow participants time to consider their answers, or actively decide what answers to give in order to seem politically correct. There has been much debate about implicit measures, and whether or not they measure different constructs than explicit measures do; much of the research on the subject shows that implicit and explicit biases are different, but not unrelated, constructs. (Cunningham, Nezlek, & Banaji, 2004). Though implicit and explicit attitudes are often correlated, implicit biases are generally greater in magnitude, and a person can show implicit bias without showing explicit bias (Cunningham et al., 2004).

Relationships between Attitudes about Weight, Socioeconomic Status, and Control

These biases and prejudices, whether tested explicitly or implicitly, are ethnocentrically organized. Individuals who are highly ethnocentric have the "tendency to form and maintain negative evaluations and hostility toward multiple groups" that are not their own (Cunningham, Nezlek, & Banaji, 2004, p. 1333). Thus, their prejudices are not domain-specific—they dislike outgroups, even ones that have nothing in common with one another. This is especially true implicitly, as implicit bias is "more readily generalized to less-conceptually related groups than explicit bias" (Lane & Banaji, n.d., p. 11). Additionally, other traits besides ethnocentrism moderate relationships between attitudes. Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950) hypothesized that prejudice is predicted by personality type. A certain personality type, which they called "authoritarian," is particularly prone to prejudice, and is characterized by conventionalism, rigidity in beliefs, and adherence to authority. Authoritarianism has been found to predict generalized prejudice, as has social dominance (McFarland, 2010). Other personality traits, like empathy and principled moral reasoning, predict lower levels of generalized prejudice (McFarland, 2010). Contemporarily, authoritarianism is often measured using the Right-Wing Authoritarianism Scale (RWA), According to recent research, the RWA measures three distinct constructs, all of which predict prejudice: Authoritarianism, conservatism, and traditionalism (Duckitt & Bizumic, 2013). These personality traits and beliefs that predict prejudice are synthesized in the Dual-Process Model (DPM) of ideology and prejudice, which suggests that effects of the Big Five personality traits (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism) are mediated through beliefs that the world is dangerous and/or a competitive jungle (Sibley & Duckitt, 2013). These worldviews predict high levels of Right-Wing Authoritarianism and Social Dominance Orientation (Sibley & Duckitt, 2013).

Obviously, many traits moderate the relationship between attitudes towards different— and sometimes completely unrelated— marginalized groups. It seems plausible that derogated groups who are similar, or have a high amount of overlap, may be discriminated against partially due to a singular reason that cannot be fully explained by generalized prejudice. Since weight and socioeconomic class are related, might people be biased against the poor for reasons similar to why they are biased against the obese? Because, as stated earlier, the relationship between beliefs about controllability and amount of bias about a stigma are not domain-specific, I believe that people with higher controllability beliefs will show more bias toward the poor, just as they do towards the obese.

Though a substantial amount of individual levels of prejudice are domain-general, certain characteristics are correlated with stronger bias against both the poor and the obese. High levels of Authoritarianism, Belief in a Just World, Social Dominance Orientation, Protestant work ethic, and Conservatism all predict high levels of bias against the poor (Carvacho et al., 2013; Cozzarelli et al., 1989; Zucker & Weiner, 1993). Similarly, people with higher beliefs in the Protestant work ethic are more biased against the overweight and obese (Quinn & Crocker, 1999). I contend that all of these predictors have one thing in common: belief in personal control and responsibility. As shown above, weight and socioeconomic status are related, in that people of lower socioeconomic status are more likely to be obese than people of higher socioeconomic status (Drewnowski, 2009; Ljungvall & Zimmerman, 2012; Pudrovska et al., 2014; Sobal & Stunkard, 1989; Sobal, 1991). People are biased against the poor and the obese in many different ways, though these biases differ by race and gender of both the person judging and the person being judged.

In order to effectively and accurately test the relationship between these beliefs and attitudes, it is important to consider one's sample. At a small liberal arts college with a very left-leaning population, it is likely that many participants will be hesitant to reveal negative attitudes towards stigmatized groups like the poor and the obese. Using implicit measures in addition to explicit ones is key in investigating biases that people do not want to divulge—or might not even be aware of. These implicit measures may also measure different constructs than explicit measures do (Brauer, Wasel, & Niedenthal, 2000; Cunningham et al., 2004). Implicit measures of bias generally produce stronger effects than do explicit ones, and some contend that—in the case of ethnocentrism, specifically—implicit and explicit associations are two discrete but closely related systems (Cunningham et al., 2004). In fact, some studies have found that the link between self-reported personality and prejudice, as detailed above, is only present in explicit measures (Bergh, Akrami, & Ekehammar, 2012).

Very little work has been done on implicit biases about social class, and the research that has been published focuses on implicit attitudes about the wealthy (Horwitz & Dovidio, 2015) or the moderating effect implicit class bias has on one's own subjective social status and health (John-Henderson et al., 2013). Like the research done on implicit class bias, many of the studies conducted about implicit weight bias focus on the relationship between implicit weight bias and perceptions of the self (Gumble & Carels, 2012). As so much of our experience as social beings focuses on how we are perceived by others, the lack of research on micro-level attitudes about class and its relation to weight means that we are missing an integral piece of the puzzle of the causes and consequences of social stigma.

The Present Studies

Study 1 is the first, to my knowledge, to investigate whether or not people estimate a person's socioeconomic status differently based on the person's weight. Since many studies have shown that people of low socioeconomic status are significantly more likely to be obese, perhaps the general public is aware of these class-stratified weight differences (Drewnowski, 2009; Ljungvall & Zimmerman, 2012; Pudrovska et al., 2014; Sobal & Stunkard, 1989; Sobal, 1991). In order to test people's perceptions of the relationship between weight and socioeconomic status, I designed a simple study in which participants estimated the yearly income and highest educational attainment of both fat and thin targets. Both income and highest educational attainment were included to form a more complete measure of estimated socioeconomic status. I predict that participants will estimate that fat targets make significantly less money than thin targets, and that they will estimate that fat targets are significantly less educated than thin targets.

Assuming that people are aware of the relationship between weight and socioeconomic status, and, knowing from prior research that people are biased against both the poor and the obese, is there a relationship between attitudes about weight and attitudes about socioeconomic status that cannot be explained by ethnocentrism? Study 2 aims to examine the effect that beliefs about controllability have on attitudes about the poor and the obese. In order to experimentally manipulate controllability beliefs, participants were randomly assigned to read a passage that either primed them for controllability, uncontrollability, or neutrality. They then completed a series of implicit and explicit measures about weight, socioeconomic status, and ethnicity (for discriminant validity, as ethnicity is generally considered to be uncontrollable). I predict that attitudes about weight and attitudes about socioeconomic status will be most strongly related when participants are primed to think about controllability, less strongly related when participants are primed to think about neutrality, and least strongly related when participants are

primed to think about uncontrollability. I also predict that there will be no change in attitudes about ethnicity between conditions. A stronger relationship in the controllability condition between attitudes about weight and socioeconomic status would indicate that perceptions of control account for at least some of the bias against the poor and the obese.

Study 1

Method

Participants

One hundred and two participants (43 men, 59 women, M age = 36.27, SD = 11.597) were recruited through Amazon MechanicalTurk, a crowdsourcing internet marketplace in which workers are paid a nominal fee for completing a specified task—usually data cleaning, market research, or social science research. Previous studies have shown that MechanicalTurk workers are significantly more demographically diverse than college students, and that data obtained through MechanicalTurk is just as reliable as data obtained through more traditional methods (Buhrmester, Kwang, & Gosling, 2011; Paolacci & Chandler, 2014).Workers who participated in this study were paid $0.20 for their participation. 78.4% were White or Caucasian, 10.8% Asian, 3.9% Black or African American, 1.0% American Indian or Alaska Native, and 5.9% multiracial or other. 9.8% were Hispanic or Latino, 87.3% were not, and 2.9% declined to answer.

Materials

Chicago Face Database Photographs. The photographs used in this study were taken from the Chicago Face Database, which has standardized photographs of male and female faces of different ethnicities (Ma, Correll, &Wittenbrink, 2015). The database includes norming data for each person photographed, such as physical features like face size and subjective ratings like attractiveness. All photographs were chosen from this database, and matched for age and

attractiveness. As height and weight were not included in the provided norming data, I first went through the images and selected photographs of people who were visibly thin or overweight. Then, I sorted the images by demographic (gender and race, which were listed in the data, and subjective weight, which I determined). As there were more photographs of thin people than overweight people, I first found two photographs of overweight people from each gender and race category that had similar participant-rated attractiveness and age estimate. Then, I matched these pairs with photographs of thin people of similar participant-rated attractiveness and age estimate for each gender and race category.

Procedure

After providing consent, participants read a short description of the study, as follows: "Studies have shown that people can glean a lot of information about a person just from a photograph, and that many people are remarkably good guessers about personal information based on physical traits. You will be shown 16 photographs of people's faces, and you will answer a few questions about each photograph."

Each participant viewed 16 photographs: Two thin white women, two fat white women, two thin black women, two fat black women, two thin white men, two fat white men, two thin black men, and two fat black men. The order of the photographs was randomized, and each photograph showed a person with a neutral expression. For each photograph participants answered the following questions: "How much do you like this person?" (on a seven-point scale from strongly dislike to strongly like), "How attractive do you find this person?" (on a seven-point scale from very unattractive to very attractive), "How much money do you think this person makes per year, in U.S. dollars?" (on a sliding scale from $0 to $150,000), "What do you think this person's Body Mass Index (BMI) is?" (on a sliding scale from 15 to 40), "How old do

you think this person is, in years?" (open-ended), and "What do you think this person's highest

educational attainment is?" (from the choices: Less than high school, high school diploma or

equivalent, some college no degree, associate's degree, bachelor's degree, master's degree, and

doctoral or professional degree). Under the questions about estimated income and BMI,

participants were given the following contextual information: "According to the most recent U.S.

Census data, the median income for one person in the United States is $35,062" and "According

to the Centers for Disease Control and Prevention (CDC), the classifications for BMI are as

follows: Below 18.5 = underweight, 18.5-24.9 = normal or healthy weight, 25.0-29.9 =

overweight, 30.0 and above = obese."

After answering these questions about all 16 photographs, participants provided the

following demographic information: Age, sex, race, height and weight (in order to calculate

participant BMI), annual income, educational attainment, native language, and country of origin.

Results

Manipulation Checks

BMI. In order to make sure that participants perceived that obese targets had a higher

BMI than thin targets, I averaged estimated BMI for all thin targets, as well as estimated BMI for

all obese targets. Participants estimated that thin people had a significantly lower BMI than

obese people (*M* BMI thin = 20.60, *SD* = 1.86; *M* BMI fat = 29.65, *SD* = 3.50), $t(91) = -24.00$, *p*

< .0005, *d* = 3.23. Interestingly, the mean BMI estimate for fat targets fell just short of the

threshold for obesity of 30.0.

Main Analyses

Although estimates of yearly income and estimates of highest educational attainment were highly correlated, $r(91) = .45$, $p < .01$, I report the analyses separately for each dependent variable below.

To test whether estimated income varied by target race, gender, and weight, I conducted a 2 (Gender: Male or female) x 2 (Race: White or Black) x 2 (Weight: Thin or fat) within-subjects repeated-measures ANOVA on estimated yearly income (see Figure 1). A man effect of target gender $F(1, 101) = 127.27$, $p < .0005$, $\eta^2 = .57$, revealed that participants estimated higher incomes for men than for women (see Table 1). A main effect of target race $F(1, 101) = 104.04$, $p < .0005$, $\eta^2 = .52$, revealed that participants estimated higher incomes for White targets than for Black targets. A main effect of target weight $F(1, 101) = 71.72$, $p < .0005$, $\eta^2 = .428$, revealed that participants estimated higher incomes for thin targets than for fat targets. These main effects were qualified by a significant two-way interaction of race and weight, such that weight carried a higher "cost" for White people than for Black people, $F(1, 101) = 16.41$, $p < .0005$, $\eta^2 = .15$. There was also a significant two-way interaction of gender and race, such that race made a larger difference in income for men than for women $F(1, 101) = 51.84$, $p < .0005$, $\eta^2 = .35$. There was no significant interaction of gender and weight, $F(1, 101) = .104$, $p = .75$.

There was a significant three-way interaction between gender, race, and weight on estimated yearly income, $F(1, 101) = 4.42$, $p < .05$, $\eta^2 = .04$. To further explore the nature of this interaction, I conducted 2 (Weight: Thin or fat) x 2 (Race: White or Black) ANOVA analyses separately for male and female targets. For male targets, thin men were estimated to earn significantly more than fat men, $F(1, 101) = 132.37$, $p < .0005$, $\eta^2 = .575$, and White men were estimated to earn significantly more than Black men, $F(1, 101) = 37.21$, $p < .0005$, $\eta^2 = .28$. Weight moderated the effect of race for male targets, $F(1, 101) = 14.55$, $p < .0005$, $\eta^2 = .13$. Thin

White men were estimated to earn more than fat White men, $t(99) = 6.64$, $p < .0005$, $d = .69$, but estimated earnings did not differ as greatly for thin and fat Black men, $t(98) = 1.98$, $p = .05$, $d = .20$. This is consistent with previous research, which has found, for example, that fat Black men actually report less discrimination than thin Black men (Carr, Jaffe, & Friedman, 2008). For female targets, significant main effects revealed that thin women were estimated to earn more than fat women, $F(1, 101) = 10.71$, $p < .005$, $\eta^2 = .10$, and White women were estimated to earn more than Black women $F(1, 101) = 49.36$, $p < .0005$, $\eta^2 = .34$. There was also a weight by race interaction, $F(1, 101) = 4.36$, $p < .05$, $\eta^2 = .04$, such that fat White women had a greater income deficit $t(99) = 6.20$, $p < .0005$, $d = .65$, than did fat Black women, $t(99) = 4.93$, $p < .0005$, $d = .38$. This is also consistent with previous research, as studies have shown that obese Black women report greater acceptance than obese White women (Fikkan & Rothblum, 2012), and that obese White women on welfare are less likely to find to find a job than thin White women, while this discrepancy does not hold true for obese and thin Black women (Cawley & Danziger, 2005).

To summarize, participants estimated that fat people made significantly less money than thin people. Though this income discrepancy existed for both races (White and Black) and genders (men and women), the "cost" of being overweight differed by demographic group. Participants estimated a greater difference in income by weight for White people than for Black people. Interestingly, though there was a greater estimated income deficit by weight for White men than for White women, this gender effect was reversed for Black people—Black women had a greater difference in estimated income by weight than Black men did.

In addition to estimates of yearly income, I tested whether estimated highest educational attainment varied by target race, gender, and weight. I conducted A 2 (Gender: Male or female) x 2 (Race: White or Black) x 2 (Weight: Thin or fat) within-subjects repeated-measures ANOVA

on estimated highest educational attainment (see Figure 2). A main effect of target gender $F(1,$ $101) = 32.74, p < .0005, \eta^2 = .26$, revealed that participants estimated higher educational attainment for men than for women. A main effect of target race $F(1, 101) = 93.84, p < .0005, \eta^2$ $= .50$, revealed that participants estimated higher educational attainment for White people than for Black people. A main effect of target weight $F(1, 101) = 74.82, p < .0005, \eta^2 = .44$, revealed that participants estimated higher educational attainment for thin people than for fat people. These main effects were qualified by a significant two-way interaction between race and weight, such that weight made a bigger difference in estimated highest educational attainment for White people than for Black people $F(1, 101) = 30.28, p < .0005, \eta^2 = .24$. Unlike in estimate of yearly income, there was a significant two-way interaction between gender and weight, such that there was a weight made a bigger difference in estimation of highest educational attainment for women than for men $F(1, 101) = 4.36, p < .05, \eta^2 = .04$.

There was also a significant three-way interaction between gender, race, and weight on estimate of highest educational attainment, $F(1, 101) = 6.45, p <.05, \eta^2 = .06$. To further explore the nature of this interaction, I conducted 2 (Weight: Thin or fat) X 2 (Race: White or Black) ANOVA analyses separately for male and female targets. Fat men were estimated to be significantly less educated than thin men $F(1, 101) = 134.37, p < .0005, \eta^2 = .58$, and Black men were estimated to be significantly less educated than White men, $F(1, 101) = 34.11, p < .0005, \eta^2$ $= .26$. Weight moderated the effect of race for male targets. Thin White men were estimated to be more highly educated than fat White men, $t(99) = 4.48, p < .0005$, but thin Black men were not estimated to be more highly educated than fat Black men, $t(98) = .72, p = .48, F(1, 101) =$ $29.54, p < .0005, \eta^2 = .23$. For female targets, fat women were estimated to be significantly less educated than thin women $F(1, 98) = 54.12, p < .0005, \eta^2 = .36$, and Black women were

estimated to be significantly less educated than White women, $F(1, 98) = 19.79$, $p < .0005$, $\eta^2 = .17$. Weight also moderated the effect of weight for female targets. Thin White women were estimated to be more highly educated than fat White women, $t(99) = 7.530$, $p < .0005$; though thin Black women were estimated to be more highly educated than fat Black women, this difference by weight was not as pronounced as it was in White women, $t(99) = 4.31$, $p < .0005$, $F(1, 98) = 5.51$, $p = .02$, $\eta^2 = .05$.

To summarize, participants estimated that fat people were significantly less educated than thin people. Though this education discrepancy existed for both races (White and Black) and genders (men and women), the effect of being overweight on estimates of education level differed by demographic group. Participants estimated a greater difference in education by weight for White people than for Black people. They also estimated a greater difference in education by weight for women than for men.

Study 1 Discussion

Across race and gender conditions, participants rated fat people as significantly less educated than thin people, and estimated that fat people made significantly less money than thin people. These effects differed in magnitude across race and gender conditions. White men had the greatest deficit in estimate of yearly income by weight, while Black men had the least deficit. This is consistent with previous research, which has found, for example, that obese White men report significantly higher levels of discrimination than their normal-weight peers, while obese Black men actually report lower levels of discrimination than their normal-weight peers (Carr et al., 2008). This pattern was similar in women, with estimates of yearly income and highest educational attainment differing more by weight for White women than Black women. Despite the large difference in income estimation by weight for White men, which suggests a higher level

of bias toward fat White men than fat people of other races and genders, the average estimated

income for fat White men (M = \$42,520.00) was higher than all other race and gender groups,

both thin and fat. Estimates of highest educational attainment matched the pattern of estimates of

yearly income, with White men and women showing a greater difference in estimated

educational attainment by weight than Black men and women. This makes sense, as estimates of

income and estimates of highest educational attainment were highly correlated, which suggests

that both taken together are a good measure of estimated socioeconomic status.

Though study 1 demonstrates that people are aware of the link between weight and

socioeconomic status, it does not address whether or not people's attitudes about weight and

socioeconomic status are related. Thus, study 2 aims to examine the effect that beliefs about

controllability have on attitudes about the obese and the poor.

Study 2

Method

Participants

Participants were 105 undergraduate Bard College students, (41 men, 58 women, 4 other,

2 declined to answer; M age = 20.00, SD = 1.60) who were recruited through classes with the

professor's permission; I visited at the very end of class, so as not to take up class time,

introduced myself to the students and explained what participation in the study would entail, and

conducted my study after class with those who agreed to participate. Additionally, I recruited

participants through tabling in buildings throughout campus. Participants were compensated with

candy and a chance to win a \$75 Amazon gift card. 76.2% of participants were White or

Caucasian, 8.6% Black or African American, 7.6% Asian, 2.9% multiracial or other, and 4.0%

declined to answer. 4.8% of participants were Hispanic or Latino, 94.3% were not, and 1.0%

declined to answer.

Materials

    Controllability primes. Each participant was randomly assigned to one of three conditions, and read a short passage that corresponds with their condition. The passages were about circadian rhythms, and framing them as either controllable, uncontrollable, or neutral. The passages were as follows:

    Controllable condition. Have you ever wondered what determines how and when you sleep? Maybe you've wanted to change your sleep habits, but were not sure if it was possible.

    A person's sleep cycle is determined by a biological process called a circadian rhythm. People operate on a 24-hour clock, and this clock is endogenous, or "built-in." Despite this, people can adjust their circadian rhythms depending on their environment, schedule, or personal preferences.

    People who say that they are "just not a morning person" might think that their sluggishness in the morning is something outside of their control. But, research has shown that the brains of morning people and night owls are wired the same, so something as simple as setting one's alarm to go off an hour earlier for a few weeks can change someone from a night owl to a morning person.

    No matter what, getting enough sleep is extremely important in maintaining one's physical and mental health. The average person needs about 8 hours of sleep a night to function normally, so be sure to get plenty of rest!

    Uncontrollable condition. Have you ever wondered what determines how and when you sleep? Maybe you've wanted to change your sleep habits, but were not sure if it was possible.

A person's sleep cycle is determined by a biological process called a circadian rhythm. People operate on a 24-hour clock, and this clock is endogenous, or "built-in." This means that people cannot adjust their circadian rhythms depending on their environment, schedule, or personal preferences.

People who say that they are "just not a morning person" might think that their sluggishness in the morning is something outside of their control. Research has shown that the brains of morning people and night owls are wired differently, so something as simple as setting one's alarm clock to go off an hour earlier for a few weeks would not change someone from a night owl to a morning person.

No matter what, getting enough sleep is extremely important in maintaining one's physical and mental health. The average person needs about 8 hours of sleep a night to function normally, so be sure to get plenty of rest!

Neutral condition. Have you ever wondered what determines how and when you sleep?

A person's sleep cycle is determined by a biological process called a circadian rhythm. People operate on a 24-hour clock, as do plants and animals. Generally, people need about 8 hours of sleep during a 24-hour period.

The circadian rhythm is also sometimes referred to as the "body clock" or the "biological clock." In humans and other mammals, it is located in the hypothalamus of the brain. A group of cells in the hypothalamus, called the superchiasmatic nucleus, receives information about light through the eyes and helps regulate production of a hormone, called melatonin, that induces sleep. The circadian rhythm also regulates feeding, body temperature, and hormone production.

No matter what, getting enough sleep is extremely important in maintaining one's physical and mental health. The average person needs about 8 hours of sleep a night to function normally, so be sure to get plenty of rest.

Pencil-and-paper IATs. All participants completed a series of pencil-and-paper Implicit Association Tests (IATs), presented in random order (Greenwald et al., 1998; Lemm, Lane, Sattler, Khan, & Nosek, 2008). These tests measure the associations between categories. They also provide data about less conscious beliefs, attitudes, and stereotypes. The IATs measured attitudes towards weight (thin/fat), socioeconomic status (middle-class/poor), and ethnicity (White/Arab). The ethnicity IAT was included for discriminant validity, as ethnicity is generally not viewed as controllable. Additionally, participants first completed an IAT that measured associations between flowers/insects and good/bad, in order to familiarize themselves with the task.

For example, imagine a participant was faced with a left-hand column titled "thin or good" and a right hand column titled "fat or bad." The participant categorized words into these columns, then turned the page. If a participant categorized more words in one category pairing than the other, the participant's association between those paired categories is stronger than their association between the other set of paired categories. On the next page, the titles were switched so that they became "thin or bad" and "fat or good" and the participant again categorized words. If the participant categorized more words correctly when thin was paired with good than when fat was paired with good, the participant likely has a higher association between thin and good. During the IAT participants saw a sheet of paper with two columns with words that were to be categorized in a list in between the columns (see Figure 3). Each column was titled with category pairings. Participants categorized as many words as possible in 20 seconds.

In the flower/insect IAT, the flower words were daffodil, daisy, and tulip; the insect words were gnat, mosquito, and roach. In this IAT, the good words were awesome, excellent, and happy, while the bad words were evil, murder, and terrible. For the rest of the blocks, the good words were awesome, excellent, and happy, while the bad words were atrocious, awful, and terrible. In the weight IAT, the thin words were light, slender, and slim; the fat words were heavy, obese, and overweight. In the socioeconomic status IAT, the middle-class words were educated, privileged, and teacher; the poor words were housekeeper, uneducated, and welfare. In the ethnicity IAT, the White words were Dorian, Justin, and Tobias; the Arab words were Fahed, Nazir, and Qasim. Note that due to experimenter error, the ethnicity IATs were lost for 53 participants, and so these data were not analyzed due to the small number for which we had usable data; no correlational analyses were run using ethnicity IAT data. After the practice flower/insect, IAT, the other IATs were presented in randomized blocks; for each block, the congruent IAT (thin/good and fat/bad, middle-class/good and poor/bad, White/good and Arab/bad) came first, and the incongruent IAT (thin/bad and fat/good, middle-class/bad and poor/good, White/bad and Arab/good) came second.

Explicit measures. Participants answered twenty questions on a seven-point scale (from strongly disagree to strongly agree) about their attitudes and beliefs about obese people and people of low socioeconomic status (see Appendix F). The explicit measures about attitudes and beliefs about obese people and poor people were adapted from the following scales:

Attitudes toward Obese Persons Scale (ATOP). This scale, conceived by Allison, Basile, and Yuker, (1991) consists of 20 Likert-type items on a seven-point scale. I chose five items ($\alpha = .68$) from this scale; some examples include "obese workers cannot be as successful as

other workers" and "obese people should not expect to lead normal lives." One question, "obese

people are just as sexually attractive as non-obese people," was reverse-scored.

Anti-Fat Attitudes Questionnaire (AFAQ). Crandall's (1994) questionnaire consists of

13 Likert-type items on a nine-point scale. The questionnaire is broken up into three subsections:

dislike, fear of fat, and willpower. For consistency, I changed the scale from nine points to seven

points. I chose five items ($\alpha = .73$) from this scale: two from the dislike subsection, like

"although some obese people must be intelligent, general I think they tend not to be;" and three

from the willpower section, like "people who weigh too much could lose at least some part of

their weight through a little exercise."

Attitudes about Poverty and Poor People Scale (APPP). Atherton and Gemmel's (1993)

scale consists of 37 Likert-type items on a five-point scale. For consistency, I changed the scale

from five points to seven points. I chose ten items ($\alpha = .65$) from this scale; sample questions

include "I believe poor people create their own difficulties" and "being poor is a choice." Two

questions, "people are poor due to circumstances beyond their control," and "people who are

poor should not be blamed for their misfortune," were reverse-scored.

Measures of liking, trust, and warmth. Participants answered questions on a seven-point

Likert scale about how much they like ($\alpha = .92$), how warmly they feel towards($\alpha = .91$), and

how much they trust ($\alpha = .94$) obese people, thin people, middle-class people, poor people,

White people, and Arab people.

Demographic information. After completing the study, participants provided their

gender identity, age, race, height and weight (in order to calculate participant BMI), political

affiliation, annual household income, native language, and country of origin.

Procedure

After providing informed consent, participants were randomly assigned to one of three conditions: Controllable, uncontrollable, or neutral. Based on condition, participants read one of three short descriptions of circadian rhythms, and how they are either controllable, uncontrollable, or neutral (just a description of functions of circadian rhythms).

Participants then completed the IATs and explicit measures. First, they completed a practice IAT about flowers and insects, so they understood the task. Participants categorized as many words as possible in 20 seconds, sorting words that were in the "flower" or "good" category on the left, and words that were in the "insect" or "bad" category on the right. Then, participants turned to the next page, and took 20 seconds to categorize words that were in the "flower" or "bad" category on the left, and words that were in the "insect" or "good" category on the right. After this, they took a series of six paper IATs in randomized blocks.

Next, participants completed the explicit and demographic measures, described above. They were then thanked, debriefed, and compensated with candy and a chance to win a $75 Amazon gift card.

Results

Data Preparation

IATs were scored according to a procedure proposed by Lemm, Lane, Sattler, Khan, and Nosek (2008). For each IAT, I counted how many items a participant completed, and how many items they completed correctly. I then took the product square root difference of number of items completed for both congruent and incongruent trials. Positive numbers indicated implicit bias towards the congruent groups (i.e., liking for flowers, thin people, middle-class people, and Arab people), while negative numbers indicated implicit bias towards the incongruent groups (i.e., liking for insects, fat people, middle-class people, and Arab people).

According to convention (e.g. Lemm et al., 2008), IAT blocks were excluded for error rate and speed. An IAT block was excluded if the participant completed fewer than 8 items, which suggests that they went too slowly for the process to be automatic. IAT blocks were also excluded if the participant's error rate was greater than 75%, which suggests that they were not accurate enough to be performing at significantly greater than chance. Five participants' IAT data was excluded due to other anomalous results, such as only sorting items into one column (for example, completing "flower or good" items but not "insect or bad" items). These criteria left me with 77 weight IAT scores (five excluded for speed, 13 excluded for accuracy, and five excluded for both speed and accuracy, $M = 4.07$, $SD = 3.99$), 59 class IAT scores (19 excluded for speed, 17 excluded for accuracy, and five excluded for both speed and accuracy, $M = 2.55$, $SD = 2.68$), and 35 ethnicity IAT scores (four excluded for speed, three excluded for accuracy, and two excluded for both speed and accuracy, $M = -.36$, $SD = 3.16$). The low number of usable ethnicity IAT scores was due to experimenter error. Because the number excluded varied by IAT, degrees of freedom differ across analyses.

Main Analyses

Overall, participants showed a strong implicit preference for thin people over fat people ($M = 4.07$, $SD = 3.99$), $t(76) = 8.95$, $p < .0005$, $d = 2.05$, and a strong implicit preference for middle-class people over poor people ($M = 2.55$, $SD = 2.68$), $t(58) = 7.30$, $p < .0005$, $d = 1.92$. Participants showed no implicit preference for White people over Arab people ($M = -.36$, $SD = 3.16$), $t(34) = -.67$, $p = .51$, $d = .23$. Across conditions, within participants, scores differed significantly by type of score $F(2, 38) = 16.00$, $p < .0005$, $\eta^2 = .46$. Post-hoc tests revealed that weight and class scores did not differ significantly from each other, M difference $= .26$, $p = .77$.

Weight scores were significantly higher than ethnicity scores, *M* difference = 4.14, *p* < .0005; class scores were also significantly higher than ethnicity scores, *M* difference = 3.89, *p* < .0005.

A series of one-way ANOVAs (Condition: Controllable, Uncontrollable, or Neutral) revealed that participants' IAT scores did not differ as a function of the passage they read, on implicit weight $F(2, 74) = .93$, $p = .40$, class $F(2, 56) = .01$, $p = .99$, or ethnicity scores $F(2, 32) = .40$, $p = .68$ (see Table 2). In order to examine participants' explicit weight and class biases, answers to the ten weight bias questions were averaged into one explicit weight bias score, and answers to the ten class bias questions were averaged into one explicit class bias score. Participants' scores did not differ as a function of the passage they read on explicit weight $F(2, 102) = 1.19$, $p = .31$, or class scores, $F(2, 102) = .46$, $p = .63$. Additionally, I isolated explicit questions that asked specifically about perceptions of control, and averaged them into one composite explicit controllability of weight bias score and one composite explicit controllability of class bias score. The questions included in the controllability of weight bias score were: "People who weigh too much could lose at least some part of their weight through a little exercise," "some people are overweight because they have no willpower," and "it is people's own fault if they are overweight." The questions included in the controllability of class bias score were: "People are poor due to circumstances beyond their control" (reverse scored), "being poor is a choice," "people who are poor should not be blamed for their misfortune" (reverse scored), and "I believe poor people create their own difficulties." Participants' scores did not differ as a function of the passage they read on explicit controllability of weight $F(2, 102) = 1.27$, $p = .29$, or controllability of class scores, $F(2, 102) = .48$, $p = .62$.

Relationships among Implicit Attitudes

To test whether the relationships between these attitudes differed by condition, a hierarchical multiple regression was conducted with weight IAT score as the criterion variable. In order to perform a regression with a categorical variable with three levels (Condition: Controllable, Uncontrollable, or Neutral), two dummy variables were created to take condition into account. The dummy variables were called "controllable condition" and "uncontrollable condition." Participants were assigned a 0 if they were not in the condition described by the name of the variable, and a 1 if they were in the condition described by the name of the variable. For example, a participant in the controllable condition would receive a 1 in the dummy variable "controllable condition" and a 0 in the dummy variable "uncontrollable condition," while a person in the neutral condition would receive a 0 in both dummy variables. To predict weight bias as a function of condition, class bias, and their interaction, I followed an equation provided by Edwards (n.d.). The first step of the model revealed that, as predicted, participants with stronger implicit class bias showed greater implicit weight bias, $\beta = .48$, $p < .0005$, overall model $F(1, 52) = 15.25$, $p < .0005$, $R^2 = .30$.

In the second step of the model, the main effect of condition, as well as the two two-way interaction terms between class bias and the two dummy variables, were added to the model. This overall model explained a significant amount of variance in implicit weight bias, $\beta = .26$, $F(5, 48) = 4.08$, $p < .005$. However, the second step of the model did not predict significantly more variance than the first step of the model, R^2 change $= .07$, $F(4, 61) = .60$, $p > .05$. Contrary to my hypothesis, there was a main effect of controllable condition, such that participants in the controllable condition had lower levels of bias than participants in the uncontrollable or neutral conditions, $\beta = -.41$, $t(48) = -2.12$, $p = .04$. There was no main effect of uncontrollable condition, $\beta = -.17$, $t(48) = -.83$, $p = .41$, or class score, $\beta = .26$, $t(48) = 1.12$, $p = .27$. There was no

significant interaction of class score on controllable condition, $\beta = -.34$, $t(48) = 1.37$, $p = .18$, or

uncontrollable condition. $\beta = .06$, $t(48) = .27$, $p = .79$ (see Table 3).

     Following Edwards (n.d.), I calculated regression lines for values one standard deviation

above and one standard deviation below the mean for each condition for the mean

socioeconomic status IAT score (see Figure 4). Although the interactions were not significant,

the trends in the data were consistent with my hypothesis: Participants' class and weight biases

were more tightly linked when they read that circadian rhythms were within a person's control, β

$= .62$, $t(16) = 3.16$, $p = .01$, compared to when they were not, $\beta = .39$, $t(15) = 2.59$, $p = .02$.

Interestingly, class IAT score and predicted weight IAT score were least highly correlated in the

neutral condition, $\beta = .29$, $t(17) = 1.23$, $p = .24$.

     Because a large portion of scores were discarded using conventional exclusion criteria,

data were then analyzed according to more lenient scoring procedures. IAT blocks were

excluded if the participant's error rate was greater than 70%, or if the participant completed less

than six items. This was done in order to increase sample size and power. These criteria left me

with 82 weight IAT scores (two excluded for speed and 16 excluded for accuracy, $M = 4.12$, SD

$= 3.93$), 74 class IAT scores (eight excluded for speed and 18 excluded for accuracy, $M = 2.88$,

$SD = 3.44$), and 37 ethnicity IAT scores (two excluded for speed, three excluded for accuracy,

and two excluded for both speed and accuracy, $M = -.53$, $SD = 3.18$).

Main Analyses for Lenient Exclusion Criteria

     Overall, participants showed a strong implicit preference for thin people over fat people

($M = 4.12$, $SD = 3.93$), $t(81) = 9.49$, $p < .0005$, $d = 2.11$, and a strong implicit preference for

middle-class people over poor people ($M = 2.88$, $SD = 3.44$), $t(73) = 7.22$, $p < .0005$, $d = 1.69$.

Participants showed no implicit preference for White people over Arab people ($M = -.53$, $SD =$

3.18), $t(36) = -1.02$, $p = .31$, $d = .34$. A series of one-way ANOVAs (Condition: Controllable,

Uncontrollable, or Neutral) revealed that participants' scores did not differ as a function of the

passage they read, on implicit weight $F(2, 79) = .75$, $p = .48$, class $F(2, 71) = .79$, $p = .46$, or

ethnicity scores $F(2, 34) = .20$, $p = .82$ (see Table 4). Across conditions, within participants,

scores differed significantly by type of score $F(2, 56) = 23.10$, $p < .0005$, $\eta^2 = .45$. Post-hoc tests

revealed that weight and class scores did not differ significantly from each other, M difference =

.33, $p = .65$. Weight scores were significantly higher than ethnicity scores, M difference = 4.41, p

$< .0005$; class scores were also significantly higher than ethnicity scores, M difference = 4.08, p

$< .0005$.

Relationships among Implicit Attitudes for Lenient Exclusion Criteria

I followed the same model from the analyses with strict exclusion criteria, as detailed

above. The first step of the model revealed that, as predicted, participants with stronger implicit

class bias showed greater implicit weight bias, $\beta = .52$, $p < .0005$, overall model $F(1, 65) =$

24.33, $p < .0005$, $R^2 = .27$.

In the second step of the model, the main effect of condition, as well as the two two-way

interaction terms between class bias and the two dummy variables, were added to the model.

This overall model explained a significant amount of variance in implicit weight bias, $\beta = .38$,

$F(5, 61) = 5.22$, $p < .0005$. However, the second step of the model did not predict significantly

more variance than the first step of the model, R^2 change = .03, $F(4, 61) = .60$, $p > .05$. Unlike in

the analyses with strict exclusion criteria, there was a significant main effect of class score, $\beta =$

.38, $t(66) = 2.40$, $p = .02$. There was no main effect of controllable condition, $\beta = -.24$, $t(66) = -$

1.50, $p = .14$, or uncontrollable condition, $\beta = -.16$, $t(66) = -1.00$, $p = .32$. There was no

significant interaction of class score on controllable condition, $\beta = .18$, $t(66) = 1.11$, $p = .27$, or uncontrollable condition. $\beta = .09$, $t(66) = .57$, $p = .57$ (see Table 5).

Again, following Edwards (n.d.), I calculated regression lines for values one standard deviation above and one standard deviation below the mean for each condition for the mean socioeconomic status IAT score (see Figure 5). Although the interactions were not significant, the trends in the data were consistent with my hypothesis: Participants' class IAT and weight biases were more tightly linked when they read that circadian rhythms were within a person's control, $\beta = .54$, $t(18) = 2.44$, $p = .02$, compared to when they read that they were not, $\beta = .48$, $t(20) = 2.70$, $p = .02$. Also consistent with my hypothesis, but contradictory to my earlier analyses, class and weight biases were more tightly linked in the neutral condition, $\beta = .52$, $t(23) = 2.91$, $p = .01$, than in the uncontrollable condition, but less tightly linked than in the controllable condition.

Study 2 Discussion

Across conditions, level of implicit class bias was correlated with level of implicit weight bias, such that people with high implicit class bias also had high implicit weight bias. Regardless of exclusion criteria used, there was a nonsignificant trend that showed that implicit attitudes between weight and socioeconomic status are more tightly linked when a person is primed into thinking about controllability than when a person is primed to think about uncontrollability. When using strict exclusion criteria, implicit attitudes between weight and socioeconomic status were least tightly linked for participants in the neutral condition, while, when using lenient exclusion criteria, implicit attitudes between weight and socioeconomic status were more tightly linked for those in the neutral condition than for those in the uncontrollable condition, but less tightly linked than for those in the controllable condition. Overall, implicit attitudes between

weight and socioeconomic status were most tightly linked for those who were primed to think about controllability, which suggests that beliefs about controllability are a driving force behind weight and class bias, and that levels of implicit ethnocentrism cannot explain the entirety of the relationship between weight and class bias. Since there was no significant difference in mean implicit and explicit bias scores by condition, and my results differed based on which exclusion criteria I used, more research is needed before making any strong inferences about the effect of controllability beliefs on weight and class biases.

General Discussion

My studies are the first, to my knowledge, to explore the relationship between people's attitudes about weight and socioeconomic status. Study 1 showed that people are aware of the link between weight and socioeconomic status, and study 2 investigated how beliefs about controllability might explain the relationship between attitudes about weight and socioeconomic status. Though study 1 used photographs of people of different races and genders, study 2 did not include race or gender in either implicit or explicit measures of weight or socioeconomic status. Thus, study 2 is missing a key element, because prior research has found that both gender and race affects the amount of weight-based discrimination a person faces. Additionally, people of low socioeconomic status are disproportionately women of color. So, weight and socioeconomic status stigma are neither gender- nor race-blind. Ignoring the effects of race and gender on weight bias means missing an important component of how weight and class, just like gender and race, is read on the body. What follows is a brief summary of how perceptions of weight and socioeconomic status differs among races and genders. Knowledge of the raced and gendered natures of weight and class bias is crucial for future exploration of the origins of these biases.

The Gendered Nature of Weight Bias

The body is a gendered object, and body size is seen differently in men and women. In her book, *The Second Sex,* Simone de Beauvoir (1949) writes that women are often cast in the role of the body, "weighed down… by everything peculiar to it" (p. 146). In contrast, men are cast as the "inevitable, like a pure idea, like the One, the All, the Absolute Spirit" (de Beauvoir, 1949, p. 146). So, women are associated with the body, and men with the mind. If the body has a negative connotation, as something that must be regulated, and women *are* the body, then women are the negativity that characterizes the body (Bordo, 1993, p. 5). Control of the female body through restriction was evident in the Victorian era, where the successful performance of femininity required "a frail frame and lack of appetite"; the thin body "signified not only spiritual transcendence of the desires of the flesh but *social* transcendence of the laboring, striving 'economic' body" (Bordo, 1993, p. 117). To control one's body by denying hunger makes a woman appear delicate and nurturing—she feeds others before herself, and pretends that she has no desire to eat at all. Women who are obese do not fit the traditional construction of femininity in that they do not appeal to the male gaze, so they are treated more harshly than obese men. Fatness in women is seen as especially unattractive (Fikkan & Rothblum, 2012; Smith, 2012). Since women are expected to be attractive, obesity is seen as a moral failing and a signifier of incompetence (Black, Sokol, & Vartanian, 2014).

Though both obese men and women are discriminated against, women who are merely overweight (with a BMI between 25.0-29.9) are discriminated against, while overweight men are not. For men, prior research has shown that being overweight is associated with wage premiums—they only experience wage penalties at the very highest weight levels: 100% above standard weight for their height. (Fikkan & Rothblum, 2012). This finding is inconsistent with the results from study 1, which showed that men had a greater income and education penalty for

being overweight than women did. Perhaps this is due to the photographs chosen, as they only depicted very thin or very fat people, without the middle ground "normal" weight or slightly overweight people to determine at what level the weight deficit begins. Additionally, previous research has found that the penalty of weight for White women begins "well below conventional thresholds" of overweight or obese, with wages "peaking at a BMI of 21.8" (Fikkan & Rothblum, 2012, p. 578). In the same sample, White women suffered a greater wage penalty at "mild obesity" (defined as 20% over standard weight for their height) than Black men did at the very highest weight levels (Fikkan & Rothblum, 2012, p. 578). This finding is consistent with the results of study 1, as White women had a greater difference in estimated income and educational attainment by weight than Black men did. So, perceptions of weight differ by not only gender, but by race, as well.

Race and Class Differences in Obesity and Weight Bias

As discussed earlier, prevalence of obesity differs by both race and socioeconomic status, in that obese people are more likely to be people of color (specifically, Black or Latino) and of low socioeconomic status. The discrimination that obese people face, along with the discrimination people of color face—especially in joining the workforce—makes it all the more difficult to pull oneself out of poverty. Weight discrimination is the third most prevalent cause of perceived discrimination among women (after gender and age discrimination), and the fourth among all adults (after gender, age, and race discrimination) in the workforce (Puhl, Andreyeva, & Brownell, 2008). Obese people are more likely to report that they have experienced three types of perceived interpersonal mistreatment: "disrespectful treatment; harassment/teasing; and being treated as if one has a character flaw" (Carr, Jaffe, & Friedman, 2008, p. S60). These reports of discrimination differ by gender, race, and class. Upper class or professional obese

people are more likely to report interpersonal mistreatment, which may be due to the fact that

there are fewer upper class obese people (Carr, Jaffe, & Friedman, 2008). This increase in

discrimination against groups who are less likely to be obese might also explain the fact that

White women who are obese are less likely to find a job than White women of normal weight,

while Black women of different weights do not show this disparity in employment (Cawley &

Danziger, 2005). The difference in amount of weight-based discrimination by a person's

likelihood to be obese is reflected in the results of study 1, which found that White men (who are

statistically less likely to be obese than Black men and White and Black women) had the greatest

difference in estimated income and educational attainment by weight. As White men are also the

most "high status" group in study 1, it makes sense that they would see the greatest reduction in

status due to obesity.

Interestingly, and somewhat counterintuitively, being obese and a racial minority may

actually decrease discrimination as compared to people who are either obese *or* a racial minority.

One study found that obese Black men actually reported less interpersonal mistreatment than

normal weight Black men (Carr et al., 2008). This might be due to the cultural conception of

Black men as dangerous or menacing—being obese might make a Black man appear less

"threatening" to those who have the opportunity to discriminate against him (Carr et al., 2008).

As discussed earlier, the results in study 1 support prior findings that Black men face less

weight-based discrimination that White men do; there was a mean difference of $2,834.85 (a

7.66% decrease) in estimated income for fat and thin Black men, and a mean difference of

$11,013.92 (a 20.58% decrease) in estimated income for fat and thin White men.

Like obese Black men, obese Black women also report greater acceptance than obese

White women (Carr et al., 2008). My research also supports this assertion, with a mean

difference of $4,663.36 (a 13.43% decrease) in estimated income for fat and thin Black women,

and a mean difference of $8,306.94 (a 21.05% decrease) in estimated income for fat and thin

White women. Though Black women are more likely to be obese than White women, they are

also significantly less likely to classify themselves as obese. In one sample, in which 80.5% of

Black women were overweight or obese, only 64.3% described themselves as overweight or

obese, while 54.0% of White women in the sample were overweight or obese, and 49.6%

described themselves as such (Hendley et al., 2011). Black participants also had a smaller

discrepancy between "perceived and ideal body size," which suggests that more Black people are

happy with their weight than are White people (Hendley et al., 2011, p. 1810). Perhaps

overweight or obese people who are content with their weight are subjected to less weight-based

discrimination—or at least believe that they are. Though this sounds promising, the relative lack

of size discrimination against Black women may not come from a place of mutual acceptance,

but because it fits with "the racial stereotype of Black women as being large, strong,

independent, and nurturing of others" (Fikkan & Rothblum, 2012, p. 587). This stereotype, and

the apparent lack of weight stigmatization that accompanies it, may mask "the very real

powerlessness and marginalization of Black women," as well as invalidate the experiences of

Black women who have encountered weight discrimination (Fikkan & Rothblum, 2012, p. 587).

Limitations

Though study 1 was the first, to my knowledge, to demonstrate that people estimate that

overweight people are of lower socioeconomic status than thin people, the study's design does

not allow for investigating *why* people believe that overweight people make less money and are

less educated than their thin counterparts. Due to the nature of the questions asked, it is

impossible to determine whether participants are aware of income disparity by weight and are

adjusting their income and education estimates accordingly, or if the participants would

personally pay an overweight person less than a thin person. In other words, were participants

accurately identifying the socioeconomic disparity between fat and thin people, or were they just

relying on stereotypes? If I were to replicate this study, I would include questions like "if you

were this person's boss, how much would you pay them per year?" This study also does not get

at the question of whether people assume that overweight people are overweight because they are

of low socioeconomic status, or if they are of low socioeconomic status because they are

overweight.

The Chicago Face Database, while helpful with its extensive and thorough norming data,

provided some limitations. There were many more thin people than fat people in the sample,

which made matching pairs for both age and attractiveness difficult. Thus, different genders and

races had significantly different estimated ages; for instance, the average age estimate for White

men was 33.70, while the average age estimate for Black men was 28.18. These age differences

make it difficult to generalize income and education estimates across races and genders, as age

estimate likely has an effect on estimated income and education. Despite this, there were still

large differences in income and education estimation within race and gender groups, which were

matched for age. The Chicago Face Database, as its name suggests, only shows photographs of

people from the chest up. If, in a future study, normed full-body photographs were used, perhaps

the effect of weight on socioeconomic status estimations would be even greater.

For study 2, as my sample of usable IAT data was relatively small, and different

exclusion criteria gave me different results, it is unclear as to whether controllability beliefs

affected implicit bias about weight and socioeconomic status. Additionally, since I created my

own controllability primes, it is possible that the passages themselves did not alter controllability

beliefs as expected. Thus, the primes should be subjected to pilot testing and/or a manipulation check, should this study be replicated. As several past studies have found that attitudes towards the obese and/or the poor are affected by controllability beliefs, it is certainly possible that these beliefs do affect both weight and socioeconomic status bias, but the primes just did not effectively change beliefs about controllability (Black et al., 2014; Blaine, DiBlasi, & Connor, 2002; Blaine & Williams, 2004; Carels & Musher-Eizenman, 2010; Ross, Shivy, & Mazzeo, 2009; Vartanian, 2010).

Method. Though the paper-pencil IAT is reliable, it shows weaker main effects than the computer-format IAT (Lemm et al., 2008). Future research on this topic should use the computer-format IAT whenever it is feasible. This method would yield a greater proportion of usable data, as well as more accurate data.

Like type of IAT used, my recruiting method and testing procedure may have affected my results. When I recruited participants from classrooms, people often sat close to each other; the small class size at Bard means that people are often friendly with their other classmates. Similarly, when I recruited participants through tabling, groups of friends often signed up together. The closeness, both physical and emotional, to other participants, may have created a social pressure to answer explicit questions in a way that showed no bias. If I were to replicate this study, I would have it done entirely on a computer. This would ensure that possible implicit biases would be more accurately captured in the computer-format IAT, and that participants would not feel the pressure of other participants and/or the experimenter possibly seeing their answers to explicit bias questions.

Participants. The demographics of my sample also posed some limitations. My sample was politically homogenous, with 58.50% of participants self-reporting as a six or seven on a

political scale in which one was "very conservative" and seven was "very liberal." Since political conservatism is a very reliable predictor of beliefs in individual (controllable) causes for poverty, the political leanings of my sample may have made controllability beliefs more difficult to induce (Zucker & Weiner, 1993). Additionally, my sample was very thin, with a mean BMI of 22.39; only 3 participants of the 96 who reported height and weight had a BMI that classified them as obese (>30). Thus, it was not possible to determine whether levels of weight or class bias differed by participant BMI. My sample was also racially homogenous, with 75.50% of participants self-reporting as White. Previous research has shown that beliefs about obesity differ between races and ethnicities, and my sample was not able to examine these differences (Hendley et al., 2011). A more diverse sample, perhaps recruited through MechanicalTurk, might yield results with more variability.

Future Directions

In addition to the suggestions outlined in the Limitations section, study 1 could be expanded upon in many different ways. Since clothes can be seen as an embodiment of socioeconomic status, an experimenter could draw from Kraus and Mendes' (2014) study and show participants photographs of fat and thin people in high class (business suit), low class (sweatpants and guinea tee), or ambiguous (jeans and a t-shirt) clothing. Participants would then estimate the person's BMI, income, educational attainment, and what the person's plans were for that day. For example, participants might be more likely to guess that a thin person in sweatpants plans to go to the gym, while a fat person in sweatpants plans to stay at home, or that a thin person in a suit might be going to work, while a fat person in a suit might be going to a special occasion.

For study 2, a future researcher might want to manipulate perceptions of controllability in a different way. It is possible that just reading a passage that is domain-general is not enough to change one's beliefs about controllability in specific domains. There are numerous methods to manipulate controllability-- a more dynamic approach might have more of an effect on participants' attitudes. For example, participants might participate in a group activity, in which they are either assigned groups or allowed to choose their own group, or they might play a game that is based on either skill or chance.

Perhaps other attitudes besides controllability mediate the relationship between weight bias and socioeconomic status bias. Study 2 could be replicated, with the changes mentioned in the Limitations section, with any number of predictor variables. For instance, prior research has shown that disgust towards obese people is a strong predictor of weight bias, and is highly correlated with perceptions of controllability (Vartanian, 2010). Since many stereotypes about the obese, like being lazy and unhygienic, overlap with stereotypes about the poor, it is possible that people are disgusted by the impoverished, and that levels of disgust towards the obese and the poor are related.

Conclusion

Through two novel empirical studies, this project aimed to examine the relationship between attitudes about weight and socioeconomic status. Much prior research has demonstrated that people of low socioeconomic status are more likely to be obese than people of high socioeconomic status, and that people are biased towards both the poor and the obese. My studies were the first, to my knowledge, to ask whether or not people are aware of the relationship between weight and socioeconomic status, and what drives the relationship between weight bias and class bias.

Specifically, study 1 found that people are aware of the link between weight and socioeconomic status, in that people estimated that fat people made significantly less money than and were significantly less educated than thin people. There were also significant race and gender interactions, which were consistent with prior research. Building on these findings, study 2 examined the role that perceptions of control have on weight and class bias. The hypothesis that people who were primed to think about controllability would have higher weight and class biases, and show a stronger relationship between the two biases, compared to people who were primed to think about uncontrollability or neutrality, was not supported. Despite the insignificant results, the findings trended towards the hypothesis. Future research is needed before drawing any conclusions about the role of controllability beliefs on weight and class bias.

As more research is conducted on the relationship between these biases, and what common variables drive them, interventions can be developed to reduce these biases. Education on the relative uncontrollability of weight of socioeconomic status could benefit people of all weights and class statuses. If people are made aware of the structural bases of weight and class inequalities, the blame for the problems associated with being poor and/or obese would no longer fall on the individual, but on the system itself.

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Table 1.

Estimates of Income by Target Weight

	Thin Targets		Fat Targets	
	Mean	**Standard Deviation**	**Mean**	**Standard Deviation**
White Man	$53,553.92	$16,507.71	$42,520.00	$14,388.88
Black Man	$37,014.85	$14,650.85	$34,180.00	$13,725.24
White Woman	$39,455.45	$13,682.12	$31,148.51	$11,289.19
Black Woman	$34,717.82	$13,725.24	$30,054.46	$12,251.10

Table 2.

Means and Standard Deviations of Scores by Condition (Strict Scoring Criteria)

	Condition	N	Mean	Standard Deviation
Weight Score	Uncontrollable	25	3.28	2.10
	Controllable	25	4.06	5.50
	Neutral	27	4.80	2.93
	Overall	77	4.07	3.99
Class Score	Uncontrollable	20	2.51	2.23
	Controllable	19	2.53	3.40
	Neutral	20	2.60	2.46
	Overall	59	2.55	2.68
Ethnicity Score	Uncontrollable	15	-.91	3.63
	Controllable	12	0	2.39
	Neutral	8	.15	3.45
	Overall	35	-.36	3.16

Table 3.

Beta Weights from Multiple Hierarchical Regression Predicting Implicit Attitudes (Strict Exclusion Criteria)

Step 1		**Step 2**						
Weight Score x Class Score	R^2	Weight Score x Class Score	Controllable Condition	Uncontrollable Condition	Controllable Condition x Class Score	Uncontrollable Condition x Class Score	R^2	Change R^2
.63*	.48	.38	-.41*	-.17	.34	.06	.30	.07

*$p < .05$

Table 4.

Means and Standard Deviations of Scores by Condition (Lenient Scoring Criteria)

	Condition	N	Mean	Standard Deviation
Weight Score	Uncontrollable	26	3.45	3.15
	Controllable	28	4.11	5.30
	Neutral	28	4.76	2.88
	Overall	82	4.12	3.93
Class Score	Uncontrollable	26	2.31	2.92
	Controllable	22	2.82	3.63
	Neutral	26	3.51	3.76
	Overall	74	2.88	3.44
Ethnicity Score	Uncontrollable	15	-.91	3.63
	Controllable	13	-.15	2.35
	Neutral	9	-.47	3.71
	Overall	37	-.53	3.18

Table 5.

Beta Weights from Multiple Hierarchical Regression Predicting Implicit Attitudes (Lenient Exclusion Criteria)

Step 1		Step 2						
Weight Score x Class Score	R^2	Weight Score x Class Score	Controllable Condition	Uncontrollable Condition	Controllable Condition x Class Score	Uncontrollable Condition x Class Score	R^2	Change R^2
.52*	.27	.38	-.24	-.16	.18	.09	.30	.03

*$p < .05$
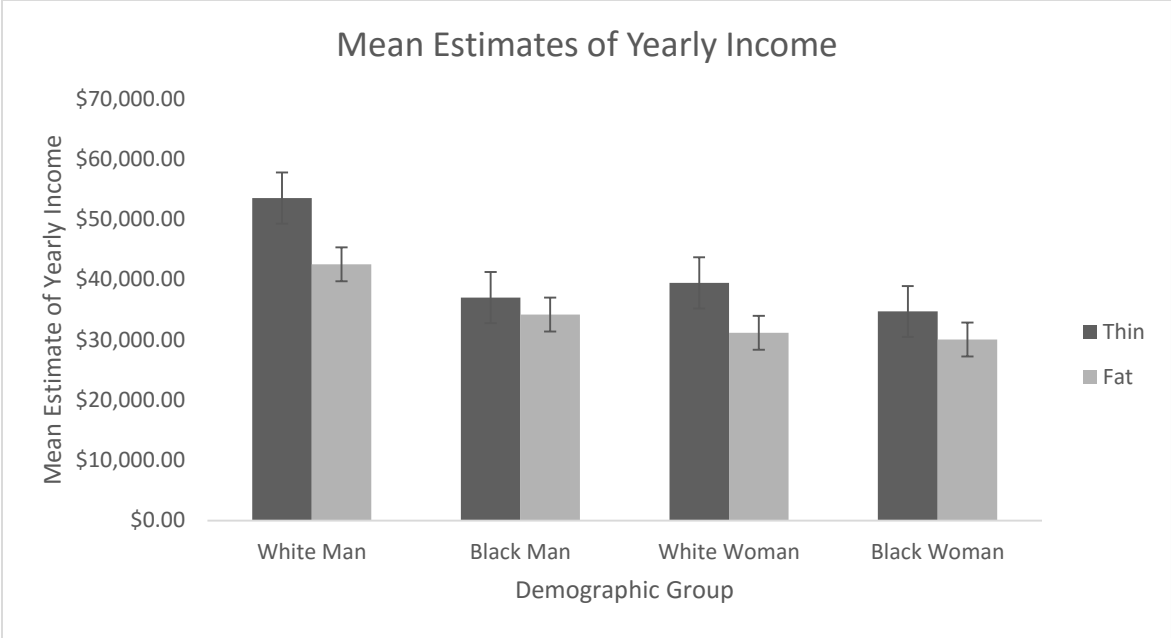
Figure 1. Estimates of yearly income by weight, race, and gender.
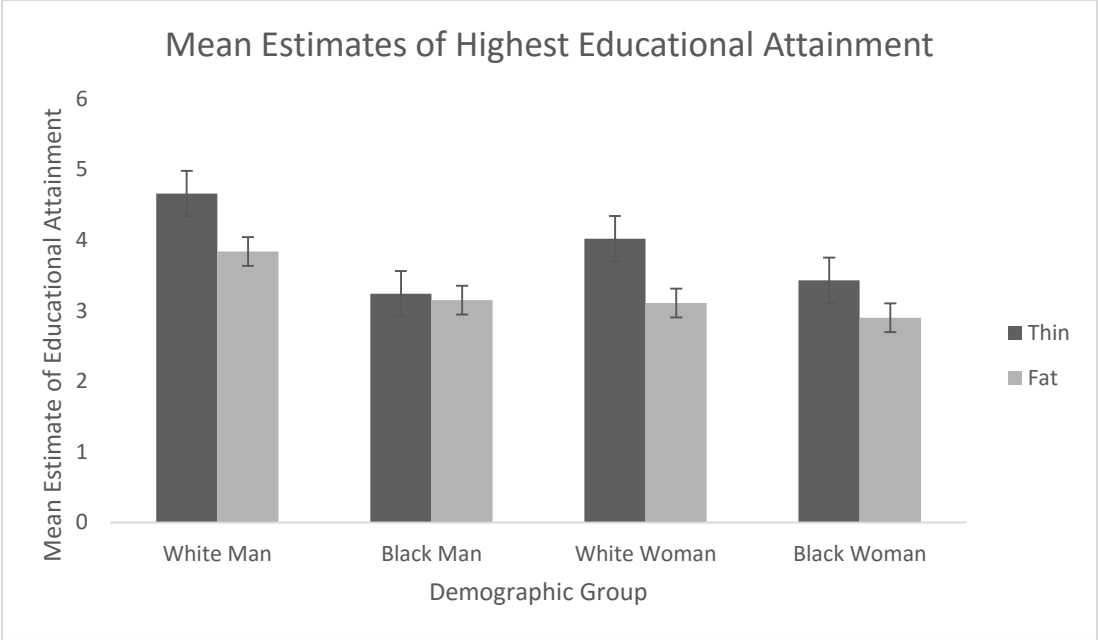
Figure 2. Estimates of highest educational attainment by weight, race, and gender.

thin good		fat bad	middle class good		poor bad	white bad		arab good
O	obese	O	O	welfare	O	O	Dorian	O
O	awesome	O	O	awesome	O	O	terrible	O
O	light	O	O	privileged	O	O	Qasim	O
O	awful	O	O	happy	O	O	awful	O
O	atrocious	O	O	educated	O	O	Tobias	O
O	excellent	O	O	excellent	O	O	awesome	O
O	slim	O	O	uneducated	O	O	Qasim	O
O	terrible	O	O	happy	O	O	excellent	O
O	overweight	O	O	housekeeper	O	O	Nazir	O
O	atrocious	O	O	awesome	O	O	atrocious	O
O	slender	O	O	housekeeper	O	O	Qasim	O

Figure 3. Sample paper-pencil IAT blocks.
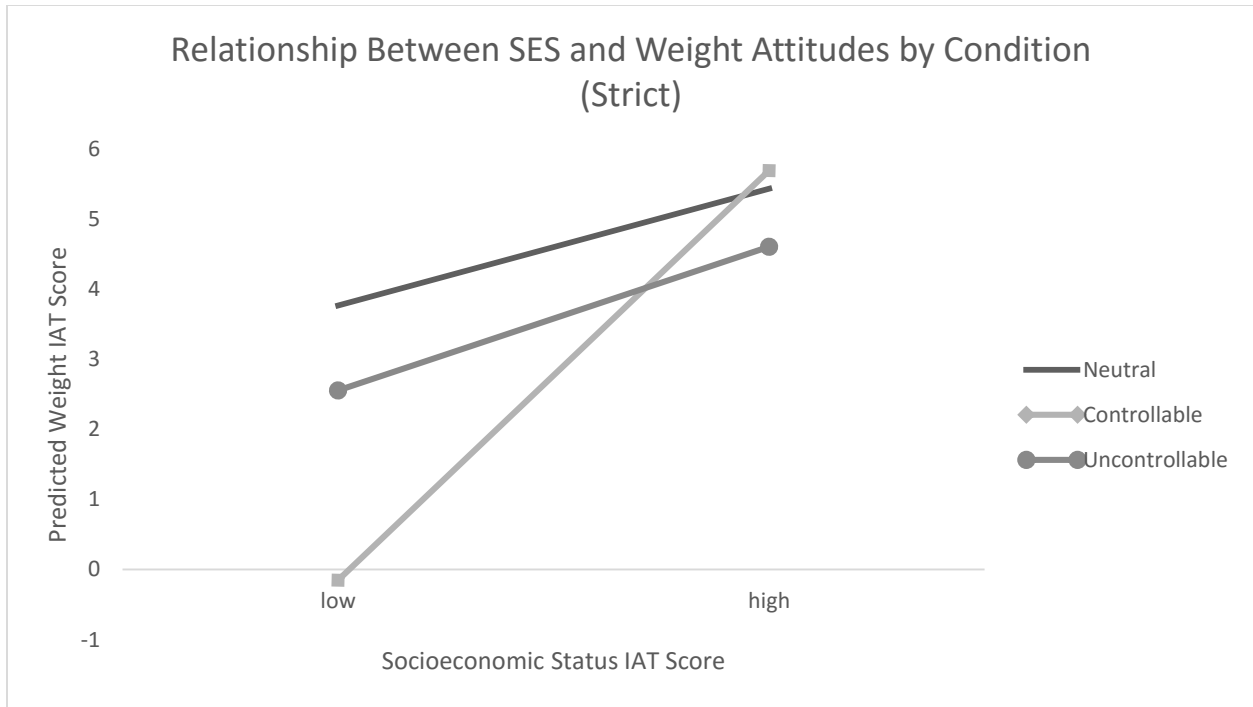
Figure 4. Relationship between socioeconomic status and weight attitudes by condition (strict exclusion criteria).
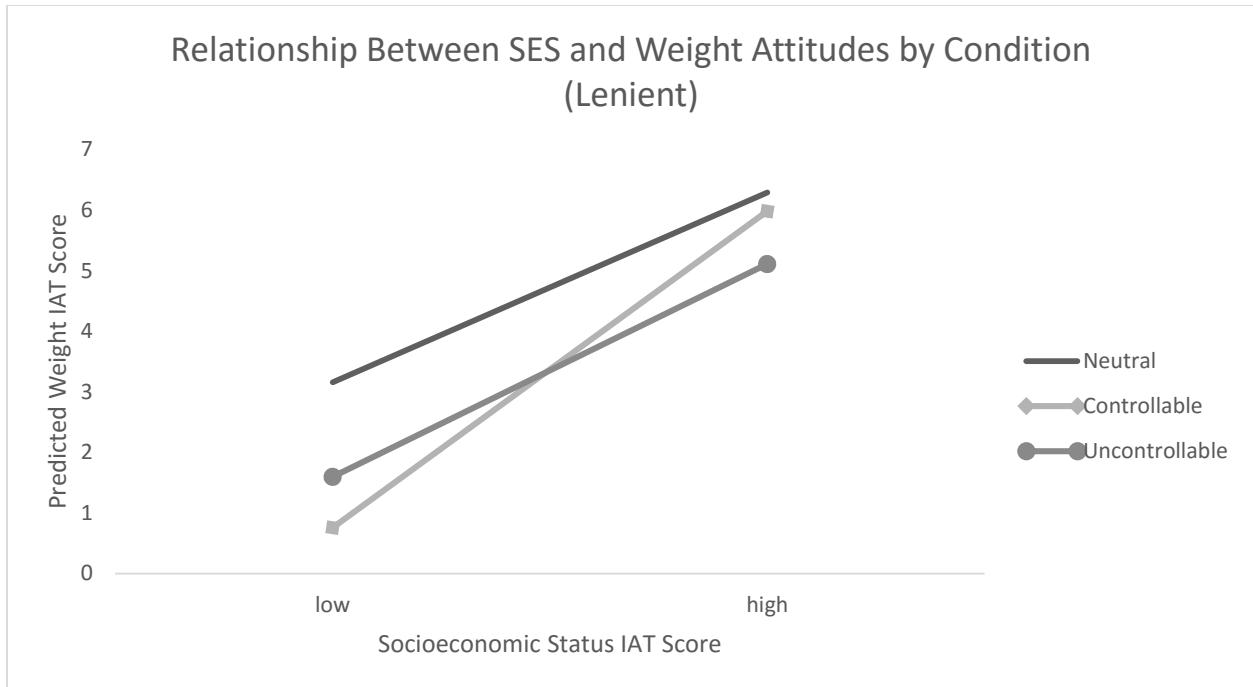
Figure 5. Relationship between socioeconomic status and weight attitudes by condition (lenient exclusion criteria).

Appendix A—Certification to work with human subjects

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Marna Dunne** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 02/26/2014

Certification Number: 1415738

Appendix B—IRB approval letter (study 1)

Date: December 7, 2015

To: Marna Dunne

Cc: Kristin Lane, Allison McKim, Megan Karcher

From: Pavlina R. Tcherneva, IRB Chair

Re: November 2015 Proposal revisions

DECISION: APPROVED

Dear Marna,

The Bard Institutional Review Board reviewed the revisions to your proposal. Your proposal is approved through December 7, 2016. Your case number is 2015DEC7-DUN.

Please notify the IRB if your methodology changes or unexpected events arise.

We wish you the best of luck with your research.

Pavlina R. Tcherneva
tchernev@bard.edu
IRB Chair

Appendix C—IRB application (study 1)

http://inside.bard.edu/irb/forms/

SECTION 1

Marna Dunne, md0343@bard.edu, 856-912-3273, Psychology and Sociology, undergrad
Kristin Lane, lane@bard.edu; Allison McKim, amckim@bard.edu, November 30, 2015

SECTION 2

This research qualifies for expedited review

Do you have external funding for this research?
No.

Start Date: Nov 25, 2015
End Date: Nov 25, 2016

Title:
Weight, socioeconomic status, and controllability.

Research Question(s):
Do people assume that a person with a higher Body Mass Index (BMI) is of lower
socioeconomic status?

No specific populations

Recruitment:
I plan to upload the study to Amazon MechanicalTurk, where participants will receive a small
compensation (about $0.20) for their participation.

Procedure:
After providing consent, participants will read a short description of the study, as follows:
> "Studies have shown that people can glean a lot of information about a person just
> from a photograph, and that many people are remarkably good guessers about
> personal information based on physical traits. You will be shown 8 photographs
> of people's faces, and you will answer a few questions about each photograph."

Each participant will view eight photographs from the Chicago Face Database: a thin white
woman, an overweight white woman, a thin black woman, an overweight black woman, a thin
white man, an overweight white man, a thin black man, and an overweight black man (Appendix
A). The order of the photographs will be randomized, and each photograph will show a person
with a neutral expression. Under each photograph will be the same series of questions, about
ratings of liking and attractiveness, as well as estimates of Body Mass Index (BMI), annual
income, and highest educational attainment (Appendix B).

After answering these questions about all 8 photographs, participants will provide the following demographic data: age, sex, race, height, weight, annual income, educational attainment, native language, and country of origin (Appendix C).

Estimated Number of Participants:
100

Risks and Benefits:
Some participants may feel discomfort in answering questions based on a person's physical appearance; however, I do not anticipate that this discomfort is any greater than is generally experienced in everyday life.

Consent form:
Please see the emailed consent form (Appendix D).

Verbal Description of Consent Process:
N/A

Confidentiality Procedures:
Participants will provide their MechanicalTurk ID which will be used for payment, but we are unable to identify participants from this information. In other words, participants will be completely anonymous.

Deception:
N/A

Debriefing Statement:
Please see emailed debriefing statement (Appendix E).

Appendix D—IRB approval letter (study 2)

Date: December 19, 2015
To: Marna Dunne
Cc: Kristen Lane, Allison McKim, Megan Karcher
From: Pavlina R. Tcherneva, IRB Chair
Re: December 2015 Proposal

DECISION: APPROVED

Dear Marna,

The Bard Institutional Review Board reviewed the revisions to your December 2015 proposal. Your proposal
is approved through December 19, 2016. Your case number is **2015DEC19-DUN.**

Please notify the IRB if your methodology changes or unexpected events arise.

We wish you the best of luck with your research.

Pavlina R. Tcherneva
tchernev@bard.edu
IRB Chair

Appendix E—IRB application (study 2)
http://inside.bard.edu/irb/forms/

SECTION 1

Marna Dunne, md0343@bard.edu, 856-912-3273, Psychology and Sociology, undergrad
Kristin Lane, lane@bard.edu; Allison McKim, amckim@bard.edu, November 3, 2015

SECTION 2

This research qualifies for expedited review

Do you have external funding for this research?
No.

Start Date: Nov 25, 2015
End Date: Nov 25, 2016

Title:
Weight, socioeconomic status, and controllability.

Research Question(s):
How do beliefs about controllability (whether a person's traits and circumstances are due to individual factors that are in one's control, or due to outside environmental, genetic, or institutional factors outside of one's control) explain attitudes toward people who are overweight and of low socioeconomic status, and, assuming that controllability beliefs and negative attitudes toward the fat and/or the poor exist, why are they related? I am specifically interested in attitudes about weight and class from the perceiver's point of view-- this is a topic that has been sorely understudied. This will be the first study to experimentally examine how people with different levels of controllability beliefs perceive the poor, and the relationship between bias against the overweight and bias against the impoverished.

No specific populations

Recruitment:
I plan to table in the campus center, dining hall, and academic buildings (i.e. Hegeman or RKC). (I will ensure that it is ok to table in class buildings before doing so.) I will have a sign that advertises candy and a chance to win $75 for compensation. I also plan to email professors to ask if I can come in at the end of class to run my study on interested students, who would who stay after class to complete the study. The participants will be undergraduate students who lived in the United States before coming to Bard.

Procedure:

After providing informed consent participants will be randomly assigned to one of three conditions-- controllable, uncontrollable, or neutral. Based on condition, participants will read one of three short descriptions of circadian rhythms, and how they are either controllable, uncontrollable, or neutral (just a description of functions of circadian rhythms) (Appendix A).

Participants will then complete a series of implicit and explicit measures about attitudes and beliefs toward obese people, people of lower socioeconomic status, and Arab people (for discriminant validity). First, they will complete a practice IAT about flowers and insects, so they understand the task. Then, they will take a series of paper Implicit Association Tests (IATs). These tests measure the associations between categories. They also provide data about less conscious beliefs, attitudes, and stereotypes. During the IAT participants will be presented with a series of tasks in which there will be two columns on a sheet of paper with words that are to be categorized in a list in between the columns. Each column will be titled with category pairings. Participants will categorize as many words as possible into the category in 20 seconds. If a participant categorizes more words in one category pairing than the other, the participant's association between those paired categories is stronger than their association between the other set of paired categories. For example, imagine a participant is faced with a left-hand column titled thin or good and a right hand column titled fat or bad, they categorize words into these columns, then the titles are switched so that they become thin or bad and fat or good and the participant again categorizes words. If the participant categorizes more words correctly when thin is paired with good, but not when fat is paired with good, the participant most likely has a higher association between thin and good. Participants will complete six paper IATs in randomized blocks: thin or good and fat or bad, thin or bad and fat or good, middle class or good and poor or bad, middle class or bad and poor or good, White or good and Arab or bad, and White or bad and Arab or good (Appendix B).

Explicit measures of weight attitudes will be adapted from Allison, Basile, and Yuker's (1991) Attitudes Toward Obese Persons Scale (ATOP) and Crandall's (1994) Anti-Fat Attitudes Questionnaire (AFAQ). Explicit measures of socioeconomic status attitudes will be adapted from Atherton and Gemmel's (1993) Attitudes about Poverty and Poor People Scale (APPP) (Appendix C). Additionally, participants will answer questions about how much they like, how warmly they feel towards, and how much they trust obese people, thin people, middle-class people, poor people, White people, and Arab people (Appendix D).

After the explicit measures, participants will answer a series of demographic questions: gender, age, race, height, weight, political affiliation, annual household income, native language, and country of origin. They will then be thanked, debriefed, and compensated with candy and a chance to win a $75 Amazon gift card.

Estimated Number of Participants:
100

Risks and Benefits:
Some participants may feel discomfort in answering questions about attitudes and beliefs; however, I do not anticipate that this discomfort is any greater than is generally experienced in everyday life.

Consent form:
Please see the emailed consent form (Appendix F).

Verbal Description of Consent Process:
Please see the emailed verbal consent script (Appendix G).

Confidentiality Procedures:
Participant data will be stored according to a coding number and not student names. Data will be separated from consent form signatures to ensure that participant identity remains anonymous. Materials will be kept in the Lane Social Psychology Lab where they can only be accessed by the primary researcher, academic advisor, and members of the advanced methodology lab.

　　　For the purposes of the lottery for the Amazon gift card, email addresses will be collected. These email addresses will not be connected to the data in any way, and will be discarded after a winner is chosen.

Deception:
N/A

Debriefing Statement:
Please see emailed debriefing statement (Appendix H).

<u>Appendix F—Explicit measures of attitudes toward obese and poor</u>
Please indicate how much you agree or disagree with the following statements.

Obese workers cannot be as successful as other workers.

| Strongly | Moderately | Slightly | Neither agree | Slightly | Moderately | Strongly |
| Disagree | Disagree | Disagree | nor disagree | Agree | Agree | Agree |

Severely obese people are usually untidy.

| Strongly | Moderately | Slightly | Neither agree | Slightly | Moderately | Strongly |
| Disagree | Disagree | Disagree | nor disagree | Agree | Agree | Agree |

Obese people should not expect to lead normal lives.

| Strongly | Moderately | Slightly | Neither agree | Slightly | Moderately | Strongly |
| Disagree | Disagree | Disagree | nor disagree | Agree | Agree | Agree |

Obese people are just as sexually attractive as nonobese people.

| Strongly | Moderately | Slightly | Neither agree | Slightly | Moderately | Strongly |
| Disagree | Disagree | Disagree | nor disagree | Agree | Agree | Agree |

One of the worst things that could happen to a person would be for him to become obese.

| Strongly | Moderately | Slightly | Neither agree | Slightly | Moderately | Strongly |
| Disagree | Disagree | Disagree | nor disagree | Agree | Agree | Agree |

Although some overweight people must be intelligent, generally I think they tend not to be.

| Strongly | Moderately | Slightly | Neither agree | Slightly | Moderately | Strongly |
| Disagree | Disagree | Disagree | nor disagree | Agree | Agree | Agree |

I dislike people who are overweight or obese.

| Strongly | Moderately | Slightly | Neither agree | Slightly | Moderately | Strongly |
| Disagree | Disagree | Disagree | nor disagree | Agree | Agree | Agree |

People who weigh too much could lose at least some part of their weight through a little exercise.

| Strongly | Moderately | Slightly | Neither agree | Slightly | Moderately | Strongly |
| Disagree | Disagree | Disagree | nor disagree | Agree | Agree | Agree |

Some people are overweight because they have no willpower.

| Strongly | Moderately | Slightly | Neither agree | Slightly | Moderately | Strongly |
| Disagree | Disagree | Disagree | nor disagree | Agree | Agree | Agree |

It is people's own fault if they are overweight.

| Strongly | Moderately | Slightly | Neither agree | Slightly | Moderately | Strongly |
| Disagree | Disagree | Disagree | nor disagree | Agree | Agree | Agree |

Poor people will remain poor regardless what's done for them.

| Strongly | Moderately | Slightly | Neither agree | Slightly | Moderately | Strongly |
| Disagree | Disagree | Disagree | nor disagree | Agree | Agree | Agree |

Any person can get ahead in this country.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Moderately Agree	Strongly Agree

Most poor people are members of a minority group.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Moderately Agree	Strongly Agree

People are poor due to circumstances beyond their control.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Moderately Agree	Strongly Agree

Poor people are different from the rest of society.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Moderately Agree	Strongly Agree

Being poor is a choice.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Moderately Agree	Strongly Agree

People who are poor should not be blamed for their misfortune.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Moderately Agree	Strongly Agree

Poor people generally have lower intelligence than nonpoor people.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Moderately Agree	Strongly Agree

I believe poor people have a different set of values than do other people.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Moderately Agree	Strongly Agree

I believe poor people create their own difficulties.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Moderately Agree	Strongly Agree